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# **Thermo-mechanical Modeling of Subduction of Continental Lithosphere**

by

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**To my parents**

# Abstract

In this thesis I use two-dimensional thermo-chemical mantle convection models to investigate the deformation of the continental lithosphere that follows the oceanic lithosphere into the subduction zone. The models account for the compositional buoyancy of the crustal layers by considering lithospheric plates that consist of a low-density crustal layer and a high-density mantle part. They also allow the basalt-eclogite phase change in the subducted oceanic crust. Two sets of kinematic and dynamic plate models are studied. In the kinematic models, the flow is driven by an imposed surface velocity, and rigid lithospheric plates are generated by adopting temperature-dependent viscosity. In the dynamic models, the buoyancy forces due to internal density variations provide the driving force of convection, and temperature, depth, and stress-dependent viscosity is used to achieve uniform plate motion.

The results of the kinematic models show that the subduction of the continental crust is strongly controlled by the imposed surface velocity and the lithospheric viscosity. For most models with realistic rheologies, the continental lithosphere subducts to lower mantle depths as a coherent layer. Crustal detachment occurs only when crust-mantle coupling is weak. In such a case the mantle lithosphere continues its descent, while the crust detaches at depths  $< 150$  km and accumulates at the top.

In contrast, the dynamic models show that continental convergence results in crust-mantle detachment in the subducting plate and crustal thickening in both sub-

ducting and overriding plates. The depth of detachment ranges from 100 to 170 km. As the thickness of the crust increases, the convergence velocity in the collision zone decreases and the location of subduction gradually shifts toward the interior of the subducting plate. In models with greater viscosity, the subducting mantle lithosphere maintains its integrity and does not break up. In models with weaker rheology, the positive buoyancy of the thickened crust can overcome the strength of the subducting lithosphere, and subsequently a state of tensional stress develops in the upper part of the slab that ultimately causes the oceanic slab to break off and sink into the mantle. The breakoff occurs over a time interval of 10 to 20 m.y. (depending on plate velocity), which is roughly the time needed for the crust to reach its maximum thickness. The models indicate no rapid asthenospheric upflow and related heating of the base of the crust as a consequence of slab breakoff. Crustal detachment takes place over a wide range of lithospheric strength values, suggesting that in the dynamic models crustal buoyancy has an important role in the dynamics of continental subduction.

# Résumé

Dans cette thèse j'utilise divers modèles thermo-chimiques deux-dimensions de convection du manteau afin d'étudier la déformation de la lithosphère continentale qui suit la lithosphère océanique dans la zone de subduction. Ces modèles tiennent compte de la flottabilité compositionnelle des couches de la croûte en considérant les plaques lithosphériques constituées de croûte à faible densité et de manteau à haute densité. Les modèles permettent aussi le changement de phase basalte-éclogite dans la croûte océanique subductée. Deux ensembles de modèles de plaque cinématique et dynamique sont étudiés. Dans les modèles cinématiques, l'écoulement est entraîné par une vitesse de surface imposée, et des plaques lithosphériques sont générées en adoptant une température dépendant de la viscosité. Dans les modèles dynamiques, les forces de flottabilité due aux variations internes de densité procurent la force d'entraînement pour la convection: et la température, profondeur, et tension dépendante de la viscosité sont utilisées pour obtenir un mouvement de plaques uniforme.

Les résultats des modèles cinématiques montrent que la subduction de la croûte continentale est fortement contrôlée par la vitesse de surface imposée et la viscosité de la lithosphère. Pour la majorité des modèles avec des rhéologies réalistes, la lithosphère continentale subducte à la profondeur du manteau inférieur en une couche cohérente. Un détachement de croûte ne se produit que lorsque le couplement croûte- manteau

est faible. Dans ce cas particulier la lithosphère de manteau continue sa descente, pendant que la croûte se détache à des profondeurs  $< 150$  km et s'accumule à la surface.

En contraste, les modèles dynamiques montrent que la convergence continentale résulte en un détachement croûte-manteau dans la plaque en subduction et l'épaississement de la croûte dans les plaques en subductions et celles en surface. La profondeur de détachement varie de 100 à 170 km. Plus l'épaisseur de la croûte augmente, la vitesse de convergence dans la zone de collision diminue et le foyer de la subduction se déplace graduellement vers l'intérieure de la plaque en subduction. Dans les modèles avec une plus grande viscosité, le manteau lithosphérique en subduction maintient son intégrité et ne se brise pas. Dans les modèles avec une rhéologie plus faible, la flottabilité positive de la croûte épaissie peut surpasser la force de la lithosphère en subduction, et développer un état de tension dans la portion supérieure de la plaque, et ultimement causer la plaque océanique à se briser et couler dans le manteau. La brisure s'étend sur une période de 10 à 20 m.a. (dépendamment de la vitesse des plaques), ce qui correspond sommairement au temps nécessaire à la croûte pour atteindre son épaisseur maximale. Les modèles indiquent un mouvement ascendant lent de l'asthénosphère et le réchauffement de la base de la croûte comme conséquence du bris de la plaque. Le détachement de la croûte se produit pour une grande plage de valeurs pour la force lithosphérique, ce qui suggère que les modèles dynamiques avec flottabilité de croûte ont un rôle important dans la dynamique des subductions continentales.

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# Chapter 1

## Introduction

The objective of this thesis is to study the dynamics and evolution of continental subduction by means of thermo-mechanical numerical models. Many of the Earth's mountain belts are associated with the collision of continental plates. While the oceanic lithosphere subducts with little resistance, owing to its greater buoyancy, it is difficult for a continental plate to subduct (e.g. Molnar & Gray 1979; Davies & von Blanckenburg 1995). This is evident from the ages of oceanic and continental plates. The maximum age of ocean floors is about 200 m.y., suggesting a fast process of construction and destruction of oceanic lithosphere. On the contrary, the continental plates are as old as billions of years, indicating that they have been largely formed in the early history of the Earth and remained on the surface over geologic time. Continental subduction/collision is often preceded by the subduction of an oceanic lithosphere under a continental plate along a destructive plate margin. When the two continental plates meet, the lower part of the lithosphere may continue to subduct, but the upper part of the mantle lithosphere and the crust thicken, giving rise to an elevated mountain belt.

The evolution of a collisional orogeny is very complex and takes on different courses in different mountain belts. But in general, this evolution can be divided into three

major stages (Froidevaux & Ricard 1987): i) crustal shortening and thickening in response to tectonic forces that push the converging plates against each other, resulting in elevated terrains, ii) resistance of the thickened crust to further shortening and areal expansion of the elevated region, iii) collapse of the high mountain belts as a result of subsequent decrease in the magnitude of the tectonic forces. The modeling of the geodynamic processes involved during these stages have attracted considerable attention. Chapter 2 is devoted to a survey of previous work. Here, some of the important problems relevant to the process of continental subduction/collision are briefly discussed.

Despite the fact that the buoyancy of the continental crust points to its difficulty of subduction, there is ample geological evidence from many mountain ranges such as the Himalayas and the Alps, that suggests subduction of at least some part of the continental crust to mantle depths and its subsequent exhumation (e.g. Chopin 1987). An important question is then, to what depth the continental crust can subduct before it detaches from the mantle part of the lithosphere, allowing the latter to continue subducting, and what are the controlling mechanisms of this detachment process. The continued deformation of the detached crust and its mode of accumulation in the subduction zone have also been a subject of considerable research (e.g. van den Beukel 1992; Willett, Beaumont & Fullsack 1993; Chemenda et al. 1995).

The fate of the subducted oceanic lithosphere and its probable breakoff from the overlying buoyant continental plate can have important consequences for the tectonic evolution of the collision zone. Slab breakoff results in the reduction of the downward subduction force and alters the state of stress in the thickened continental crust. This change of stress regime can be strong enough to cause the elevated mountain belts to experience phases of extensional tectonics. In addition, if the subducted slab breaks off near the base of the continental crust, the hot asthenospheric material may fill



the gap and induce melting in the thickened crust. This scenario has been invoked to explain the syn-tectonic magmatic activities in the Alps and other orogenic belts (Davies & von Blanckenburg 1995).

In many active mountain belts there exists a transition from compressional shortening and thickening to extensional thinning of the elevated continental plateau. The extension takes place while the convergence between the two colliding plates continues (Molnar & Tapponnier 1975; Chen & Molnar 1983; England & Houseman 1989). For example, the Tibetan plateau is currently thinning with a moderate vertical strain rate of about  $10^{-17} \text{ s}^{-1}$  in the presence of the ongoing convergence between India and Asia (Molnar & Deng 1984). Regions of elevated topography have a greater potential energy than their surroundings and thus, may exert a horizontal compressive stress on the adjacent low-topography regions (Artyushkov 1973; Platt & England 1993). It has been suggested that this stress arising from crustal thickness variations is responsible for the late stage extension in the Tibetan plateau (Molnar & Tapponnier 1978). Several models that treated the deformation of the lithosphere as the response of a continuous medium to convergence forces as well as forces due to crustal thickness variations, investigated the continental deformation during collision, but failed to explain the observed late stage extension and predicted that the crustal plateau always remains in compressional settings (England & McKenzie 1982; Houseman & England 1986; Vilotte, Daignieres & Madariaga 1982).

Geological evidence suggests that the transition to late stage extension happens over a short period of time compared to the crustal thickening period, and is usually associated with a rapid topographic uplift and magmatic activity in the mountain belts (e.g. Bird 1978b; Molnar, England & Martinod 1993; Houseman & Molnar 1997). Moreover, there appears to be a delay of a few to tens of millions of years between the cessation of crustal thickening and the onset of lithospheric extension

(Houseman & Molnar 1997). These observations have led to the conclusion that rapid thermal instability of the thickened lithospheric root and its replacement by the hot asthenospheric material is responsible for the above changes in collision zones. Several scenarios have been devised for such an instability of the lithosphere. These include the delamination scheme of Bird (1978b, 1979), the convective thinning of the lithospheric root proposed by Houseman, McKenzie & Molnar (1981), Lenardic & Kaula (1995), and Houseman & Molnar (1997), among others, and the breakoff of the subducted oceanic slab by Davies & von Blanckenburg (1995). All of the above models envisage processes by which the lower part of the thickened lithosphere is detached from the upper part, and the crustal layer comes into contact with asthenospheric temperatures, resulting in an increase in the buoyancy of the crustal plateau and subsequent uplift and extension.

Many numerical studies have focused on the dynamics of lithospheric deformation in collision zones. They cover a wide range of geodynamic problems and different approaches to the physics of the problem at hand. Some studies have attempted to explain the mechanics of continental deformation by simplifying the dynamics of the deformation and relying mostly on buoyancy and rheological arguments (e.g. van den Beukel 1992; Davies & von Blanckenburg 1995). Some studies are concerned with the crustal-scale evolution of the mountain belts, and investigate the deformation of the upper layers of the lithosphere (e.g. Dahlen 1990; Willett et al. 1993; Beaumont & Quinlan 1994; Ellis, Fullsack & Beaumont 1995). Others emphasize the importance of the mantle lithosphere, and study the deformation of the entire lithosphere (e.g. Bird & Piper 1980; England & McKenzie 1982; Vilotte et al. 1982; Houseman & England 1986; Bird 1989). Finally, some studies have focused on the collision and breakup of continental plates during mantle convection, by considering the dynamic feedback between the motion of continental plates and the convecting mantle (e.g.

Gurnis 1988; Lowman & Jarvis 1993). Continental subduction and/or collision is a complex dynamic process that should be viewed as the surface component of a thermal convection in the Earth's mantle. The convection involves chemical boundary layers in the form of crustal layers (Lenardic & Kaula 1996), as well as rigid surface plates that move with uniform velocity (e.g. Weinstein & Olson 1992; Zhong & Gurnis 1995). Most of the numerical investigations cited in the above, use various forms of approximation on the characteristics of convection to study specific aspects of continental deformation. There have been few studies that go as far as to consider the deformation in the collision zones as part of a full-scaled mantle convection model with realistic characteristics. Lenardic & Kaula (1995, 1996) considered the formation of continental roots in a variable-viscosity, thermo-chemical convection model, but did not take into account the stress-dependence of viscosity and the rigid behavior of the surface plates. Schott & Schmeling (1998) studied the delamination of the continental lithosphere by including the compositional buoyancy of the crust, and realistic viscosity structure to mimic lithospheric plates. However, the thickened continental root in their model was introduced as an initial condition. As a result, realistic slab structure did not develop as a natural consequence of convection, and the possible effects of the subducted oceanic slab on the deformation of the subducting continent were overlooked.

With the above as motivation, in this thesis I consider a thermo-chemical convection model with "plate-like" behavior on the surface, to study the large-scale deformation of the continental lithosphere that follows the oceanic lithosphere into a subduction zone. The aim is to investigate some of the conceptual models and theories put forward by others to explain different aspects of the evolution of continental lithosphere in collision zones (e.g. buoyancy and rheological arguments on the depth of continental subduction, slab breakup, and convective instability of the continental

root), and to examine and compare the results with those of other investigators that have adopted different (and sometimes simpler) approaches. The number of approximations to the physical and geodynamic properties of the convection are as few as possible, and subduction and collision zones develop in a self-consistent manner in the convective flow field. The model lithospheric plates are defined by their thermal structure, as well as their distinct crustal layers. Density variations due to chemical layering of the lithosphere, thus contribute to the buoyancy forces of convection. I use temperature, depth and stress-dependent viscosity in order to achieve a realistic plate-like behavior of the lithosphere. With regards to the driving mechanism of convection, I consider two sets of models: In the kinematic models, the flow is driven by an imposed surface velocity; in the dynamic models, the internal buoyancy forces arising from density variations are solely responsible for driving the convection.

In Chapter 3, the mathematical and geophysical bases of my models are described. The governing equations of flow, their non-dimensionalization and numerical discretizations are explained (details of the discretization scheme are relegated to an appendix). The relevant viscosity and density structures of the models are described in detail. The initial setup of the models is presented, and the initial values of the physical parameters are tabulated.

The numerical technique that is used for the advection of compositional heterogeneities in the flow field is described in Chapter 4. The advective transport equation in this thesis is solved by an improved version of the second moment method developed by Egan & Mahoney (1972). Ghods, Sobouti & Arkani-Hamed (2000) improved the performance of this method and compared it with other numerical techniques in a variety of engineering problems. In this chapter, the efficiency of the improved method is tested in a number of geodynamic problems, and the results are compared with those of other numerical techniques commonly used in geophysical research.

In Chapter 5, the subduction models are presented, and the results are discussed and compared with those of other authors. The first section of this chapter is devoted to the kinematic models. The ability of the imposed surface velocity in reproducing the major features of the continental subduction is explored, and the effects of various factors such as plate velocity, lithospheric temperature and viscosity, and sidewall boundary conditions are investigated. The second section of the chapter presents the results from the dynamic models and examines the role of the basalt-eclogite phase change in the oceanic crust in the dynamics of oceanic subduction. The depth of continental subduction and the modes of crustal thickening are investigated. The fate of the subducted oceanic slab, as well as that of the thickened continental lithospheric root that forms beneath the crustal thickening region are examined, and the role of rheology is investigated. Finally, in the last section of the chapter a dynamic model with a shallow angle of subduction is considered.

A brief summary of the main points of the thesis and possible future improvements of the models are presented in Chapter 6.

## Chapter 2

### Previous Work

The evolution of continental collision zones has been a subject of extensive geodynamic investigations that include various approaches in both observational and theoretical disciplines. This chapter briefly reviews the research conducted in the last three decades. In particular, the focus will be on the effect of continental buoyancy on the depth of subduction, the thermal and dynamical evolution of the colliding continental lithosphere, the breakoff of the lithosphere and foundering of the subducted slab, and the thermal instability of the thickened continental root. Some laboratory experiments will be mentioned as well.

**Continental buoyancy:** Early work on lithospheric dynamics (McKenzie 1969) suggested that because of its low density, the continental crust is too light to subduct. However, geological evidence of large-scale crustal shortening and thickening in the Earth's mountain belts point to the fact that at least part of the crust should subduct to some depth in order to account for the observed shortening. Molnar & Gray (1979) used buoyancy calculations to estimate the relative strength of the forces that contribute to, or oppose, the subduction of a continental plate. They argued that two major factors control the subduction of continental lithosphere: the negative

buoyancy of the cold mantle part of the continental lithosphere, and the pulling force of the already subducted oceanic lithosphere. According to their calculations, if the upper crust is able to detach from the rest of the lithosphere, the negative buoyancy of the mantle part of the lithosphere can subduct the lower 10 km of the crust with itself. The range of parameter values in these calculations could increase this estimate by as much as a factor of three. They concluded that the amount of continental subduction is greatly dependent on the strength of crust-mantle coupling, and the fraction of the subducted oceanic slab pull transmitted to the continental lithosphere. Molnar & Gray (1979) and Bird, Toksöz & Sleep (1975) demonstrated that hundreds of kilometers of continental crust can be subducted if the pull of the subducting oceanic slab is completely transmitted.

Cloos (1993) calculated the buoyancy of the lithospheric plates and provided estimates of the size of continental blocks, oceanic plateaus and island arcs that would cause the jamming of the subduction zones. His analysis showed that continental lithosphere with a 30 km thick crust is  $90 \text{ kg/m}^3$  less dense than the asthenosphere, and that continental and oceanic island arc crusts thicker than 15 km can make the lithosphere buoyant enough to resist subduction. However, his approach was based purely on buoyancy and isostatic considerations, and did not take into account rheological arguments.

**Thermal modeling of continental convergence zones:** In the first decade of the development of plate tectonic hypothesis many attempts were made to study the thermal history of convergence zones through numerical models. Some of these models concentrated on continent-continent convergence zones, notably the models by Bird et al. (1975) and Toksöz & Bird (1977). In these models, finite difference techniques were employed to study the thermal regime of collision zones in which some continental crust was already subducted. The results were used to explain the

geological observations of heating and melting in collision zones. These models showed that adiabatic and radioactive heating in the crust are negligible during orogeny (a time span of more than 40 m.y.) and the only heat source that can bring crustal rocks to melting temperatures is frictional heating at the subduction fault zone (Toksöz & Bird 1977). The models gave lower and upper bounds on the shear stresses (50-200 MPa) required to produce crustal melting, and were able to provide parameter values that satisfied the heat flow, gravity and seismic constraints in continental collision zones such as the Zagros Mountains (Bird et al. 1975).

**The thin-sheet approximation:** With the recognition of the fact that the deformation of the continents takes on a diffuse and distributed nature that is fundamentally different from the principles of plate tectonics, a group of authors attempted to model the continental deformation in terms of the mechanics of a continuous medium. One of the first models was that of Tapponnier & Molnar (1976), which compared the patterns of strain with the slip line fields produced during the indentation of a rigid-plastic thin plate (e.g. the Eurasian plate), by a rigid indenter (e.g. the Indian plate). This model compared the slip line fields with the major strike-slip faults in mountain belts and proposed that much of the deformation of central Asia is accommodated by lateral expulsion along these strike-slip faults. The viscous thin-sheet approximation was developed by Bird & Piper (1980), England & McKenzie (1982) and Vilotte et al. (1982) to investigate large-scale continental deformation. The continental lithosphere is assumed to behave as a continuous medium deforming by steady state creep that is driven by velocity or stress boundary conditions applied to the sides of the models. The top and base of the lithosphere are considered to be traction-free, and the lateral variations of loads are omitted. This approach allows the equations of momentum and continuity to be cast in terms of vertical averages of horizontal velocity components and crustal thickness. The thin viscous sheet model was able to account for the



large-scale crustal shortening in mountain belts and the along-strike deformation in the India-Asia collision zone (e.g. Vilotte et al. 1986, England & Houseman 1989). Some thin-sheet models have assumed that the driving force of the deformation is provided by the basal traction at the crust-mantle or the lithosphere-asthenosphere boundary. Examples include the model of Wdowinski, O'Connell & England (1989), who studied the effect of the subduction angle and the asthenospheric wedge flow on the deformation of the lithosphere in the Andes and the Aegean, and of Bird (1989), who developed a double sheet model in which the crustal and mantle layers could interact with each other through traction along their interface.

Similar to the above thin-sheet approximations, a class of plane-strain models have used basal velocity boundary conditions as the driving mechanism to model the deformation of the crustal layer during continental convergence. In most of these models, the asymmetric detachment and underthrusting of the subducting mantle lithosphere provide the driving mechanism that deforms the overlying crustal layer. The mantle lithosphere is not included in the model, which makes no prediction about the fate of the subducted part of the lithosphere. The crustal layer is modeled with Coulomb plastic and temperature-dependent viscous rheology and is flexurally compensated on the elastic lithosphere. These plane-strain models have demonstrated a pattern of crustal deformation that is characterized by the formation of step-up shear zones as the initial failure planes and an asymmetric deformation that is localized on the overlying side of the orogen and diffused on the subducting side of the orogen (Willett et al. 1993). The models have been used to study the various effects of different mechanisms on the styles of crustal deformation. Beaumont, Fullsack & Hamilton (1994) studied the role of the strength of crust-mantle coupling, surface erosion and denudation, and partial or total subduction of the crust, and compared their results with observations in various orogenic belts. Willett & Beaumont (1994) considered

the effect of trench retreat on the polarity of subduction in Tibet. Batt & Braun (1997) incorporated a complex erosion-sedimentation model to predict geological and geophysical observables such as the metamorphic grade of the exposed rocks, surface heat flux and the thickness of the sediment deposits in a foreland basin. Finally, Ellis et al. (1998) studied the role of crustal weak zones on the deformation of the Newfoundland Appalachians.

**Crustal detachment and slab breakoff:** The separation of the subducted oceanic slab and the generation of a new plate boundary as a result of continental subduction has been the topic of numerous investigations. Davies & von Blanckenburg (1995) distinguished between the slab breakup whereby the crustal layer of the subducting plate disintegrates into separate thrust sheets that underplate the overlying plate, and slab breakoff, by which the subducted oceanic plate completely detaches from the continental plate that follows the oceanic plate into the subduction zone. van den Beukel (1992) addressed the problem of slab breakup by a thermo-mechanical model in which the temperature field in a subducting continental plate and the overriding adjacent region was determined by thermal conduction and by advection due to the prescribed velocity of the plate. The deformation of the lithosphere was assumed to be brittle in the shallower depths and ductile in the deeper parts. The resistive forces to the subduction consisted of the positive buoyancy of the continental crust and friction at the plate contact. Based on the strength of the material within the subducting continent and the resistive forces of subduction, van den Beukel (1992) concluded that the subduction of continental lithosphere can lead to the breakup of the crust from the mantle lithosphere and the transfer of a part of the subducting crust to the overriding plate. The thickness and the thermal and compositional properties of the continental crust proved to have a decisive influence on the depth to which the crust can be coherently subducted. This depth decreases as the surface heat flow and

crustal thickness increase. van den Beukel proposed a breakup depth of 25-50 km for a variety of cases and suggested that in the case of cold continental shields with a thinner crust, the entire crustal layer can subduct to mantle depths.

The process of slab breakoff and its importance in the syn-collisional magmatism and tectonics of the mountain belts such as the Alps were considered by Davies & von Blanckenburg (1995) and von Blanckenburg & Davies (1995). Their model was similar to that of van den Beukel (1992). They postulated that when a continental plate enters a subduction zone, the opposing buoyancies between the continental and the subducted oceanic plates lead to extensional deformation in the subducting slab. If there is strain localization, a narrow zone of rifting will develop which ultimately results in slab breakoff. Subsequently, the asthenospheric material will rise to fill the rift and can lead to the heating of the base of the crust and magmatism in the crustal layer. The decrease in the strength of the crust as a result of increased temperature, combined with the removal of the downdip slab pull, will bring about the uplift of the thickened crustal plateau at the surface, as well as the buoyant rise of the subducted continental crust. Davies & von Blanckenburg (1995) estimated an upper bound for the strength of the lithosphere and compared it to the change in the buoyancy force during subduction, and concluded that the depth of breakoff strongly varies with subduction velocity and the thermal gradient of the lithosphere. For a subduction velocity of 1 cm/yr, the depth of breakoff was in the range of 50-120 km for various thermal regimes. Wong A Ton & Wortel (1997) used a model similar to that of van den Beukel (1992) to study slab detachment (or breakoff) during transition from oceanic plate subduction to continental collision. They showed that the continental surface heat flow has an important role in determining the place where the breakoff takes place, with low and high heat flows producing long and short breakoff distances from the trench, respectively. They also found that shorter detachment distances would

result by reducing the convergence velocity below the velocity of the slab (which depends on the age of the slab). Their calculations yielded a breakoff time range of 2-40 m.y., and distances of 110-610 km, corresponding to a depth range of 40-500 km.

**Thermal instability of the lithospheric root:** The rapid removal of the lithospheric root during continental collision has been extensively invoked to explain the time delay between the cessation of thrust faulting and the onset of normal faulting and late stage magmatic activity in many mountain belts. Houseman & Molnar (1997) summarized the geological evidence for this delay in several orogenic belts and showed that this time interval varies from a few million years in the case of Tibet and the Alboran Sea to as much as 40-50 m.y. in the Basin and Range Province and eastern New Guinea. Several different models have been proposed to study the removal of the lithospheric root. The basic idea here is that continental collision leads to the formation of a thick cold lithospheric root that becomes increasingly unstable with respect to the surrounding hot asthenosphere. Depending on the rate of thickening and the rheological properties of the lithosphere, this instability might grow and lead to the separation of the mantle part of the lithosphere from the upper crustal part.

Most removal models fall into two major categories: delamination models and convective thinning models. The delamination model was first proposed by Bird (1978b, 1979) to explain the extension and magmatism in the Himalayas and the Colorado Plateau. Bird's (1978b) model described the delamination as the peeling off of the mantle lithosphere from the crustal layer and the subsequent replacement of material by the asthenosphere. This process is asymmetric and driven by the moment exerted by the subducting plate, and accompanied by the propagation of the delamination front towards the upstream side of subduction. Other authors as well have used the delamination concept to model the deformation of collision zones. Channell & Mareschal (1989) considered the role of asymmetric thickening and delamination in

the rifting of the Tyrrhenian Sea. They found that by offsetting the thickening in the crust and the lower lithosphere, the delamination front can propagate and give rise to an extensional regime. Schott & Schmeling (1998) used a dynamically and thermally consistent model to examine the development of delamination mechanism in an orogenic belt. Their results showed that a rheology based on the high viscosity of olivine alone cannot allow for delamination, and a quasi-brittle rheology is necessary for a successful delamination model in which rapid changes of topography occur. Furthermore, they obtained viscosity constraints for the upper and lower crustal layers at which full detachment of the delaminated mantle lithosphere can take place, and observed that a significant part of the lower crustal material can subduct into the mantle as a result of delamination.

The convective thinning models are based on the concept of Rayleigh-Taylor instability and were first suggested by Houseman et al. (1981) and Fleitout & Froidevaux (1982) to explain the apparent rapid increase in the potential energy of the mountain belts at some stage during their deformation. Houseman et al. (1981) constructed a constant viscosity numerical model in which an initially homogeneous lithosphere experienced instantaneous shortening and thickening and evolved into a thickened cold thermal boundary layer on top of a hot convecting mantle. With time, the convecting layer developed a flow field which grew exponentially and rapidly thinned the cold boundary layer. According to their model, the time scale of the removal is strongly dependent on the mantle viscosity and can be as large as billions of years, but for small values of viscosity, it can approach 10 m.y., well within the range of observation in the Himalayas and other orogenic belts. The plausibility of convective thinning under realistic rheological properties was questioned by Buck & Toksöz (1983), who showed that under temperature-dependent viscosity conditions, the growth of the instability can be delayed and the thickened boundary layer remains convectively

stable. In such a circumstance the removal of the boundary layer takes place by the process of thermal erosion, with a time scale that can far exceed that of the collisional deformation.

Lenardic & Kaula (1995) also considered the problem of convective instability during continental plateau formation. They investigated thermo-chemical convection in the mantle that consisted of a thermal as well as a chemical boundary layer. The chemical boundary layer was taken to represent the crustal layer of the lithosphere. The two boundary layers had distinct density, viscosity and thermal diffusivity properties. Their results were similar to those of Houseman et al. (1981) and Buck & Toksöz (1983). The isoviscous models showed the sinking of the cold boundary layer beneath the zone of plateau formation. However, there was no time delay between the phase of maximum boundary layer thickening and the removal of the thickened root, and the time scale for the removal of the root was comparable to that required to thicken the lithosphere. The temperature-dependent viscosity models showed that the viscosity of the thickened mantle lithosphere was too strong to allow for a significant portion of the thickened lithosphere to sink into the mantle. The fraction of the mantle lithosphere that was removed was small, and was mostly obtained by thermal erosion that worked on a time scale much slower than that of thickening of the boundary layer. Lenardic & Kaula (1995) then proposed a delamination-like scenario under which rapid removal of the thickened root could take place. They argued that on the periphery of the elevated crustal plateaus, the crustal layer undergoes significant thickening, while the mantle part of the lithosphere does not thicken as much. This leads to a thick and cold crust and a thin and hot mantle in the peripheral region. If, furthermore, the crustal layer has a greater thermal resistivity or internal heat generation than the mantle, the peripheral mantle lithosphere can be thermally eroded and become a zone of weak viscosity. This allows the mantle part in

the interior of the plateau to mechanically detach from the overlying crust and sink into the convecting mantle. The experiments of Lenardic & Kaula (1995) indicate the plausibility of such a scenario, and their model is able to demonstrate that indeed both delayed and rapid removal of a thermal instability is feasible.

Marotta, Fernandez & Sabadini (1998) presented another temperature-dependent viscosity model to study the problem of mantle unrooting during continental collision. Their model applied a prescribed surface velocity to account for the compression in the collision zone. By studying the shear stress and the strain rate and the time variation of total kinetic energy during the deformation, they identified four stages during the process of lithospheric removal: orogenic growth, gravitational instability of the thickened root and crust-mantle breakup, sinking of the detached root, and the relaxation of the system and the rebound of the isotherms. They reported that the time span of instability is a function of rheology: the weaker the rheology, the shorter the time span. They observed that the topographic instability starts after the initiation of the sinking of the detached root and lasts until the completion of the lithospheric unrooting. The topographic change is smooth, and no rapid change of topography is seen after the breakup of the lithosphere.

Houseman & Molnar (1997) showed that the stress-dependent rheology of the lithosphere has a strong influence on the growth of gravitational instability. Through analytical calculations they obtained relationships between the growth rate of the instability and rheological parameters, and used those relationships to determine the fraction of the thickened lithosphere involved in the convective instability. They further showed that, contrary to the case of Newtonian fluids, the non-linear rheology can explain the delay in the commencement of the convective removal. According to their results, it is likely that 50 to 75 percent (depending on the rheological parameters) of the mantle lithosphere would become unstable over a time interval of 10 m.y.

These numbers seem to be within the range of observed values.

**Laboratory experiments of continental subduction:** In this sub-section, the results of a few analogue models of processes involved during the continental convergence are mentioned. Chemenda et al. (1995) studied the syn-collisional exhumation and the associated normal faulting with a three-layer lithospheric model that included a strong upper crust, a weak ductile lower crust and strong mantle part. Subduction was produced by the action of a ridge push, and the pull of the mantle lithosphere. The upper crustal layer subducted to scaled depths of 200-300 km, after which it underwent failure and formed a thrust fault that marked the location of a new subduction fault. The underthrusting associated with the new thrust fault increased the topographic relief in the model. The inclusion of an erosional mechanism caused the previously subducted crust to rise buoyantly towards the surface and a process of rock exhumation and normal faulting was induced. The rate of crustal rebound was comparable to that of the subduction, and the depth of the exhumed rocks was found to be as great as 50 km. Chemenda, Mattauer & Bokun (1996) further demonstrated two possible regimes of continental subduction: a high-compression regime that corresponds to a low slab pull, and a low-compressional regime that corresponds to a high slab pull. In the high-compressional regime, crustal failure occurs near the front of subduction, whereas in the low-compressional regime, the crust fails at greater depth, near the base of the overriding plate. The high-compressional regime was shown to fit the Himalayan situation, and the low-compressional regime matches the situation in the Oman Mountains.



## Chapter 3

### Model Description

In this chapter, the mathematical and geophysical bases of the numerical models are presented. A two-dimensional rectangular domain representing a part of the Earth's upper 1400 km is considered. Subduction modeling in a three-dimensional spherical shell would take into account the three-dimensional structure of some subduction zones, as well as many other aspects of subduction, such as the effect of the adjacent oceanic trenches on the subducting plate (Mueller & Phillips 1991), and the oceanward migration of the trench (Garfunkel, Anderson & Schubert 1986). Furthermore, the extension of the model to the core-mantle boundary can better simulate the effect of the excess weight of the lower part of the subducted slab on the near-surface dynamics of the model. However, the available computational resources limited the size and resolution of the numerical grid. Therefore, a two-dimensional domain is chosen and only the upper half of the mantle is considered. Consequently, some compromises and *ad hoc* approximations are made in order to make the model as close to reality as possible. For example, laterally constant and mature thermal profiles are assumed for the lithospheric plates to make up for their short lengths, and the effect of phase transitions at the 400 and 670 km depths are neglected to compensate for the development of compressional stresses inside the slab as a result of a shallower

bottom boundary adopted in the model. The neglect of the mantle phase changes is justified by the fact that the resultant downward force generated by the phase changes in the mantle part of the slab is probably overshadowed by the compressional effect of the bottom boundary. Figure 3.1 shows the initial configuration of the model. The model is a  $4 \times 1$  rectangular box that consists of oceanic and continental lithospheric plates with their respective thermal structures and crustal layers. The first section introduces the governing equations of a thermo-chemical convective flow field. The non-dimensionalization schemes and the initial and boundary conditions as applied to the models are discussed. The second section describes the discretization of the equations and the numerical techniques employed for the solution of the equations. In the third section, a detailed description of the viscosity and density structures of the models is presented. The last section describes the initial setup of the models.

## 3.1 The fluid dynamic equations

### 3.1.1 The governing equations

The equations governing the flow of a chemically heterogeneous viscous fluid are: the equations of conservation of mass (or the continuity equation), momentum (or the equation of motion), energy (or the equation of heat transport), and the advective transport of chemical heterogeneities. I consider a two-dimensional Cartesian domain in which the buoyancy force arising from gravitational instabilities is balanced against the ambient viscous force. The gravitational instabilities arise from differences in density due to temperature anomalies and the presence of compositionally different layers. Because the amount of finite deformation is significant only at very large time-scales, the acceleration term in the equation of motion is neglected, and the fluid is treated as one with an infinite Prandtl number. The flow is assumed to

be incompressible, and the Boussinesq approximation is adopted, whereby the effect of density variations is neglected everywhere except in the body force term of the equation of motion. The mantle is heated from below. Radiogenic and adiabatic heating do not increase the temperature by a significant amount during the time interval of deformation, which is about 100 m.y., and the temperature increase by frictional heating is confined to the vicinity of the subduction fault zone. Therefore, the internal heat sources are all neglected.

The governing equations are written as follows:

Equation of conservation of mass:

$$\nabla \cdot \mathbf{v} = 0 \quad (3.1)$$

Equation of conservation of momentum:

$$-\nabla P + \nabla \cdot \boldsymbol{\tau} + \delta \rho g \vec{z} = 0 \quad (3.2)$$

Equation of conservation of energy:

$$\rho_r C_p \left( \frac{\partial T}{\partial t} + \mathbf{v} \cdot \nabla T \right) = k \nabla^2 T \quad (3.3)$$

Equation of advective transport:

$$\frac{\partial C}{\partial t} + \mathbf{v} \cdot \nabla C = 0 \quad (3.4)$$

where  $\mathbf{v}$  is the velocity vector,  $\boldsymbol{\tau}$  is the deviatoric stress tensor,  $P$  is the dynamic pressure,  $T$  is the temperature,  $C$  is the composition function that describes the chemical composition,  $t$  is time,  $\rho_r$  and  $\delta \rho$  are the constant reference density and variations from the reference density, respectively,  $g$  is the gravitational acceleration,  $k$  is the thermal conductivity,  $C_p$  is the specific heat at constant pressure, and  $\vec{z}$  is the unit vector in the direction of gravity (positive downward).

Equation 3.4 governs the advection of chemically distinct masses in a flow field. Here, only the advective transport is considered, and chemical diffusion is neglected. This assumption is justified because the rate of transport of chemical species by diffusion inside the Earth is far slower than that by the convective flow of mantle material. Therefore, chemical diffusivity inside the Earth is assumed to be effectively zero, and any observed diffusion in the models will be purely a numerical error. The continental and oceanic crustal layers in the model are each assigned a composition function  $C$  that is initially a step function that varies from 0 to 1 in value. Crustal compositions are represented by  $C = 1$ , and mantle composition by  $C = 0$ .

The stress-strain rate relationship for an incompressible Newtonian fluid is:

$$\boldsymbol{\tau} = \eta(\nabla \mathbf{v} + (\nabla \mathbf{v})^T) \quad (3.5)$$

where  $\eta$  is the dynamic viscosity, and superindex  $T$  denotes transposition.

The last term in Equation 3.2 represents the body force due to density variations. Note that here, the hydrostatic pressure corresponding to the reference density is eliminated, and the body force term is due only to the departures from the reference state of density. Variations in density are due to thermal expansion, existence of distinct chemical materials, and phase changes. The pressure-dependence of density is neglected. The equation of state defining the dependence of density on temperature, chemical composition, and phase is:

$$\rho = \rho_r - \alpha(T - T_r)\rho_r + \Gamma\Delta\rho_p + C\Delta\rho_c \quad (3.6)$$

where  $\alpha$  is the coefficient of thermal expansion,  $T_r$  is the reference temperature,  $\Gamma$  is the phase change function that varies from 0 to 1 between the two end members of a phase change, and  $\Delta\rho_p$  and  $\Delta\rho_c$  are the maximum variations in density associated with the phase and chemical changes, respectively.

### 3.1.2 Non-dimensionalization scheme

For the purpose of non-dimensionalizing the equations, the following characteristic variables are used as normalization factors: for length, the depth of the layer,  $d$ ; for time,  $d^2/\kappa$  with  $\kappa$  as the thermal diffusivity defined by  $k/\rho_r C_p$ ; for temperature, the temperature difference across the layer,  $\Delta T$ ; and for viscosity, the reference mantle viscosity  $\eta_r$ . All of the variables can be written in terms of the normalization factors and dimensionless forms as:

$$\begin{aligned} x &= d x', & z &= d z', & t &= \left(\frac{d^2}{\kappa}\right) t', & \mathbf{v} &= \left(\frac{\kappa}{d}\right) \mathbf{v}', & T &= \Delta T T' + T_r, \\ \boldsymbol{\tau} &= \left(\frac{\eta_r \kappa}{d^2}\right) \boldsymbol{\tau}', & P &= \left(\frac{\eta_r \kappa}{d^2}\right) P', & \rho &= \rho_r \rho', & \eta &= \eta_r \eta', & \alpha &= \alpha_r \alpha' \end{aligned} \quad (3.7)$$

where  $x$  and  $z$  are horizontal and vertical coordinates, respectively, and primed variables are non-dimensional. With the above non-dimensionalization scheme, the non-dimensional form of the equations, after dropping the primes for clarity, are:

$$\nabla \cdot \mathbf{v} = 0 \quad (3.8)$$

$$-\nabla P + \nabla \cdot \boldsymbol{\tau} = (RaT - Rb_c C - Rb_p \Gamma) \bar{\mathbf{z}} \quad (3.9)$$

$$\frac{\partial T}{\partial t} + \mathbf{v} \cdot \nabla T = \nabla^2 T \quad (3.10)$$

$$\frac{\partial C}{\partial t} + \mathbf{v} \cdot \nabla C = 0 \quad (3.11)$$

where  $Ra$  is the thermal Rayleigh number, and  $Rb_c$  and  $Rb_p$  are the Rayleigh numbers due to compositional and phase changes, respectively. They are defined as:

$$Ra = \frac{\alpha \rho g \Delta T d^3}{\kappa \eta_r}, \quad Rb_c = \frac{\Delta \rho_c g d^3}{\kappa \eta_r}, \quad Rb_p = \frac{\Delta \rho_p g d^3}{\kappa \eta_r} \quad (3.12)$$

### 3.1.3 Initial conditions

Except for some cases, the initial fields of the equations of motion and mass conservation are zero. For the equation of energy, the temperature in the interior of the model is initially set to a uniform value (the bottom temperature of 1973 K at  $z = 1400$  km). For the surface plates, a geotherm based on the cooling thermal gradient of the lithospheric plates is considered (Turcotte & Schubert 1982):

$$T = T_s + (T_b - T_s) \operatorname{erf} \left( \frac{z}{2\sqrt{\kappa x/v_s}} \right) \quad (3.13)$$

where  $v_s$  is the velocity of the surface plate, and  $T_s$  and  $T_b$  are the surface and bottom temperatures, respectively. On the surface of the Earth, the thermal age  $t_o$  of an oceanic plate increases from the mid-ocean ridge to the subduction zone. In the models, except for the small spreading oceanic segment on the right, the initial thermal age of the oceanic plate is assumed to be constant (see Figure 3.1). Oceanic plate ages of 35 to 80 m.y. are considered in different models. The lengths of the surface plates in the models are relatively small (1400-2800 km), owing to computational restrictions in the size of the model. Therefore, the assumption of a constant-age plate ensures the subduction of a mature plate. For the continental plates, the initial geotherm is also assumed to be laterally constant, and the same error functions are used to construct initial continental geotherms equivalent to thermal ages of 80 to 150 m.y. It is found that half-space cooling ages of 120-150 m.y., roughly approximate the average continental geotherm.

As will be explained in Chapter 5, the driving force of convection is provided either by imposing plate velocities on the surface of the model (kinematic models), or by

inducing thermal instabilities inside the domain (dynamic models). In the latter case, an initially cold thermal anomaly is placed in the subduction zone in order to initiate the foundering of the oceanic plate and to ensure that the downwelling occurs there. The anomalous zone has a width of about 100-150 km and extends to an approximate depth of 200 km, which is chosen on the basis of the plate velocity that it can induce. Normally, a plate velocity of about 5 cm/yr is sought in the models.

Two initial composition functions,  $C_c$  and  $C_o$ , are defined to delineate the areas of the continental and oceanic crustal layers, respectively. These functions have a value of 1 where their respective layer exists in the model, and a value of 0 elsewhere.

### 3.1.4 Boundary conditions

The boundary conditions are expressed in terms of the dependent variables or their gradients.

**Bottom boundary:** At the bottom of the model, temperature is fixed to a constant value of  $T_b = 1973$  K. Material is not allowed to leave the domain, and the boundary is assumed to be free-slip, that is, vertical velocity  $v_z$  and shear stress  $\tau_{xz}$  are set to zero.

**Top boundary:** At the top, the temperature is  $T_s = 273$  K. In the kinematic models, a horizontal surface velocity of 5 cm/yr is imposed on the subducting part, and the overriding part is assumed to be slip-free with no vertical velocity. In the dynamic models, the entire top boundary is treated as free-slip with zero normal velocity.

**Side boundaries:** On the vertical side boundaries, two different sets of boundary conditions are used. In the first set, the boundary is assumed to be closed and free-slip, with no heat flux across boundaries. In the second set, the side boundaries are open such that the flow that leaves from one side re-enters the model from the opposite side. Periodic boundary conditions are used in order to accommodate the

latter case. The periodic boundary condition is implemented by taking the averages of the velocity values at the nodes next to the right boundary and the nodes next to the left boundary, and assigning these values as the boundary values on both sides. By allowing the material to freely flow in and out across the vertical boundaries, the material below the subducting plate can move underneath the overriding plate, and trench retreat (or ridge advance) can take place (Christensen 1996).

## 3.2 Discretization of the equations

The governing equations need to be discretized before we can proceed with the task of numerical integration. I have adopted an iterative control volume finite difference method (CVFDM) (Patankar 1980) to solve Equations 3.1, 3.2 and 3.3. In a control volume method, the calculation domain is divided into a number of non-overlapping control volumes each surrounding a grid point. All dependent variables (velocity, pressure, temperature, etc.) are approximated by simple interpolation functions, and the differential equations are integrated over the control volumes. This procedure satisfies the integral conservation of the dependent variables (Patankar 1980). A second-order central difference scheme is used for the discretization of the velocity field, and the temperature function is discretized by a hybrid method consisting of central difference and weighted upwind schemes (Patankar 1980). The temperature field is integrated forward in time using the fourth-order Runge-Kutta method. Because there is no equation that explicitly solves the pressure field, a pressure equation is constructed by combining the momentum and continuity equations. To solve the pressure field, the SIMPLER scheme by Parakash & Patankar (1985) is used, which obtains the pressure field from a guessed velocity, and then uses a pressure-correction technique to correct the velocity field. In Appendix A, the discretization procedure is briefly described.



To obtain convergence at each time step, several convergence criteria are used: 1) the Nusselt number at the top and bottom boundaries should be constant for two successive iterations, 2) the difference in the vertical mass flux at mid-plane of the model for two successive iterations should approach zero, 3) the body terms in the discretized pressure equation (i.e.  $b_p$  in Equation A.8 of Appendix A) of all nodes are summed and the residual should approach zero. This criterion ensures the incompressibility of the flow. A limit on the order of  $10^{-4}$  to  $10^{-5}$  is used for convergence criteria. The Courant time step is used to achieve accurate time integrations.

The advective transport equation is solved by the improved second moment method of Egan & Mahoney (1972) (Ghods et al. 2000). In the next chapter, a detailed description of this improved method is given, and several geodynamic test problems are presented to illustrate the performance of the method and to compare it with other commonly used methods.

### 3.3 Rheological and density structures

#### 3.3.1 Viscosity structure

In terms of mechanical behavior, the lithosphere and the mantle both have elastic and viscous properties. In other words, they behave as visco-elastic materials with Maxwell rigidity and Maxwell viscosity. However, studies on mantle convection have shown that the time scale of mantle convection is orders of magnitude greater than the Maxwell relaxation time of the mantle. Therefore, treating the mantle as a simple viscous fluid over the time scales of convection is an appropriate approximation (Zhong, Gurnis & Moresi 1996).

With regard to permanent deformation, the lithosphere is divided into regions of brittle and ductile behavior, which are strongly pressure and temperature-dependent,

respectively. A typical continental lithosphere consists of a crustal layer with quartz as the dominant mineral and an upper mantle layer with olivine as the dominant mineral. Figure 3.2 shows a strength profile for a continental lithosphere (Dunbar & Sawyer 1991). There are two brittle zones, one in the upper crust and one in the uppermost mantle. Both layers overlie weaker zones with temperature-dependent ductile rheology. As a result, alternating zones of brittle and ductile domains are formed in the lithosphere. However, as Dunbar & Sawyer (1990) have mentioned, as far as the mechanical properties are concerned, the important feature of this layering is not the modes of behavior, but rather the alternating weak and strong zones. Therefore, a simple viscosity function that does not include the brittle deformation, but nevertheless accounts for the different strength of the different layers of the lithosphere, can still approximate the lithospheric rheology to a fair degree of accuracy.

Numerical studies on convection and subduction processes (Zhong & Gurnis 1995; van den Berg, van Keken & Yuen 1993; Han & Gurnis 1999) have suggested that the surface behavior of the plates, morphology of the subducting slabs and topography of the trench zones are strongly influenced by the effective viscosity of the slab and mantle, and by the constitutive relationship between stress and strain rate. Geophysical observations show that lithospheric plates move as rigid bodies with more or less constant velocity, the so called "plate-like" behavior. There is little internal strain, and most of the deformation is concentrated at the edges of the plates. Most convection models with uniform mantle properties fail to exhibit this plate-like behavior, unless plate-generation schemes are devised in the models (King, Gable & Weinstein 1992). Numerous plate-generating methods have been proposed. A temperature-dependent Newtonian viscosity produces a stiff, cold boundary layer on top of a convecting layer, which may resemble the lithosphere. However, temperature-dependent viscosity does not concentrate the strain on the edges of the plate, making the lithosphere less mobile

than the underlying mantle (Davies 1988). The material property method attempts to alleviate this problem by *a priori* defining the rigid lithosphere and the low-viscosity zones around it, which makes the lithosphere have a plate-like behavior. However, this method is not fully dynamic, since the viscosity structure of the lithosphere has to be determined in an *ad hoc* manner (Weinstein & Olson 1992). Non-Newtonian viscosity laws have been shown to be the most suitable plate-generation technique, in which the stress dependence of viscosity produces weak zones in regions of high stress (e.g. subduction zones) and generates surface plates in a way that is consistent with the dynamics of the flow field (Weinstein & Olson 1992; Trompert & Hansen 1999).

Following Zhong & Gurnis (1995) and Han & Gurnis (1999), I use a composite rheology with temperature and depth-dependent non-linear viscosity to model the deformation. In order to simulate the plate-like behavior, the upper 410 km of the model is assumed to have a non-linear viscosity, where deformation is dominated by dislocation creep. This assumption also leads to a weak asthenospheric layer that has a significant influence on the rigid behavior of the lithosphere above it. For depths greater than 410 km, Newtonian viscosity is used, indicating that deformation takes place in the form of diffusion creep. This division of the viscosity is consistent with laboratory studies, suggesting that dislocation might be dominant in the upper mantle and diffusion in the lower mantle (Zhong & Gurnis 1995). In addition, the viscosity is also assumed to be depth-dependent in order to account for high viscosity in the lower mantle. The viscosity law for a temperature, pressure and material-dependent non-linear rheology can be written as:

$$\eta = \eta_r \exp\left(\frac{E + pV + \mu C}{nRT}\right) \dot{\epsilon}^{-(n-1)/n} \quad (3.14)$$

where  $E$  is the activation energy,  $p$  is the lithostatic pressure,  $V$  is the activation volume,  $\mu$  is the chemical activation potential,  $C$  is the composition function,  $n$  is the

power-law exponent,  $R$  is the gas constant,  $T$  is the absolute temperature, and  $\dot{\epsilon}$  is the second invariant of the strain rate tensor. There are significant uncertainties in the calculation of the above thermodynamic parameters for mantle rocks, since they are strongly temperature, pressure, and material-dependent. Because of this and also because of large variations in the strain rate field of the mantle, a viscosity law such as Equation 3.14 will result in tens of orders of magnitude in viscosity difference across the mantle that can render the numerical calculations impractical. Therefore, to limit the range of viscosity variation in the mantle to a practical value, I use a generalized viscosity law with a set of constants that control the degree of the dependence of viscosity on different variables (Zhong & Gurnis 1995):

$$\eta = \eta_o \exp \left( \frac{C_1}{T + C_2} + \frac{C_1}{1 + C_2} \right) \quad (3.15)$$

where  $\eta_o$  is a reference viscosity, and  $C_1$  and  $C_2$  denote the viscosity change with temperature across the layer. The effective viscosity (Zhong & Gurnis 1995) is:

$$\eta_{eff} = \frac{\eta}{1 + \left( \frac{2\eta\dot{\epsilon}}{\tau_t} \right)^{(n-1)/n}} \quad (3.16)$$

where  $\tau_t$  is a transition stress that determines the level of stress at which Newtonian and non-linear viscosities have equal contributions to the effective viscosity. For stresses greater than  $\tau_t$ , non-linear viscosity is dominant, and for stresses smaller than  $\tau_t$ , Newtonian viscosity controls the deformation of the fluid (van den Berg et al. 1993). Therefore, non-Newtonian viscosity is not set *a priori*, but is a function of stress magnitude in the medium. The value of the transition stress was determined by running various numerical experiments, and it was found that stress values between 1 to 10 MPa, best simulate the plate-like behavior of the lithosphere. The set of constants  $\eta_o$ ,  $C_1$ , and  $C_2$  for different layers of the model are chosen such that the effective model viscosities resemble those of Earth values, i.e. smaller upper mantle

viscosity and larger lithospheric and lower mantle viscosities. Table 3.1 lists the values adopted for these constants.

**Table 3.1:** List of viscosity parameters in model subdomains

Region	$\eta_0$	$C_1$	$C_2$
Oceanic lithosphere	$10^{21}$	1.9187	-1.177
Continental lithosphere	$5 \times 10^{22}$	1.9187	-1.177
120-410 upper mantle	$10^{19}$	1.9187	-1.177
410-670 upper mantle	$10^{21}$	3.0595	0.75647
Lower mantle	$2 \times 10^{21}$	3.0595	0.75647

### 3.3.2 Weak zones

In the previous subsection, the role of non-linear rheology in the plate-like behavior of the lithosphere and its importance on the weakening of plate margins were mentioned. Recent studies on the dynamics of subduction zones have demonstrated that processes other than non-linear rheology are also responsible for the dynamics of lithosphere in subduction zones. Numerical investigations by Zhong & Gurnis (1996) and Zhong, Gurnis & Moresi (1998) show that the role of pre-existing weak subduction faults in concentrating the deformation into narrow zones is just as important as that of non-linear rheology. Indeed, seismological studies suggest that seismic deformation on the thrust faults in subduction zones accounts for a major part of strain in convergent margins (Kanamori 1977). Therefore, the inclusion of weak zones in subduction models seems to be important if plate-like behavior is to be achieved. The most advantageous scheme would be to include a mobile fault in the model. But since the numerical model used in this study does not allow for such a feature, the weak zones in the models are either defined by a low-viscosity zone between two adjacent plates,

or by considering the lubricating effect of a low-viscosity oceanic crust.

The weak zone is defined by the viscosity that is necessary to decouple the two converging plates. The width of the weak zone is of the same order as the thickness of the lithosphere. Contrary to strain accumulation on a fault plane, the deformation in a weak zone is distributed throughout the region. This approach offers the most effective solution in the absence of a mobile fault.

The oceanic crust and its sedimentary cover can act as tectonic lubricants to facilitate the subduction of plates in convergent margins (Bird 1978a), owing to their water content. Lenardic & Kaula (1994) showed that the lubrication of convective downflows by a chemically light, low-viscosity material causes rapid upper boundary layer overturns that significantly change the nature of the convection.

### **3.3.3 Basalt-eclogite phase change in the oceanic slab**

Oceanic lithosphere older than 10 m.y. is more dense, due to its colder temperature, than the underlying asthenosphere. The mean density of an 80 m.y. old lithosphere with a 7 km thick basaltic crust is about  $40 \text{ kg/m}^3$  higher than the asthenosphere. Thus, oceanic lithosphere is inherently susceptible to subduction (Cloos 1993). Metamorphism in a subducting slab causes the basaltic material to transform into denser garnet granulite and eclogite. The added negative buoyancy due to this transformation is equal to the negative buoyancy achieved by 80 m.y. cooling of the lithosphere (Cloos 1993). Ahrens & Schubert (1975) also suggested that the downward body force associated with eclogite formation is about 40% of that of thermal cooling of a mature oceanic lithosphere. The gravitational effects of basalt-eclogite phase change, therefore, seem to be important in the dynamics of the subduction. The exact depth of phase transition is a matter of debate, and many factors such as temperature and presence of water control the reaction rate. In subduction zones the transition starts

at a depth of about 30 km from basalt to garnet granulite to plagioclase eclogite and to eclogite, and is complete at around 70 km (Ahrens & Schubert 1975). Thus, a mean phase change depth of 50 km and a transition interval of 40 km appear to be reasonable values. The phase change function is defined as:

$$\Gamma = \frac{1}{2} \left( 1 + \tanh\left(\frac{z - d_t}{0.5L}\right) \right) \quad (3.17)$$

where  $d_t$  is the mean depth of phase change and  $L$  is the total transition interval.

### 3.4 Model setup

The model is a rectangular box of  $5600 \times 1400$  km (Figure 3.1), extending to the middle of the lower mantle. Two converging plates, one overriding and one subducting, are defined at the surface. The overriding plate is of continental type. The subducting plate consists of oceanic and continental segments on the left, and a spreading oceanic segment on the right end. All the lithospheric segments are defined by their initial temperature fields and crustal layers. The subduction and the associated weak zones are located at  $x = 2100$  km. At the edges of the continents, the continental crust is tapered towards the oceanic crust over a few grid points (a distance of  $\sim 85$  km). Following Gurnis & Hager (1988), a low-viscosity zone is defined underneath the mid-oceanic ridge on the right corner, in order to facilitate the decoupling of plates at the divergent margin. In the dynamic models, there is an initially cold anomaly below the subduction zone whose foundering initiates the convective flow. The initial oceanic and continental crusts have thicknesses of 7 and 35 km, respectively.

For all the equations other than the advective transport equation, the numerical grid has a resolution of  $201 \times 201$  nodes, which gives horizontal and vertical spacings of 28 and 7 km, respectively. The advective transport equation is solved on a grid with

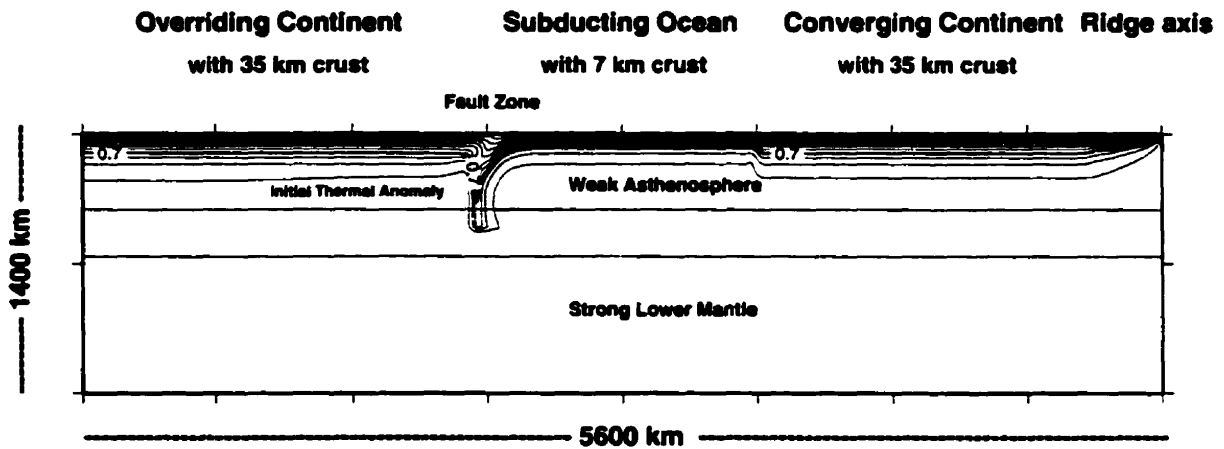
a resolution of 401 horizontal by 201 vertical nodes. Because the numerical scheme for the advective transport equation is only applicable to uniform grids, a constant grid spacing is used. As discussed in the previous section, each layer in the model has its own viscosity parameters. The reference viscosities are chosen such that the mantle lithospheric layer is 10 times stronger than the crust. All the relevant model parameters are listed in Table 3.2. With these parameters, the thermal Rayleigh number has a nominal value of  $5 \times 10^6$ , and the chemical Rayleigh number due to oceanic and continental crustal layers is  $1.7 \times 10^7$  and  $2.25 \times 10^7$ , respectively.

**Table 3.2:** List of characteristic model parameters

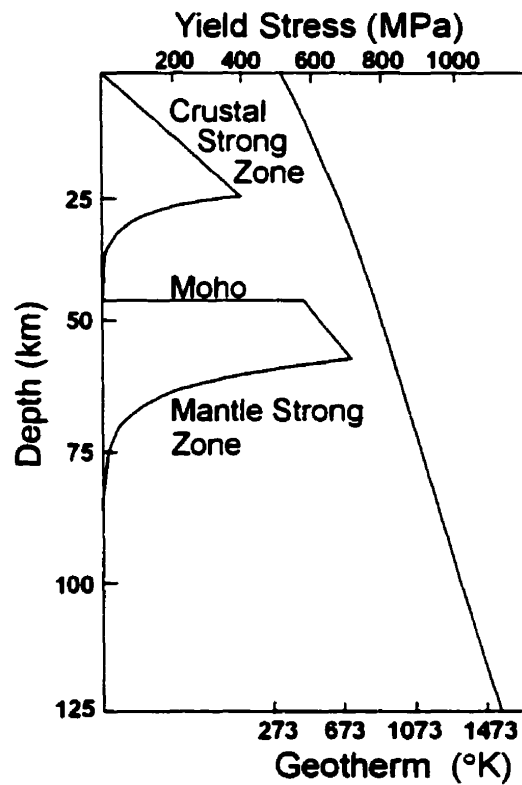
Symbol	Description	value
$d$	Depth	1400 km
$\Delta T$	Temperature difference	1700 K
$\rho$	Reference mantle density	3300 kg/m <sup>3</sup>
$\rho_o$	Oceanic crust density	2900 kg/m <sup>3</sup>
$\rho_c$	Continental crust density	2750 kg/m <sup>3</sup>
$\rho_b$	Eclogite density	3500 kg/m <sup>3</sup>
$\eta$	Reference viscosity	$10^{21}$ Pa-s
$\kappa$	Thermal diffusivity	$10^{-6}$ m <sup>2</sup> /s
$C_p$	Specific heat	1200 J/kg K
$\alpha$	Coeff. of thermal expansion	$3 \times 10^{-5}$ /K
$g$	Gravitational acceleration	10 m/s <sup>2</sup>
$d_t$	Depth of basalt-eclogite phase change	50 km
$n$	Power-law exponent	3
$\tau_t$	Transition stress	2 MPa



## Initial Model Set-up



**Figure 3.1:** Initial model setup. The origin of the coordinate system is at the upper left corner of the box, with  $x$  and  $z$  positive to the right and downward, respectively. The temperature of the lithospheric plates is defined by error function cooling profiles. The oceanic ridge on the right and the subduction fault zone are defined by their lower viscosity values. The thermal anomaly beneath the fault zone initiates the flow field in the dynamic models. In the kinematic models, a surface velocity is imposed over the length of the subducting plates in the right 3500 km of the model.



**Figure 3.2:** Yield stress and temperature vs. depth in continental lithosphere. The lithosphere has two strong zones that deform by brittle failure, the upper crust and the upper mantle. In the weaker lower crust and lower parts of the mantle lithosphere, deformation is governed by temperature-dependent ductile failure (after Dunbar & Sawyer 1990).

## Chapter 4

# The Advective Transport Equation

A major problem in modeling chemically heterogeneous flow problems is the advection of sharp material discontinuities. These interfaces often result in localized numerical diffusion and dispersion errors that slow the convergence rate of the solutions and may ultimately degrade the accuracy of the results. In geodynamic problems, two major categories of numerical techniques are used to advect sharp material interfaces: the field method and the tracer particle method. In the field method, the chemical compositions are represented by continuous functions and are advected through the flow field by solving the transport equation. Often additional corrective methods are used to suppress diffusion and dispersion errors associated with the interpolation schemes (e.g. Lenardic & Kaula 1993). In the tracer particle method, the compositionally distinct layers are represented by a number of tracers with distinct concentrations. The tracers are advected through the flow in a Lagrangian way and the compositional fields are calculated from the local tracer density (Christensen & Hofmann 1994). In some cases the tracers are used as marker chains to delineate the material interfaces, and are displaced along the instantaneous stream lines (van Keken et al. 1997). Each of these methods has its merits and drawbacks. The field method is computationally effective, but is prone to large diffusion errors. The tracer method is more accurate,

provided that the number of tracers is high enough to prevent spurious tracer accumulations that often result in incorrect distribution of material in the flow. On the other hand, the computational cost of the tracer method rapidly increases with the number of tracers.

Egan & Mahoney (1972) introduced the second moment method (SMM) to solve the incompressible advective-diffusive transport equation. The method advects the material discontinuities by conserving the mass and first and second moments of material distribution inside each control volume. It is a conservative, explicit forward-in-time method and can be regarded as quasi-Lagrangian in the sense that the material distribution in each control volume is advected along the stream lines over a time step. The advantage of this method is that numerical diffusion is minimized without producing appreciable numerical oscillations, and the cost of computation is relatively low. For pure translational flows the method is shape preserving. However, its accuracy diminishes under rotational and shear deformation. In this study, I use an improved version of SMM (Ghods et al. 2000) that corrects for these deficiencies in deformational flows. In the following, a brief introduction to the method is presented, and the improvements are explained. The method is applied to several geodynamic problems, and the results are compared with those of other methods.

## 4.1 The improved second moment method

In the second moment method of Egan & Mahoney (1972), a concentration field  $C$  is represented by a number of discrete rectangular boxes, one box in each control volume (Figure 4.1). Each rectangular distribution has a mean concentration ( $C_m$ ), a center of concentration (with  $x,y$  coordinates of  $F_x$  and  $F_y$ ) corresponding to the first moment of concentration distribution with respect to the center of the control volume, and dimensions ( $R_x$  and  $R_y$ ) proportional to the square root of the second moment

of concentration distribution with respect to the center of concentration distribution.

In a control volume of dimensions  $1 \times 1$  these quantities are calculated as:

$$C_m = \int_{-0.5}^{0.5} \int_{-0.5}^{0.5} C(x, y) \, dx \, dy \quad (4.1)$$

$$F_x = \frac{1}{C_m} \int_{-0.5}^{0.5} \int_{-0.5}^{0.5} x C(x, y) \, dx \, dy \quad (4.2)$$

$$F_y = \frac{1}{C_m} \int_{-0.5}^{0.5} \int_{-0.5}^{0.5} y C(x, y) \, dx \, dy \quad (4.3)$$

$$R_x^2 = \frac{1}{C_m} \int_{-0.5}^{0.5} \int_{-0.5}^{0.5} (x - F_x)^2 C(x, y) \, dx \, dy \quad (4.4)$$

$$R_y^2 = \frac{1}{C_m} \int_{-0.5}^{0.5} \int_{-0.5}^{0.5} (y - F_y)^2 C(x, y) \, dx \, dy, \quad (4.5)$$

During a time step, the boxes are moved as rigid bodies within and across the control volumes with the respective nodal velocities, and are partitioned appropriately between control volumes. At the end of the time step, the total concentration and the first and second moments of all rectangular boxes in a given control volume are calculated, and a single rectangular box is constructed inside the control volume with the same amount of concentration and identical first and second moments. This adjustment of concentration distribution at the end of the time step serves to minimize numerical diffusion and essentially preserves the original shape of the concentration distribution.

In pure translational flows where fluid particles do not undergo any deformation, the assumption of rigid rectangular boxes is valid to a high degree of accuracy and keeps diffusion at a minimal level. However, in dilatational and shear deformation, the rigidity of the boxes does not hold, and significant errors may occur in the calculation

of the position and volume of the boxes. Consequently, large diffusion errors and unrealistic distributions of concentration such as overlapping of the rectangular boxes and accumulation of concentration at stagnation points, can occur. The improved method (Ghods et al. 2000) partially alleviates these shortcomings in two parts. In the first part, the assumption of the rigidity of the boxes is relaxed in order to accommodate the volumetric deformation in the flow field. In the second part, the dimensions of the rectangular boxes are adjusted to preserve their volume. The first improvement is accomplished by advecting each side of a given rectangular box with its particular velocity relative to the velocity of the center of the box. The sides of a box are advected parallel to the coordinate axes, whereas the effect of shape change due to shear deformation is not taken into account. Therefore, this correction accounts only for dilatational deformation, and the boxes remain rectangular. The second improvement minimizes spurious diffusion associated with errors in the calculation of the total volume of rectangular boxes in a control volume. These errors arise where the distribution of the concentration in a given control volume assumes complex shapes, such as overlapping of the boxes.

In the remainder of this chapter, some geodynamic test problems are solved using the improved second moment method (ISMM), and the results are compared with those of other methods commonly used in geophysical modeling. Comparisons are made with two other field methods: 1) The monotonic second order upwind (MSOU) method developed by Sweby (1984), which is a nearly second order accurate field method that uses quadratic upwind interpolation for representation of composition and a flux limiter to eliminate numerical oscillatory errors. Tamamidis & Assanis (1993) compared the performance of MSOU with other high-order-accuracy schemes and concluded that it is one of the most accurate field methods in problems involving advection of sharp discontinuities. 2) The second order upwind method combined

with a numerical filter (FSOU) developed by Lenardic & Kaula (1993) to correct for numerical oscillations. The filter is global and corrects the nodal values of the concentration field irrespective of the neighboring grid points. An advantage of the filter is its ease of implementation and low computation cost. Three problems are considered: 1) the isothermal Rayleigh-Taylor (RT) instability of a thin heavy layer on top of a lighter fluid, 2) the isothermal RT instability of a thin light layer under a denser fluid, and 3) the entrainment of a dense thin layer beneath a lighter layer by thermal convection. The first problem was studied by Lenardic & Kaula (1993), and the last two were presented by van Keken et al. (1997) as standard tests for benchmark comparison of numerical models of thermo-chemical convection. I use their parameterizations. For the problems studied by van Keken et al., I compare the results of the three methods with those of the tracer, marker chain, and field methods employed by those authors. Of particular interest are the amount of numerical diffusion, computational cost, and ability of the methods in estimating the global as well as detailed characteristics of the problems.

## 4.2 Isothermal RT instability of a thin dense layer

The first problem investigates the isothermal Rayleigh-Taylor instability of a thin dense layer overlying a lighter fluid. When the interface between the two layers is distorted, small horizontal gradients of pressure are generated which induce motions in the two fluids that further deform the interface (Whitehead & Luther 1975). The aim of this experiment is to study the diffusion error produced by the numerical methods at the material interface as the dense fluid penetrates down into the lighter one. Lenardic & Kaula (1993) studied this problem and I use their model specifications here. A  $52 \times 52$  element uniform grid is used with the top four rows initially assigned to the dense layer. The initial distortion of the interface is produced by adding a

$3 \times 3$  element region to the base of the dense layer at the left-hand corner. Free-slip and impermeable boundary conditions are used on all boundaries. Isoviscous and material-dependent viscosity layers are examined. For material-dependent viscosity cases, viscosity ratios of 10 and 0.01 between the top and bottom layers are considered.

Laboratory and numerical experiments on a low-density fluid rising through another fluid (Whitehead & Luther 1975; Woidt 1978) have shown that the shape and structure of plumes depend on the viscosity difference between the two fluids. A plume rising through a less viscous medium is characterized by a spout shape structure with the head of the spout comparable in size to the tail of the spout. On the other hand, a plume rising through a more viscous fluid initially forms a spherical overhang above the source layer, which later ascends through the dense fluid with the narrow tail attached to it. For two fluids with similar viscosities, the shape of the ascending fluid is more or less like a spout with a vortex ring structure in the head of the spout that entrains the surrounding material, and the tail of the spout continuously feeds the head.

Figure 4.2 shows the evolution of the compositional field of the heavy layer for the isoviscous case calculated by FSOU, MSOU and ISMM. In all three methods the plume develops a mushroom structure as it descends. FSOU (Figures 4.2-a, 4.2-b and 4.3-c) produces the greatest amount of diffusion, which results in a large plume head, whereas ISMM (Figures 4.2-g, 4.2-h and 4.2-i) has the smallest plume head comprised mostly of the undiffused dense fluid. Figure 4.3 shows the profiles of composition for the three methods along the left boundary at equal time intervals as the plume descends. The numerical filter of FSOU (Figure 4.3-a) and the flux limiter of MSOU (Figure 4.3-b) produce results that are free of oscillatory dispersion errors ahead of the descending plume. However, FSOU and MSOU do not maintain the steep gradient of the material interface. In the case of FSOU, the interface is



resolved over an average of eight grid points, and in the case of MSOU, an average of six grid points. In contrast, ISMM (Figure 4.3-c) is very efficient in maintaining the sharpness of the interface, and diffusion spreads over only three grid points. ISMM results in some enhancement of the compositional field in front of the plume and at the base of the plume tail. The enhancement error can be as high as 15% of the initial value, and usually increases as time proceeds. This error is due to the fact that the improvements made to SMM only include the dilatational deformation of the rectangular distributions. The contribution of the shear deformation still causes some error in the calculation of the total volume of the rectangular distributions in a given control volume. The enhancement is substantially dampened by advecting the rectangles over smaller time steps. The result of a smaller time step is shown in Profile 4.3-d, in which the time steps for the advective transport equation are made two orders of magnitude smaller than those of the other equations. To illustrate the overall efficiency of the methods in minimizing the diffusion error, Figure 4.4-a compares the average nodal resolving power of the three methods. This parameter is defined as the total number of grid points with  $C$  values between 0 and 1 divided by the number of grid columns (Lenardic & Kaula 1993). The resolving power of FSOU and MSOU decreases as time proceeds, with MSOU having a slightly better result than FSOU. The resolving power of ISMM quickly reaches its minimum, and remains almost constant throughout the experiment and is always much stronger than FSOU and MSOU. These features suggest that the diffusion error produced by SMM does not increase in time, whereas in the other two methods the boundaries of the plume are increasingly smeared out as the plume is advected in the model.

The case of material-dependent viscosity is more challenging because the variation of viscosity across an interface should be accurately represented. The widening of the material interface or oscillations of the compositional field in the vicinity of the

discontinuity produced by numerical diffusion has little effect on the buoyancy forces since the corresponding density changes on both sides of the interface nearly cancel each other out. However, there are important consequences for the viscosity field, especially if it is governed by a power-law rheology (Christensen 1992). Since normal stress is continuous across a material interface, the difference in viscosity on both sides of the interface results in the discontinuity of the strain rate field. An effective method must be able to resolve the jump in viscosity over as few grid points as possible in order to maintain the discontinuity of the strain rate across the material interface. Figure 4.5 shows the evolution of the plume in a model where the upper layer is 10 times more viscous than the lower layer, and Figure 4.6 is for a model with upper layer 100 times less viscous than the lower layer. These figures are in qualitative agreement with laboratory results (Whitehead & Luther 1975). The high-viscosity plume descends as a narrow vertical column with a relatively small head. The low-viscosity plume first grows into a large spherical body below the source layer, and then begins to descend while the tail gradually shrinks to a small size. As in the isoviscous case, FSOU shows the largest and most diffused plume head, whereas ISMM has the smallest head occupied mostly by the dense fluid. The corresponding plots of resolving power are shown in Figures 4.4-b and 4.4-c, respectively. The diffusion error is of the same order for FSOU and MSOU in both cases, increasing rapidly with time, whereas it increases with a significantly slower pace in ISMM.

### 4.3 Isothermal RT instability of a thin light layer

The second problem studies the isothermal Rayleigh-Taylor instability of a thin light layer overlain by a heavier fluid. Following van Keken et al. (1997), I assume a box of aspect ratio  $\lambda = 0.9142$  with a light layer of thickness  $d_b = 0.2$  at the bottom. The compositional Rayleigh number is  $Rb = 1$ , and the amplitude of the initial perturba-

tion of the interface is defined by  $w = 0.02\cos(\pi x/\lambda)$ . The top and bottom boundaries are considered to be rigid, and the side boundaries are free-slip and symmetric. Two cases of isoviscous and material-dependent viscosity models are considered. In the second case, the dense layer is 100 times more viscous than the lighter one. van Keken et al. (1997) used three different methods to study this problem: a field method with second order upwind interpolation together with a numerical filter (their SK method), a marker chain method (PvK), and two tracer methods (HS and CND). I present the results of computations from FSOU, MSOU and ISMM and demonstrate their ability in calculating the global parameters of the flow, such as the root mean square velocity and the amount of light layer entrainment as a function of time. The results are also compared with those calculated by van Keken et al. (1997).

Figure 4.7 shows the time evolution of the compositional field of the isoviscous case for ISMM, as well as results at  $t = 2000$  calculated by FSOU and MSOU. The development of the primary diapir (along the left boundary) and of the secondary diapir (along the right boundary) is similar in all models, and they exhibit similar sinking patterns of the dense fluid plumes in the later stages. The presence of a thin heavy layer at the top and a thin light layer at the bottom is due to the rigid velocity boundary conditions. The difference in the sharpness of the material interface is significant. FSOU and MSOU have a considerably diffused interface which generally spreads over several grid points and the widening increases with time. In the ISMM model, the interface in most places is resolved over three or four grid points, and the sharpness of the interface is kept at an almost constant level throughout the computation time. Comparison of the average resolving powers in Figure 4.8-a reveals that ISMM handles the steep gradients across the material discontinuities better than the other methods. The resolving power of ISMM is greater than that of FSOU by more than a factor of two, and almost twice as great as that of MSOU.

Figures 4.9-a and 4.9-b show the time variation of the root mean square velocity  $V_{rms}$  and the entrainment of the light layer above the initial interface,  $e$ , defined as:

$$e = \frac{1}{\lambda d_b} \int_{d_b}^1 C dV \quad (4.6)$$

The deformation begins with a modest perturbation of the interface, as is evident from small increases of  $V_{rms}$  and  $e$ , followed by an enhanced growth rate, indicating the rise of the primary diapir. This behavior is consistent with the linear instability analysis (Ramberg 1981), which predicts exponential growth rate for an infinitesimal perturbation. In the later stages of deformation when the distortion of the interface is severe, the linear instability proximity breaks down, and perturbations grow at an increased rate. The rise in  $V_{rms}$  and  $e$  values at around  $t = 600$  is due to the secondary diapir that ascends along the right boundary. The rise of the primary and secondary diapirs in FSOU take place slightly earlier than the other methods, possibly owing to the error produced by FSOU in calculating the compositional field in the vicinity of the material interface, which in turn leads to a less accurate estimate of the driving buoyancy force.

Table 4.1 gives the initial growth rate of instability  $\gamma$ , the maximum value of  $V_{rms}$ , the time this maximum value occurs, and the maximum value of  $e$  calculated by the three methods used here, as well as those of van Keken et al. (1997). The initial growth rates and maximum  $V_{rms}$  of the methods are in the range of those predicted by van Keken et al., and the  $\gamma$  values closely approximate the analytical value of 0.01094019 for an infinitesimal perturbation (Ramberg 1981). As discussed by van Keken et al., for the field and tracer methods  $\gamma$  is calculated from the exponential increase of the  $V_{rms}$  given by  $V_{rms}(t) = V_{rms}(0)e^{\gamma t}$ . I have chosen the  $V_{rms}(t)$  value at the time of about  $t = 45$ , since it roughly coincides with the start of the advanced growth rate of the instability. There are some differences in the time of peak  $V_{rms}$  and

final entrainment at  $t = 2000$  between the models and those of van Keken et al. The maximum  $V_{rms}$  in the three models occurs at about  $t = 225$ , and final entrainment reaches a value of 0.84, whereas in the models of van Keken et al., the time of the maximum  $V_{rms}$  has an average of  $t = 207$ , and final entrainment is about 0.8.

**Table 4.1:** Comparison of global parameters of the isoviscous and material-dependent viscosity RT instability of a thin light layer. The last four rows are taken from the best results of van Keken et al. (1997). The  $\gamma$  and maximum  $V_{rms}$  values are in units of  $10^{-2}$  and  $10^{-3}$ , respectively.

Method	Grid size	Isoviscous				Variable viscosity			
		$\gamma$	$t_{max}$	$V_{rms}$	$e$	$\gamma$	$t_{max}$	$V_{rms}$	$e$
ISMM	$160 \times 160$	0.991	230.1	3.093	0.84	9.6848	47.59	15.95	0.96
ISMM	$120 \times 120$	0.998	226.1	3.133	0.84	10.2039	45.40	16.16	0.95
MSOU	$160 \times 160$	0.993	231.4	3.085	0.85	9.6133	46.19	15.90	0.89
MSOU	$120 \times 120$	1.020	227.6	3.134	0.85				
FSOU	$160 \times 160$	1.111	217.3	3.118	0.84				
FSOU	$120 \times 120$	1.159	213.1	3.151	0.84				
SK	$120 \times 120$	1.127	206.4	2.892	0.8	10.185	50.00	14.64	0.93
HS	$81 \times 81$	1.117	208.9	3.092	0.8	10.19	51.24	13.93	0.95
PvK	$80 \times 80$	1.225	207.1	3.091	0.8	10.19	51.24	13.93	0.95
CND	$48 \times 48$	1.106	208.5	3.094	0.8	10.201	50.20	14.33	0.96

Figure 4.10 shows the compositional fields for the material-dependent viscosity model. In comparison with the isoviscous case, the methods yield greater differences in the details of the flow. The primary overturn is similar in all methods, but ISMM develops stronger secondary structures that represent the sinking of the dense fluid

into the light layer. These structures are considerably smeared out in FSOU and MSOU fields because of numerical diffusion. Comparison of the average resolving powers in Figure 4.8-b shows that throughout the advanced stages of mixing ( $t > 500$ ), the power of ISMM in resolving the discontinuities is at least 25% better than the other methods. The rise of the first diapir is characterized by two peaks in  $V_{rms}$  (Figure 4.11-a). The first at  $t = 20$ , coincides with the formation of the spherical overhang above the source layer, as described in the previous example, and the second at about  $t = 47$ , is related to the fast ascend of the diapir. The entrainment curve (Figure 4.11-b) suggests that the overturn of the light layer is mostly achieved by the rise of the first diapir. Table 4.1 compares the results from the methods with those by van Keken et al. (1997). In the calculation of the initial growth rate,  $V_{rms}$  values at an approximate time of  $t = 6.5$  are used. The development of the major overturn in the models is faster than those of van Keken et al., resulting in a difference of about 11% in the maximum  $V_{rms}$ . However, the discrepancy in  $\gamma$  values is smaller. These disagreements could partly be due to the different methods used for the calculation of the field variables, and the different accuracy of the discretization of the methods.

## 4.4 Entrainment of a dense layer

The problem of dense layer entrainment in the presence of chemical and thermal buoyancy forces is useful in the studies of dynamic effects of thermo-chemical instability at the core-mantle boundary. As Hansen & Yuen (1988) suggested, the lateral migration of chemical instabilities may help to maintain the compositional heterogeneities in the D'' layer and support the observed topography at the core-mantle boundary. As parameterized by van Keken et al. (1997) an aspect ratio 2 box with a depth of 1 and a thin dense layer of thickness 0.025 at the bottom is considered. The thermal Rayleigh number is  $Ra = 3 \times 10^5$ , and the compositional Rayleigh number is

$4.5 \times 10^5$ . Free-slip boundary conditions are used on all boundaries. The temperature is fixed to 0 and 1 at the top and bottom boundaries, respectively, and a zero heat flux condition is assumed on the vertical boundaries. The initial temperature field is based on the boundary layer solution for the four sides of the box. Viscosity is assumed constant throughout the model.

Figure 4.12 shows the evolution of the compositional field. In all models, the one-cell clockwise flow pushes the entire dense layer to the lower left corner of the box, resulting in a strong lateral compositional heterogeneity at the bottom of the box. A portion of the accumulated material is entrained upward by the hot boundary layer along the left boundary. The secondary circulations, developed in a later stage inside the chemical boundary layer (more visible in FSOU and MSOU plots), draw the dense material upward and pull the lighter fluid downward. The strong gradient of heterogeneity aided by the secondary flow field pulls the dense layer back towards the middle and causes the single-cell convection pattern to break up into two cells at around  $t = 0.02$ . After the establishment of a thermal plume in the middle of the box, the dense material is steadily entrained by the rising flow and is transferred into the cold boundary layers. The figures show that the numerical methods result in different dynamics, particularly after the break up of the one-cell flow. In the case of FSOU, the diffusion process is so dominant that the dense material loses its coherence and is smeared out over a large area in the middle. The MSOU fields show that most of the material is recycled into the flow along the top and side boundaries. The amount of diffusion is still noticeable, although it is less than that with FSOU. The results of ISMM show that the accumulated dense material near the middle of the box is entrained into the convective region in the form of a narrow jet flow along the hot boundary layer. There is minor lateral diffusion and a small portion of the dense material enters the interior of the convective cells. A pile of dense material at the

bottom of the box survives even through the advanced stages of mixing, suggesting a slow rate of entrainment.

The time variations of the Nusselt number  $Nu$  at the bottom boundary, the  $V_{rms}$ , and the entrainment above the depth of  $z = 0.2$  are illustrated in Figure 4.13. The increasing differences in the bottom heat flux is the consequence of strong lateral chemical heterogeneities at the bottom boundary layer. All models show similar development of  $Nu$  and  $V_{rms}$  for the one-cell convection, up to  $t = 0.013$ , after which the models show different time variations. ISMM has a relatively smoother  $V_{rms}$  variations. The entrainment curves for FSOU and MSOU start to diverge from that of ISMM at  $t = 0.004$ , and attain much greater final values, partly owing to their vigor of convection as indicated by the  $V_{rms}$  curves, and partly because of greater diffusion error.

The accuracy of the time integration of the equations proved to have a major influence on the accuracy of the results. Whereas in the first and second problems the time steps of large fractions of the Courant condition gave accurate results, it was found that the results of the entrainment problem was highly sensitive to the time step even at very small fractions of the Courant condition. Figure 4.14 shows the entrainment curves for ISMM for time steps of 0.25, 0.1, 0.025 and 0.01 of the Courant condition. The results agree only during the one-cell convection that is dominant up to  $t = 0.015$ . The model with a 0.01 Courant time step develops a three-cell convection.

The entrainment curves of ISMM lie in the range of those of van Keken et al. (1997). At  $t = 0.03$  their marker chain method has an entrainment value of 0.1, and their field and tracer methods give a value of 0.2, whereas the ISMM entrainment values in Figure 4.14 range from 0.12 to 0.2. Both FSOU and MSOU give very high entrainment values (Figure 4.13), exceeding 0.5 in the later stages of deformation



( $t > 0.03$ ), owing to their excessive diffusion error.

## 4.5 Conclusions

The above test problems indicate that ISMM outperforms the field methods in maintaining the diffusion errors across material discontinuities at a minimal level and retaining the step shape of the material interfaces. This is clearly observed in the profiles of the plume head in Figure 4.3. This feature is of primary significance when the viscosity field is material-dependent, and ISMM allows for sharp discontinuities in the strain rate field. As noted in the first problem, some enhancement of the compositional field occurs as a result of inability of ISMM to take into account the effect of shear deformation during the process of redistribution of material. In addition to the negative consequences that this error could have for the viscosity field, it also slows down the convergence rate of the solutions. The enhancement can be reduced by decreasing the time steps for the advection equation, which inevitably increases the computation time. On the other hand, since smaller time steps increase the convergence rate, the net effect of reduced time steps is not always prohibitive.

The agreement between the results of ISMM for the first problem and the experimental studies on plume migration is reasonably good, and the method captures the variations in the structures of the plume as the viscosity ratio is changed. The results of ISMM for the second problem is also consistent with those obtained by van Keken et al. (1997). The main differences are in the timing of the onset of major instabilities in the flow. It is possible that these differences are partly due to the differences in the accuracy of the various numerical schemes employed in the spatial and temporal discretization of other equations, rather than in the methods used to solve the advection equation for composition. In the case of entrainment problem, much larger differences are seen between ISMM and other field methods and also tracer and mark-

er chain methods. As confirmed by van Keken et al. (1997), different methods result in different dynamics. Several spatial resolutions and time integration criteria were used in order to obtain similar solutions among the methods. The results show that very high resolutions are required to study details of the evolution of the entrainment process. It was found that the results of ISMM are highly sensitive to the time step size, and they do not converge even with time steps as little as one percent of that estimated by Courant condition. The results of FSOU and MSOU are to some extent less sensitive to the size of the time step. However, even with sufficiently small time steps, they give high estimates of entrainment, and the diffusion error produced by them is high enough to make them less suitable in comparison to ISMM.

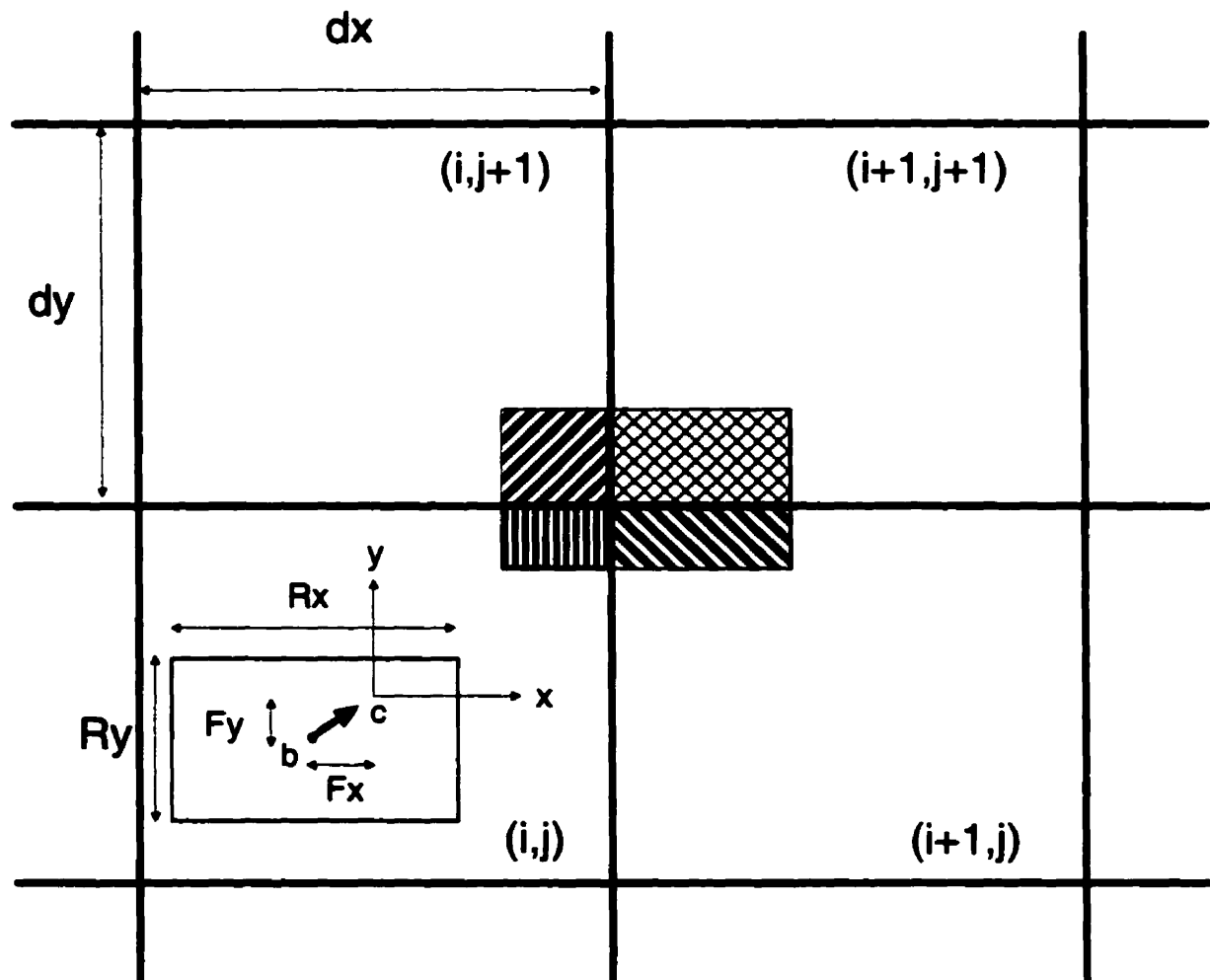
A computational aspect of ISMM is that material distribution in a given control volume is advected independently from other control volumes. Therefore computational efficiency of the method depends on the degree of mixing of the material components in the flow field. In flow fields such as the descending plumes of the first problem, where material interface is restricted to a small area of the computational domain, ISMM requires less computational time than the other methods (Table 4.2). However, for the second and third problems, where major overturns of the bottom layer occur, the efficiency of ISMM is less than that of FSOU and MSOU by 6% to 28%, suggesting that ISMM is still economically comparable to the field methods.

van Keken et al. (1997) concluded that the marker chain method is the most accurate among the various schemes they used. However, the cost of tracing and regridding the rapidly growing marker chain during the long-term mixing in thermochemical convection renders the method computationally expensive and ultimately impractical. The tracer methods seem to be the most suitable for the study of long-term multicomponent flow problems, although for accurate results they too require a large number of tracers, which inevitably increases the computation time. The

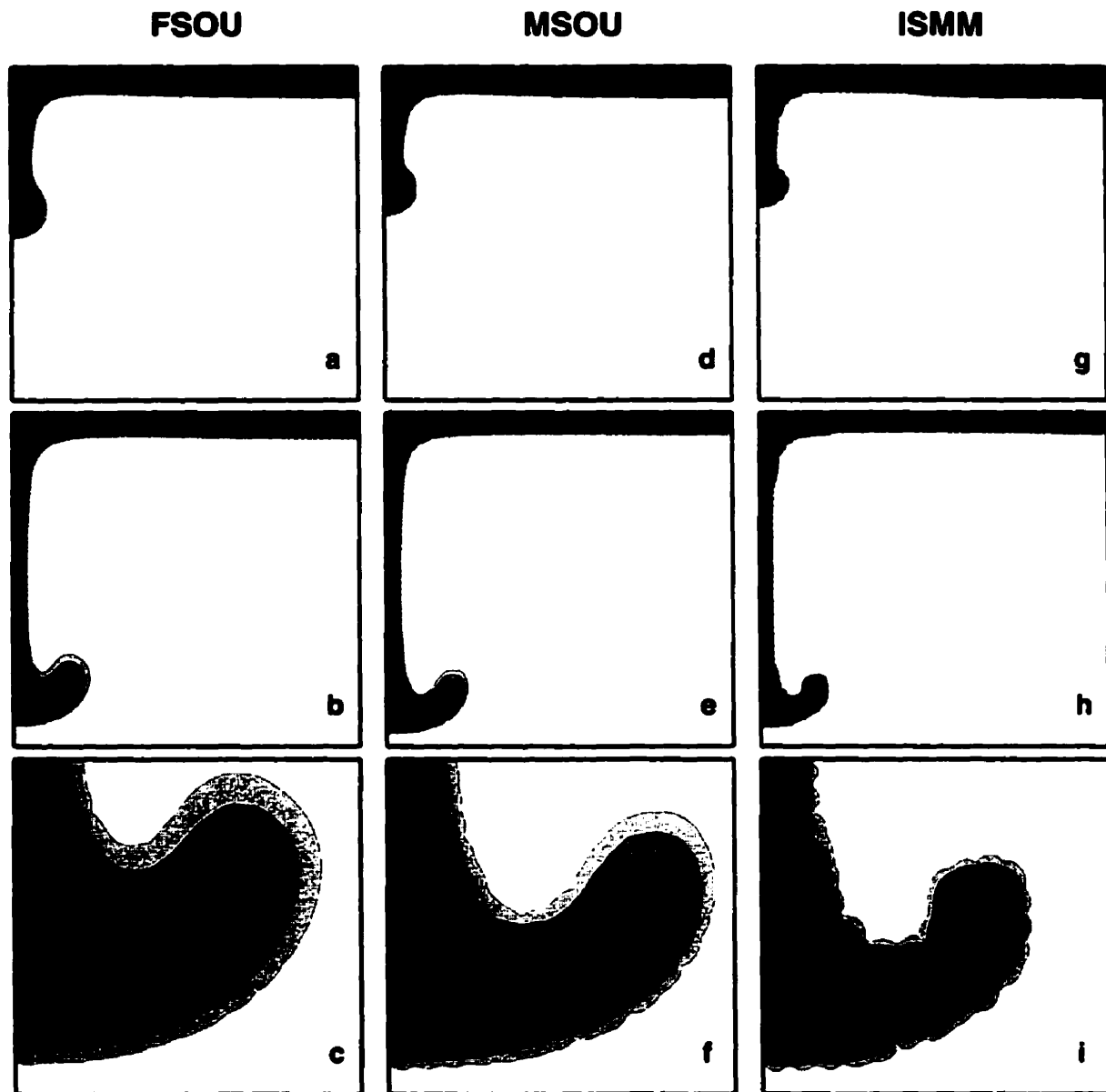
relatively low computation cost of ISMM makes it a viable alternative to tracer and marker chain methods for the study of complex geodynamic problems. Furthermore, ISMM is conveniently extendible to three dimensions, whereas the marker chain becomes a marker sheet with serious geometric difficulties, and the computational cost of the tracer methods prohibitively increases. An additional shortcoming of the tracer and marker chain methods is their inability to model the double diffusive type problems, since they explicitly neglect chemical diffusivity. Although the diffusion term in ISMM was neglected here, the original formulation of the method includes that term. Therefore, ISMM can easily be adopted to problems involving the diffusion of chemical species.

**Table 4.2:** Computation times of FSOU and MSOU normalized by the computation time of ISMM. In all problems equal time steps are used for all methods. The last column in problem 1, shows the results of ISMM when the time step in the advection equation is reduced by a factor of 100.

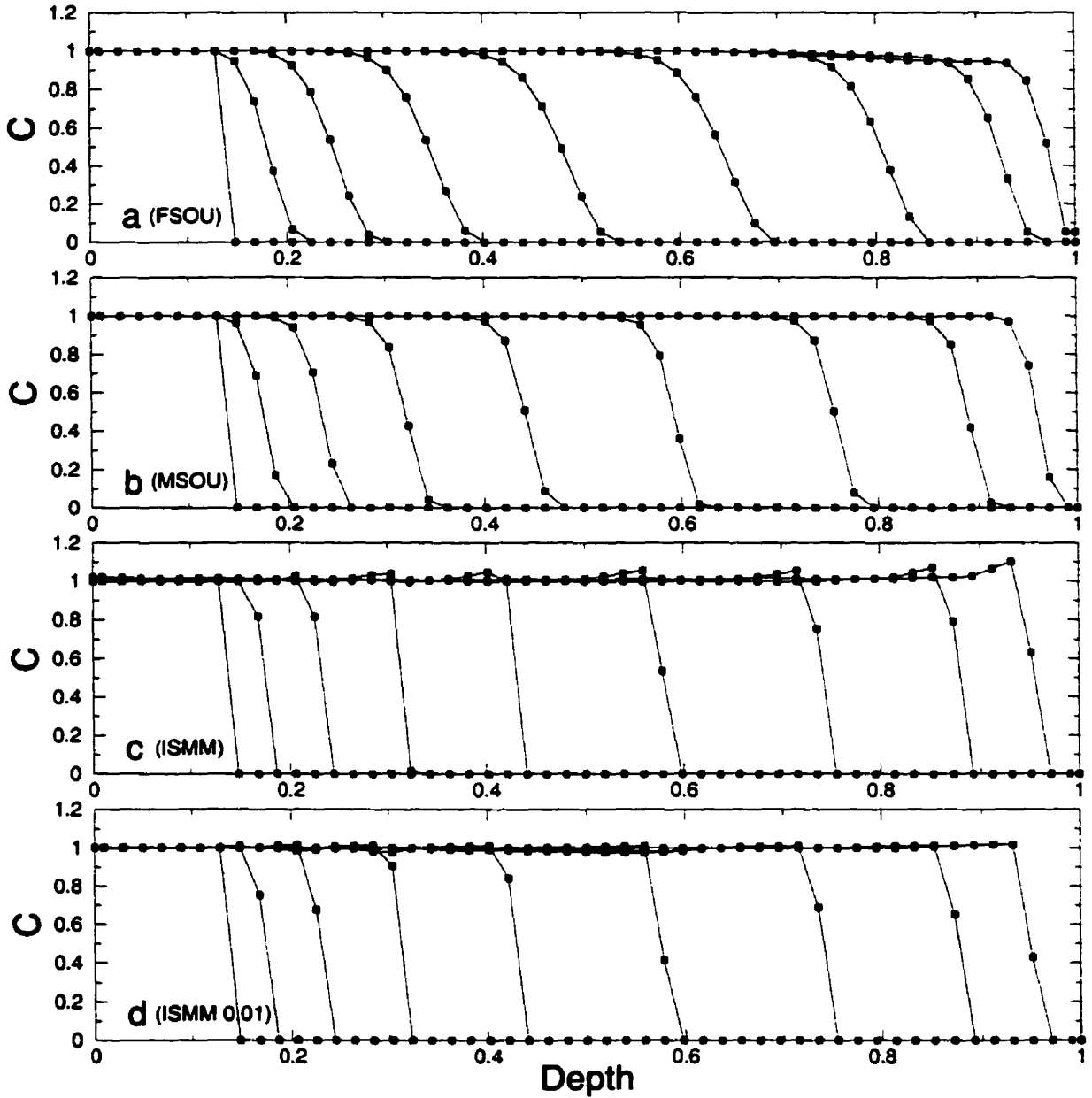
	FSOU	MSOU	ISMM (0.01)
Problem 1			
Isoviscous	1.621	0.981	0.980
Less viscous	1.174	1.178	1.033
More viscous	1.008	1.038	1.239
Problem 2			
Isoviscous	0.953	0.919	
Variable viscosity	0.701	0.885	
Problem 3			
	0.848	0.883	



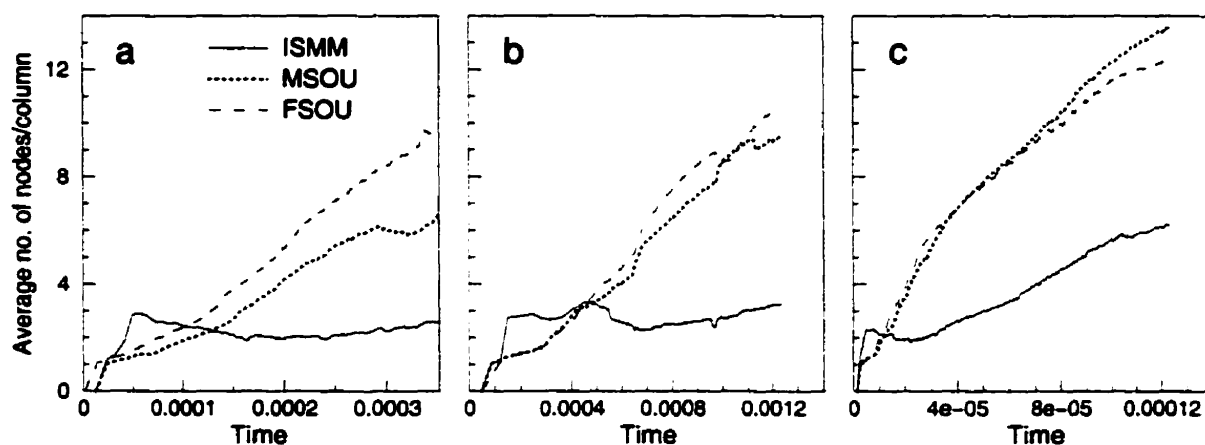
**Figure 4.1:** Representation of the concentration field in control volume  $(i,j)$  as a rectangular box (blank rectangle). The arrow denotes the velocity vector of the box. Points  $b$  and  $c$  denote the center of the box and the center of the control volume, respectively. The patterned box shows the partition of the advected box between the downstream control volumes.



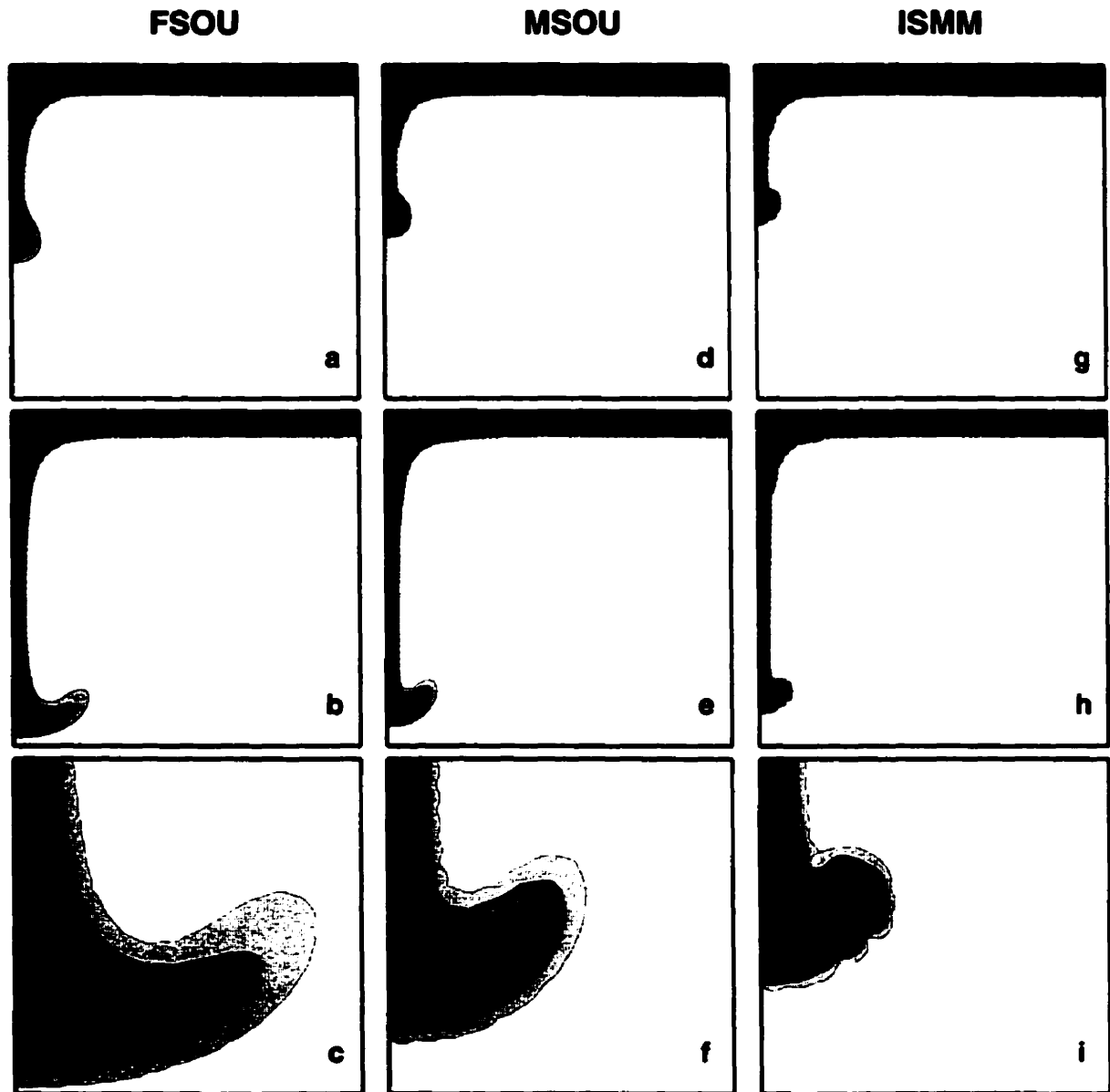
**Figure 4.2:** The evolution of the compositional field for the isoviscous case. In all methods, the time step is half the time step given by Courant condition. The plots of the third row are blow-ups of the plume head in the second row. a), b) and c) are for FSOU; d), e) and f) for MSOU; and g), h) and i) for ISMM.



**Figure 4.3:** Profiles of composition along the left boundary of the model for the isoviscous case. In all models the total non-dimensional time is  $t = 4 \times 10^{-4}$  and profiles are shown at equal time intervals of  $1/8$  of the total time. The first profile on the left in each figure corresponds to the initial  $C$  field. The solid squares denote the positions of the grid points along the profiles. Figure d is obtained by ISMM with the time step for the advection equation reduced by a factor of 100.

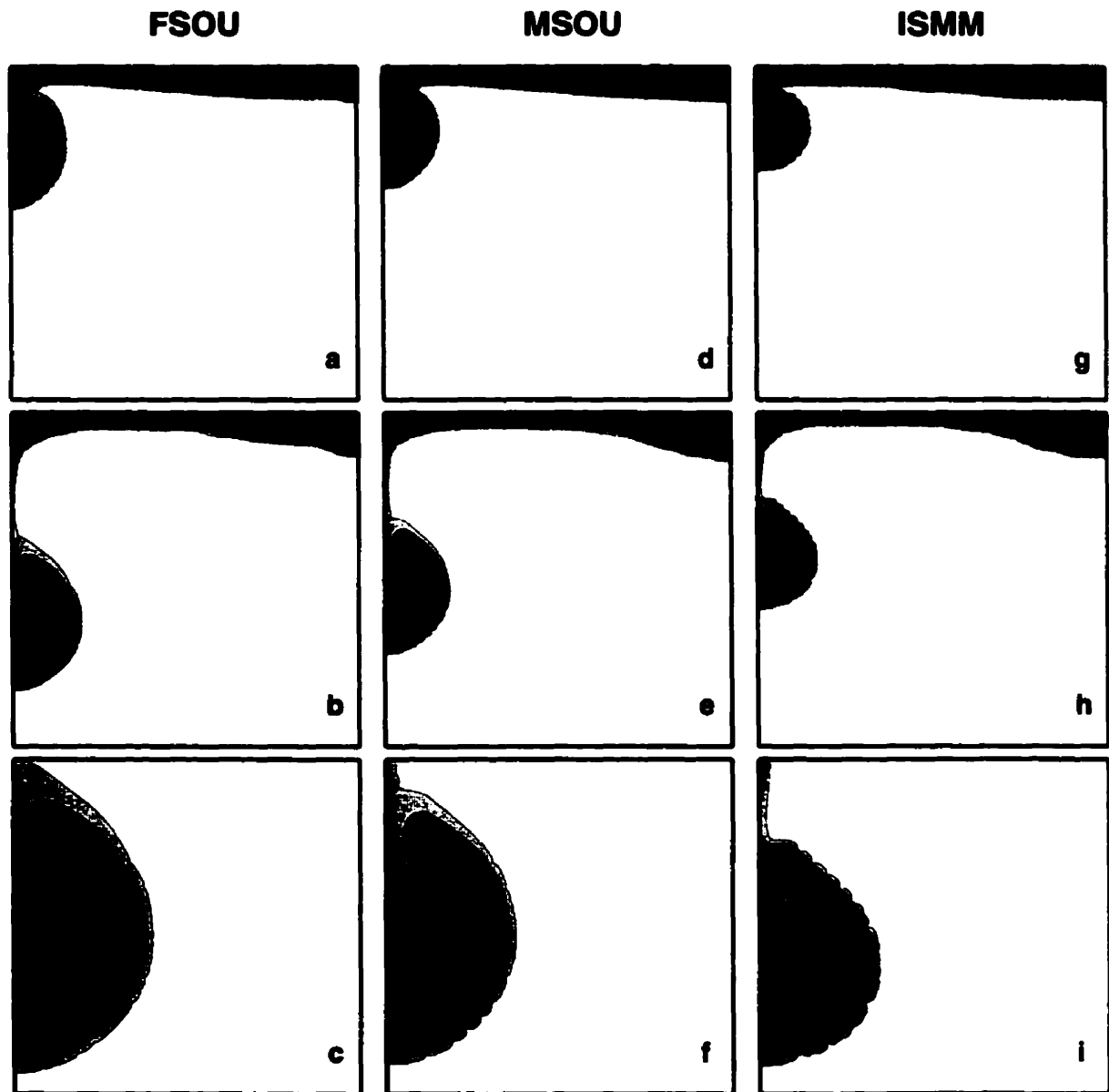


**Figure 4.4:** Average nodal resolving power calculated for the various methods. a) the isoviscous case, b) material-dependent viscosity case with viscosity ratio of 10 between the dense and light layers, c) material-dependent viscosity case with viscosity ratio of 0.01 between the dense and light layers. The kinks in the graphs of plots a and b are probably due to small time scale variations in the position of the material interface.

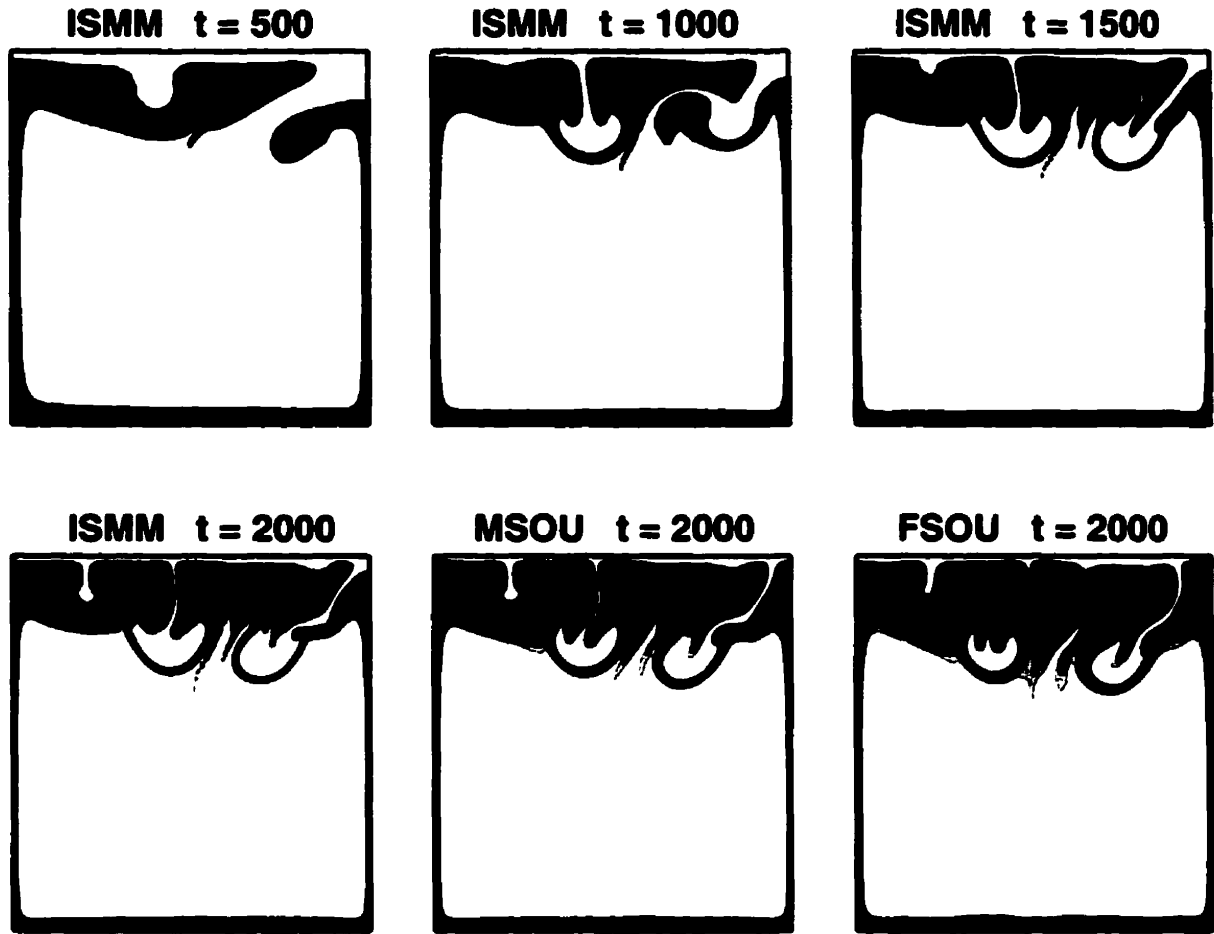


**Figure 4.5:** Evolution of the plume in a model with the dense layer 10 times more viscous than the light fluid. The plots of the third row are blow-ups of the plume head in the second row. a), b) and c) are for FSOU; d), e) and f) for MSOU; and g), h) and i) for ISMM.

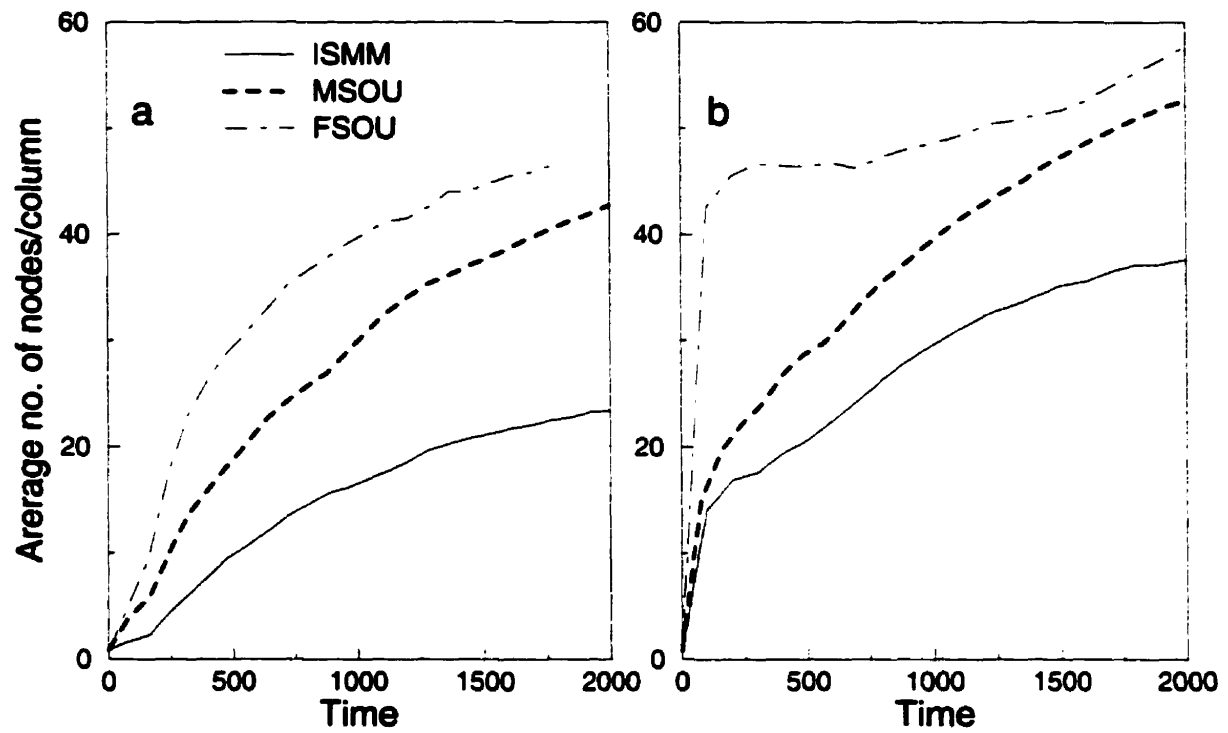




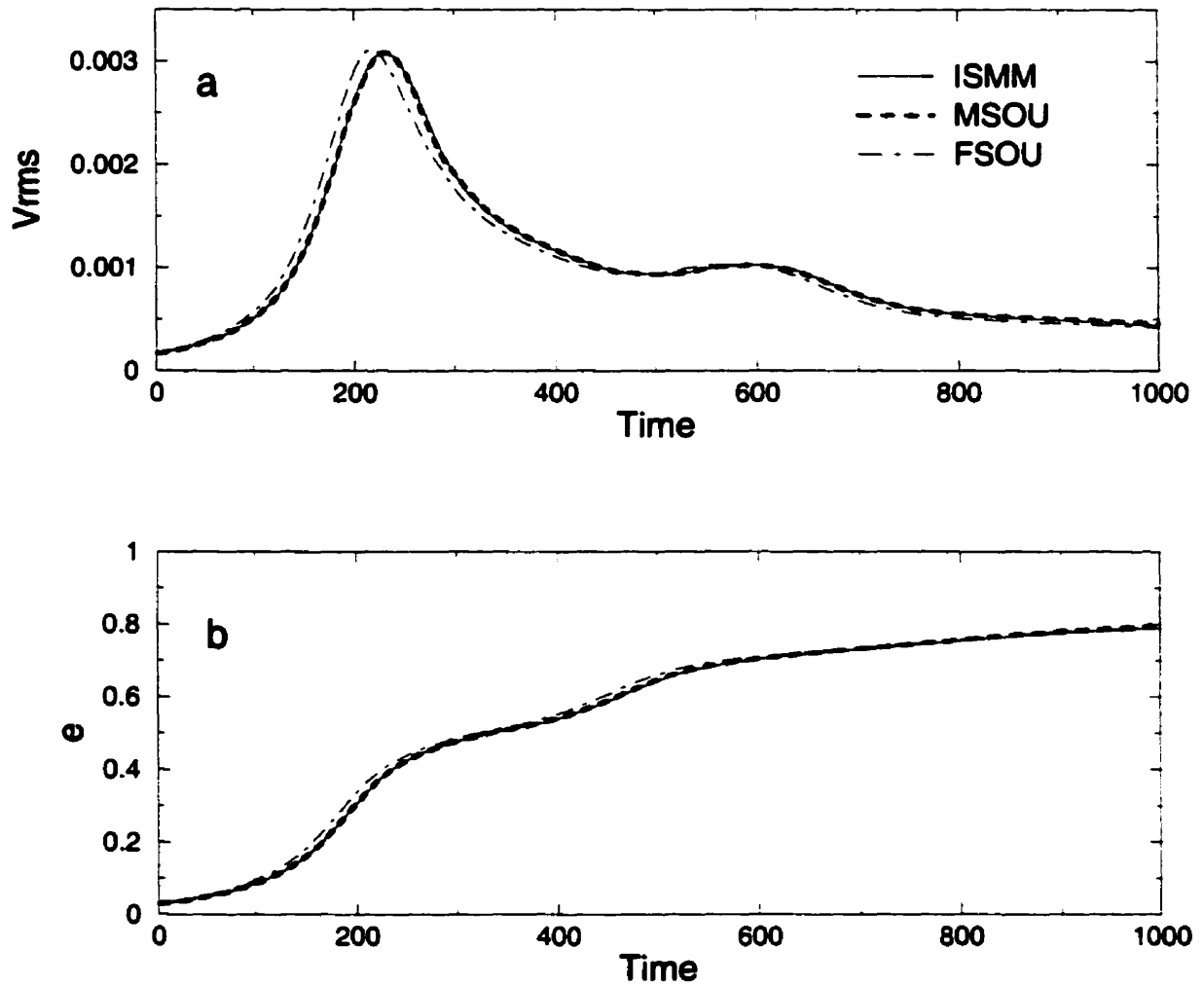
**Figure 4.6:** Evolution of the plume in a model with the dense layer 100 times less viscous than the light fluid. The plots of the third row are blow-ups of the plume head in the second row. a), b) and c) are for FSOU; d), e) and f) for MSOU; and g), h) and i) for ISMM.



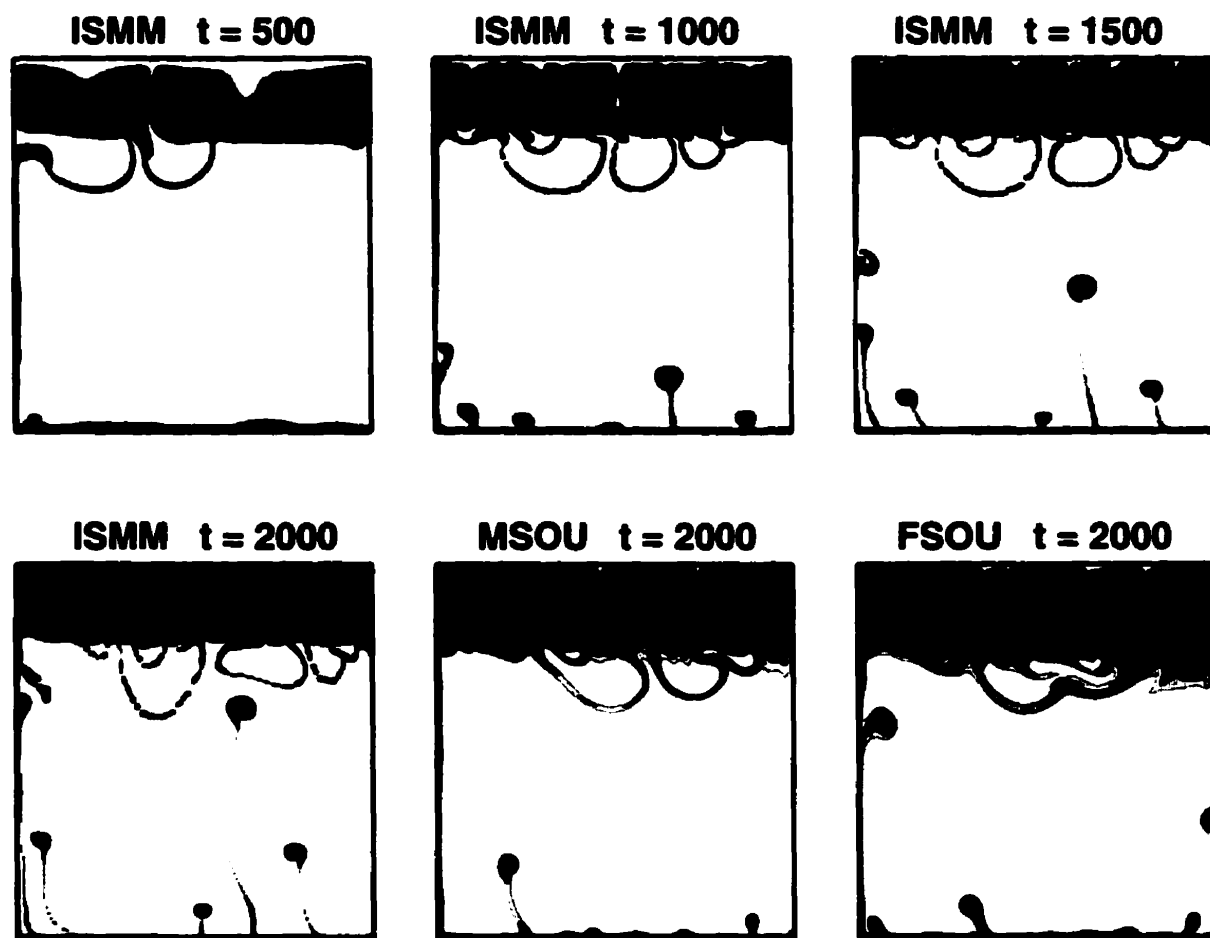
**Figure 4.7:** Time evolution of the composition field for the isoviscous RT instability problem, obtained on a grid of  $160 \times 160$  elements. Dark colours denote the lighter material. The plots show the compositional field at time intervals of  $t = 500$  determined by ISMM, as well as that calculated by FSOU and MSOU at  $t = 2000$ . Contour interval is 0.1. In this and subsequent figures and tables, all values are non-dimensional.



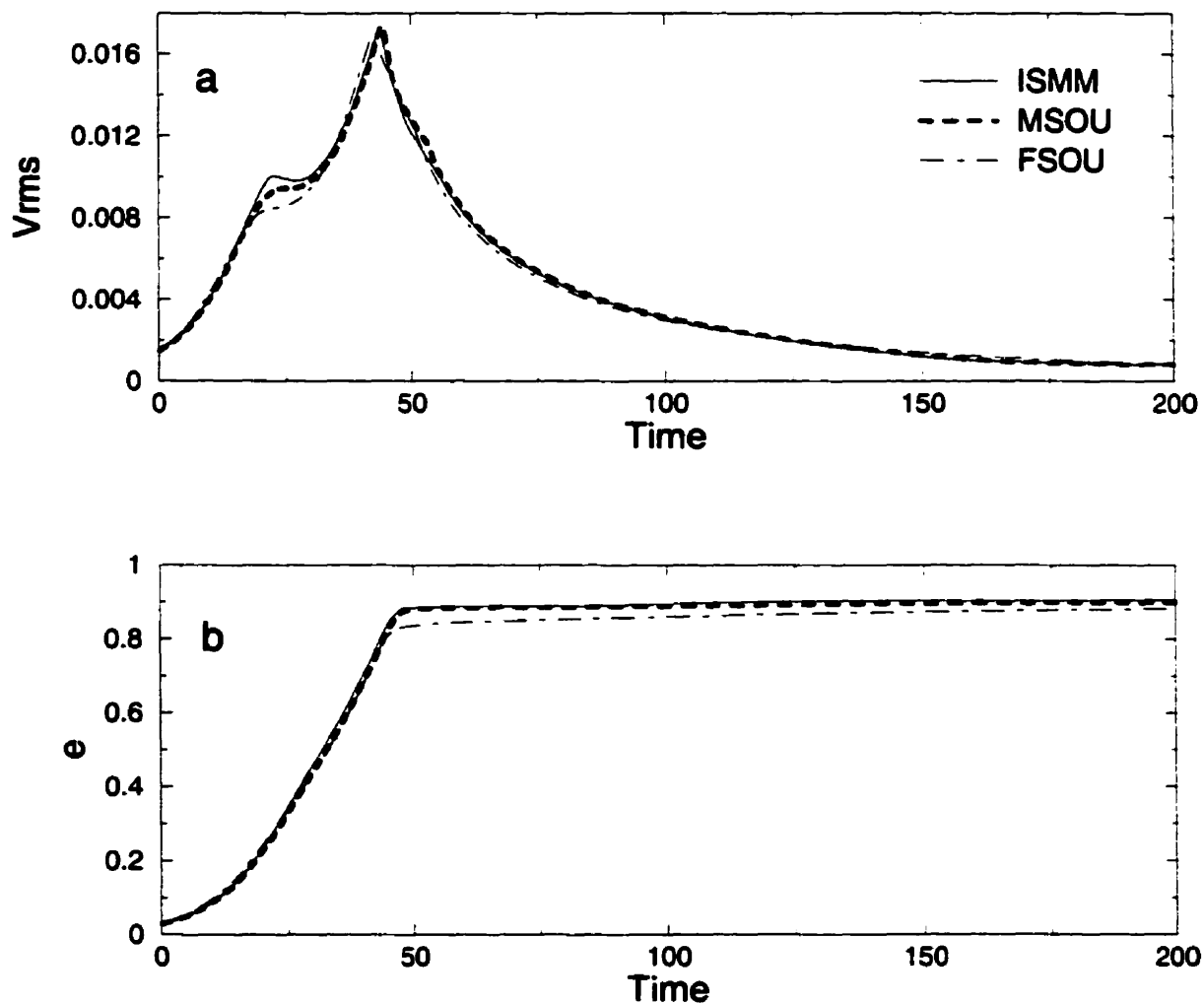
**Figure 4.8:** Average nodal resolving power of the methods for RT instability problems. a) Isoviscous model, and b) material-dependent viscosity model with the dense fluid 100 times more viscous than the light layer.



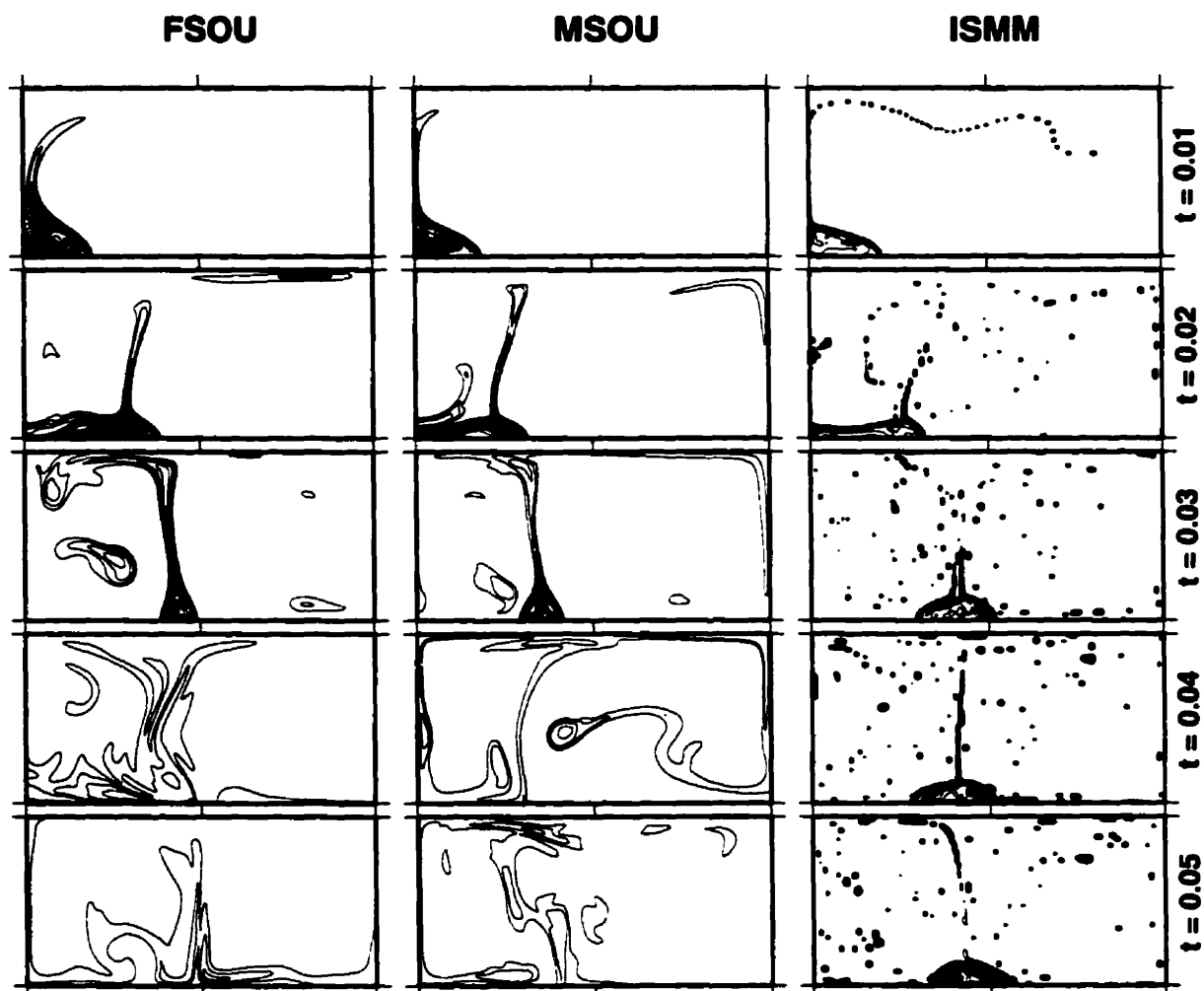
**Figure 4.9:** Comparison of the time variations of global parameters for the isoviscous RT instability problem. a) Evolution of  $V_{rms}$ , and b) evolution of the entrainment of the light layer. The computations were carried out up to  $t = 2000$ . All models achieved a final  $V_{rms}$  value of 0.00018 and  $e$  value of 0.84.



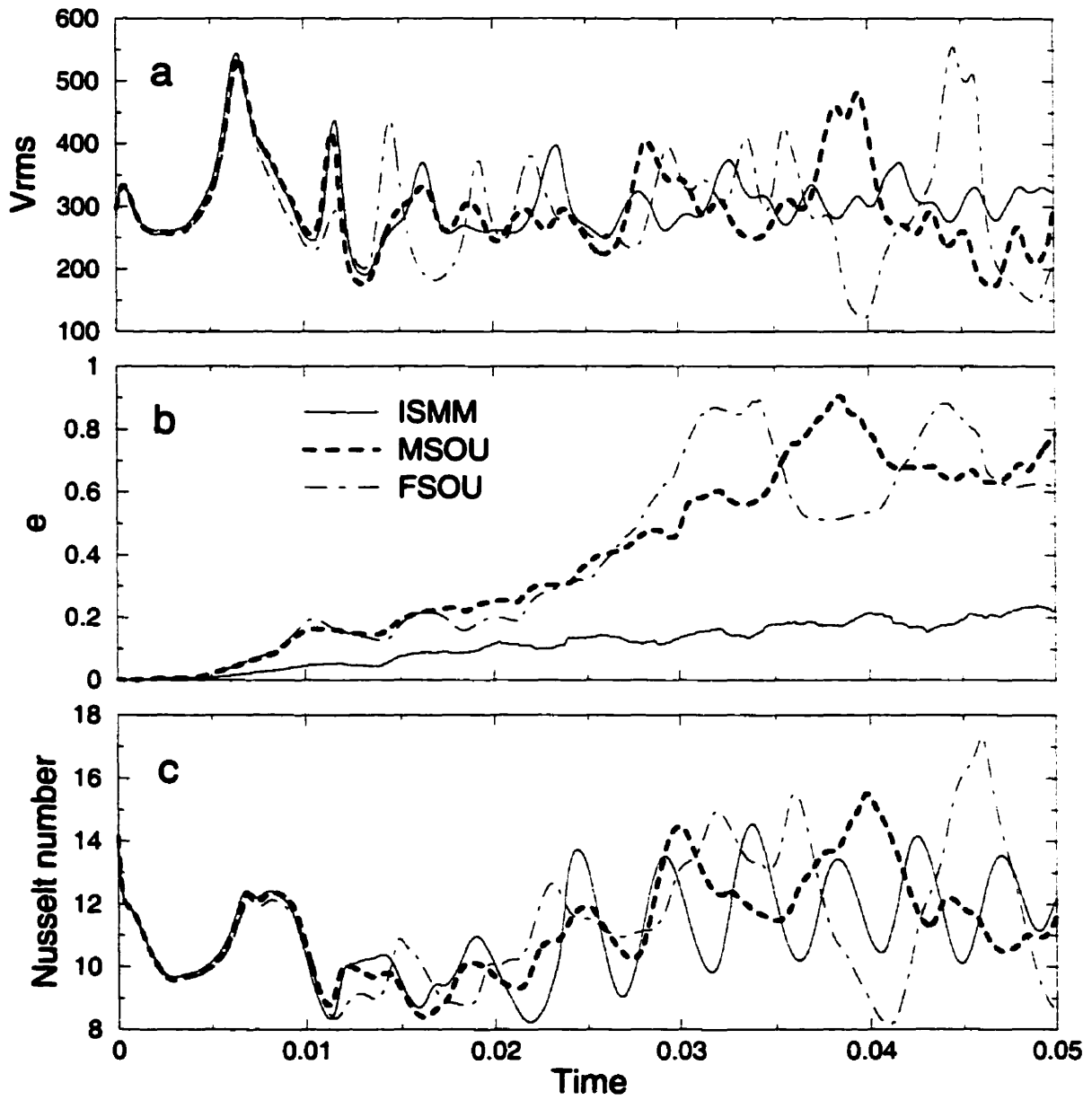
**Figure 4.10:** Same as Figure 4.7 but for the material-dependent viscosity case with the dense fluid 100 times more viscous than the light layer. Contour interval is 0.1.



**Figure 4.11:** Same as Figure 4.9 but for the variable viscosity case with the dense fluid 100 times more viscous than the light layer. The computations were continued until  $t = 2000$ . The final  $V_{rms}$  in all models is almost zero.

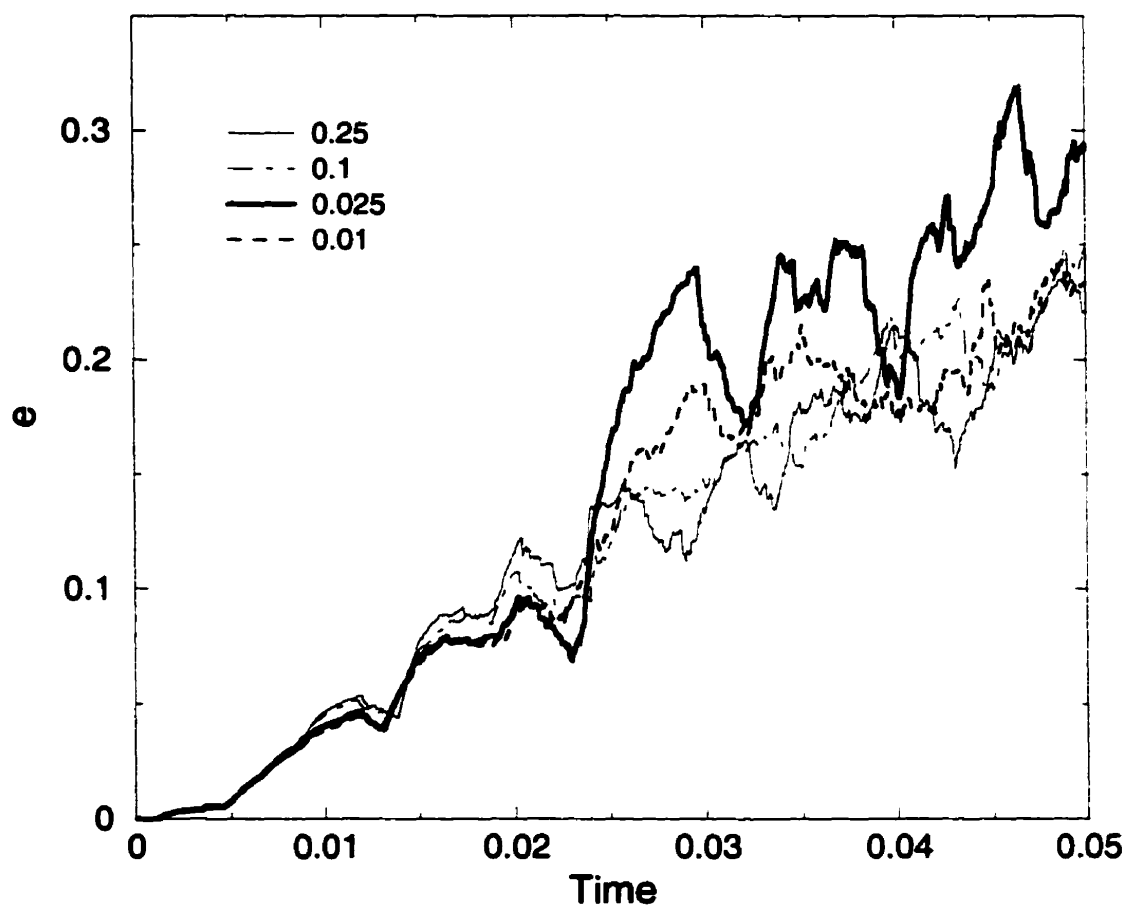


**Figure 4.12:** Time evolution of the composition field for the case of entrainment of a dense layer by mantle convection, calculated by the various methods. In all models a grid of  $160 \times 80$  elements is used and the time step is 0.25 of the Courant time step. Contour interval is 0.05.



**Figure 4.13:** Comparison of time variations of global parameters for entrainment of a dense layer. a)  $V_{rms}$  values, b) entrainment of the dense layer and c) average Nusselt number at the bottom boundary.





**Figure 4.14:** Comparison of the evolution of the entrainment parameter obtained by ISMM with time steps of 0.25, 0.1, 0.025 and 0.01 of the Courant time step.

## Chapter 5

# Results and Discussions

In this chapter the results of the numerical models are presented. The models are categorized into kinematic and dynamic models based on the nature of the driving force of convection. They are also distinguished by the choice of boundary conditions on the side walls. The dynamics and evolution of the subduction are studied through the examination of the temperature, flow fields, crustal composition and stress fields, and surface expressions such as topography, plate velocity and surface heat flux. In addition, the role of different parameters such as viscosity, plate velocity, basalt-eclogite phase transition in the oceanic crust, and the thermal structure of oceanic and continental lithosphere is investigated.

Any successful model of lithospheric plates should take into account two important characteristics of the lithosphere. The first is the uniform motion of plates on the surface of the Earth, the so-called "plate-like behavior". The second is the oblique descent of lithospheric slabs into the interior. In most cases, these characteristics are achieved by the choice of the boundary conditions of the models. Based on the choice of boundary conditions, lithospheric plate models can be divided into two groups of kinematic and dynamic models. In the kinematic plate models, a horizontal velocity is imposed on the surface of the subducting plate. Plate-like behavior in these

models is a direct consequence of this imposed boundary condition, rather than that of the dynamics of the interior. In the dynamic plate models, the surface is assumed to be free-slip, and the motion of the plate is determined by the convective flow underneath. In such models, it becomes necessary to use temperature and stress-dependent viscosity in order to achieve realistic plate behavior. As mentioned in Chapter 3, the stress dependence of viscosity causes the deformation to concentrate on the margins of the plate, making the interior of the plate move with a uniform velocity. The dip of the subducting slab is also determined by the choice of the boundary conditions. In the upper mantle, a dipping subduction is basically due to the fact that the position of the trench with respect to the deep interior changes, i.e. oceanward migration of the trench, as the subduction zone ages (Gurnis & Hager 1988). Trench migration involves the transfer of mantle material from under the subducting slab to underneath the overriding plate (Garfunkel et al. 1986). In the Earth's mantle, this transfer of material occurs around the edges of the slab in a three-dimensional circulation (Christensen 1996). In a two-dimensional model, it can be accomplished by allowing the material to flow out from one part of the model (e.g. a side wall or the bottom boundary) and flow in from another part (Gurnis & Hager 1988; Davies 1995). The periodic boundary condition (as opposed to reflecting boundary conditions) can provide a mechanism for such a transfer of material.

The first section illustrates how kinematic plate models with specified surface velocity can account for the deformation of a buoyant continental crust on top of a circulating mantle. In most models of this section, reflecting boundary conditions are imposed on the side walls. In the second section, continental subduction and collision are studied through a dynamic plate model. In the last section, the effects of periodic and reflecting side walls in a dynamic plate model are demonstrated, and the role of each boundary condition on the behavior of the lithosphere and morphology of

the downgoing slab is investigated. At the end of the section, a dynamic continental subduction model with periodic side boundaries is presented.

## 5.1 Kinematic plate models

This section is devoted to the kinematic models with an imposed velocity at the surface. The purpose of these models is to investigate whether a prescribed plate velocity can correctly simulate the basic features of deformation of the continental plates, with a low-density crust, during the process of subduction. First, a nominal model is considered in detail, and then the effect of different parameters is investigated. The characteristics of the nominal kinematic model are as follows (see Figure 3.2): The initial geotherm of the lithospheric plates is denoted by an error function representing a cooling half-space at a given time. The overriding continental plate and the continental segment of the subducting plate, spanning  $0 \leq x \leq 2100$  km and  $3500 \leq x \leq 4900$  km, respectively, are defined by an initial geotherm equivalent to a thermal age of 160 m.y. An oceanic segment with a constant thermal age of 80 m.y. is placed in between the two continental plates to represent a mature oceanic plate. On the right end of the model, a spreading oceanic plate with age varying from 0 to 20 m.y. is considered. As explained in Chapter 3, the choice of constant lithospheric age is due to the size restriction of the model. The geotherm of an oceanic plate older than about 70 m.y. changes little with time and continents are often almost in a steady thermal state that roughly coincides with an oceanic cooling half-space age of  $> 120$ -150 m.y. With this arrangement, the trench is located at  $x = 2100$  km and the oceanic ridge is at the top right corner of the model. The continental plates are capped with a crustal layer of 35 km thickness and density of  $2750 \text{ kg/m}^3$ . On top of the oceanic plates, a basaltic crustal layer of 7 km thickness and density of  $2900 \text{ kg/m}^3$  is placed. The basaltic layer is assumed to undergo basalt-eclogite phase

change (see Chapter 3 for details of the phase change) when it enters the (P,T) field of the transition domain as it subducts. Viscosity is assumed to be temperature-dependent, with a 1000 times variation between the cutoff temperature of  $T = 1073$  K and the bottom temperature of  $T = 1973$  K. Viscosity does not change below the cutoff temperature. At the surface of the model, from the position of the trench to the right corner, a uniform plate velocity of 5 cm/yr is imposed. This value is about the average of observed plate velocities such as in the Pacific, which is presently subducting at many trenches. The overriding continent on the left is pinned. The side walls and the bottom boundary are considered to be non-penetrable and free-slip surfaces, where the normal component of velocity and the tangential component of stress are zero. Constant temperature on the top and bottom boundaries ( $T = 273$  K and  $T = 1973$  K, respectively) and zero heat flux on the side walls are assumed for the temperature boundary conditions. The interior of the model below the surface plates is initially in an isothermal state. This prevents the thermal instabilities that usually develop at the bottom to interfere with the flow field near the surface of the model. The estimated temperature of the mantle at 1400 km depth is greater by 200-300 K than the model bottom temperature (Stacey 1992). However,  $T = 1973$  K was chosen as a compromise between temperature near the base of the lithosphere and that in the deeper mantle.

Figure 5.1 shows the time evolution of the temperature, the flow field and the crustal layers over a period of 100 m.y. at time intervals of 20 m.y. The imposed boundary velocity organizes a circulating flow field in the interior that extends under the entire length of the mobile plates. As the subducting slab increases in length, a wedge flow develops under the overriding plate. The plots of the oceanic crust show that after 100 m.y. of subduction, the compositional structure of the oceanic slab is preserved, and no separation of the crustal layer from the bulk of the slab occurs

because of the negative buoyancy of the eclogite layer and the strong viscous coupling between the crust and lithospheric mantle. The eclogite layer of density  $\rho = 3500$  kg/m<sup>3</sup> is about 6% denser than the surrounding mantle of density  $\rho = 3300$  kg/m<sup>3</sup> and helps the descent of the slab. This result is also consistent with other results (Richards & Davies 1989; Gaherty & Gurnis 1994), which predict that crust-mantle detachment is an unlikely process under time scales of shorter than 100 m.y. and small to moderate chemical buoyancies. Richards & Davies (1989) showed that the positive and negative buoyancies in a subducting slab consisting of light and dense layers must be almost equal in order to cause a significant detachment of the layers.

The plots of the continental crust show that the continental lithosphere, despite having a thicker and less dense crustal layer, subducts to the deep mantle similar to the oceanic lithosphere. The model does not show any indication of crustal thickening and plateau formation on top of the subduction zone, and no evidence that the subducted crust eventually separates and accumulates at the top. In most continental collision zones, crustal thickening is accompanied by horizontal compression and reduction of plate velocity near the collision zone (Allègre et al. 1984). This decrease in plate velocity is a direct result of the buoyancy of the low-density crustal layer that opposes the push of the surface plate. In the kinematic model, the plate velocity is treated as independent of the internal dynamics of the flow, and buoyancy force of the interior has no effect on plate velocity. Because of the imposed velocity boundary condition, the continental crust has no choice but to subduct into the interior. There is also some entrainment of the overriding crustal layer into the interior, which is caused by the entrapment of the edge of the overriding plate in the downflow region. In the deeper parts where the influence of the fixed surface velocity is diminished, we expect the buoyant continental crust to separate from the slab and ascend towards the surface. The density difference between the continental crust and the surrounding

mantle is about 17%, certainly large enough to provide a significant buoyancy force for the separation. However, because the viscosity of the slab is much larger than that of the surrounding mantle, the coupling between the crustal and mantle components of the slab is very strong. Examination of the position of the continental crustal layer inside the subducting continental slab shows that, in fact, the crustal layer is located near the low-temperature core of the slab and has a viscosity similar to that of the rigid core. As a result, the viscous resistance of the slab overcomes the positive buoyancy of the crust, and the slab subducts with its integrity remaining intact. In short, the positive buoyancy of the crust is countered by three opposing forces: the push of the surface plate that remains constant, the pull of the subducted cold slab enhanced by the basalt-eclogite phase change, and the crust-mantle viscous coupling in the slab. These three forces prevent separation of the continental crust from the mantle lithosphere and rebounding towards the surface.

In order to determine how dominant the role of imposed surface velocity is in shaping the evolution of the continental crust and the geometry of the descending slab, a series of models is investigated in which various factors are changed and the results are compared to those of the nominal model. In particular, the effects of crustal buoyancy, the initial thermal structure of the plates, the plate velocity, the viscosity variations and the lateral boundary conditions are studied.

### **5.1.1 The effect of crustal buoyancy**

To assess the degree to which the buoyancy of the crust influences this flow field, a model is considered with no density difference between the crust and mantle (Figure 5.2). The results are almost identical to those of the nominal model. The small thermal bulge on the upper surface of the slab in Figure 5.1 is due to the tendency of the minor entrained portion of the crust of the overriding plate to move upward.

The bulk of the subducted crust is located in the cold part of the slab and is firmly coupled to the mantle part of the slab and thus does not detach under its buoyancy. The plots of crustal layers in both figures show that there is some thickening of the layers as they enter the subduction zone, but the layers tend to stretch at greater depths. The fact that this thickening occurs in both models indicates that it is not buoyancy-related. The thickening happens because the subducting plate tends to thicken as it approaches the downturn of the subduction zone. Velocity field near the subduction zone diverges to accommodate this thickening. This can be seen by the widening of the streamlines in the slab and the larger thermal thickness of the slab compared to the surface plates in Figures 5.1 and 5.2. The widening of the flow field is almost perpendicular to the direction of subduction and makes the crustal layers become thicker and shorter. At the later stages of subduction when the slab reaches greater depths, subduction picks up speed in the lower parts as the negative buoyancy of the growing volume of the cold downgoing slab increases. This is evident from the growth of the wedge flow on the left side as time proceeds. The increase in the velocity of the slab causes the crust to stretch and become thin again.

### **5.1.2 The effect of subduction velocity**

It has been argued that the depth to which continental crust is subducted is a function of subduction velocity (Davies & von Blanckenburg 1995; Wong A Ton & Wortel 1997). Faster descending slabs have less time to warm up before reaching the lower parts. Thus, compared to slower moving slabs at equal depths, faster moving slabs have a lower temperature, greater viscosity and stronger crust-mantle coupling. A stronger slab has a stronger crustal component that reaches failure at higher stresses. Such continental crust can subduct to greater depths before breaking from the rest of the descending lithosphere.



Figures 5.3 and 5.4 show the evolution of the continental crust and the temperature and flow fields of two models identical to the nominal model except for their extreme surface velocities of 2.5 cm/yr and 10 cm/yr, respectively. The plots of Figure 5.3 are at time intervals of 40 m.y., and those of Figure 5.4 are at intervals of 10 m.y., chosen in order to compare the three models when equal amounts of subduction have occurred. Comparison of these models with the nominal model shows that surface velocity has an appreciable effect on the angle of subduction, which becomes progressively shallower with increasing plate velocity. The greater the driving surface velocity, the greater the horizontal extent of the underlying flow field. The angle of subduction at shallow depths (less than 200 km) increases from  $40^\circ$  to  $50^\circ$  and to  $65^\circ$  as the plate velocity decreases from 10 to 5 and to 2.5 cm/yr, respectively. The decrease of the angle of the downgoing flow allows the flow field to reach greater distances beneath the overriding plate. In all of the models, the continental crust subducts into the deep mantle irrespective of the choice of surface velocity. The plots of temperature field show that towards the later stages of deformation (100 m.y. in Figure 5.1 and 160 m.y. in Figure 5.3) the buoyancy of the continental crust starts to exert some influence on the flow field, which is seen as small bulges on the upper boundary of the deep slab (the effect is more pronounced in the slower moving slab). This is probably due to the fact that the positive buoyancy of the crustal component tends to deflect the slab upward, opposite to the direction dictated by the return flow beneath the mobile plates. However, this effect is very small and is not able to overcome the viscous resistance of the high-viscosity slab. As a result, no noticeable decoupling of the crust and no appreciable changes in the dip of the slab are observed. An additional model is run to see the effect of very small plate velocity on the fate of the continental crust. Figure 5.5 shows the temperature and continental crustal fields of a model with a plate velocity of 1 cm/yr. In this case, the deformation is

largely influenced by the process of thermal conduction. The surface plates attain large thicknesses by conductive cooling, and the slab develops a thick high-viscosity core which firmly couples the crustal component to the lithospheric mantle part. The continental crust inevitably subducts into the deep mantle.

### 5.1.3 The effect of the initial temperature of the plate

Figure 5.6 shows the temperature and flow fields and the continental crust of a model in which the geotherm of the subducting oceanic and continental plates is equivalent to 40 m.y., considerably thinner and hotter than the nominal model. Comparison with Figure 5.1 reveals that the younger slab in Figure 5.6 has a slightly shallower angle of subduction. The angle of subduction is controlled by the imposed surface velocity as well as the buoyancy of the subducting slab. The greater the negative buoyancy of the slab, the greater the angle of subduction. In the case of a younger plate, the subducting slab is slightly more buoyant and has a thinner viscous core. Therefore, the circulating cell extends over a larger area as the less negative buoyancy of the slab allows the slab to have a shallower angle of dip. Despite the lower viscosity of the younger slab, we observe that the continental crust still subducts into the mantle, and its buoyancy is not able to overcome the viscous coupling in the plate. This point will be discussed below in more detail.

### 5.1.4 The effect of viscosity

Previous models suggest that the temperature-dependent viscosity has an important role in retaining the integrity of the layered lithospheric slab as it descends. In this subsection, a few models with different temperature-dependent viscosity functions are presented. Figures 5.7, 5.8 and 5.9 show the time evolution of models in which viscosity varies by factors of 100, 10 and 1 between the bottom and cutoff temper-

atures, respectively. For the viscosity variation by a factor of 100 (Figure 5.7), the continental crust still subducts to deep mantle similar to the nominal model. The major difference is in the geometry of the slab. Because of its higher viscosity, the nominal model has a greater rigidity, and subducts at a slightly shallower angle. Reducing the viscosity by a factor of 10 results in a significant change in the deformation of the subducting slab (Figure 5.8). The slab descends with a greater velocity and is considerably thinner, indicating that the negative thermal buoyancy more easily overcomes the viscosity of the slab. The continental crust subducts to a depth of about 150 km (non-dimensional depth of  $\sim 0.11$ ) at time  $t = 40$  m.y. After this time it breaks up from the rest of the slab and accumulates on top of the subduction zone. By  $t = 60$  m.y., the entire continental plate has entered the subduction zone and a crustal plateau with a thickness of about 100 km (non-dimensional depth of  $\sim 0.07$ ) has formed above the zone of downwelling. We observe that the position of the trench remains fixed after the formation of the thickened crust. This feature is rather unrealistic, since in most collision zones a new subduction fault is created somewhere on the upstream side as a result of formation of crustal overthrust sheets (e.g. Chemenda et al. 1995). In order for a new subduction fault to develop, the surface velocity at the subduction site must vanish, and the contact zone between the subducting and overriding plate should move to some other place. However, in the kinematic model, surface velocity is imposed, and is not influenced by the dynamics of the internal flow. Consequently, crustal thickening will have no role in changing the position of the subduction fault. The accumulated continental crust creates a large horizontal density gradient between the crustal plateau and the overriding plate, inducing a lateral flow that tends to spread the crustal layer towards the overriding plate in the later stages of deformation. The thickening of the crust on the overriding plate is aided by the push of the subducting plate from the right, and the counter-rotating flow under the

overriding plate that sweeps the lower part of the crust of the overriding towards the subduction zone.

Figure 5.8 indicates that although the crustal layer detaches from the slab, the remainder of the slab is left intact and continues to subduct after crustal breakup. In this sense, no slab breakoff of the type suggested by other authors (Davies & von Blanckenburg 1995) is seen in the model. A similar pattern of crustal breakup is seen in the constant viscosity model of Figure 5.9. The depth of breakup is slightly shallower in this case (about 100 km), and the crustal volume that accumulates on the overriding plate is somewhat thinner. The constant viscosity model experiences more pronounced thermal instabilities, which give rise to a more vigorous circulation.

The above models demonstrate the effect of viscosity on the breakup of the continental crust during subduction. van den Beukel (1992) studied the conditions for continental breakup and concluded that the depth of breakup is inversely proportional to the strength of the crustal layer. Although it is difficult to make a direct comparison between the crustal rheologies used by van den Beukel and those of the above models, both results suggest that under stronger rheological conditions, the continental crust subducts to mantle depths. Breakup depths obtained by van den Beukel (1992) vary from 20 to 60 km for a range of reasonable crustal strength profiles, not in a good agreement with the above models that suggest for more realistic rheologies with stronger temperature-dependent lithospheric viscosity, breakup is improbable, and continental crust subducts to mantle depths.

### **5.1.5 The effect of open boundaries**

All the previous models fail to show any significant underthrusting of the subducting plate beneath the overriding plate, or change in the angle of the subducting slab as a result of continental buoyancy. Any possible upward deflection of the descending slab

would result in the displacement of material above the top surface of the slab and creation of material gap beneath the lower surface of the slab that would have to be filled. Periodic side boundaries as discussed before, can provide a suitable mechanism for the transfer of material from one side of the slab to the other (e.g. Hager & Gurnis 1989). In the model of Figure 5.10 periodic side walls (as discussed in Chapter 3) are adopted in order to examine the role of a less constrained boundary condition on the dip of continental subduction. This model is identical to the nominal one except for the side boundary conditions. There is some outflow of the downgoing slab through the left boundary, but this material first reaches the bottom of the model and then turns towards the boundary. The dip of the slab is very similar to that in Figure 5.1. This feature shows that in the upper two thirds of the model the direction of the downgoing flow is still controlled by the surface velocity. Lateral flow does not become significant until the cold thermal plume approaches the bottom of the model, where it spreads sideways, largely towards the left. As a result, the continental crust is subducted to the deep mantle as part of the downgoing slab with little effect on the angle of subduction.

### **5.1.6 Stretching of the continental crust**

It is observed in all previous models that there is always a portion of the oceanic and continental crustal layers that remains near the surface even when the entire corresponding plates are consumed at the subduction zone. This situation arises because the crustal layers are pinned at the surface by the imposed zero vertical velocity boundary condition. This seems unnatural since one would expect the slab to descend with a more or less uniform velocity along its length and across its width. Inspection of the velocity field near the surface of the model reveals that indeed very close to the surface, the vertical component of velocity is very small, since vertical

velocity is set to zero on the surface. To alleviate this problem, a model is run identical to the nominal model but with a surface velocity that has a vertical component at the node above the trench zone. The magnitudes of the horizontal and vertical velocity components are chosen such that the subduction velocity at the trench is equal to the surface velocity further to the right (the surface subduction dip is assumed to have an angle of  $45^\circ$ ). To account for the inflow of the material at the trench due to this vertical component of the velocity, the side walls are taken as open boundaries by assuming the tangential and normal deviatoric stresses to be zero on the boundaries. With this choice the material is free to move in or out of the model. The crustal fields are shown in Figure 5.11. Both oceanic and continental crustal layers are completely subducted. For a given time interval the total amount of subduction is actually more than that in the nominal model due to a stronger vertical velocity field near the trench. There is some entrainment of the crust of the overriding plate into the mantle. As explained before, this is caused by the entrapment of the tip of the overriding plate in the downgoing slab and is not related to pinning of the crust to the surface.

The results of the above models show that except in the case of weak viscosity models, the continental crust is entirely driven down into the mantle as a result of the imposed plate velocity at the surface and the strong viscous coupling to the mantle, which override the positive buoyancy of the crust. The kinematic plate models show that under more realistic rheological conditions, the depth of continental subduction is far greater than that inferred from observations, or obtained by laboratory experiments. The analogue models of Chemenda et al.(1995) give continental subduction depths of 200 to 300 km, and the high-pressure metamorphic rocks in the Alps imply a maximum subduction depth of 100 km (Chopin 1984). This is a major problem for the kinematic models, and contradicts geological evidence that in continental collision zones the crustal part of the colliding lithosphere detaches from the mantle part

and returns towards the surface, while the underlying mantle continues to subduct. This process results in the accumulation of the crust and the reduction or cessation of relative plate motion, and is responsible for the initiation of a new subduction fault somewhere behind the thickened crust (Bird 1978b; Lyon-Caen & Molnar 1983; Allègre et al. 1984). For example, in the Himalayas the Main Central Fault (MCF) and the Main Boundary Fault (MBF) were formed after the underthrusting of India beneath Asia began, and each fault has taken up about 125 km of underthrusting (Lyon-Caen & Molnar 1983). And in the Zagros Mountains, many thrust faults to the southwest of the main Zagros thrust, which denotes the old subduction suture zone, are currently accommodating much of the convergence between the Arabian Shield and Eurasia (Berberian 1981; Jackson & McKenzie 1984). The initiation of a new subduction fault means that the horizontal velocity of the crust near the surface should decrease upon entering the collision zone, a feature obviously not captured in any of the kinematic models studied here. I conclude that the kinematic plate models are not suitable for the study of deformation of continental lithosphere with distinct chemical layers.

## 5.2 Dynamic plate models

This section concentrates on the dynamic approach to the problem of continental subduction. The geometry and the initial setup of the models for the most part are similar to the kinematic models discussed in the previous section. Error function geotherms are used to construct the initial temperature profiles in the plates, and the interior of the model is assumed to be initially isothermal. Each lithospheric plate is capped with its respective crustal layer, and the oceanic basaltic crustal layer is allowed to undergo basalt-eclogite phase change when it is subducted to the appropriate depth. The major differences between the two sets of models are in the

nature of the driving forces, and the application of the boundary conditions. As discussed before, the flow field in the dynamic model is driven by forces arising from the interior of the model which, in this case, is mainly the pull of the subducted slab. Plate motion in this situation is a consequence of internal flow. An important problem is how to result in uniformly moving rigid surface plates. In the kinematic model, this was simply done by using a prescribed surface velocity and a temperature-dependent viscosity. In the dynamic models, plates have to be generated in a self consistent manner, i.e. without prescribed surface velocity. Temperature-dependent viscosity in dynamic convection models often results in the generation of a rigid stagnant lid on top of a hot convecting layer. This stagnant lid can be made mobile by creating weak zones at its margins (Davies 1988; King et al. 1992). Stress-dependent viscosity provides such weakening through ductile failure of the lid in regions of high stress (Zhong & Gurnis 1995). Following Han & Gurnis (1999), a composite temperature and stress-dependent viscosity is used. In the upper 410 km, viscosity is assumed to be temperature-dependent and non-Newtonian, and below 410 km, temperature-dependent but Newtonian. The equation for the effective viscosity is given in Chapter 3. The model is divided into several domains each with a specific set of viscosity constants (Table 3.1). The  $C_1$  and  $C_2$  constants result in  $10^4$  times viscosity variation with temperature in the upper 410 km and 10 times variation below 410 km. The  $\eta_0$  values are chosen to make the overriding continental plate 50 times stronger than the subducting plates, and give a 50 times increase in viscosity between the asthenosphere and the lithosphere, as well as a factor of two increase between the upper and lower mantle. The stronger overriding plate represents a cold continental shield. Figure 5.12 shows the profile of viscosity function with depth. It was found that plate-like behavior of the lithosphere is sensitive to the choice of viscosity parameters, and the above values were chosen after many trial runs. In some models, a narrow weak zone



is included to mimic the subduction fault zone. The width of the weak zone spans a few grid points (56 to 84 km) and extends with a  $45^\circ$  angle to at most the base of the overriding lithosphere. The viscosity of the weak zone is reduced on average by a factor of  $5 \times 10^3$ . A second weak zone is placed at the ridge axis in the upper right corner of the model to facilitate the decoupling of the plate from the right-hand side boundary. The depth and width of the zone are of the same order as the thickness of the plate, and viscosity is reduced by a factor of 10 to 100 inside the zone.

At the top and bottom surfaces, temperature is fixed (273 K and 1973 K, respectively) and free-slip boundary conditions are used. On the side walls, free-slip and zero heat flux boundary conditions are considered. The internal flow is initiated by thermal instability caused by a thermal anomaly placed under the fault zone (see Figure 3.1). Despite the use of stress-dependent viscosity, a uniform plate motion is difficult to achieve and is sensitive to the choice of viscosity constants. The downgoing slab always tends to pull the plate faster in regions close to the subduction zone and slower in the regions farther away. Consequently, plate velocity near the subduction end of the plate becomes several times greater than at the ridge end of the plate. This results in uneven distribution of surface velocity along the length of the plates and causes considerable shearing and stretching inside the plates. The weak viscosity zone plays an important role in decoupling the two adjacent plates and to a great degree facilitates the uniform motion of the downgoing plate towards the subduction zone. At the ridge end of the plate, a strong gradient of surface velocity develops owing to the effect of low-viscosity ridge zone. But in the absence of a strong upwelling plume below the ridge, plate velocity near the ridge is noticeably smaller than that near the subduction end. In order to make the upwelling plume develop faster, the value of the bottom temperature for the 4 nodes near the right boundary is slightly increased. The increase is less than 40 K, and its effect on the dynamics of the flow is confined

to the regions near the boundary. Over time, a more or less uniform plate velocity develops as the system approaches a steady state. Figure 5.13 shows the profile of horizontal velocity at the surface, and at depths of 30 and 70 km for a chemically homogeneous model after 100 m.y. of subduction. There is little variation of velocity across the thickness of the lithosphere. Surface velocity near the subduction zone is about 5.5 cm/yr, and near the ridge about 4.5 cm/yr, a difference of about 20% over the length of the plate. Strong gradients of velocity near the two ends of the plate indicate effective plate decoupling at plate margins.

It takes time for a uniform plate motion to be established in the models, and this creates undesirable distortions in the structure of the lithosphere during the early stages of subduction. These distortions include stretching and necking of the lithosphere near the subduction zone, thickening by conductive cooling of the lithosphere in the regions where plate velocity is low, and thinning of the crustal layers due to stretching of the plates. To avoid these problems, a model without crustal layers is first run to achieve a steady convective flow field. This flow field has a uniform velocity at the surface and a realistic slab structure at the subduction zone. The resulting flow field is then used as an initial condition for a model with crustal layers. With this arrangement, the descent of the oceanic crust starts in a mature stage of subduction and many of the complications associated with the initial stage of flow are avoided.

The nominal dynamic model has the following initial characteristics: The subducting oceanic and continental plate segments are 1400 km and 2100 km long, respectively, and have a constant thermal profile equivalent to 70 m.y. The overriding continental plate has a geotherm of a 140 m.y. old lithosphere. At the right end of the model, a small oceanic plate segment is placed with a thermal age that varies from 0 at the ridge axis to 20 m.y. near the subducting continental segment. At

the subduction zone, a weak zone is placed at the contact of oceanic and continental plates. The weak zone has a thickness of 56 km and extends to the base of the initial overriding plate, a depth of 120 km.

### 5.2.1 Subduction of the oceanic crust

In this subsection, I study the subduction of the oceanic lithosphere with and without the presence of basalt-eclogite phase change. The objective is to determine if the positive buoyancy of the oceanic crust can influence the dip angle and the speed of the downgoing slab, or whether it can stop the subduction of the slab all together. Also, the depth to which the buoyant crust can penetrate before separating from the subducting plate is investigated.

The negative buoyancy of the lithosphere provides the main driving force for its subduction into the less dense underlying mantle. The oceanic lithosphere is capped by a 7 km thick oceanic crust with a density of  $2900 \text{ kg/m}^3$  which is much less dense than the mantle. However, the thickness of the oceanic crust is not great enough to hinder the subduction of the lithosphere (Molnar & Gray 1979). Buoyancy analyses of Cloos (1993) showed that an 80 m.y. old oceanic lithosphere with a 7 km oceanic crust has a negative bulk density contrast of  $40 \text{ kg/m}^3$  with the underlying asthenosphere, and that any oceanic plate older than 10 m.y. is more dense than the asthenosphere. Cloos (1993) further showed that oceanic plateaus with a basaltic crust of 17 km are prone to subduction, and they must have a crustal thickness of  $> 30 \text{ km}$  in order to jam the subduction zones. Thus, oceanic lithosphere under most circumstances is susceptible to subduction. One question that arises is to what depth the oceanic crust can subduct before any possible detachment from the rest of the lithosphere. If the oceanic crust can detach from the subducting slab, then because of its positive buoyancy, it will rise towards shallower depths.

Subduction of the oceanic crust results in high-pressure metamorphism of the basalt/diabase component to amphibolite or eclogite. The bulk density of the crust increases as a result of this phase change (the density of mafic eclogites is about  $3500 \text{ kg/m}^3$ ). In the presence of pervasive eclogite formation in the oceanic crust, the bulk density of the lithosphere increases by about  $40 \text{ kg/m}^3$  (Cloos 1993). This value is similar to the density increase achieved by conductive cooling in an 80 m.y. old lithosphere. This density increase can have a significant contribution to the forces that drive the subduction. Furthermore, by strengthening the magnitude of the subduction force, subduction-induced metamorphism can hinder the crust-mantle decoupling.

Figure 5.14 shows the time evolution of the oceanic crust in two similar models, one with the basalt-eclogite phase change (plots a to d) and one without (plots e to h). For the viscosity of the crustal layer, the same temperature and stress dependence as that of the lithosphere (described earlier) is assumed, except that the pre-exponential parameter  $\eta_0$  is lowered by a factor of 10. This will result in a 'jelly-sandwich' viscosity profile in which the lower crust is weaker than the mantle lithosphere at equal temperature values.

The total length of the oceanic plate in each model is 1400 km, and with the approximate surface plate velocity of 5 cm/yr prevailing throughout the calculation time, the entire oceanic plate is subducted by about 30 m.y. In both models, a similar pattern of subduction is observed. The crust, upon arrival at the subduction zone, bends downwards and descends into the mantle along the upper surface of the downgoing slab. Near the surface in the upper 100 km (non-dimensional depth of  $\sim 0.07$ ), the crustal layer thickens by as much as five fold. However, only the middle part of the thickened region is completely filled with crustal material where the value of composition function  $C_o$  is 1. Further from the middle part, the thickened region is actually a mixture of crustal and mantle compositions. As explained in the case of

the kinematic models, this thickening happens along the curved part of the slab and the contact zone with overriding plate, where horizontal velocity sharply decreases and the flow lines diverge from each other. As a result, the along-dip magnitude of velocity decreases, and the crustal material accumulates in the low-velocity zone. The depth of thickening roughly corresponds to the thickness of the lithosphere. Below this depth and deeper than the curved segment of the slab, the oceanic crust enters a zone of high-velocity descent and thus stretches and becomes thinner. The low values of the oceanic composition function in this zone are proof that the crust undergoes significant stretching. We note that the amount of the accumulated crust does not grow in the later stages. In fact, the length of the thickened segment and its thickness are established early during subduction and remain almost constant until the oceanic crust is completely consumed. This is suggestive of the fact that there is a steady flow of oceanic crust into and out of the thickened region, indicating that the thickening is mainly due to the geometry and velocity profile of the slab.

At the surface, both models show that the position of the trench remains fixed and examination of surface velocities shows that subduction of the oceanic crust does not cause any important change of the surface velocities near the trench zone, or a shift in the position of the contact zone between the converging plates. There are, however, some differences that can be attributed to crustal buoyancy. The model without phase change has a somewhat smaller rate of crustal subduction. This is seen in the greater thickness of the crust of the subducting slab. The heavier eclogitic crust of the model with phase change has less tendency to detach from the mantle part of the slab and descends with greater ease. On the other hand, the positive buoyancy of the basalt of the model without phase change can help the oceanic crust to resist being subducted. Comparison of velocity values does not show any significant difference in slab velocity. Nevertheless, it is obvious from the models that the positive buoyancy

of basalt has a minor effect in slowing down the rate of entrainment of the oceanic crust into the mantle.

In most models, a small fraction of the oceanic crust always remains near the surface at the end of subduction of the oceanic lithosphere (for example the plots of  $t = 30$  m.y. and  $t = 40$  m.y. in Figure 5.14), and becomes entrapped in between the two colliding continents that follow the subduction of the ocean. Later, it will be shown that the continental crust owing to its greater positive buoyancy, resists subduction and stays on top of the model. Consequently, after the two continents collide, a state of positive buoyancy dominates at the top of the subduction zone that prevents the subduction of the fraction of the oceanic crust still present in the upper  $< 100$  km. The volume of the entrapped oceanic crust depends on different factors such as the viscosity of the oceanic crust and the thickness, depth, position and viscosity of the weak zone. In the models of Figure 5.14 the oceanic crust is assumed to be 10 times weaker than the underlying mantle and the weak zone is 120 km deep and 56 km thick (i.e. two elements wide), with a viscosity 100 times weaker than the lithosphere. The weakness of the oceanic crust can be related to weak sediments that act to lubricate the subduction contact zone, and also the presence of microcracks in the crustal rocks. Several models are run to investigate the effects of the above parameters on the subduction of the oceanic crust and the volume of the crust that remains between the continental masses. All models show a similar pattern of subduction as shown in Figure 5.14, with differences in the volume of the unsubducted crust. For example, a model with a crustal viscosity equal to that of the mantle and a shorter weak zone that extends only to the base of the overriding continental crust at 35 km depth, results in a greater resistance to subduction of the oceanic crust, and the last 200 km of the oceanic crust remaining unsubducted (Figure 5.14-i and 5.14-j). It is further found that the position of the upper end

of the weak zone relative to the initial position of the ocean-continent contact zone had important effects too. If the weak zone is initially placed well in the ocean side (i.e.  $> 75$  km oceanward of the contact zone), it will result in a considerable oceanic crustal accumulation behind the weak zone on the edge of the overriding plate. On the other hand, if the weak zone is initially placed inside the continental margin of the overriding plate, significant (and sometimes severe) entrainment of the crust of the overriding plate occurs due to the channeling effect of the weak zone. Therefore, a suitable choice of weak zone position is important in minimizing the volume of the unsubducted oceanic crust, as well as the entrainment of the overriding continent.

The above models suggests that the compositional buoyancy of the oceanic crust does not produce significant changes in the normal flow of the cold descending slab in the mantle. Many authors (e.g. Ringwood & Irifune 1988), based on petrological arguments, have suggested that compositional heterogeneities generate sufficient buoyancy forces that lead to the separation of slab components in the mantle. Richards & Davies (1989) showed that such separation is unlikely in an isoviscous mantle. Gaherty & Hager (1994) further demonstrated that the decrease in slab velocity as a result of viscosity increase at the 670 km discontinuity does not cause the chemical buoyancy of a heterogeneous slab to overcome its thermal buoyancy. Although the compositional structure of the slab in the model of this subsection is considerably simpler than that used by Gaherty & Hager (1994), the results corroborate those of the other modelers that small compositional buoyancies in the subducting slab cannot cause crustal detachment in the upper mantle.

### **5.2.2 Subduction of the continental lithosphere**

In this subsection, subduction of the model continental lithosphere following the subduction of the oceanic lithosphere is studied. The continental lithosphere has an

initial crust of thickness 30 km, and the convergence rate is approximately 5 cm/yr. The two continents collide with each other roughly at 30 m.y. after the initiation of oceanic subduction, and 70 m.y. of collisional convergence is modeled. The viscosity structure of the continental lithosphere is similar to that described earlier for the oceanic lithosphere, i.e. a 'jelly sandwich' with the lower crust having a weaker rheology compared to that of the upper crust and mantle lithosphere.

Figure 5.15 shows the thermal evolution of a model in which 30 m.y. of oceanic subduction is followed by 70 m.y. of continental subduction. Figure 5.16 shows the details of the flow, temperature and continental crustal fields of the model near the subduction zone. The geometry of the subduction zone remains very much unchanged for the duration of oceanic subduction. The dip of the slab remains constant, and the thermal thickness of the overriding plate and that of the upper part of the downgoing slab do not show any noticeable variation. Furthermore, the position of the oceanic trench remains fixed until the entire oceanic crust is consumed. On the right side of the model in Figure 5.15, a strong lateral thermal gradient exists between the continental plate and the spreading oceanic plate generated during the convection. This thermal gradient gradually fades away as the oceanic plate moves towards the subduction zone and becomes colder and thicker. By the time the plate reaches the subduction zone ( $t = 80$  m.y.), it achieves almost the same thermal thickness of the initial subducting oceanic plate defined at the start of the model.

After the arrival of the continental plate at the subduction zone just before  $t = 30$  m.y., significant changes take place in the thermal structure of the subduction zone and geometry of the descending slab (Figure 5.16). Unlike oceanic crust that subducts with little effort, the continental crust owing to its greater positive buoyancy, shows little tendency to subduct and instead accumulates over the downgoing slab, giving rise to the development of a region of block-like thickened crust. The thickening of the



crustal component leads to the thickening of the thermal boundary layer below the zone of crustal accumulation, and the development of a lithospheric root that is colder than the adjacent asthenospheric mantle. Close to the right of the oceanic subduction bend, the depth to the base of the thermal lithosphere, which roughly corresponds to the non-dimensional temperature of  $T = 0.75$  (equivalent to a temperature of  $T = 1600$  K), increases by a factor of two towards the later stages of collision. As a result of crustal and thermal thickening, pronounced changes take place in the velocity field and the dip of the slab in the upper 400 km of the model. The accumulated crustal block becomes relatively stationary compared to the mantle lithosphere beneath it. While the crust stays near the surface, the mantle part of the lithosphere continues to subduct. Figure 5.16 shows that as the crust accumulates, the flow lines that once delineated the position of the oceanic plate are pushed downward to underneath the crustal layer. At the same time, the position of the subduction bend increasingly moves towards the right and behind the mass of accumulated crust. By the end of crustal accumulation at around  $t = 75$  m.y., the trench has moved as much as 450 km toward right, where the subduction zone of the newly generated oceanic plate is fully established. As a result of this transformation in geometry, the almost vertical dip of the upper part of the slab decreases to about  $45^\circ$ .

Figure 5.17 shows the time variation of the surface velocity. The initial position of the trench is at  $x = 2100$  km. The profile at  $t = 10$  m.y. is for the oceanic subduction stage, during which there is little change in the profile of surface velocity, suggesting that the position of the trench (the region of steep velocity gradient) changes slowly. The velocity peak at  $x = 2170$  km is due to the effect of low-viscosity weak zone, which induces strong shear motion along the fault. After the arrival of the continental plate, the magnitude of surface velocity (negative values) near the subduction zone progressively decreases until about  $t = 70$  m.y., when all of the continental crust is

accumulated. This is indicated by the relatively rapid shift to the right of the position of the slope of the velocity ramp. The velocity ramp finally stabilizes at about 450 km to the right of the original trench zone at around  $t = 70$  m.y.

Figure 5.16 shows how the continental crust evolves through time. The subduction weak zone extends to a depth of 120 km and has a great effect on facilitating the subduction of the crustal layers to asthenospheric depths. The figure shows that the continental crust, upon entering the subduction zone, is driven down to a maximum depth of 170 km along the slab by  $t = 40$  m.y. This is well below the base of the overriding lithosphere that is denoted by the isotherm  $T = 0.7$ . The crust while subducting, detaches from the mantle lithosphere and accumulates atop the subduction bend, and grows in area and extends toward right. This is because the overriding plate has a greater strength and acts as a barrier, preventing the leftward penetration of the accumulating continental crust. However, as the mass of the crustal plateau reaches its maximum, a strong horizontal density gradient develops across the subducting and overriding plates, that eventually deflects the overriding lithosphere downward, and part of the thickened crust migrates towards that plate. This migration is delineated by the surface velocity profiles in Figure 5.17. On the overriding plate, the leftward (negative) velocity increases in magnitude, while on the subducting plate, the crust moves to the right (positive velocity). The subducted crust does not experience a pronounced temperature increase. In fact, the base of the crust before and after subduction remains close to the same isotherm, and only at the deepest part of the thickened crust the temperature increases by about  $T = 170$  K. In addition to gravitational spreading, another flow pattern develops inside the thickened crust: The descending slab exerts shear stress at the base of the crustal root, and drives two small secondary convection cells in the crust that are centered above the downgoing slab. This secondary flow is very weak and cannot be seen in

the flow lines of Figure 5.16. However, the upward deflection of the isotherms right above the slab, most clearly seen in plots of  $t = 60$  and  $t = 70$  m.y., indicates the existence of such a flow that causes an upward advective heat transport inside the crust. The mechanism of this secondary flow field is similar to that discussed by Jurdy & Stefanick (1983), who argued that such a process caused by descending slabs is responsible for back-arc spreading behind the subduction zones.

We note from Figure 5.15 that as time proceeds, the bottom of the slab in the deep mantle stays anchored to a fixed point, and the dip of the slab remains largely unchanged. This geometry suggests that the shift to the right of the position of the trench does not constitute a trench migration phenomenon, in which the entire body of the slab engages in a translational motion with respect to the Earth's mantle (Garfunkel et al. 1986). The change in slab dip in this model is caused by the thickening of the chemically buoyant crust. It should also be noted that the shallow depth of the model can partly be responsible for the geometry of the slab as well, and that the slab may not stay anchored to a fixed point at the bottom in a model that extends down to the core-mantle boundary.

To illustrate the evolution of the lithospheric root, the depths to isotherms at the center of the downgoing slab are plotted against time (Figure 5.18). The center of the slab at each depth is assumed to be the point of minimum temperature. A horizontal distance of 700 km on each side of the slab is covered to ensure that a sufficient distance is considered for the determination of the position of the minimum temperature. Figure 5.18 shows a rapid sinking and rebound of isotherms  $T \geq 0.8$  at around  $t = 10$  m.y. This process is related to the initial sinking of the descending head of the slab at the early stages (see Figure 5.15), and is due to the fact that at temperatures greater than 0.8 the geothermal gradient is less steep, thus higher isotherms experience more vigorous oscillations. During the oceanic subduction, the

depth of the isotherms increase until  $t = 20$  m.y., and subsequently a minor rebound of the isotherms occurs that continues until  $t = 30$  m.y. The time of the rebound roughly coincides with the continental plate drawing closer to the subduction zone. The positive buoyancy of the approaching continental crust has an opposing effect on the descent of the oceanic slab, and slightly deflects the slab, and thus the isotherms, upward. Overall, the time evolution of the isotherms less than 0.8 shows that the thermal structure of the lithosphere right above the convective downwelling remains unchanged during the subduction of the oceanic lithosphere, and no significant thermal thickening is observed. After the initiation of continental collision at  $t = 30$  m.y., the depths to the isotherms increase, indicating the thickening of the thermal lithosphere. This thickening continues uniformly until the mantle part of the continental lithosphere is completely subducted ( $t = 75$  m.y.). In the later stages of deformation, a post-collisional subduction of the spreading oceanic plate is established to the right of the collided continents, which is delineated by another rapid deepening of the higher isotherms. During this stage, the lower isotherms corresponding to temperatures inside the lithosphere (i.e.  $T \leq 0.7$ ) stabilize, and the cooling of the thermal boundary layer diminishes.

The overall behavior of the convective system during the phases of subduction and collision is characterized by the time evolution of its kinetic energy. The kinetic energy  $E_k$  of the convection is calculated by (Marotta et al. 1998):

$$E_k = \sum \frac{1}{2} m_i \vec{v}_i^2 \quad (5.1)$$

where  $m_i$  is the mass of grid elements and summation is over all the grid elements. Figure 5.19 shows the time evolution of the kinetic energy per unit volume of the system. The sharp variations in the first few m.y. are related to the adjustment of the flow field to the initial temperature field defined in the model. After that, the

convective system starts to accelerate as the buoyancy force in the downgoing slab increases in magnitude with increasing slab length. After the head of the slab touches the bottom of the model some time between 10 and 20 m.y., the rate of increase of the kinetic energy of the system diminishes. With the beginning of the collision phase, the energy of the system rapidly decreases towards a lower, almost steady, value. With the initiation of the second oceanic subduction at the later stages, the kinetic energy increases, but attains 85% of the kinetic energy of the system at the beginning of the first subduction phase. This is mostly a consequence of the development of the thick thermal boundary layer on top of the model that reduces the overall vigor of the convective system.

The dynamic topography of the model is produced by requiring the net traction acting on the surface to be zero, and the hydrostatic pressure associated with topography to be balanced by the internal viscous stress (Marotta et al. 1998). The topography  $h$ , is calculated by:

$$h = \frac{\sigma_{zz}}{\bar{\rho}g} \quad (5.2)$$

where  $\bar{\rho}$  is the lithospheric mean density, excluding the ocean water density. Figure 5.20 shows the time evolution of surface topography of the model. The average value of topography is very close to zero (i.e. sea level), and the stationary overriding plate remains at sea level for all time, while the subducting continent achieves an initial positive topography of about 1.5 km. The difference in the topography of the two continents is because of the overriding continent being colder, and thus denser, than the subducting one. Initially, the oceanic plate has a negative topography of the order of 3-4 km. The oceanic trench (at  $x = 2250$  km) reaches a maximum depth of 8 km and a horizontal extent of 200 km at  $t = 20$  m.y., which is within the range of observation. As the subduction zone becomes older, a rise and a depression

are formed to the left of the trench that resemble the outer rise and the back-arc basin topography, respectively. The back-arc basin appears to be smaller in extent and depth compared to that observed in many subduction zones (Zhong & Gurnis 1994). The primary mechanism responsible for the formation of trench and back-arc topography is thought to be the negative buoyancy of subducting slabs. Zhong & Gurnis (1994) proposed a model in which trench and back-arc topography are dynamically compensated by the negative buoyancy of the slab in a viscous flow field. The flexural strength and buoyancy of the overriding plate, and the speed, angle, and the age of the subducting plate influence the magnitude of topography. In the nominal model, the overriding plate is cold and has a high-viscosity core, and is capped by a continental crustal layer that adds to its positive buoyancy. As a result, the resistance of the plate to downward deflection is great, and the formation of a broad back-arc topography is suppressed.

After the two continents collide, the topography increases at the plate boundary and spreads towards the interior of the subducting plate. At about  $t = 60$  m.y., a maximum topographic height of 17 km is reached in the model. Subsequently, a gradual topographic relaxation takes place as the elevated crustal mass flattens towards the overriding plate. At the end of calculation time, maximum topography in the model reduces to about 13 km. The decrease in topography is mainly because of the weight of the elevated mountain range eventually overcoming the viscous strength of the lithosphere that supports the thickened crust. The magnitude of the topography is larger than what is observed in the mountain belts. This is partly due to the omission of erosion in the model, and partly due to the high viscosity of the lithosphere that can support larger topographic gradients. Models with lower lithospheric viscosities yield lower topographic reliefs (the effect of viscosity will be discussed later in the chapter). Furthermore, because the model is two-dimensional, the observed

along-strike extensional deformation that is believed to be responsible for the lateral extrusion of crust in many orogenic belts (Tapponnier & Molnar 1976; England & McKenzie 1982), is neglected here.

The patterns of crustal deformation and topography described in the above can be summarized as follows: The locus of crustal thickening starts at the contact zone of the two converging continental plates and shifts towards the right along with the migration of the subduction zone. This results in an asymmetric crustal plateau in which the slope of the crustal base, as well as that of the topography, is steeper on the downstream (left) side, and gentler on the upstream (right) side of the plateau. At the later stages, the crustal thickness relaxes under the elevated gravitational force, and the downstream slope reduces and the plateau becomes more symmetric. These results are in qualitative agreement with those of other models. Wdowinski & Bock (1994) modeled the deformation and topography of the elevated continental crust in Andean type subduction zones, and demonstrated that the crustal thickening starts in a localized region of a weakened continental lithosphere near the subduction zone. As the weight of the thickened crust resists further crustal accumulation, the locus of crustal deformation and high topography migrates towards the interior of the overriding plate. A similar pattern of crustal deformation is reported by Willett et al. (1993) and Beaumont et al. (1994). Willett et al. (1993) describe three stages of orogenic growth in a model in which crustal deformation is driven by asymmetric detachment and subduction of the underlying mantle lithosphere: 1) Initially, a symmetric block uplift occurs above the detachment point that is characterized by two shear zones on the sides. 2) Later as the shearing on the crust-mantle boundary continues, an asymmetric deformation zone develops that has a low-tapered wedge on the "pro" direction (corresponding to the subducting plate), and a high-tapered wedge on the "retro" direction (i.e. the overriding plate). 3) In the last stage, the retro-wedge

detaches from its mantle base and deformation propagates in the retro side, resulting in the lowering of the taper of the retro-wedge. The thin viscous sheet models of England & McKenzie (1982) and Houseman & England (1986) in which viscous stresses deforming the medium are balanced against the gravitational forces that arise from crustal thickness differences, also show that crustal deformation is initially accomplished by compressional thickening. In the later stages and under the influence of crustal weight, extensional deformation by normal faulting and lateral strike-slip faulting becomes more significant and the elevated crust undergoes relaxation.

Figure 5.21 shows the profiles of the conductive surface heat flux of the model at different times. The profile at 10 m.y. corresponds to a subduction zone situation in which the trench zone is a narrow region of very low surface heat flow owing to the presence of the convective downwelling there. The subducting oceanic plate because of its thinner thermal thickness, has a high surface flux compared to the overriding plate. This pattern is more or less preserved until the converging continental plate collides with the overriding plate at around  $t = 30$  m.y. From this time on, the region of low heat flow starts to widen on both sides of the collision zone, resulting in a large area of low heat flux extending over the region of crustal thickening (profile at 50 m.y.). This pattern is a consequence of reduction in the crustal geothermal gradient brought about by the development of a thick crust over the downgoing slab. Towards the later stages of collision and the initiation of the second oceanic subduction, a distinct pattern of surface heat flow is established in the model in which a high-heat-flow region is flanked by areas of low heat flow. The high-heat-flow region is located near the center of the crustal plateau, where the isotherms are curved upward as a result of the secondary convection in the crust, as shown in Figure 5.16. The low-heat-flow regions (see the profile at 90 m.y.) are located at the edges of the plateau and are associated with the downward deflection of the isotherms as a result



of thermal thickening of the mountain root. The low-heat-flow region on the right is also affected by the subduction phase of the spreading oceanic plate. As the oceanic trench structure develops, the heat flow profile in that region adopts a form that is more characteristic of that of subduction zones, that is, a narrow zone of very low-heat-flow values.

Figure 5.22 shows the variations of maximum shear stress with time in the subduction zone. The maximum stress achieved in the model is  $\sim 270$  MPa and occurs along the subduction front at the contact of the surface plates. Owing to its very low viscosity, the asthenosphere is a region of minimum shear stress. Likewise, the high viscosity of the overriding plate makes it support large stresses. In the subducting plate, the shear stress in the middle of the plate is low, but high at its deforming margin. This is a consequence of the stress-dependent viscosity which acts to concentrate stress in the zones of intense deformation. As the crustal root grows in size, the region occupied by the crust becomes a region of low stress. This is because: 1) the strain rate inside the crustal plateau decreases as the flow inside the crust diminishes in time, and 2) the viscosity of the crust is lower than that of the mantle lithosphere by an order of magnitude.

Figure 5.23 shows the states of horizontal and vertical deviatoric stresses. The asthenosphere is for the most part free of deviatoric stress. During the oceanic subduction the deforming upper part of the subducting plate is in a state of horizontal compression (light gray), while far from the subduction zone, horizontal tensional stress (dark gray) prevails in the plate. Inside the slab, the shallower segment is in a state of vertical tension owing to the gravitational pull of the cold slab, while in the deeper parts, vertical compression dominates as the slab impinges on the bottom of the model. The overriding continent experiences horizontal tension and vertical compression prior to the crustal accumulation phase. This is a consequence of the pull

force exerted by the downgoing plate on the overriding plate, and the shear stress at the base of the overriding plate induced by the asthenospheric wedge flow. This stress pattern is largely in agreement with other results (e.g. Bott, Waghorn & Whittaker 1989) that predict horizontal compression in a subducting oceanic slab and horizontal tension in the overriding one. After the initiation of crustal thickening, the state of stress in the region above the slab reverses, horizontal stress becomes tensional and vertical stress becomes compressional. At the same time, the areal extent of horizontal compression on both sides of the thickened crust increases with time as the growing crustal root exerts stress on the two adjacent plates. The base of the thickened crust is largely neutral or slightly tensional in the vertical direction. This state of stress can be explained by considering the small secondary convection that occurs in the crustal layer. The rising limbs of the convective cells produce vertical compressive stresses, while the horizontal limbs of the cells push the crustal material away from the center of the crustal root, inducing tensional stress in the upper part of the crust. Figure 5.24 shows how the state of surficial differential stress ( $\tau_{xx} - \tau_{zz}$ ) at the center of the zone of crustal thickening evolves with time. The value of the differential stress is calculated as the average of surface differential stresses across a length of 700 km centered at the position of the viscosity weak zone. The stress difference becomes increasingly compressional (negative value) as the crustal layer grows in thickness. The horizontal extension becomes more significant in the later stages as the thickened plateau gradually flattens. However, the crust never enters a phase of rapid extensional collapse, and compression remains dominant until the end of calculation time.

The nominal model described here shows that crustal thickening above the subduction zone results in a thick thermal boundary layer that grows in time, but the mantle part of the thickened boundary layer does not detach from the overlying crust.

Such detachment of the mantle lithosphere would expose the base of the crust to the asthenospheric flow. Any rapid removal of the thickened mantle root should be accompanied with dramatic increase of kinetic energy of the system (Marotta et al. 1998), and rapid uplift of surface topography (Molnar et al. 1993). Figure 5.19 shows that increase in the kinetic energy is concurrent with the phases of oceanic subduction, whereas after the collision is completed, the total energy of the system remains below that of the pre-collision phase. Any rapid removal of the lithospheric root should also result in the uplift of the crust and a transition into extensional regime (Platt & England 1993; Lenardic & Kaula 1995). But the stress differential in Figure 5.24 shows that although the strength of compressional regime in the crustal plateau decreases over time, this process is slow and the crust never achieves a net extensional regime. Furthermore, the subducting slab largely preserves its integrity and continues to sink without any breakoff in its structure. This feature is also not in a good agreement with the results of other studies (e.g. Davies & von Blanckenburg 1995) that point to the possibility of slab breakoff under a variety of conditions. In order to explore whether the above features can be modeled, a few models are investigated in which the effects of various material properties are examined.

**Effects of viscosity parameters:** Figure 5.25 shows the continental crustal and temperature and flow fields of a model similar to the nominal one, but with the viscosity contrast between the top and bottom temperatures reduced from  $10^4$  to  $10^3$ . Also, no viscosity contrast between the overriding plate and the subducting plate is considered. The lithosphere of this model is thus, 10 times weaker than that of the nominal model. The overall pattern of crustal deformation is similar to that in the nominal model, with a major difference that, due to weaker shear traction at the base of the crust of the overriding plate, the deformation front propagates far more into the overriding plate. This results in a less thickened crust ( $\sim 90$  km) and a lower

topographic maximum ( $\sim 12$  km). This propagation of the original crustal suture (denoted by the arrow in the figures) towards the overriding plate is also confirmed by the results of the plane-strain models of Willett & Beaumont (1994) and Ellis et al. (1995). The structures of the lithospheric root and the subducting slab, however, evolve in the same manner as those in the nominal model, i.e. the root appears to be thermally stable and the slab remains unbroken.

Figure 5.26 shows the results from another model, in which the power-law exponent is increased from  $n = 3$  to  $n = 9$ . The weakening in this case is more significant as there is greater concentration of deformation in the regions of higher stress. The subducting slab has a less distinct thermal signature and breaks off more easily because of its weakness. As a consequence of a weaker plate, the convection is stronger and generates higher plate speeds. Therefore, the continental collision starts sooner at around  $t = 15$  m.y., and a thick and cold lithospheric root is formed under the thickened crust by  $t = 50$  m.y. This lithospheric root is still stable, but the downgoing slab underneath is hotter, and undergoes significant thermal erosion that diminishes its integrity. From  $t = 40$  m.y. on, the thermal evolution of the slab is dominated by thermal erosion induced by the convective flow, and gravitational instability of the lower part of the lithospheric root, that generate intermittent episodes of thermal downflow and thermal assimilation.

**Effects of the thermal diffusivity of the crust:** Lenardic & Kaula (1995) proposed a model that could account for the delayed instability of a lithospheric root with a temperature-dependent rheology. They observed that, in a thickened lithospheric boundary layer with a crustal component on top, the lateral extent of the thickened crust exceeds that of the thickened mantle lithosphere, i.e. on the periphery of the plateau the crust undergoes more thickening than the mantle lithosphere. This leads to a lateral variation of the lithospheric strength, with the peripheral region being

weaker than the interior part. If the peripheral mantle can be further weakened by thermal erosion, then it can no longer support the thickened lithosphere in the center of the plateau, and the central root might detach and sink into the mantle. Lenardic & Kaula (1995) devised a model in which the thermal diffusivity of crust was lower than that of the mantle. This resulted in the mantle to equilibrate towards a higher temperature which caused the gradual weakening of the thin peripheral mantle lithosphere. With this viscosity weakening, the lithospheric root became unstable and sank into the mantle. The model of Lenardic & Kaula (1995) suggested that the lateral variation in the viscosity across the root, rather than the strength of the root itself, contributes to the instability. They also argued that other parameters such as stress-dependent viscosity can lead to a similar kind of weakening in the lithosphere. In the previous models the role of strong stress dependence of viscosity was investigated and it was observed that it cannot account for lithospheric detachment. To explore the effect of thermal erosion, a model is constructed in which the thermal diffusivity of the continental crust is assumed to be one half that of the mantle. Figures 5.27 and 5.28 show the thermal and crustal evolution, and the time variations of the depth of isotherms of this model, respectively. Comparison with Figures 5.16 and 5.18 reveals that the difference between the two models is minimal and the low diffusivity crust fails to create any rupture in the structure of the slab. The time variation of the isotherms indicates a somewhat warmer lithosphere but no rapid sinking and subsequent rebound of the isotherms is observed. The higher temperature of the root arises from the fact that lower thermal diffusivity of the crust reduces the surface heat flux. As a result, the temperature inside the thickened lithosphere increases, leading to a warmer lithosphere and a thinner thermal boundary layer. Nevertheless, the amount of thermal erosion is not high enough, at least during the time span considered in this model, to seriously weaken the strength of the lithosphere around the crustal

plateau. Figure 5.27 shows that only on the overriding side of the crustal plateau the thickness of the mantle lithosphere is decreased, whereas on the subducting side, the peripheral mantle lithosphere retains a large thickness over time, and therefore no lithospheric weakening can be expected.

### 5.3 Dynamic models with periodic side walls

All of the models considered so far use reflecting boundary conditions on the vertical side walls. The importance of open side boundaries on the dynamics of convection was discussed earlier in this chapter. In this section models with open side walls are presented. In the first part, two simple subduction models that differ only in the choice of side boundaries are presented, in order to demonstrate the influence of open boundaries on the characteristics of subduction. In the second part, a continental subduction model that employs periodic boundary conditions is presented.

#### 5.3.1 Periodic versus reflecting boundary conditions

Two otherwise identical models, one with reflecting side boundaries (Model A), and one with periodic side boundaries (Model B) are considered here. The initial temperature in the interior is assumed to be equal to the bottom temperature. Viscosity is assumed to be temperature-dependent, with a 500 times variation between  $T = 273$  K and  $T = 1973$  K. A small zone of low viscosity is defined at the top middle of the model to mimic a weak subduction fault zone. This zone has a width of 60 km and a depth of 150 km and its viscosity is reduced by a factor of 100. Near the right end, another small weak zone (110 km by 110 km) is defined to form an oceanic ridge that helps to develop a decoupling zone near the surface. Following Gurnis & Hager (1988), to facilitate symmetric spreading, the position of the ridge is moved by the

average velocity of the two plates on the sides of the ridge. The flow is started by a thermal cold anomaly located below the weak fault zone.

Figure 5.29 shows the thermal evolution of the models. In both models the downwelling of the slab begins with a vertical descent. The dip of subduction in Model A remains vertical and the position of the ridge is almost fixed. In contrast, the dip of subduction in Model B progressively decreases as the oceanic ridge approaches the trench zone. When the slab subducts vertically, both the right and left convective cells are vigorous. As the angle of subduction decreases, convection beneath the overriding plate dies out and the dip of the slab is controlled by the flow field under the subducting plate, creating a strong asymmetric subduction pattern. The subduction dip changes from vertical to about  $45^\circ$  over a time interval of 150 m.y. As the slab deflects upward, it leaves a material gap beneath and pushes away the material on top. The periodic boundary condition allows the material to move away and enter the model from the other end, as depicted by the flow fields in the figure. These features suggest that periodic side walls result in a more vigorous flow and allow the subducting slab to adjust its morphology as the dynamics of flow change. Therefore, the periodic side boundaries can simulate realistic slab profiles and plate velocities better than the reflecting side boundaries. In the following, a continental subduction model with periodic boundary conditions is investigated.

### **5.3.2 A continental subduction model with periodic sides**

The model presented here is in many ways similar to those already discussed. The major differences apart from the choice of side boundaries, are in the initial flow and temperature fields. In the previous models, the subduction of the oceanic plate started in a mantle that already had an established convective flow field. However, obtaining a steady state flow field as an initial setup proved to be difficult with the

choice of periodic boundary conditions. The presence of the open side walls made it difficult to obtain an initial convection cell that would have proper plate length and slab and ridge positions. In the periodic model the ridge is free to move along the surface and this can lead to initial plate lengths shorter than desired. Therefore, in this model no initial flow field is assumed and subduction of the oceanic plate is initiated by a small thermal perturbation underneath the designated subduction site. Furthermore, because during the early stages of subduction the velocity of the oceanic slab is much greater than that of the surface plates, this leads to excessive stretching and eventual detachment of the slab from the plate at the right. To alleviate this problem, the strength of the surface plates are lowered in order to make the plates move with a greater velocity. To obtain lower plate viscosity, the initial geotherm of the subducting plates are lowered from 70 m.y. to about 40 m.y. while the initial geotherm of the overriding plate is assumed to be equal to 70 m.y. Also, a  $10^3$  times viscosity variation with temperature in the lithosphere is assumed.

Figure 5.30 shows the time evolution of the temperature, continental crust and the flow field of the model. The initial thermal anomaly sinks with a relatively fast speed and detaches from the surface plate, but manages to create a subducting slab that becomes increasingly shallow angled. The rate of subduction is slower in comparison with the previous models (maximum surface velocity is slightly less than 4 cm/yr). The onset of continental subduction is after  $t = 40$  m.y. The model shows that the continental crust is capable of subducting to a depth of about 170 km before its buoyancy becomes large enough to oppose further subduction. The pattern of crustal accumulation and thickening in this model is similar to that seen in the previous models. A plateau is formed on both sides of the subduction zone with the subducting side having a larger volume. The evolution of the subducting slab takes on a different course from that of the nominal model of the previous section.

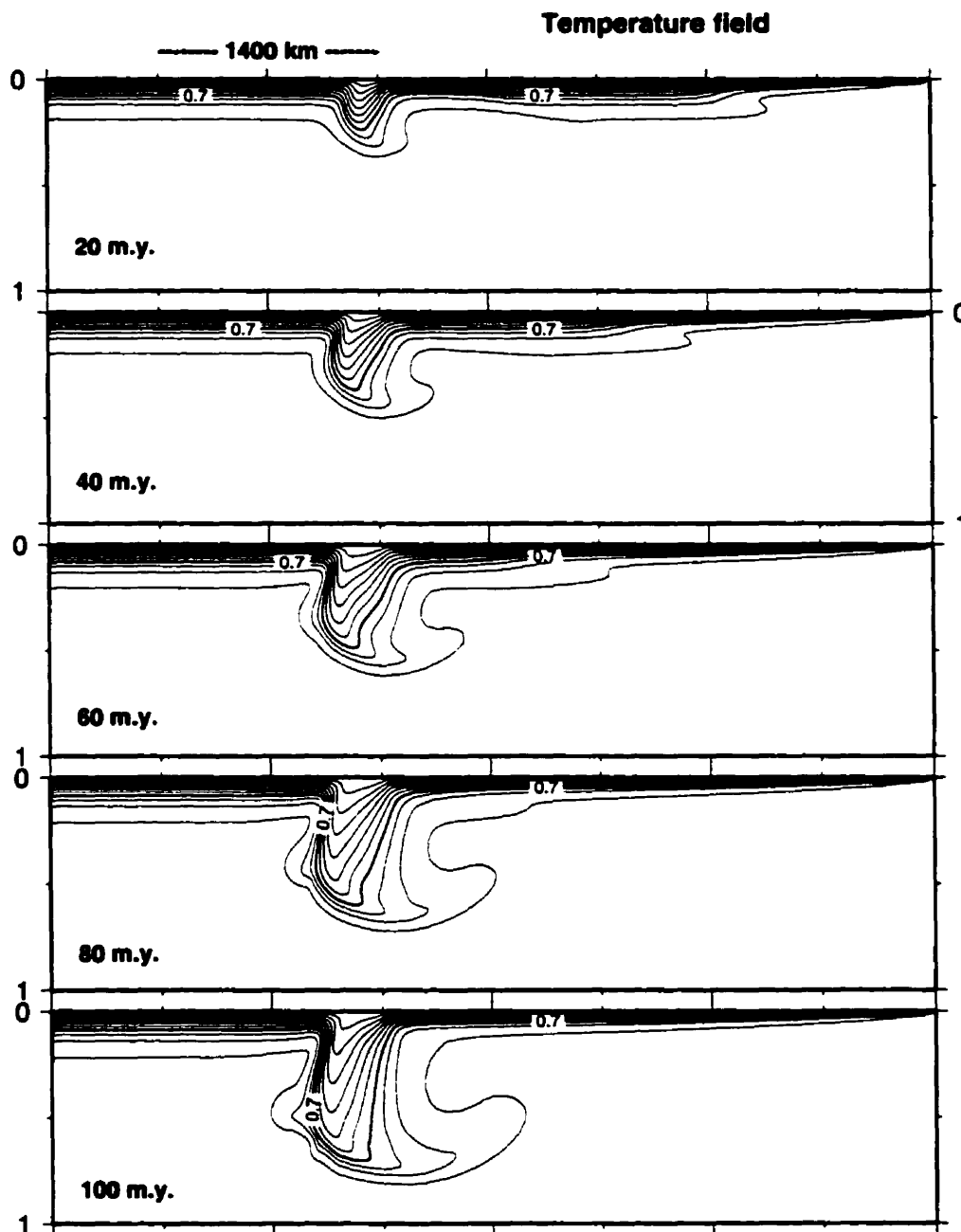


Soon after the crustal accumulation begins, the slab necks in the region underneath the continental crust, and detaches from the root of the thickened lithosphere in a relatively short time. The time from the beginning of crustal accumulation to full detachment does not exceed 15 m.y. The crust continues to thicken and achieves its maximum thickness after the breakoff of the oceanic slab is over. The breakoff of the slab occurs because the positive buoyancy of the crust overwhelms the viscous strength of the slab, leading to extension in the upper part of the subducted slab. There is no evidence indicating the heating of the base of the crust after the detachment. Like in the previous models, the base of the crust before and after subduction, remains close to the same isotherm (non-dimensional  $T = 0.3$  corresponding to  $T = 780$  K), and well below crustal melting temperatures.

Figure 5.31 shows the surface heat flow of the model at different times. Compared to that of the nominal model in Figure 5.21, the heat flux in the regions far from the subduction zone is higher in this model because of warmer plates. The heat flow pattern during the subduction stage is more or less similar to that seen in the nominal model. However, there is a marked difference between the continental heat flow of the two models. In the present model the central high-heat-flow region is considerably suppressed, suggesting that the secondary convection in the crust, responsible for this high-heat flow, is feeble. This fact is also evident from the lack of upward deflection of the isotherms inside the crustal plateau (Figure 5.30).

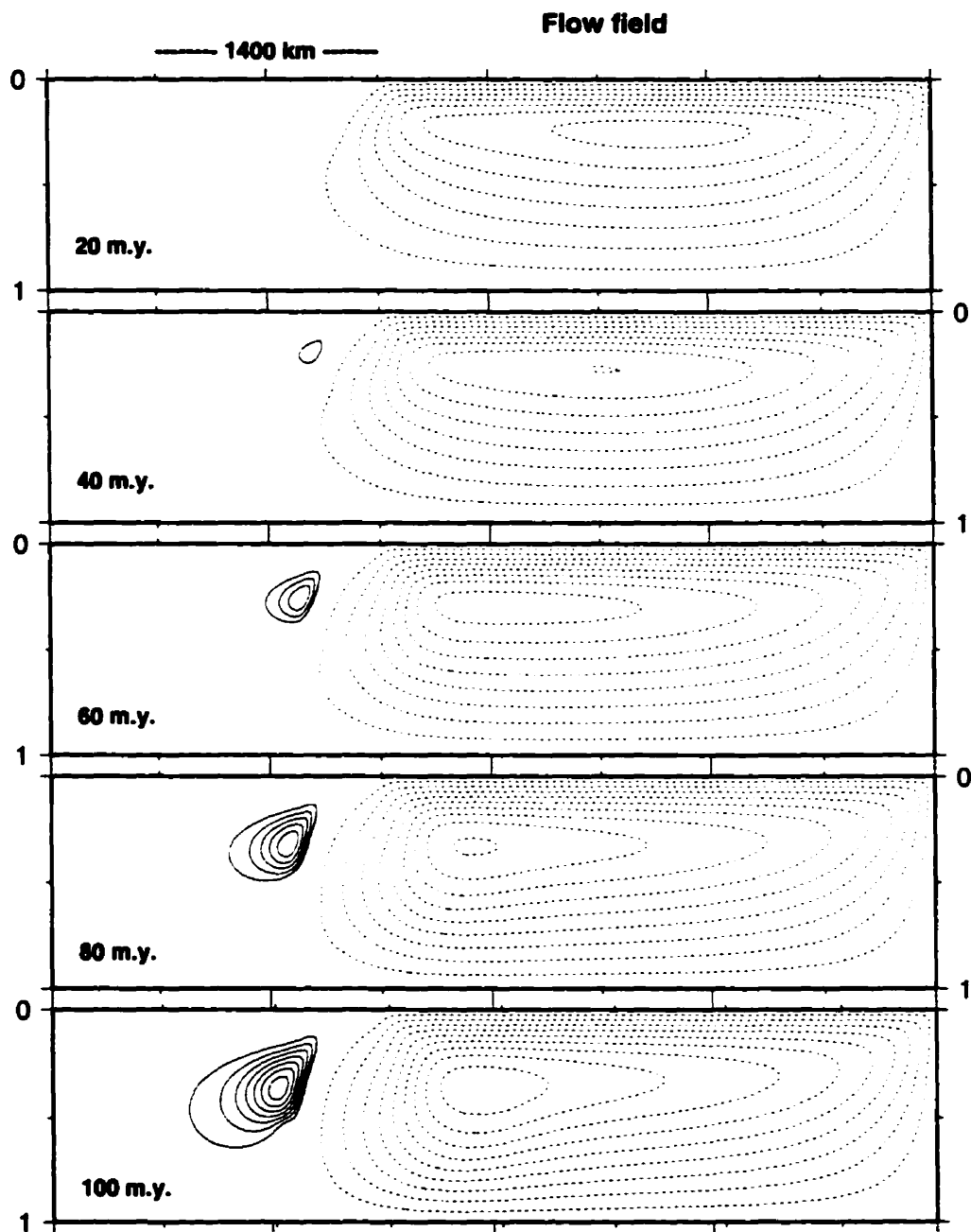
Figure 5.32 shows the time evolution of horizontal and vertical deviatoric stresses. Again, the overall characteristics of the model are similar to those of the nominal one. During the oceanic subduction, the two adjacent plates are in a state of horizontal compression and vertical extension, which characterizes a convergent downwelling. In the present model, a larger area of the overriding plate is dominated by compression owing to the slow motion of the plate towards the subduction zone (the overriding

continent has a velocity of about 0.5 cm/yr toward the right). With the development of the crustal plateau, horizontal compression changes to extension, and then to a near-neutral stress, as the crust thickens and simultaneously spreads sideways. In the later stages of collision, the system develops to a situation whereby a thickened crustal root in a roughly stress-free state is engulfed by the lithospheric root. Figure 5.33 shows how the average differential stress above the central part of the plateau changes with time. The region above the subduction downwelling is under increasing compression until the arrival of the continental crust, when compression peaks in magnitude. After the detachment of the slab around  $t = 60$  m.y., the state of stress changes to slight extension over a time interval of 20 m.y. The change to extensional stress is a result of cessation of the downward force exerted by the slab that previously maintained the plateau in a state of compression. However, the magnitude of the extensional stress is not significantly high since the cold lithospheric root that contributes to the compressional stress is still preserved. Consequently, extension in the model is associated with topographic relaxation, which is about 1-2 km, rather than topographic uplift that would have been caused by the increase in the buoyancy force brought about by the replacement of the lithospheric root with the hotter asthenosphere.



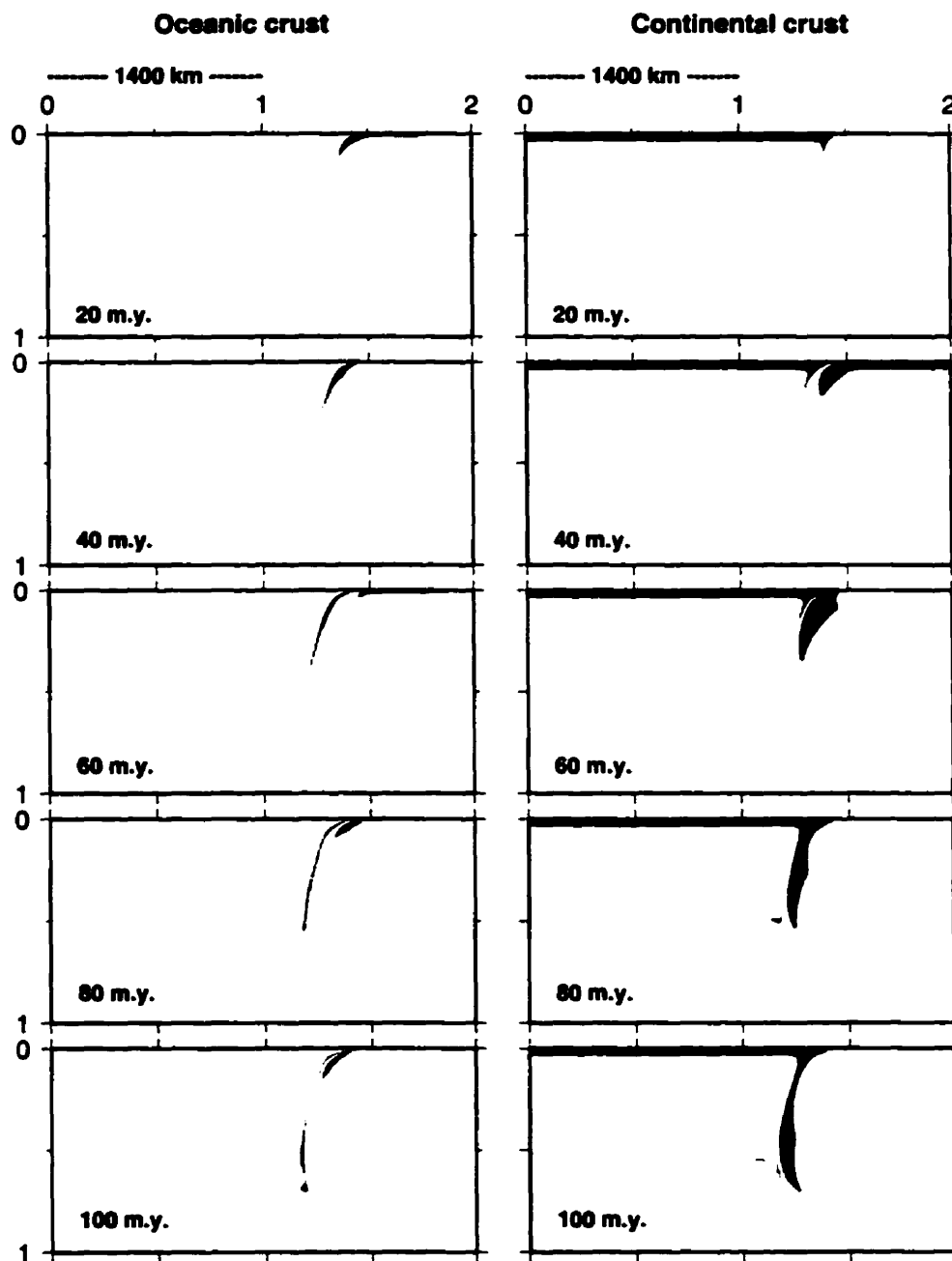
(a) The temperature field in time intervals of 20 m.y. One unit of non-dimensional length corresponds to 1400 km. Contour interval is 0.1, with non-dimensional temperature  $T = 0.7$  being equal to  $T = 1460$  K. Similar convention applies to the subsequent figures.

**Figure 5.1:** Time evolution of the nominal kinematic model.



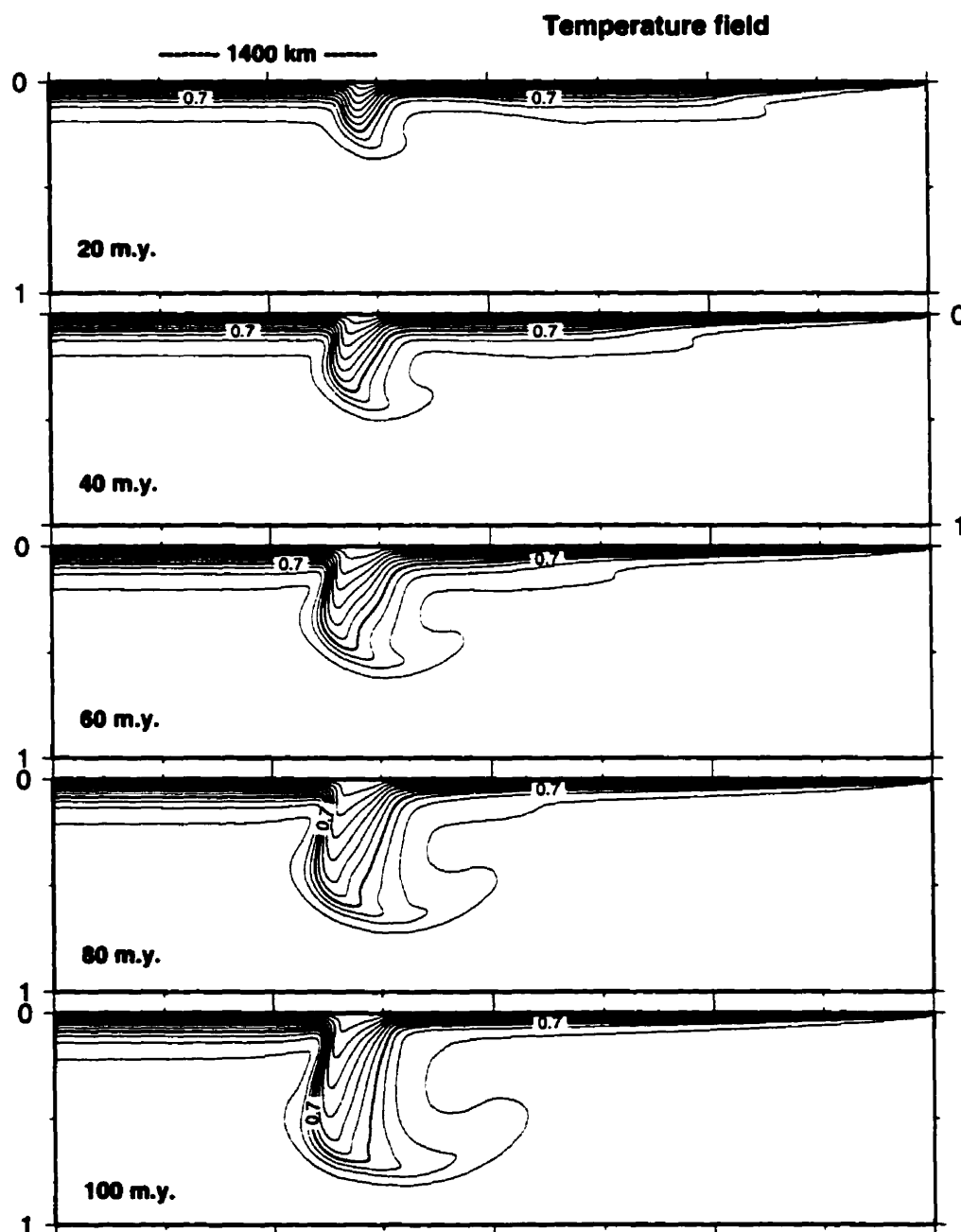
(b) The flow field in time intervals of 20 m.y. Negative stream function contours (the counter-clockwise rotating cell) are denoted by broken lines with intervals of 50, and positive ones (the clockwise rotating cell) are denoted by solid lines with contour intervals of 5.

**Figure 5.1: con't**



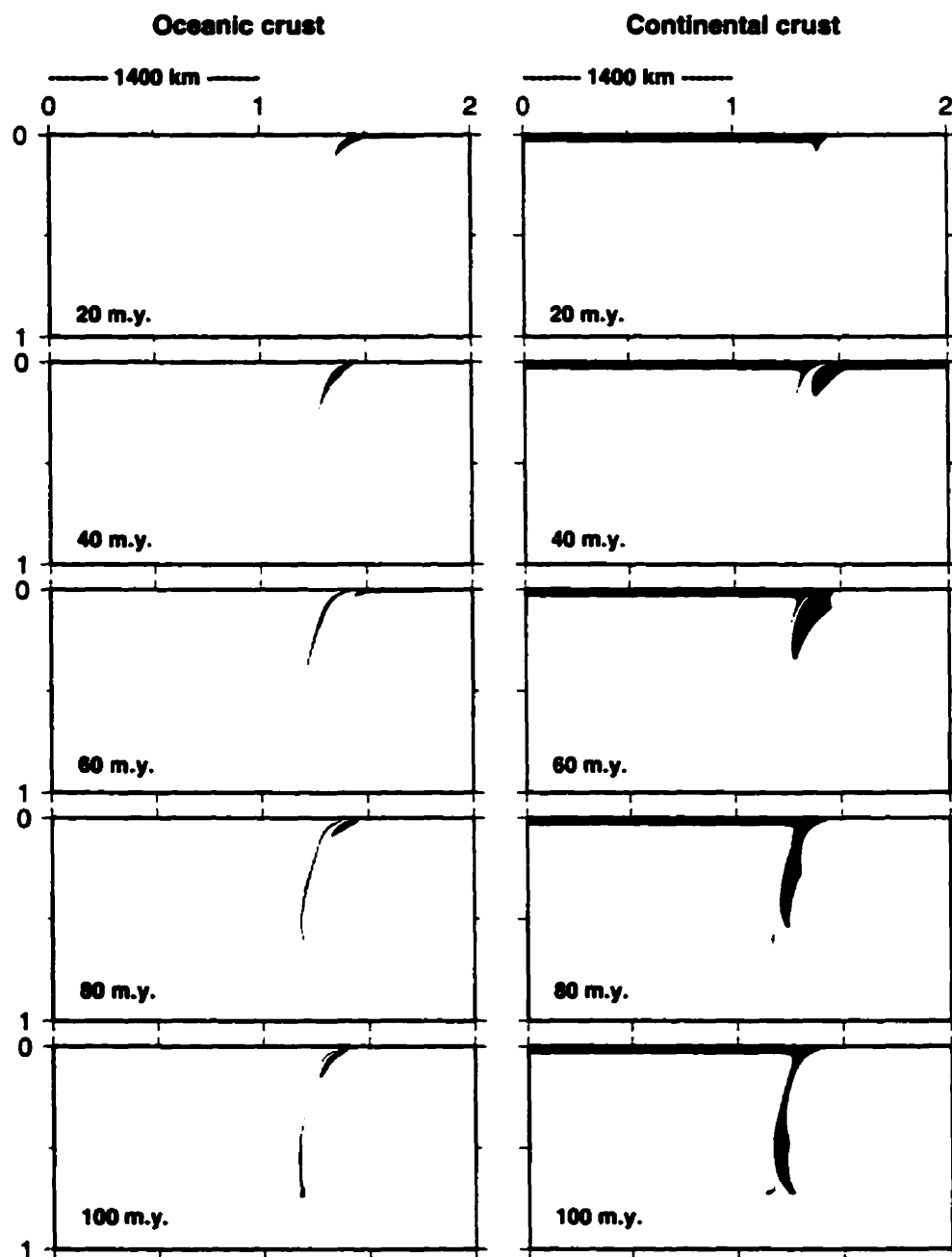
(c) The oceanic (left column) and continental (right column) crusts in time intervals of 20 m.y. Only the left half of the model is shown in both columns.

**Figure 5.1: con't**



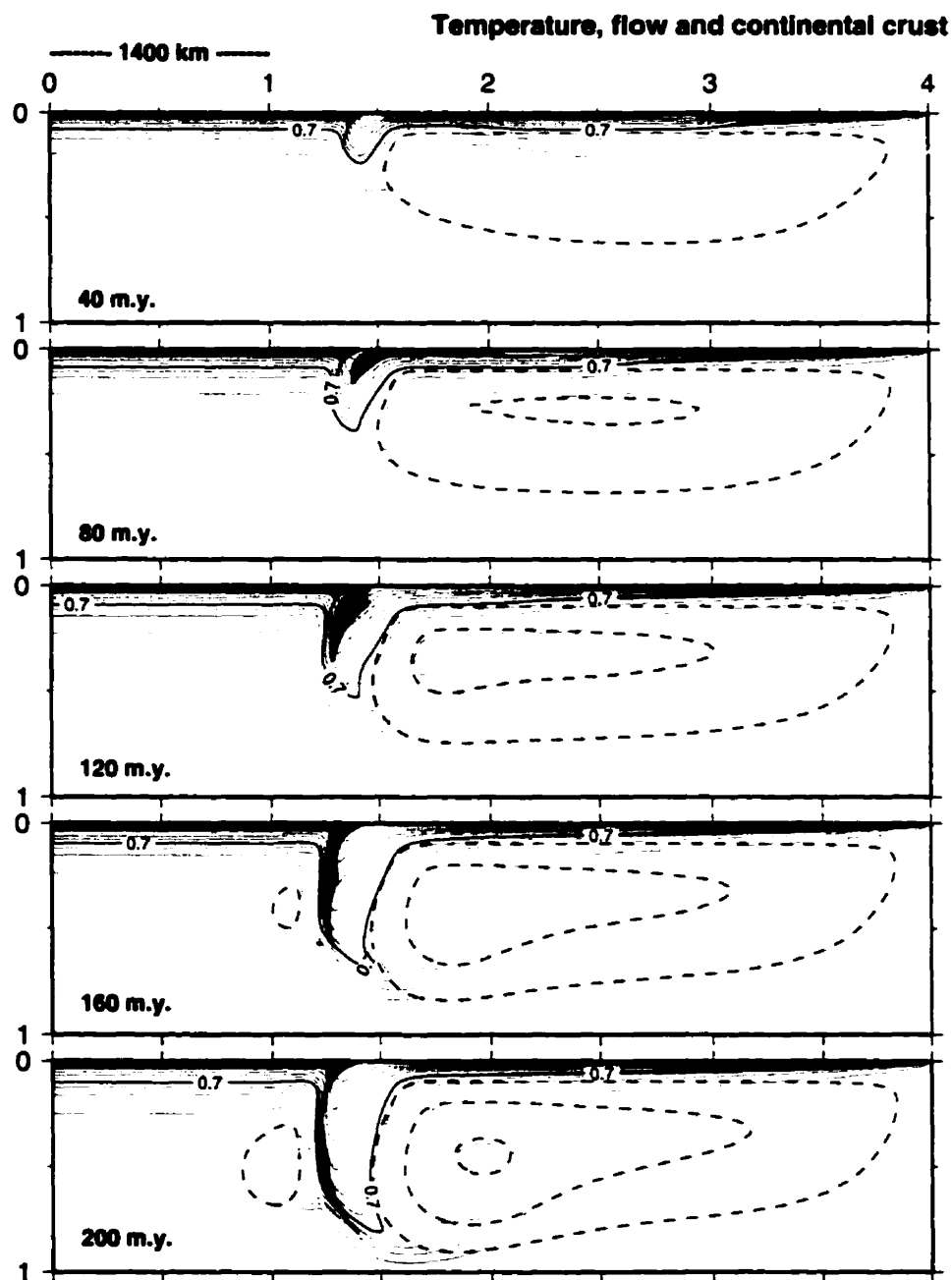
(a) The temperature field in time intervals of 20 m.y.

**Figure 5.2:** Time evolution of a kinematic model in which the buoyancy effect of the crust is neglected.



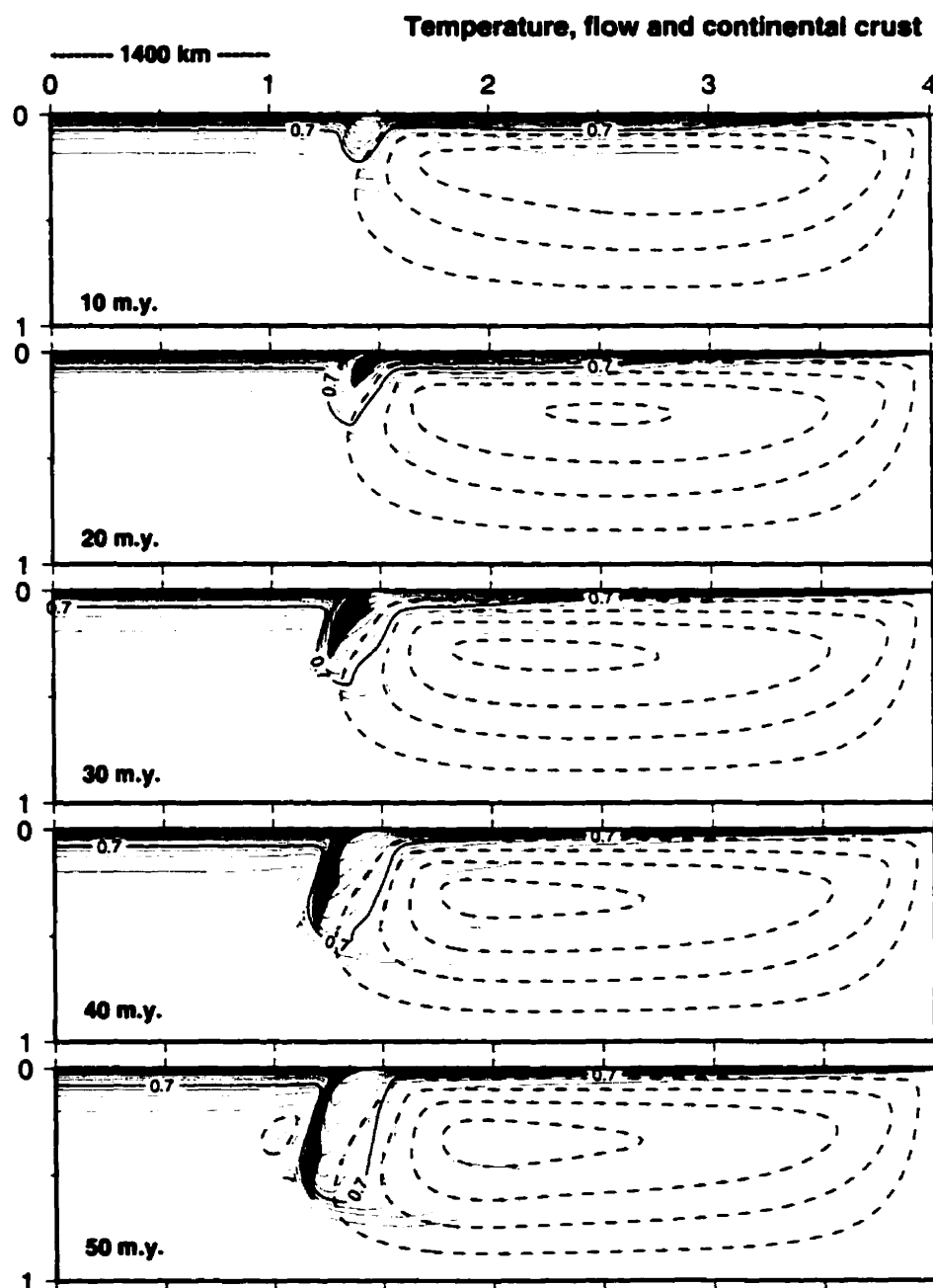
(b) The oceanic (left column) and continental (right column) crusts in time intervals of 20 m.y.

Figure 5.2: con't

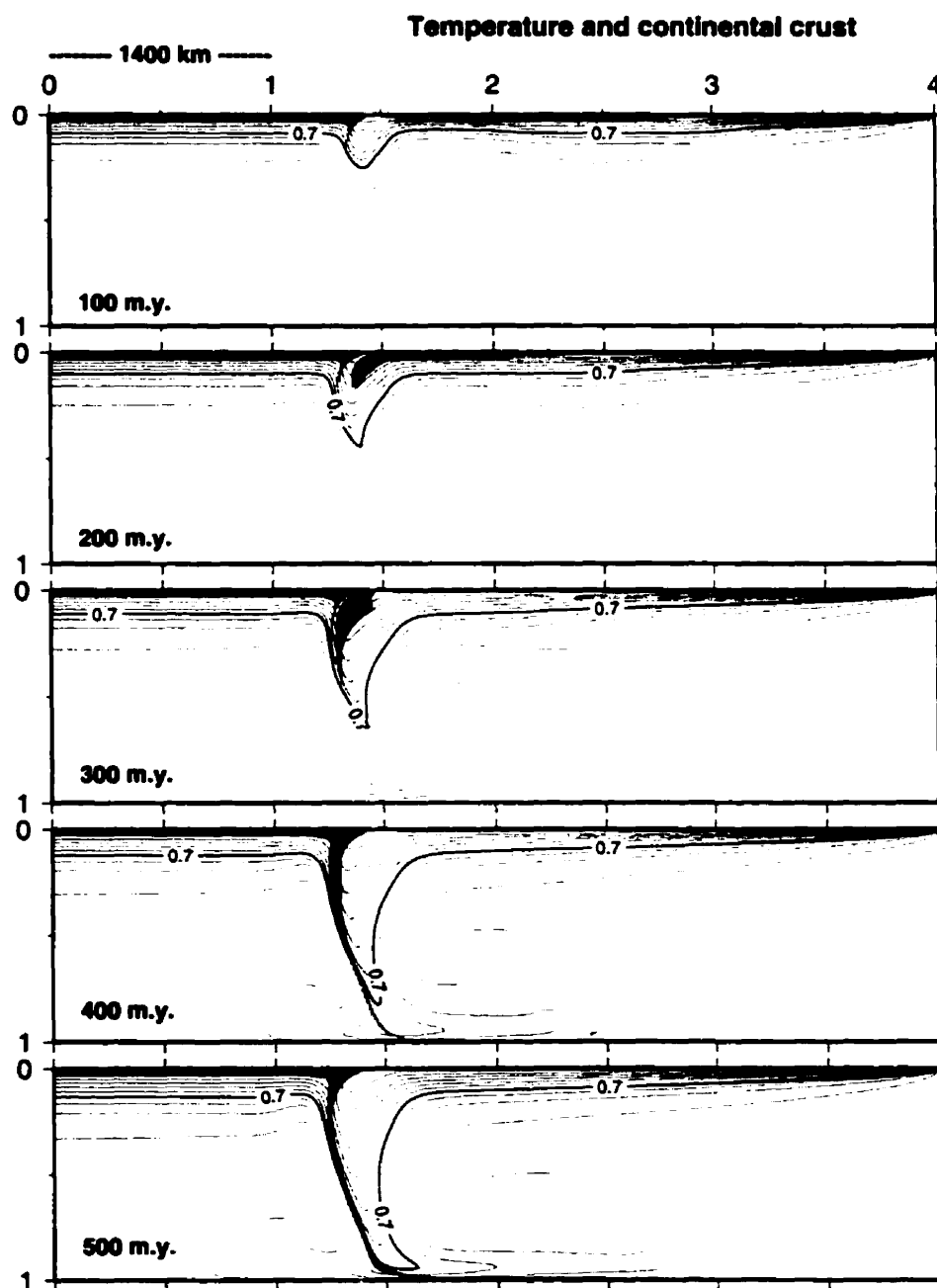


**Figure 5.3:** The evolution of a kinematic model with a plate velocity of 2.5 cm/yr. The isotherms, the flow field and the continental crust are super-imposed on each other. The dark shaded areas denote the continental crust. The solid contours are isotherms. The negative and positive flow lines (dashed) have intervals of 200 and 40, respectively.

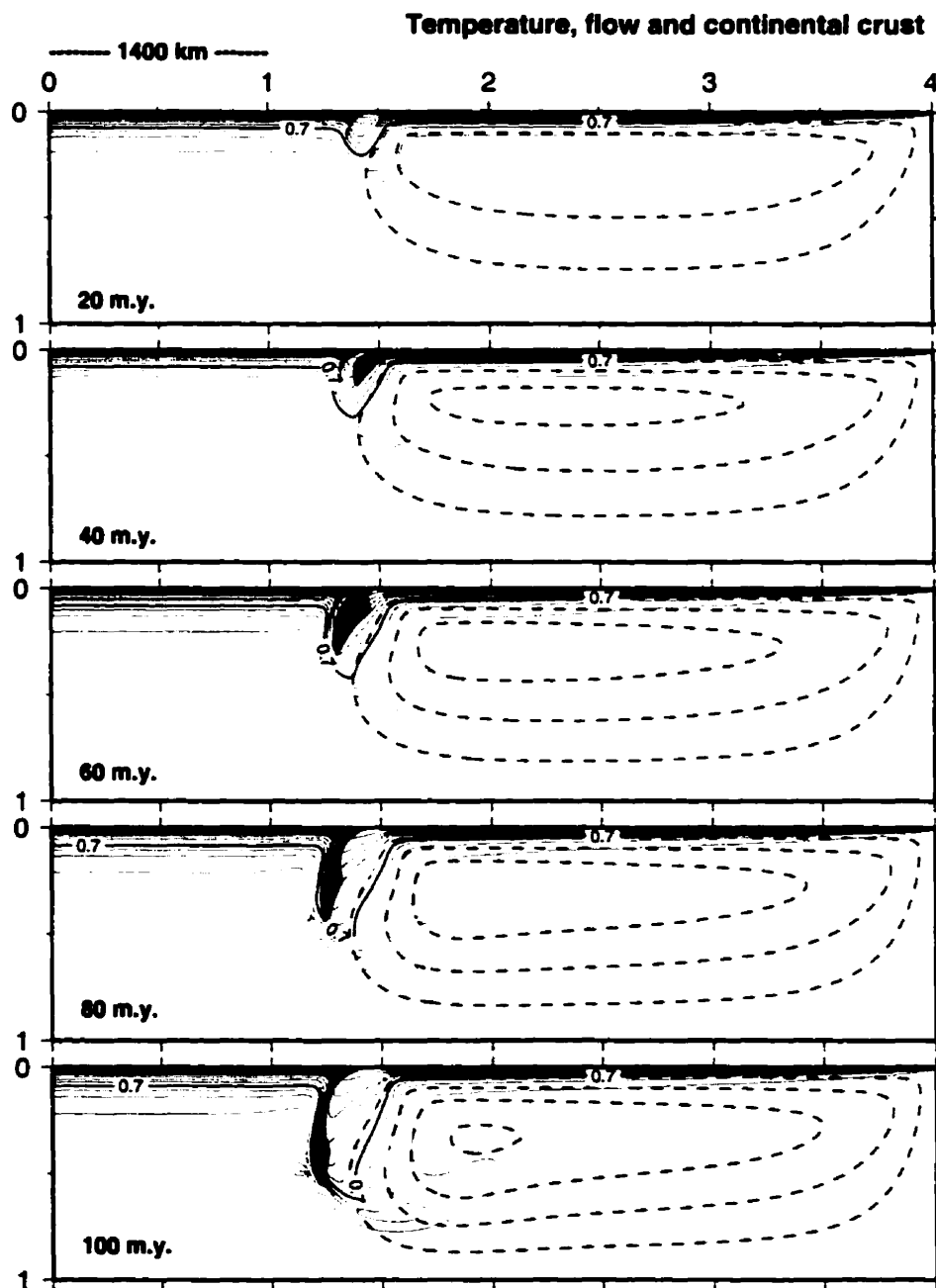




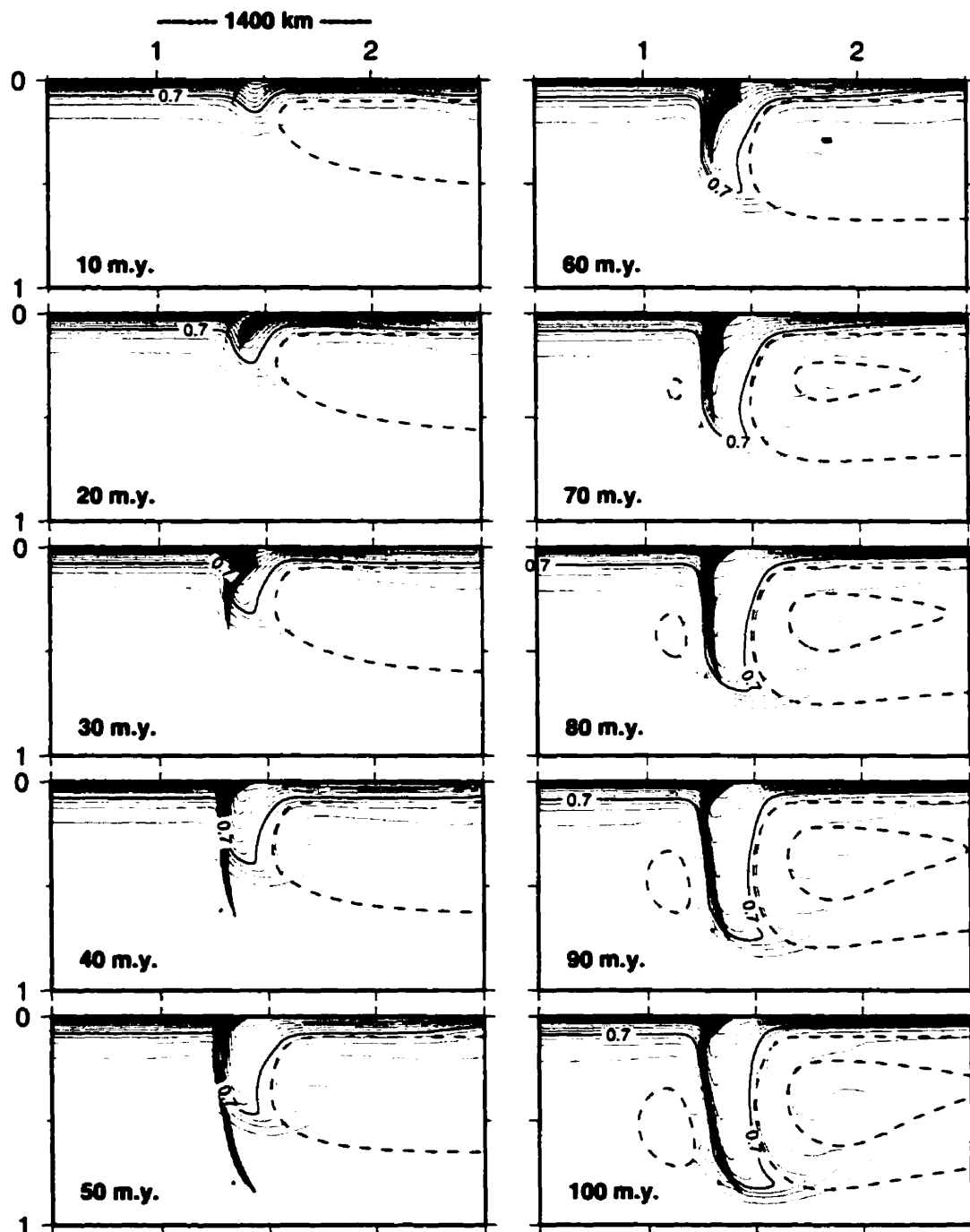
**Figure 5.4:** Same as Figure 5.3 but with a plate velocity of 10 cm/yr.



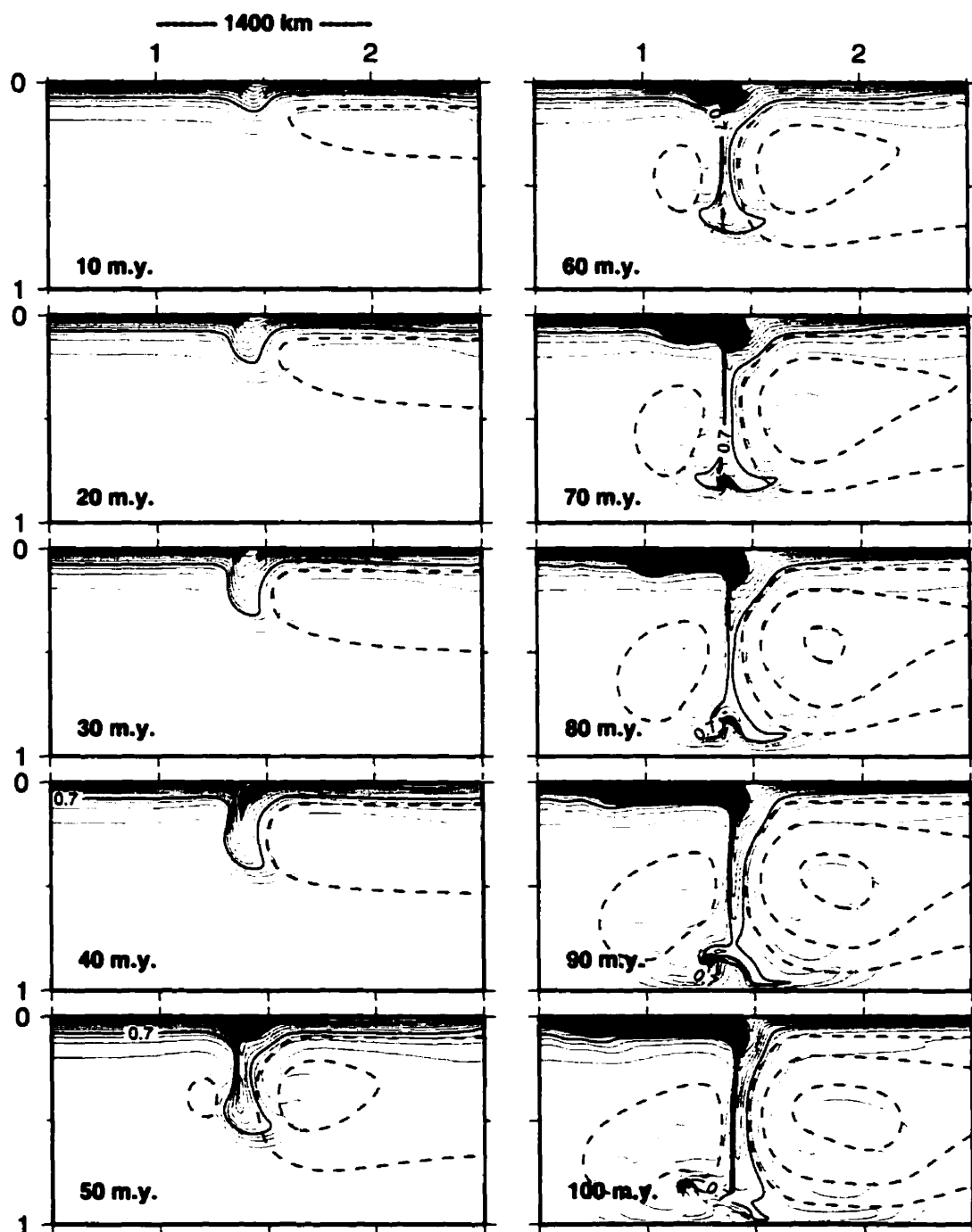
**Figure 5.5:** Same as Figure 5.3 but with a plate velocity of 1 cm/yr.



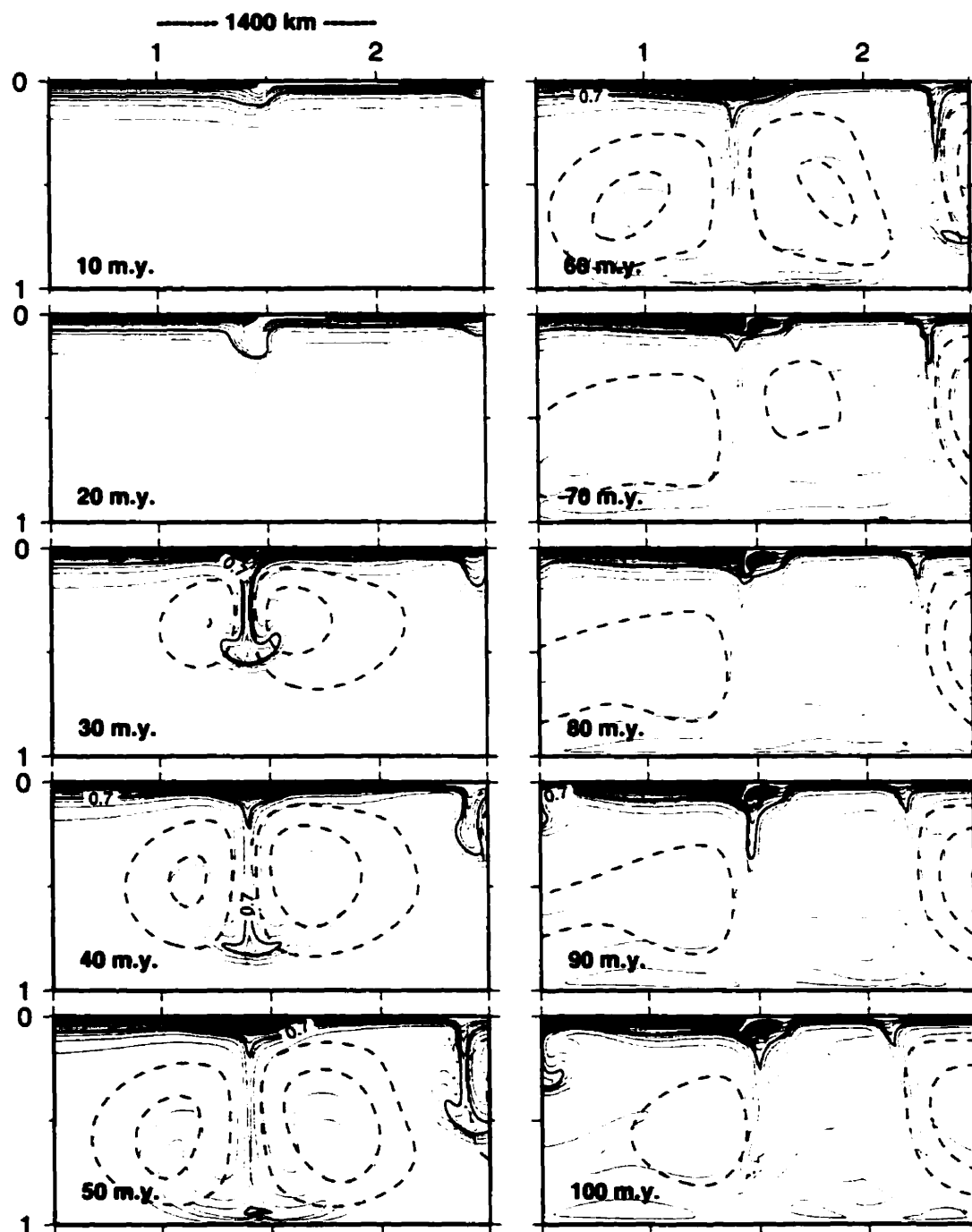
**Figure 5.6:** Time evolution of a kinematic model with initial geotherm of subducting oceanic and continental plates equal to 40 m.y.



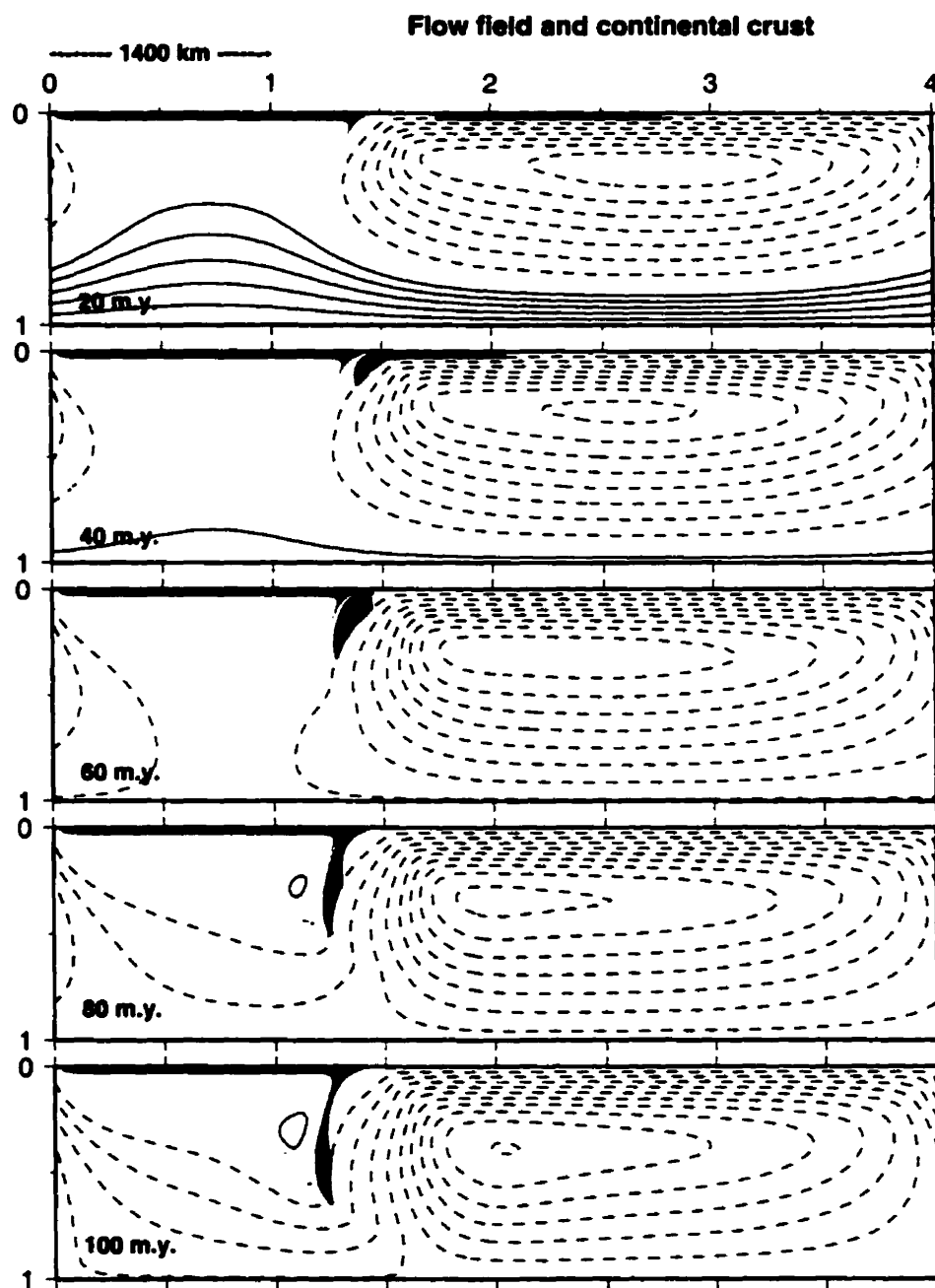
**Figure 5.7:** Time evolution of a kinematic model with 100 times viscosity variation. Only the region near the subduction zone is shown. The negative and positive flow lines (dashed) are in intervals of 200 and 40, respectively.



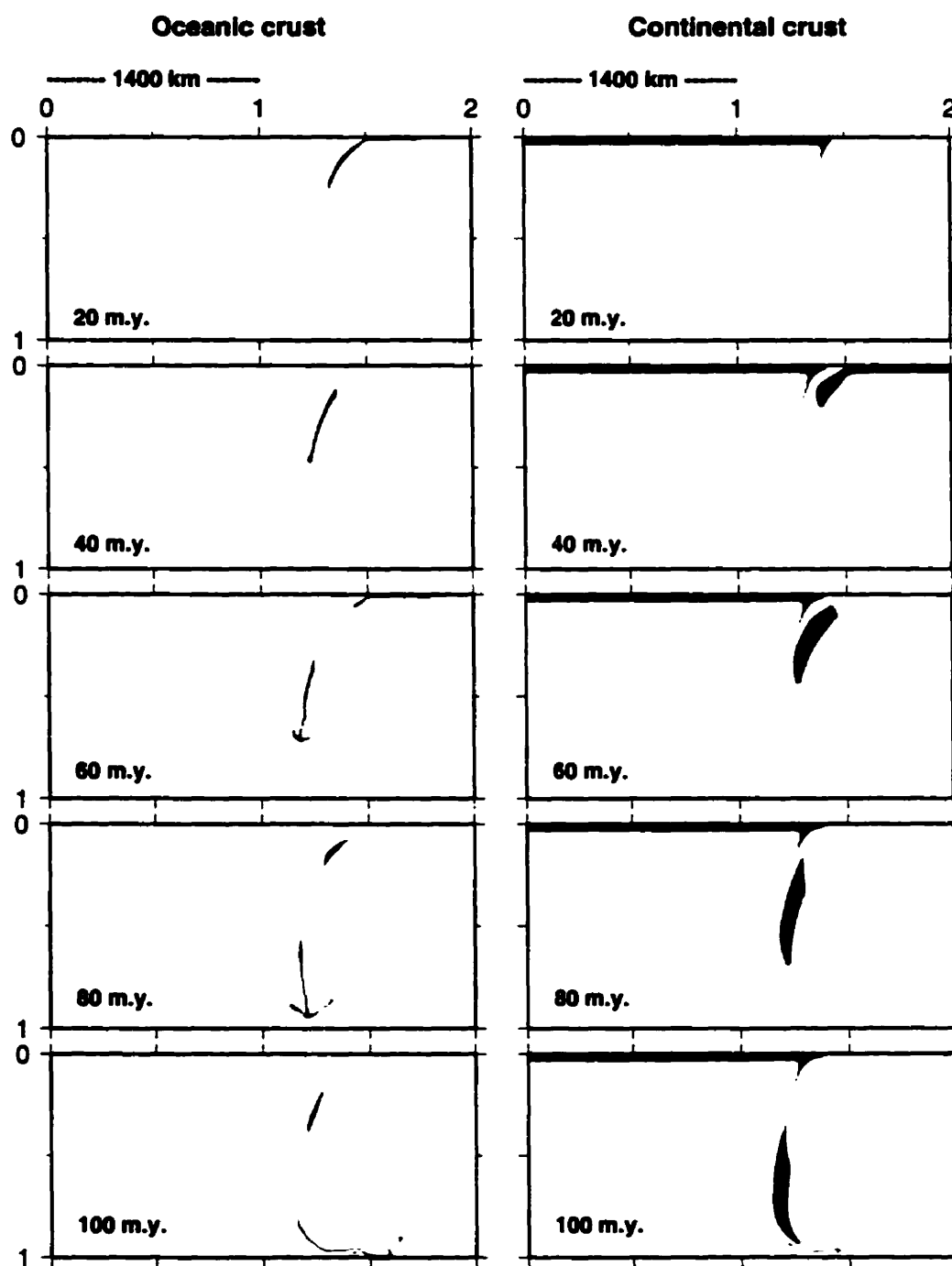
**Figure 5.8:** Same as Figure 5.7 but with 10 times viscosity variation. Only the region near the subduction zone is shown.



**Figure 5.9:** Same as Figure 5.7 but with constant viscosity.

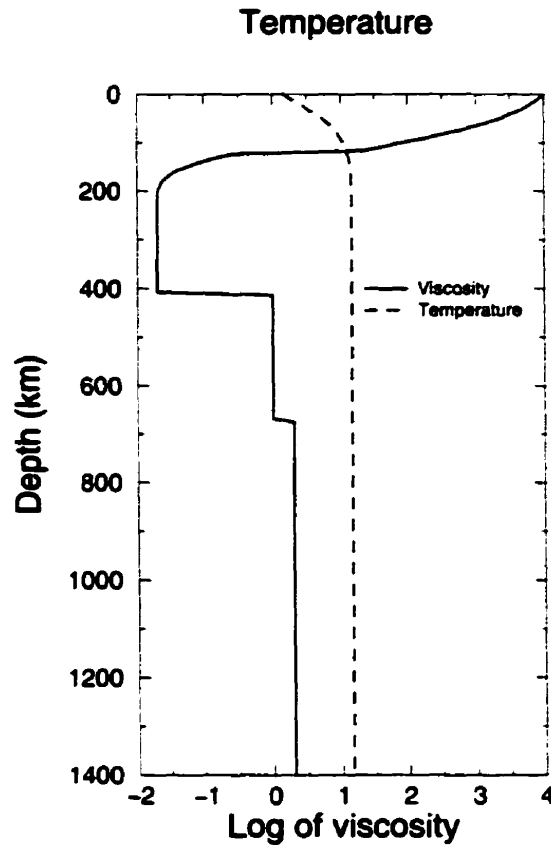


**Figure 5.10:** Time evolution of a kinematic model with periodic side boundaries. The negative flow lines are denoted by broken lines with contour intervals of 50. and the positive ones are marked by solid lines with intervals of 20.

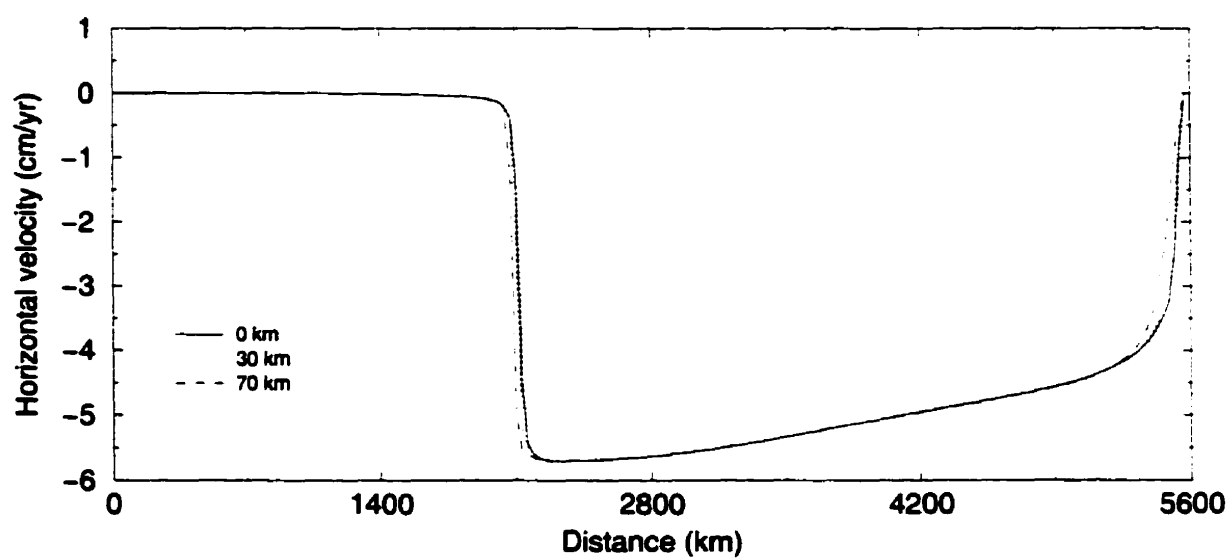


**Figure 5.11:** The oceanic (left column) and continental (right column) crust of a model in which a non-zero vertical velocity is imposed on the surface.

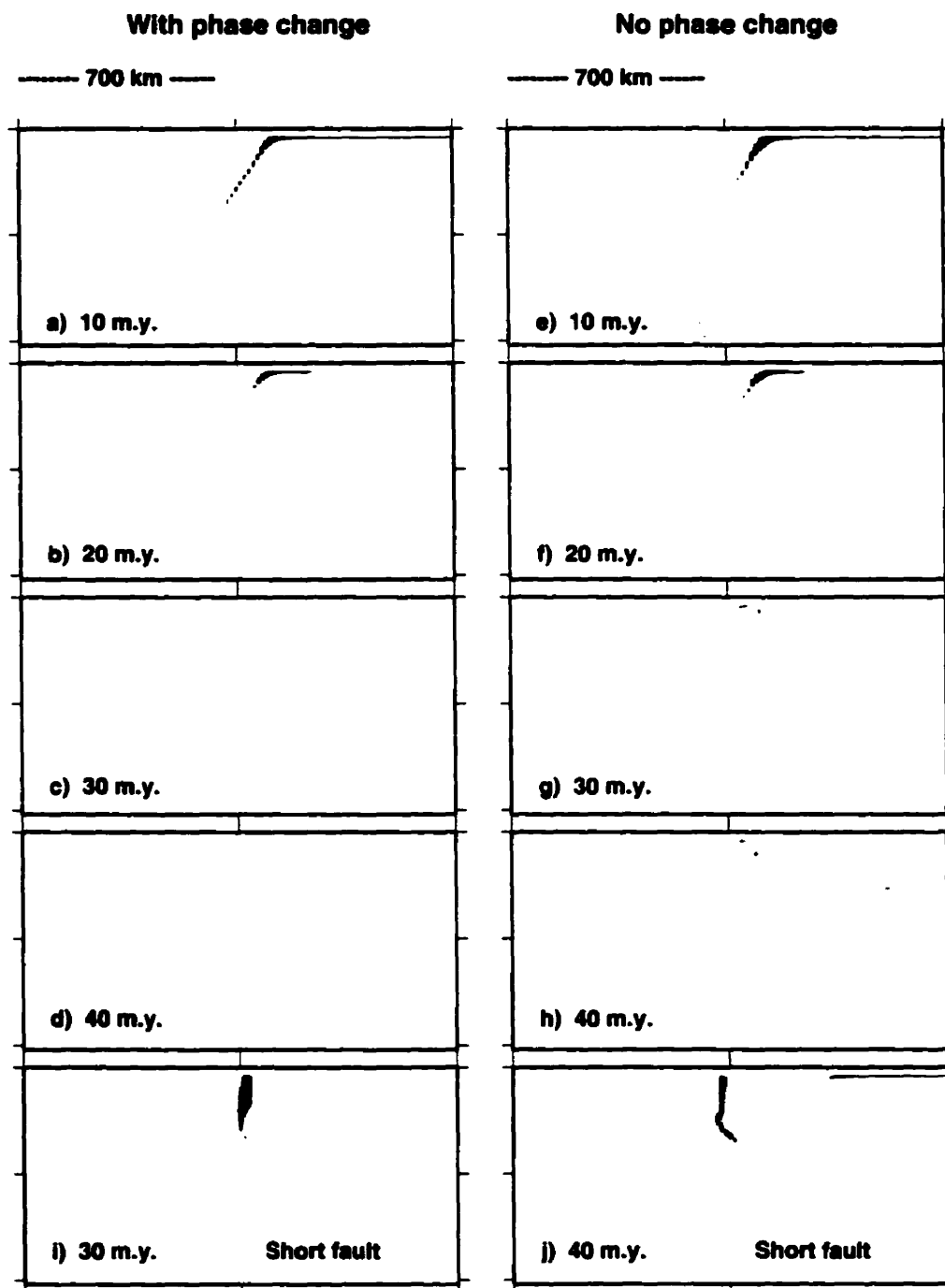




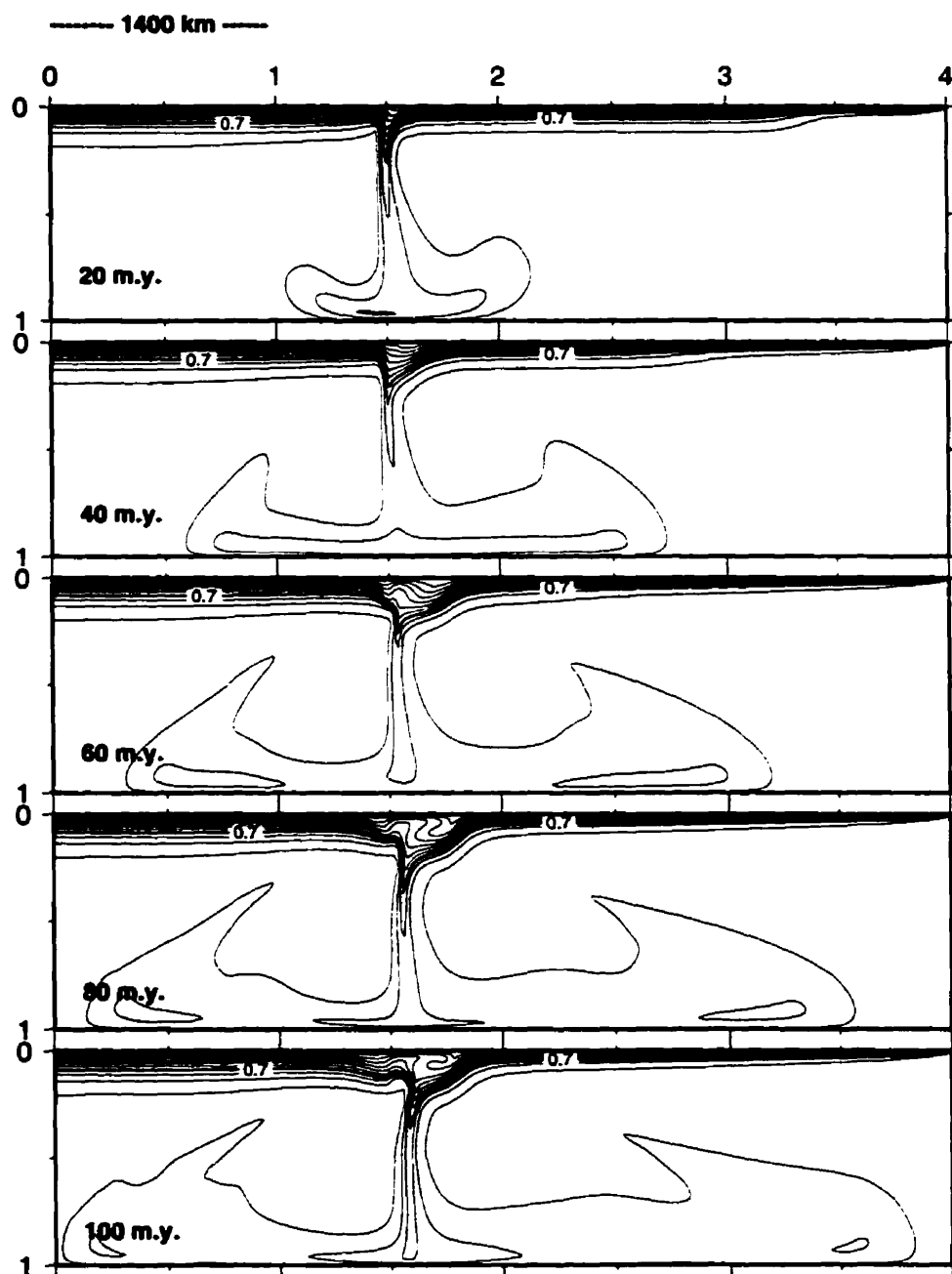
**Figure 5.12:** Initial viscosity and temperature versus depth in the nominal dynamic model. For the viscosity function the parameter values in Table 3.2 are used. The non-dimensional temperature varies from  $T = 0.16$  at the top to  $T = 1.16$  at the bottom of the model, corresponding to  $T = 273$  K and  $T = 1973$  K, respectively.



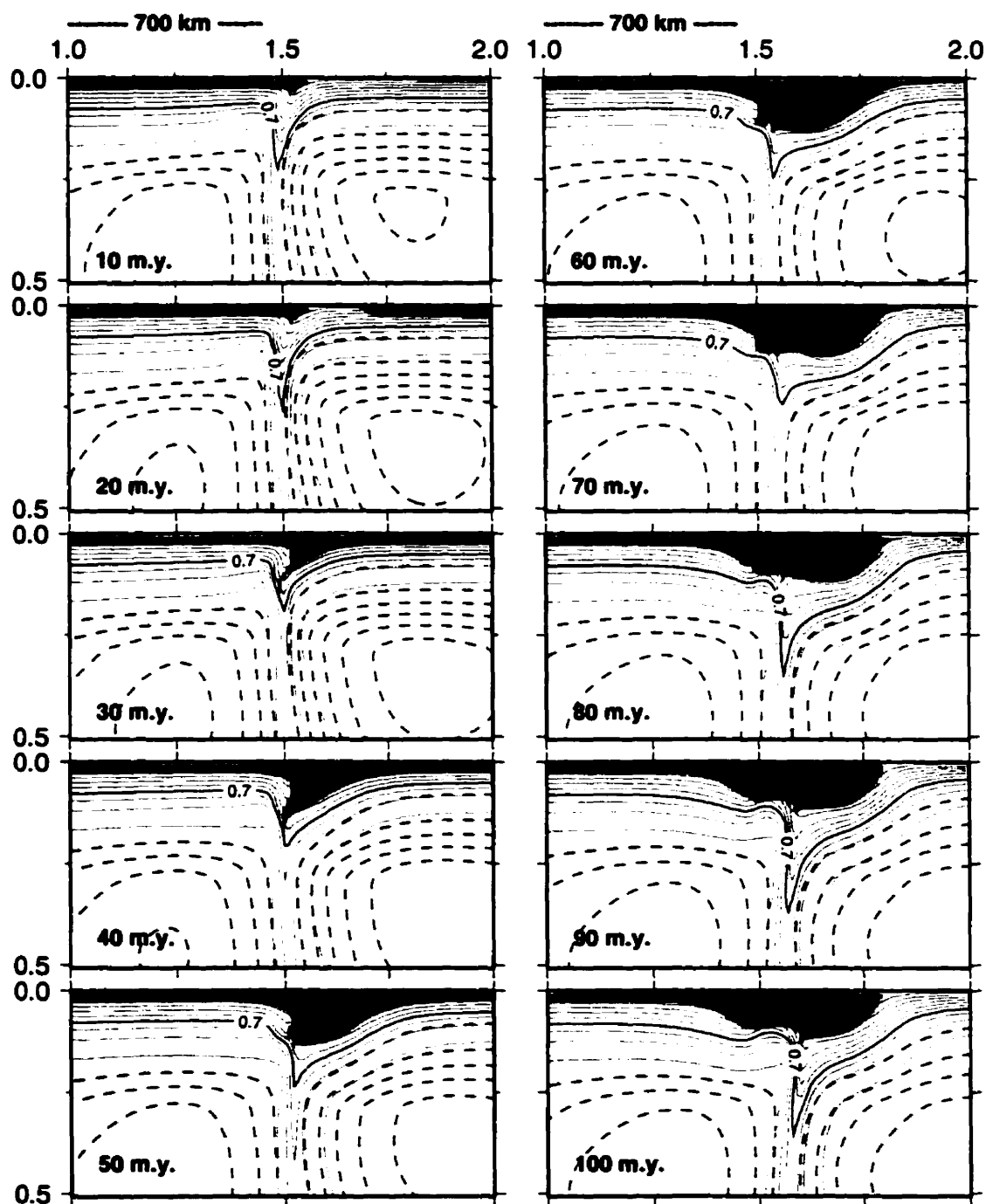
**Figure 5.13:** Profiles of initial surface velocity, at depths of 0, 30, and 70 km of the nominal dynamic model.



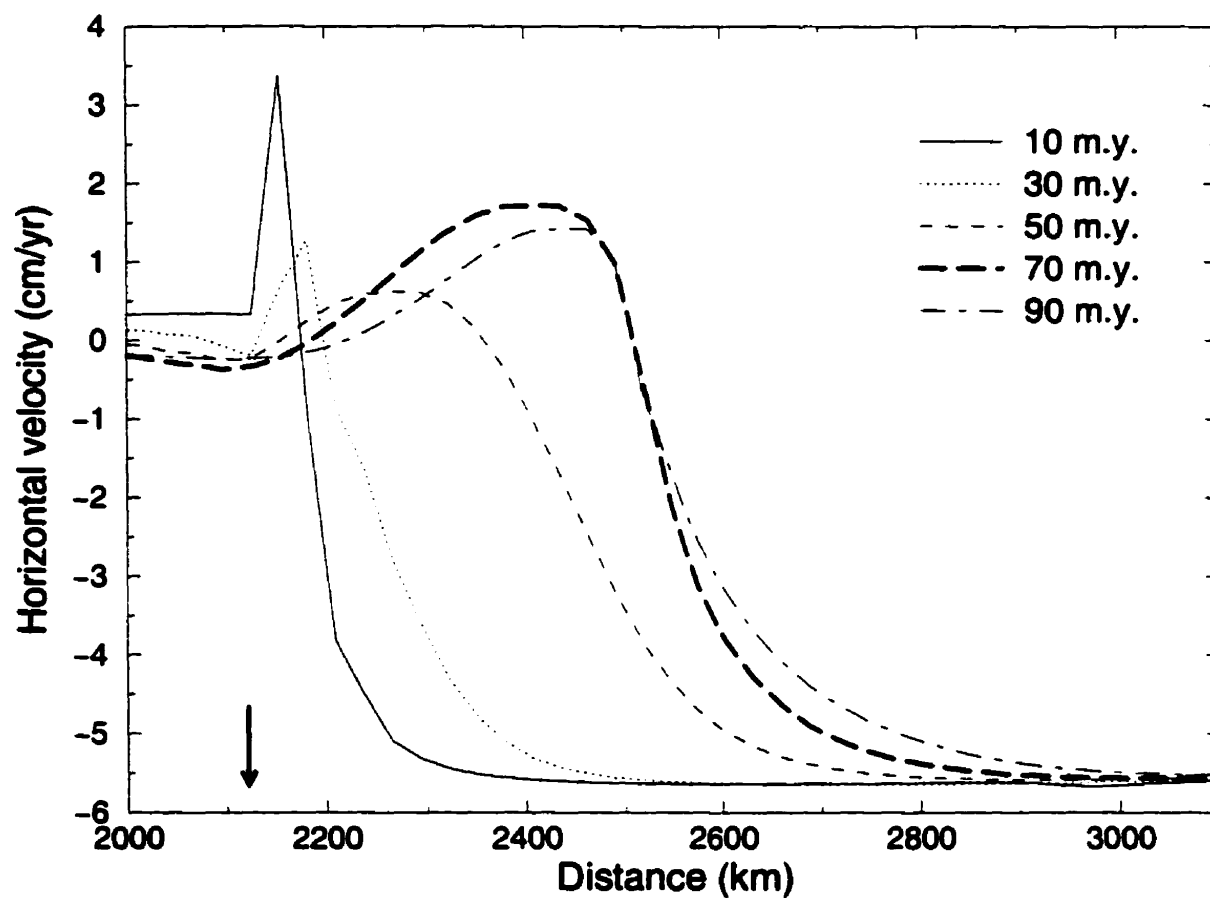
**Figure 5.14:** The evolution of the oceanic crust in three dynamic models. **a** to **d** are for a model with basalt-eclogite phase change. **e** to **h** are for a model without phase change. **i** and **j** are for a model with phase change and a short fault (35 km).



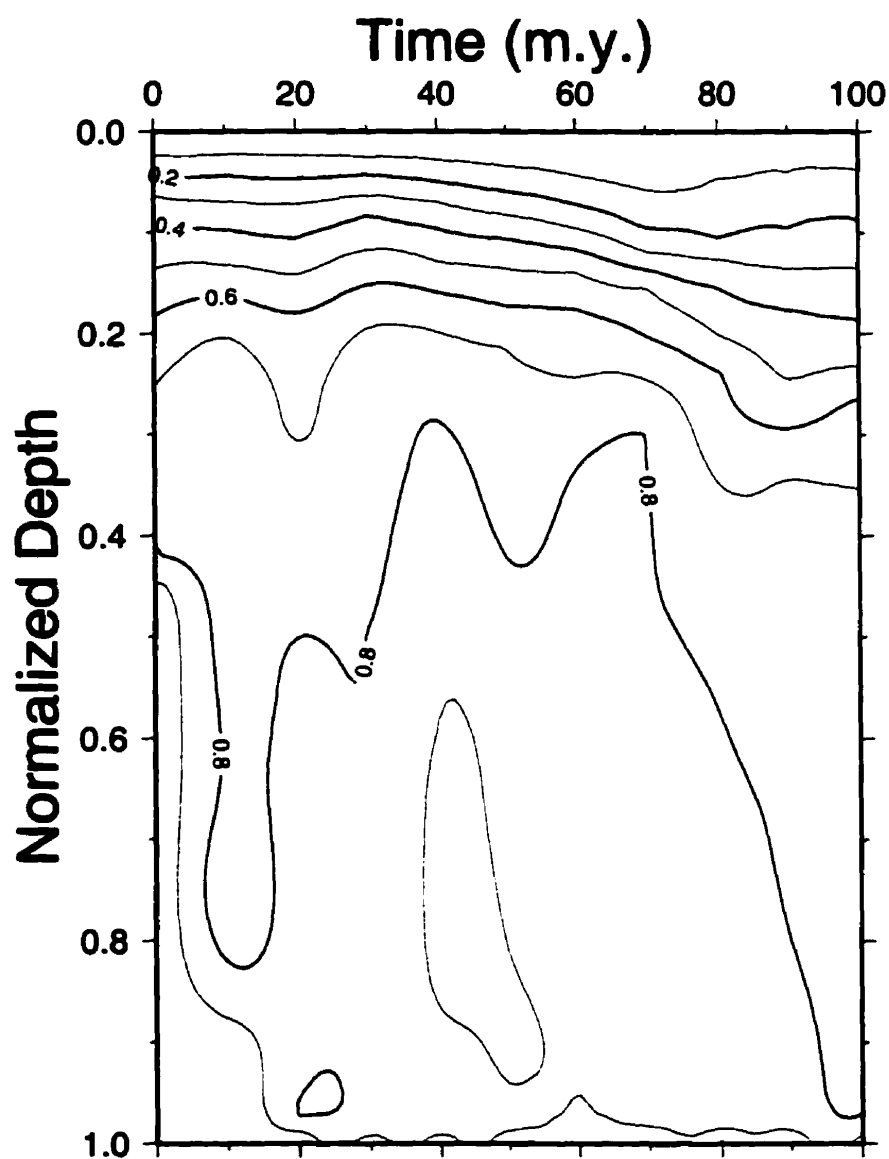
**Figure 5.15:** Time evolution of the temperature field of the nominal dynamic model.



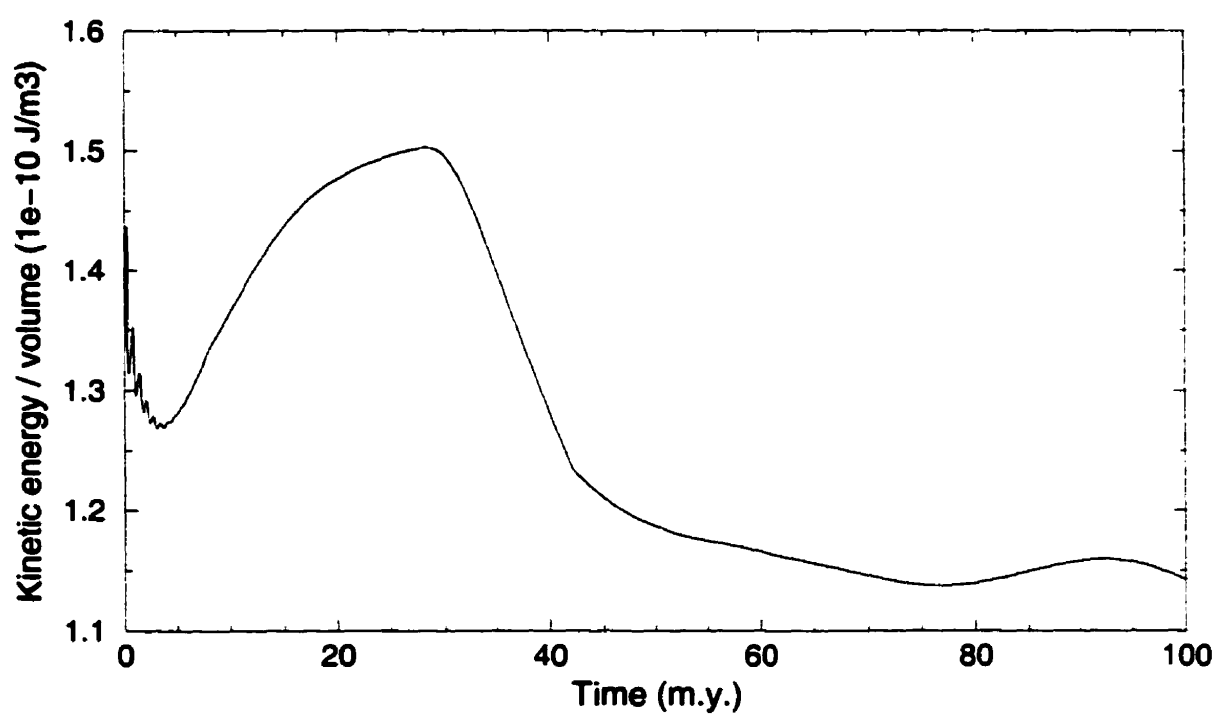
**Figure 5.16:** Time evolution of the temperature, flow field and continental crust of the nominal dynamic model. Figure details are the same as Figure 5.3.



**Figure 5.17:** Profiles of surface velocity of the dynamic model near the subduction zone at 10, 30, 50, 70 and 90 m.y. The location of the initial subduction zone at  $x = 2120$  km is denoted by the arrow. Negative values denote convergence velocity towards left.

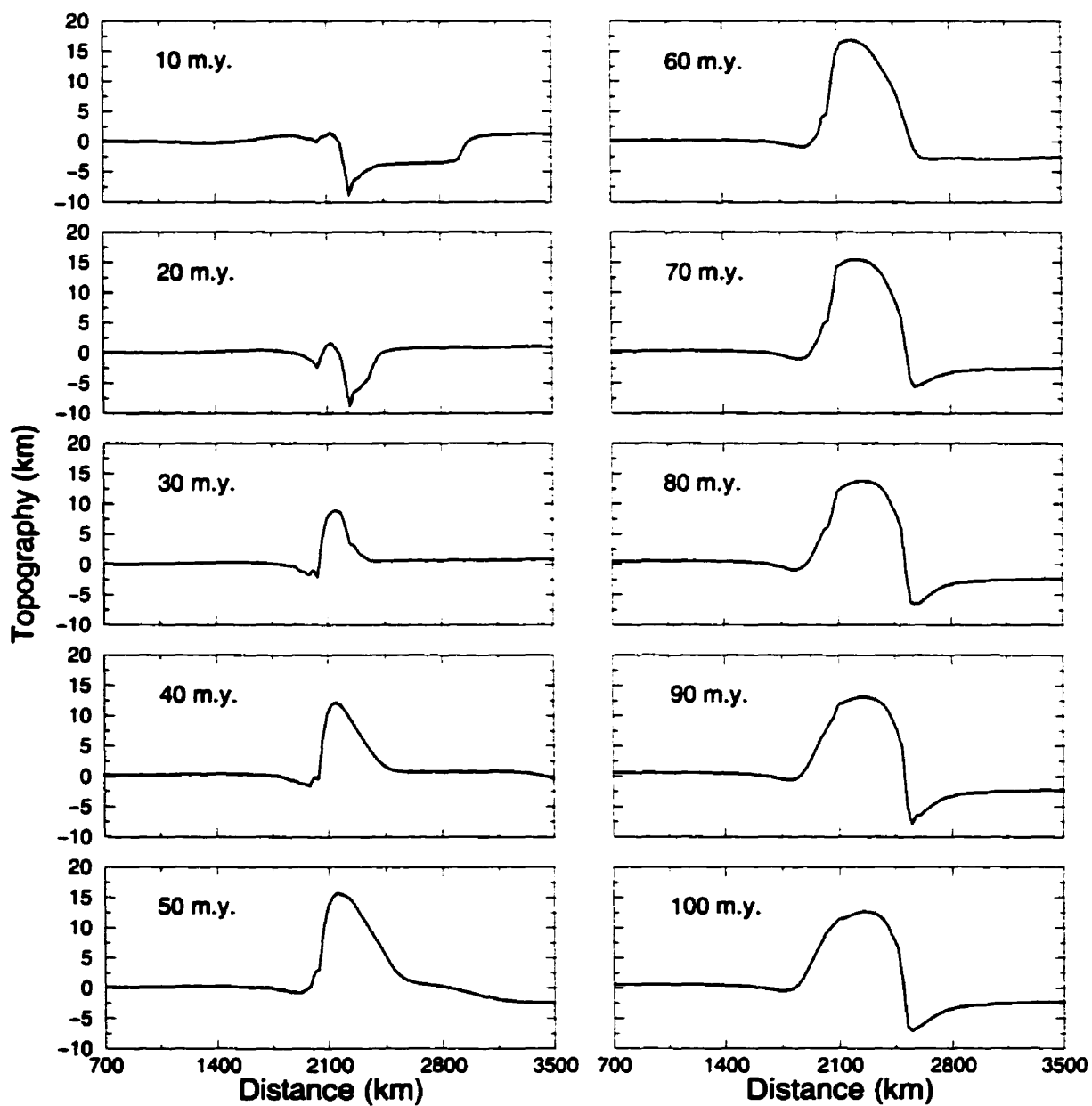


**Figure 5.18:** The depth of non-dimensional isotherms along the subducting slab versus time, in the nominal dynamic model. The maximum normalized depth corresponds to the bottom of the model.

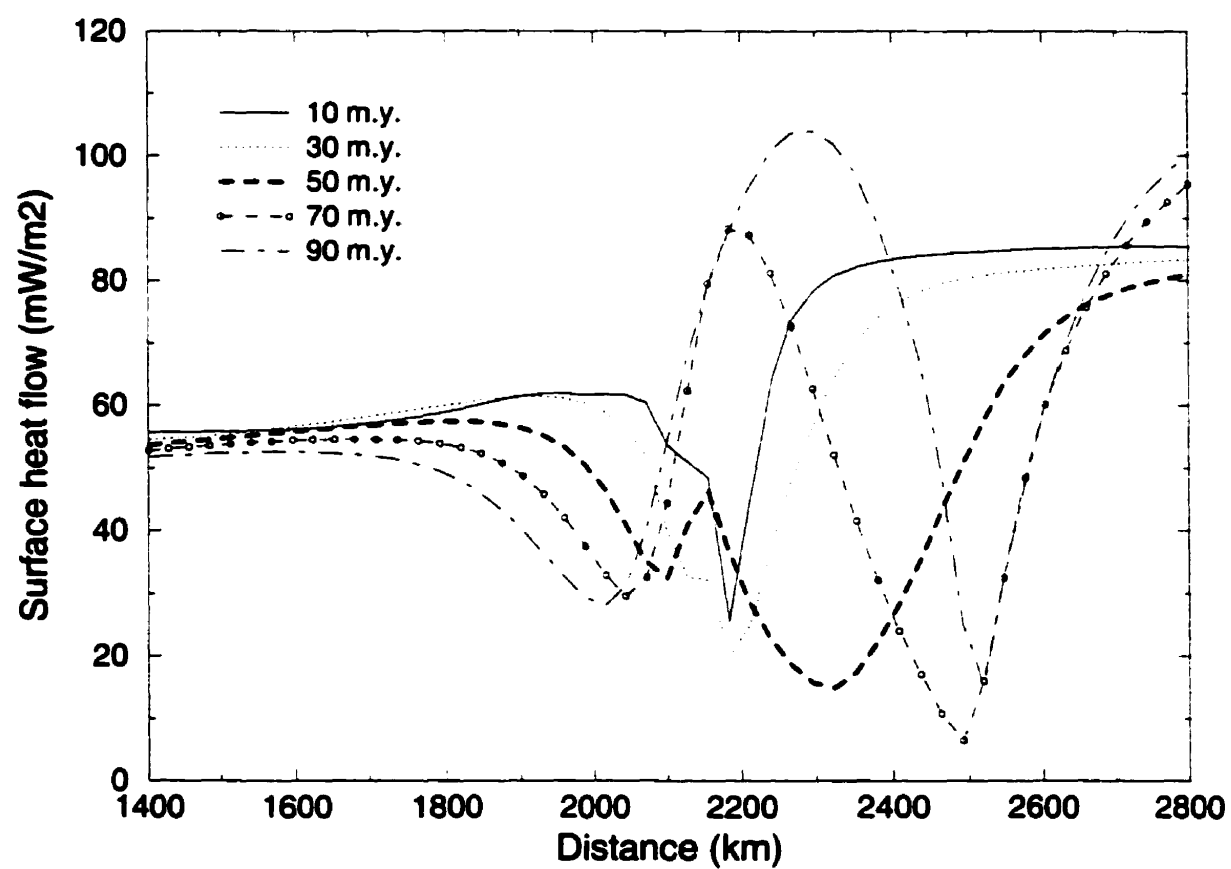


**Figure 5.19:** Time variation of kinetic energy per unit volume of the convective system of the nominal dynamic model.

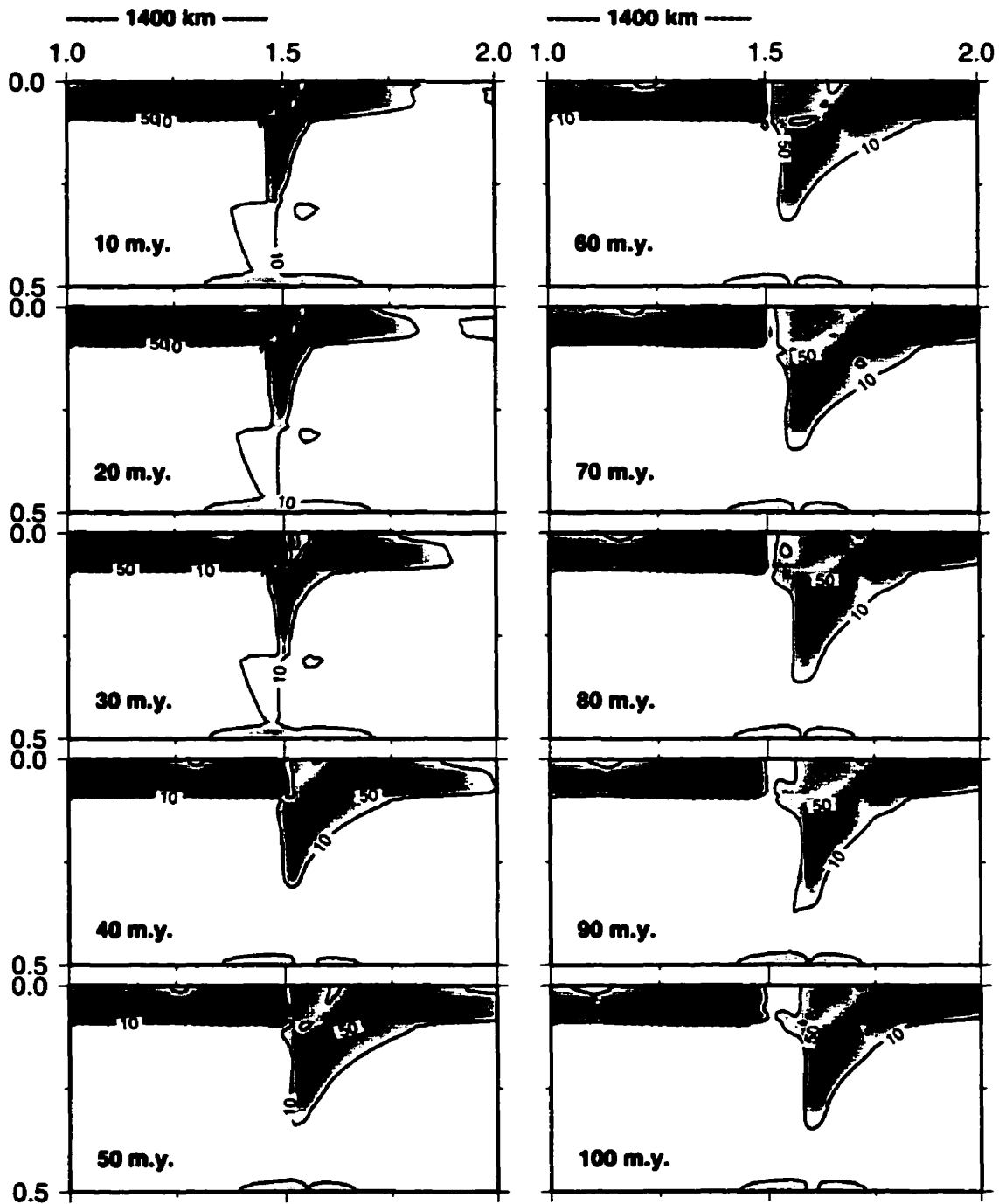




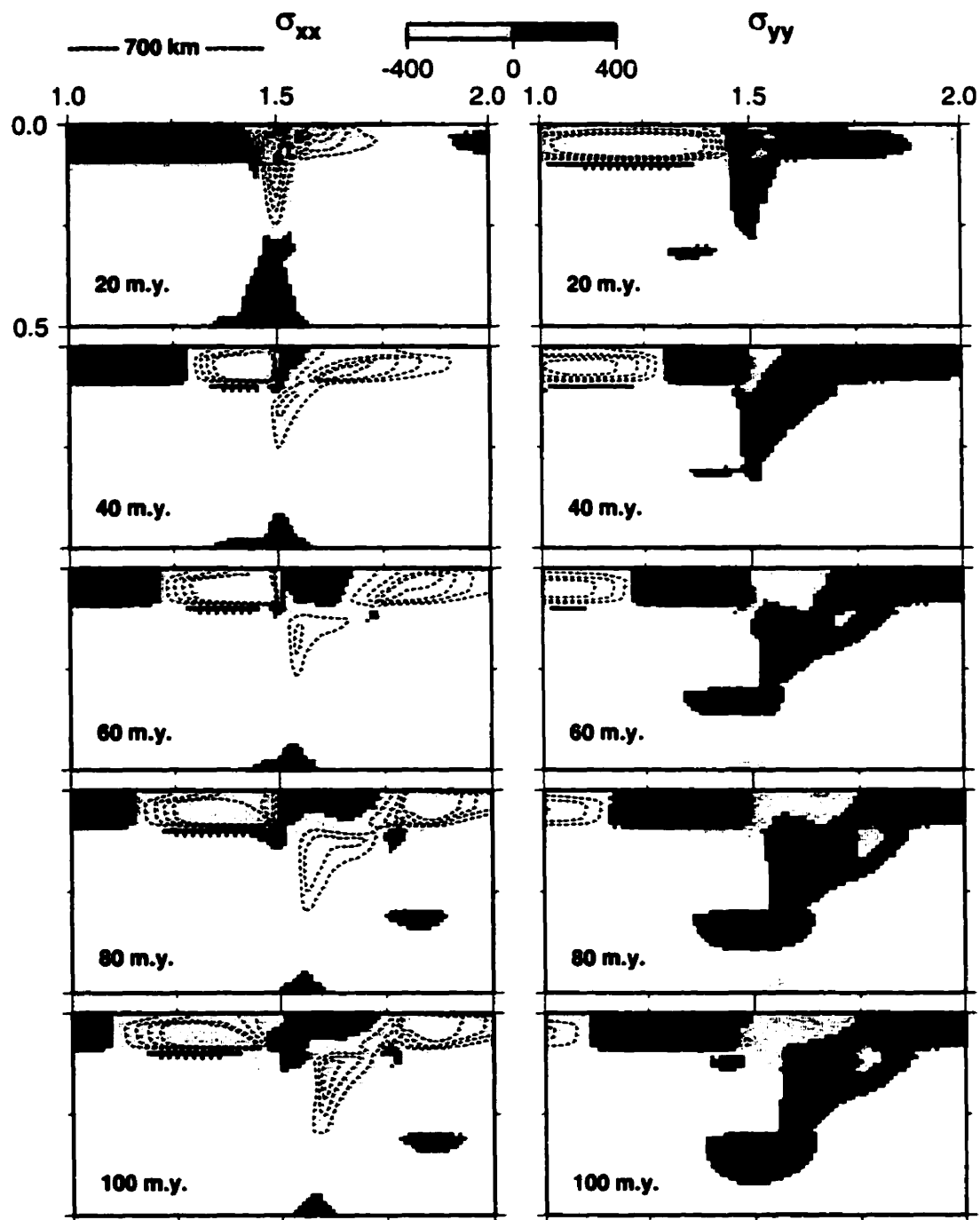
**Figure 5.20:** Time variation of the topography of the nominal dynamic model.



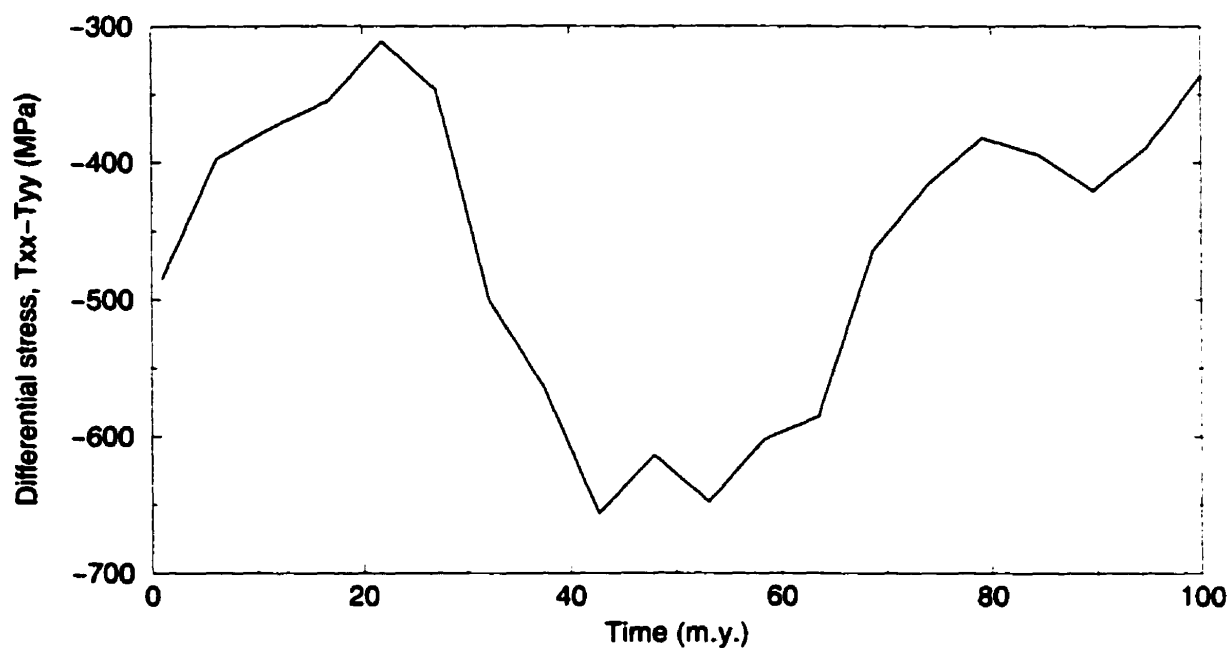
**Figure 5.21:** Time variation of surface heat flow of the nominal dynamic model in the region of maximum crustal thickening.



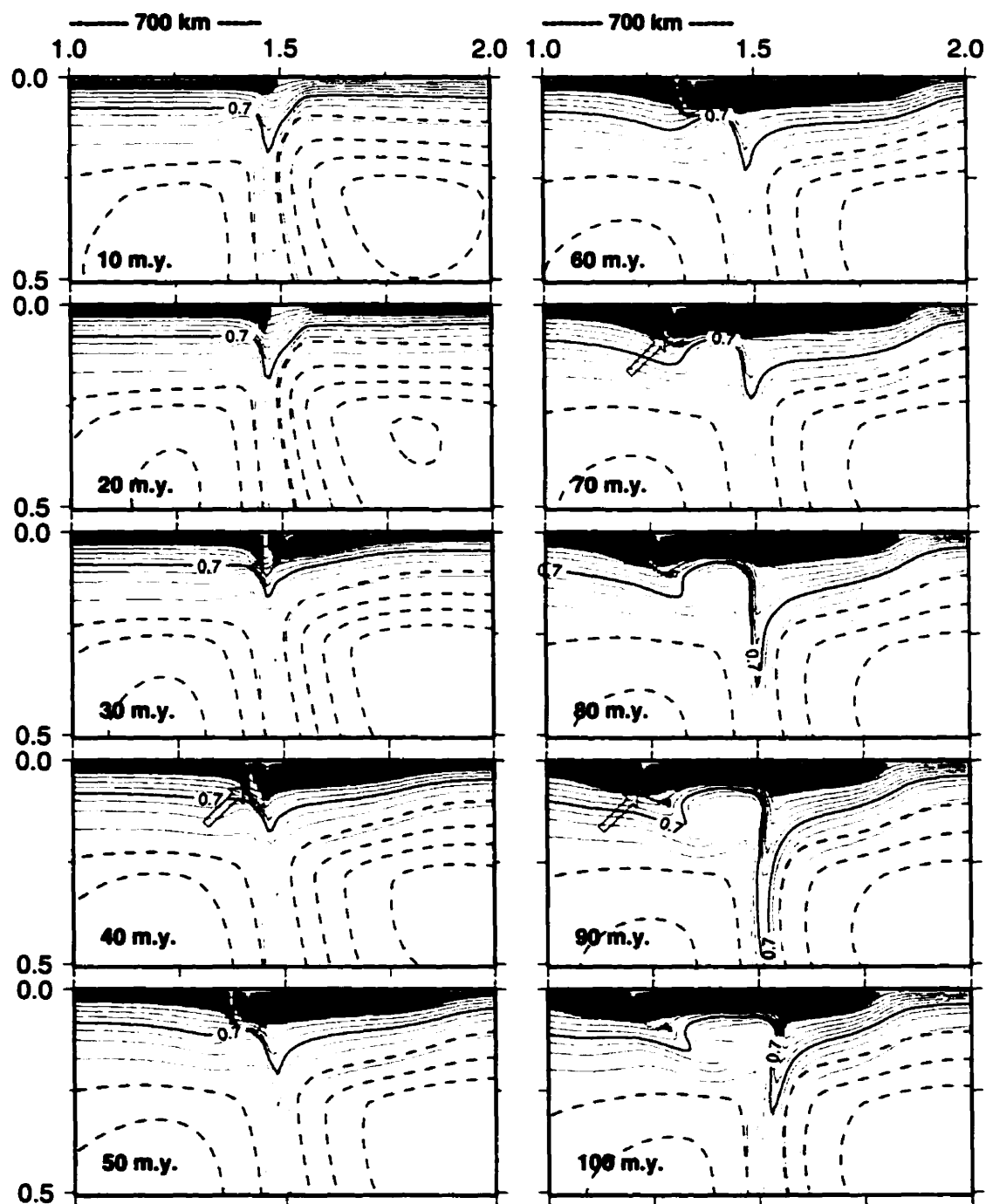
**Figure 5.22:** Maximum shear stress in the nominal dynamic model. Only the upper 700 km of the model is shown. Darker areas denote regions of higher stress. Contour lines of 10 and 50 MPa are also shown.



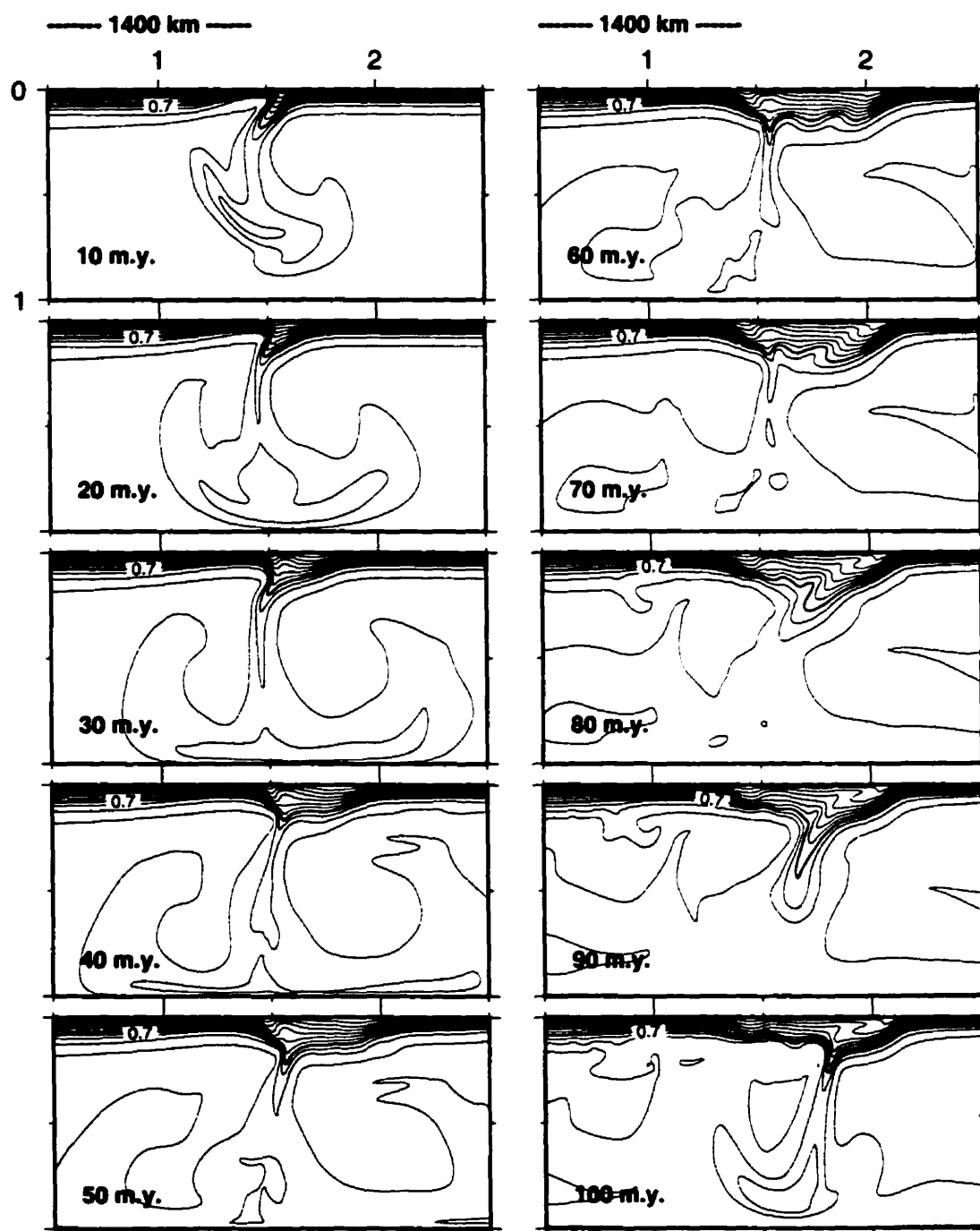
**Figure 5.23:** Horizontal (left) and vertical (right) deviatoric stresses of the nominal dynamic model. Light gray shade and broken contours denote compressional stress. Dark gray shade and solid contours mark tensional stress. Contour lines from 30 and 120 MPa with 30 MPa intervals are shown. The maximum stress is about 400 MPa.



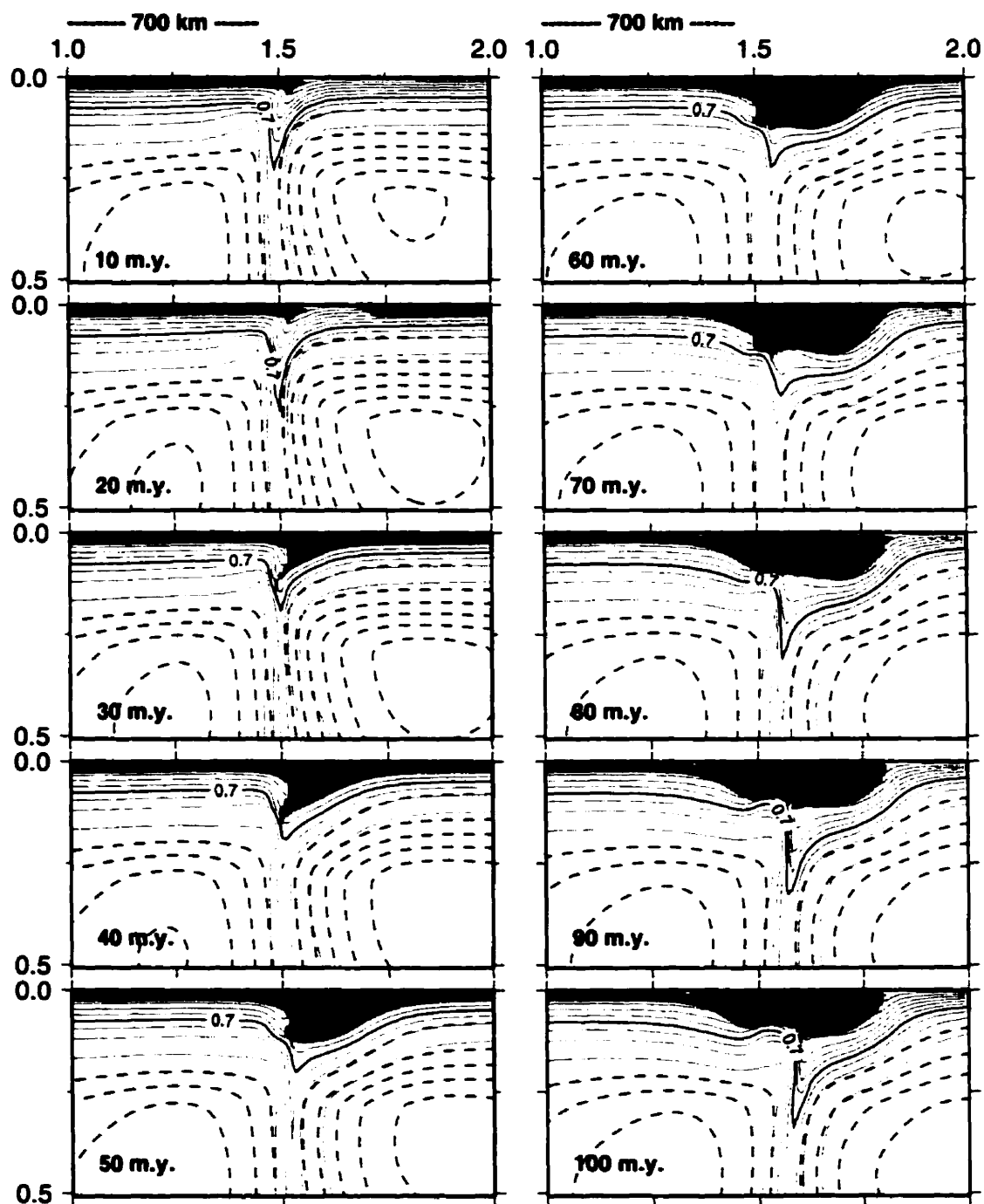
**Figure 5.24:** Average differential stress at the surface of the crustal plateau versus time, in the nominal dynamic model. The averaging is performed on the differential stress values calculated in a 700 km horizontal span over the surface of the plateau.



**Figure 5.25:** Same as Figure 5.16 but in a model with  $10^3$  times variation of viscosity with temperature in the lithosphere. The arrows show the displacement of the initial contact zone of the two continental crusts.

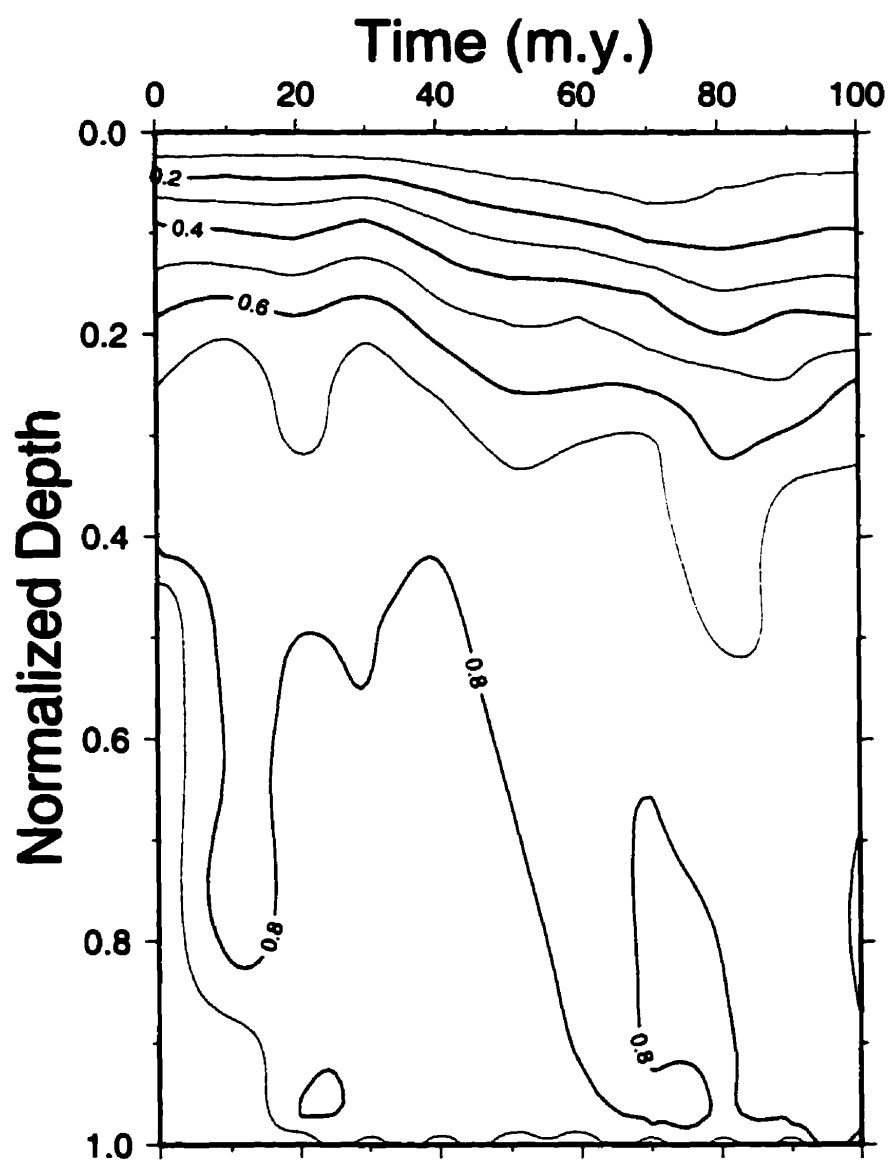


**Figure 5.26:** Thermal evolution of a dynamic model with a power-law exponent of  $n = 9$ .

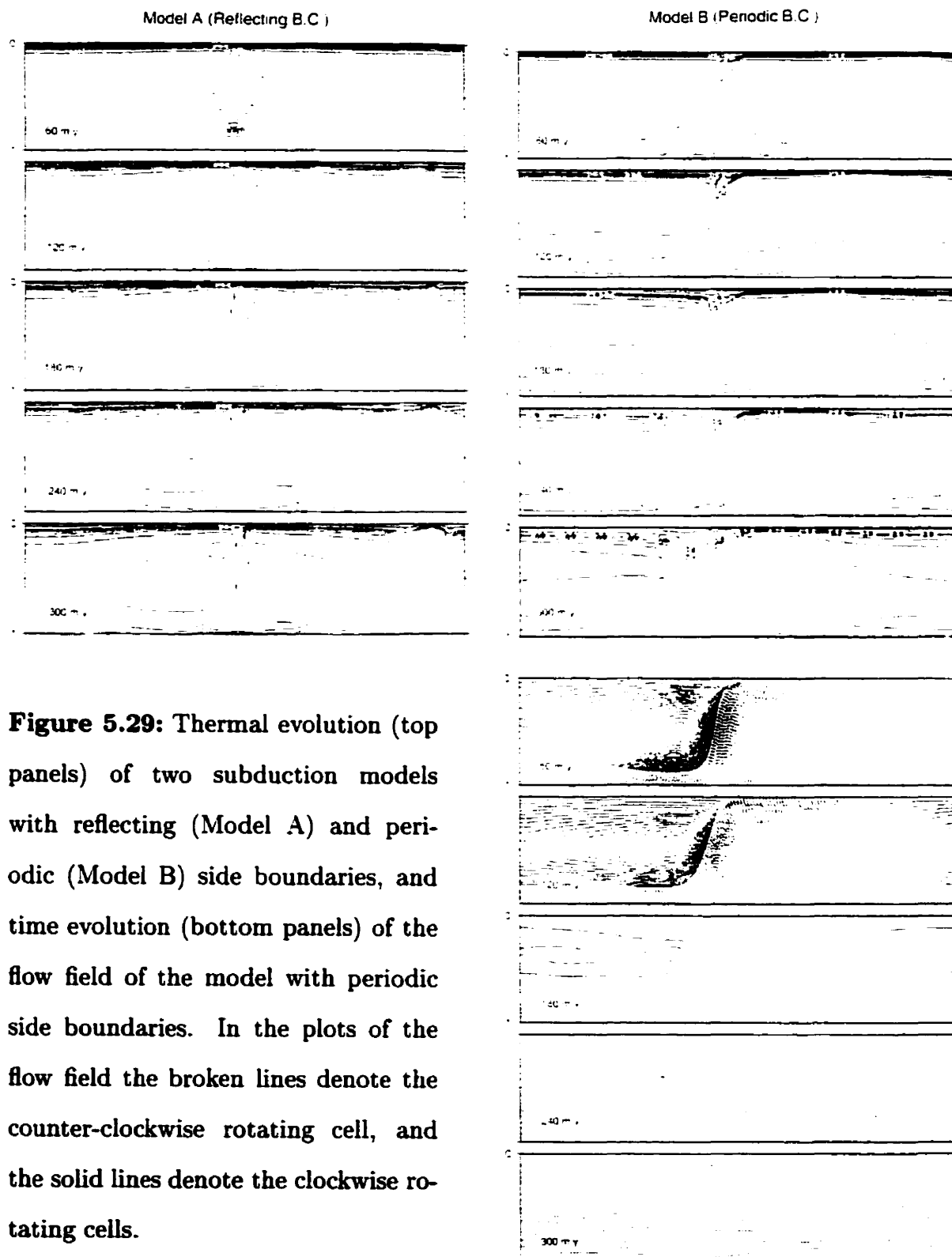


**Figure 5.27:** Same as Figure 5.16 but in a dynamic model in which the thermal diffusivity of the continental crust is half of that of the mantle.

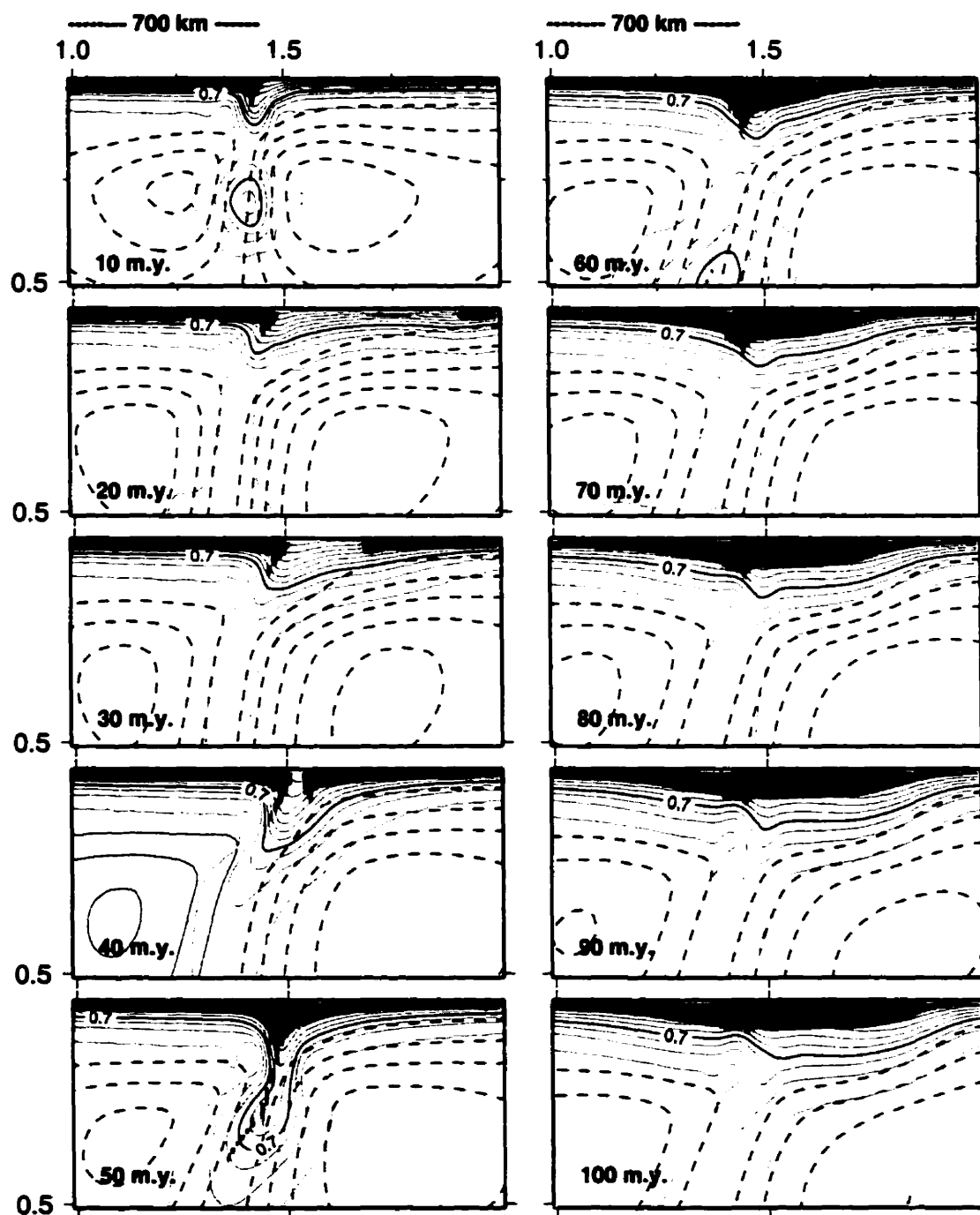




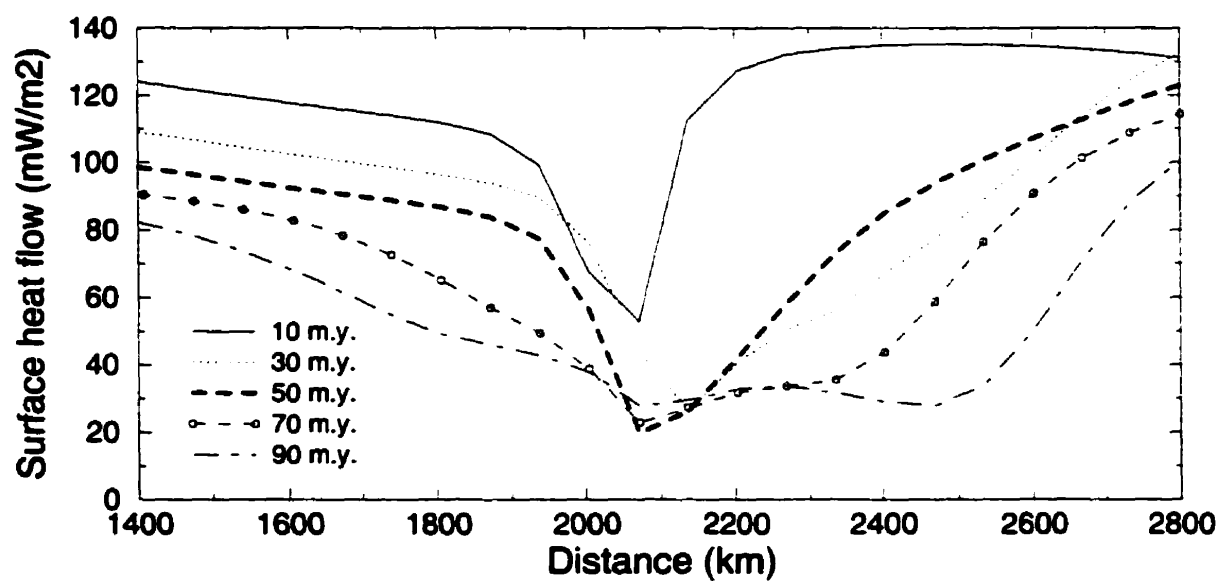
**Figure 5.28:** Depth to isotherms versus time in a dynamic model with low crustal thermal diffusivity.



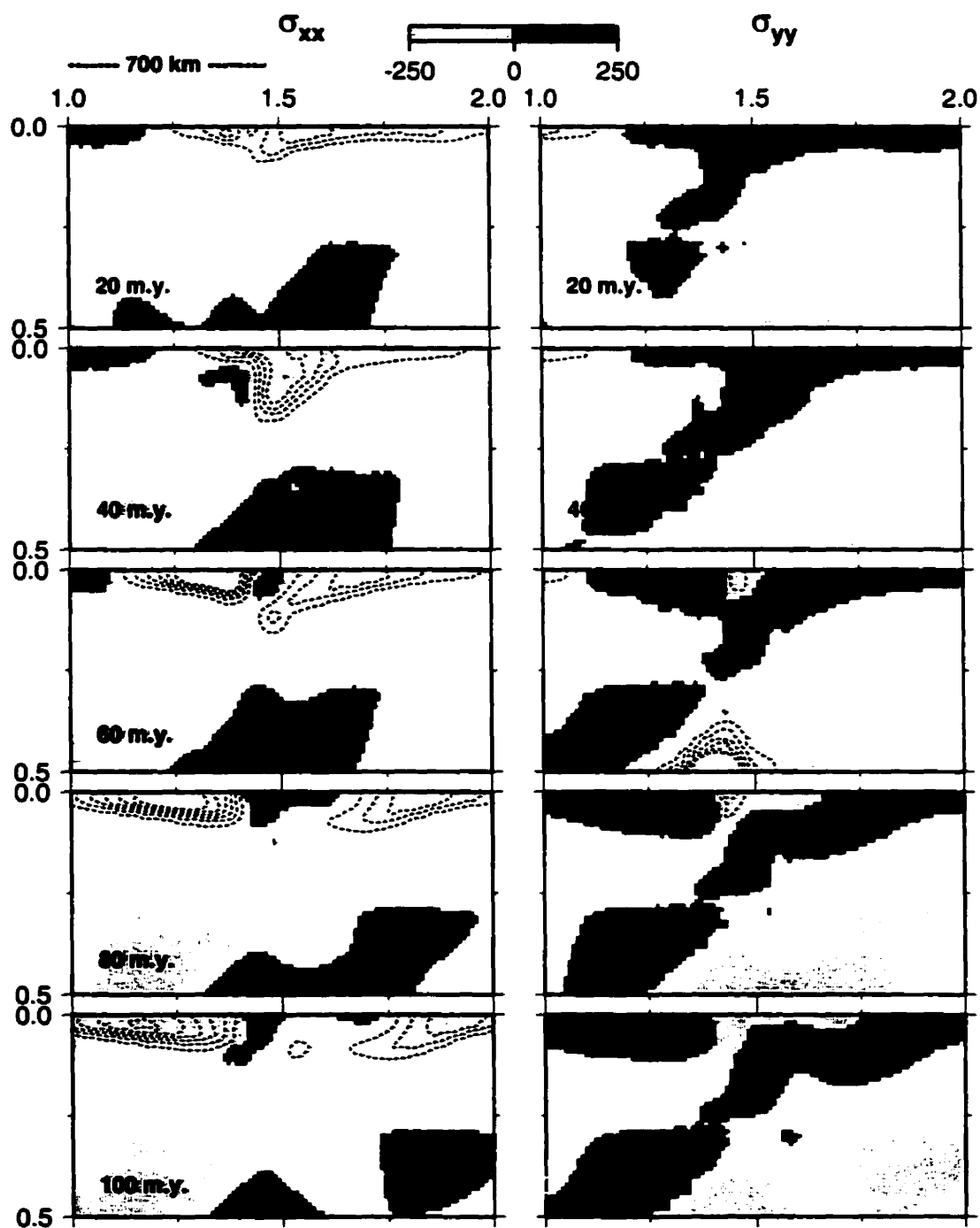
**Figure 5.29:** Thermal evolution (top panels) of two subduction models with reflecting (Model A) and periodic (Model B) side boundaries, and time evolution (bottom panels) of the flow field of the model with periodic side boundaries. In the plots of the flow field the broken lines denote the counter-clockwise rotating cell, and the solid lines denote the clockwise rotating cells.



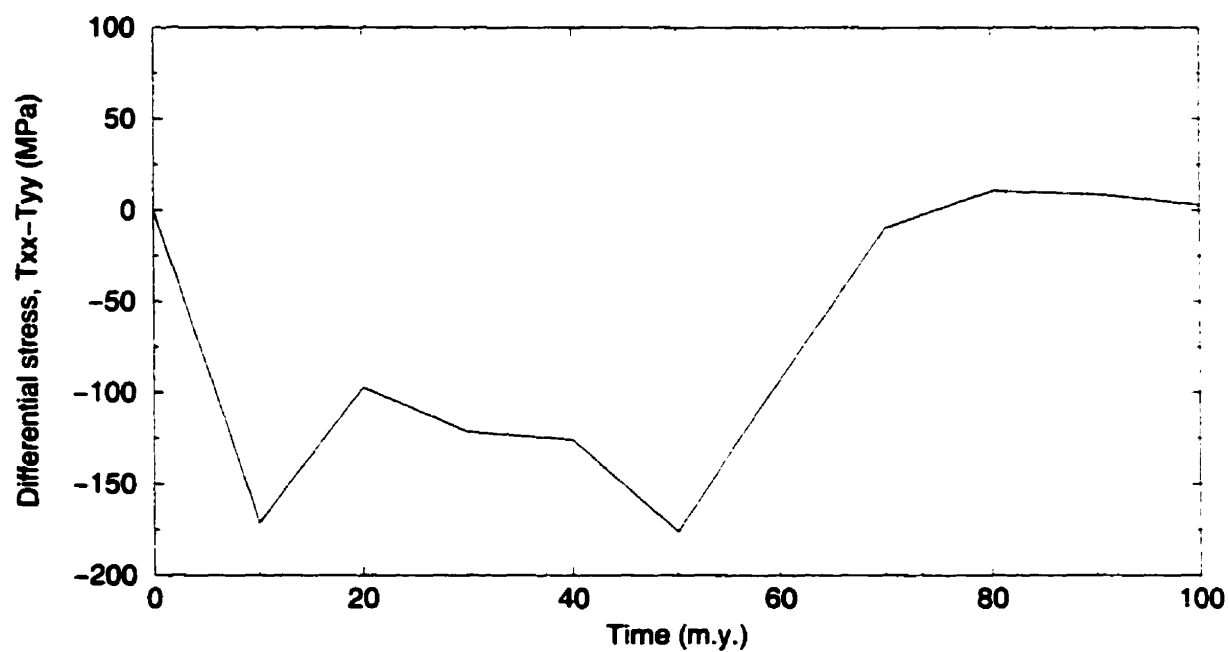
**Figure 5.30:** Time evolution of the temperature, flow field and continental crust of a dynamic model with periodic side boundaries.



**Figure 5.31:** Profiles of surface heat flow of a dynamic model with periodic side boundaries at 10, 30, 50, 70 and 90 m.y.



**Figure 5.32:** Same as Figure 5-23 but with periodic side boundaries. Contour intervals are 20 MPa. The Maximum deviatoric stress in the model is about 250 MPa.



**Figure 5.33:** Average differential stress at the surface of the crustal plateau versus time, in a dynamic model with periodic side boundaries.

## Chapter 6

### Conclusions

In this thesis, I have modeled the subduction of continental lithosphere as a result of collision of two continental plates. Some of the major problems involved in the process of continental subduction/collision include: 1) the depth of continental subduction, 2) the deformation history of the continental crust during continental collision, 3) the fate of the preceding subducted oceanic slab as a result of collision, and 4) the evolution of the thickened continental mantle lithosphere, and its role in the dynamics and thermal history of the overlying crust. Many of the investigators that their work is mentioned in this thesis, have made various degrees of simplifications to the nature of convection to study their problem of interest. In my thesis, I have regarded the process of subduction/collision to be basically one of the surface manifestations of convection inside the Earth's mantle, and studied it as a part of a mantle convection flow in a model that takes into account many of the features that were simplified or ignored by the other studies. Lithospheric plates consisting of a low-density crust overlying a high-density mantle part are used. This makes the model lithosphere both a thermal and a chemical boundary layer, each contributing to the density difference between the lithosphere and the underlying mantle. The lithosphere has a realistic temperature and stress-dependent viscosity structure, resulting in rigid and uniformly

moving surface plates. The models that are studied, fall into two categories: the kinematic plate models in which convection in the interior is driven by the motion of rigid surface plates that are simulated by specified surface velocities, and the dynamic plate models in which convection in the interior and rigid plate motion at the surface are driven by temperature differences inside the model.

## **6.1 Summary of the results**

### **6.1.1 Kinematic versus dynamic models**

The results of the kinematic models show that the imposed surface velocity and the lithospheric viscosity have the greatest roles in preventing the formation of thick crustal roots at the collision zone of the two converging plates. For all plate velocities and majority of viscosity values, no crustal detachment occurs and the continental crust is subducted into deep mantle. In the case of models with weaker plates where crust does separate from the subducting lithosphere, the resulting thickened crust has characteristics that bear little resemblance to what is observed in most collision zones. The model does not result in any significant thickening of the mantle lithosphere, and the breakoff of the subducting slab and/or the cessation of subduction. This is in contrast with the results from the dynamic models that show even with strongest viscosities, crustal detachment is a robust and rigorous process. Crustal detachment in dynamic models results in the development of a thick lithospheric root above the subduction zone that slows down the speed of convergence and in some cases causes the breakoff of the subducted oceanic lithosphere. This difference in the evolution of the subduction zone between the two types of models can be explained by the effects of the surface plate motion. In the dynamic models, the surface plate motion is determined by the dynamics of the interior, thus any change in the internal flow



field should result in changes in the surface motion. The thickening and detachment of the buoyant continental crust on top of the downwelling zone generate a horizontal force that opposes the convergence of the subducting plate. The subducting plate reconfigures itself in order to accommodate this opposing force. This is accomplished by a gradual decrease in plate velocity in the region of crustal thickening and the transfer of the subduction zone toward the interior of the subducting plate. By the time the entire continental lithosphere is consumed, a thick crustal plateau and a new continent-ocean subduction setting is established in the model. On the other hand in the kinematic models, the resisting force that opposes the convergence can never be great enough to significantly hamper the convergence, for the simple reason that the force that drives the convergence is *a priori* defined by the imposed boundary condition at the surface and is independent of the dynamics of the convection. Therefore, the kinematic models fail to simulate an important observation in the continental collision zones, that is, the migration of the subduction zone as a result of formation of the crustal plateau.

### 6.1.2 The fate of the subducted oceanic crust

Both kinematic and dynamic models show that the subducted oceanic crust is too thin and not enough buoyant to affect the downwelling of the subducting slab in any significant way. This is evident from the comparison of models with basalt-eclogite phase change and those without the phase change. The kinematic (Figures 5.1 and 5.2) and the dynamic models (Figure 5.14) indicate that the buoyancy of the lighter basaltic crust has little influence, and apart from local and secondary effects, the geometry of subducted slab remains unchanged. This conclusion is in accord with theoretical considerations (Molnar & Gray 1979) and with results from models with more elaborate density structure of the slab (Hager & Gaherty 1994).

### 6.1.3 Maximum depth of continental subduction

In all models, the depth to which the continental crust can subduct is a strong function of viscosity, more so perhaps in the case of the kinematic models where the depth can be as shallow as 100 km or as deep as the lower mantle. The kinematic models with more realistic viscosities exhibit strong crust-mantle coupling that prevents the detachment of the crust. Models with lithosphere/asthenosphere temperature-dependent viscosity variations of 100 or more fall into this category.

The depth to which the continental crust subducts in the dynamic models is less sensitive to viscosity as crust-mantle detachment occurs in all models. The detachment depth varies from 170 km in the nominal model with  $10^4$  times variation of the temperature-dependent viscosity to 90 km in a model with a hotter lithosphere and  $10^3$  times viscosity change. It is found that the subduction depth of the crust and the thickness of the crustal plateau are inversely related to the power-law exponent of the non-Newtonian viscosity. In a model with  $n = 9$ , the continental crust thickens as much as 40% less than that of the nominal model with  $n = 3$ . This indicates the relative importance of the continental buoyancy force compared with the strength of the lithosphere in the dynamic models. These results are consistent with those obtained by other investigators (van den Beukel 1992; Chemenda et al. 1995; Davies & von Blanckenburg 1995) who calculated the depth of continental subduction as a function of the balance between the driving and resisting forces of subduction. It is not possible to make a quantitative comparison between the results presented here and those obtained by the above authors, since the mechanical properties of the models are very different. However, the depth values obtained by the dynamic models are within the range of those determined by the authors. The analogue model of Chemenda et al. (1995) predicts that the continental lithosphere can subduct to a depth of 200-300 km before the upper crustal component fails and bounces upward.

The thermo-mechanical models of van den Beukel (1992) and Davies & von Blanckenburg (1995) give crustal subduction ranges of 25-80 km and 50-120 km, respectively. The latter authors, however, emphasize that under lower plate temperature or higher convergence velocity conditions, the crust can subduct to deeper regions. Geological observations also give a similar range of crustal subduction in many mountain belts. For example, Chopin (1984) and Michard, Chopin & Henry (1993) suggested a maximum depth of about 100 km for the high-pressure metamorphic rocks in the western Alps, and England & Holland (1979) estimated a depth of 60 km or more for the formation of high-pressure eclogite blocks in the eastern central Alps. It should be mentioned that variations in the density of the continental crust can change the above results by a considerable margin. In the models, the adopted continental crustal density was close to the lower limit of the acceptable range. The mean density of the continental crust as determined from isostatic arguments is 2800-2900 kg/m<sup>3</sup> (Fowler 1990). Furthermore, phase change in the deeper parts of the continental crust was neglected in the models. It is quite probable that higher crustal densities would yield subduction depths that are closer to the results of Chemenda et al. (1995).

#### **6.1.4 Patterns of crustal deformation**

The thickening of the crust in the dynamic models shows a pattern similar to that seen in the development of accretionary wedges in oceanic subduction zones. As the continental lithosphere continues to subduct, the crust separates from the mantle part and accumulates in between the subducting plate and the overriding plate that acts as a buttress (Dahlen 1984). The newly arrived crust is added to the toe of the crustal mass, resulting in an asymmetric wedge-shaped crustal plateau that has a low-angle taper on the subducting plate side and a high-angle taper on the overriding plate side. The asymmetry is a result of uneven advection of material towards the wedge.

The thickened crust causes a downward deflection of the isotherms in the subducting lithosphere that is manifested by a reduced surface heat flow in the region of thickened crust. As the thickness of the crustal plateau increases, the strong horizontal density gradient across the plateau induces a buoyancy force that opposes further thickening of the crust, and tends to relax the crustal thickness in the direction of the overriding plate. Subsequently, the crustal wedge becomes more symmetric. The later phase of crustal relaxation is accompanied by the increase in the magnitude of extensional stress in the plateau. This pattern of deformation is well in agreement with the results of other investigators who predict a similar wedge-shape of the crust (e.g. Willett et al. 1993) and similar stages of early compression and late extension in continental collision zones (e.g. Houseman & England 1986; Vilotte et al. 1986; Marotta et al. 1998). The thickness and areal extent of the crustal plateau is found to be a function of lithospheric viscosity. In models with weaker lithosphere, the crust collapses faster as the shear stresses at the base of the crust are weaker, and the thickened crust propagates farther in the overriding plate. This causes the old oceanic suture zone to progressively displace toward the overriding continent.

A secondary feature of deformation of the continental crust is the small-scale convection that develops because of the shearing of the downgoing plate at the base of the crustal wedge. This flow field is very small and generates an upward vertical velocity on the order of  $\sim 1$  mm/yr in the rising limb of the convective cell. Some researches (England & Holland 1979; Pavlis & Bruhn 1983) have suggested that the exhumation of high-pressure rocks in the mountain belts can be accomplished by a 'corner flow' in the crustal material that develops as a consequence of the ongoing subduction. It is possible to speculate that such a small-scale flow field that produces vertical displacements of about 10 km in a time interval of 10 m.y., can help to bring the high-pressure lower crustal material to near-surface depths.

### 6.1.5 Slab breakoff and instability of the lithospheric root

All the kinematic models fail to show any kind of breakoff of the subducted oceanic slab from the surface plate as a result of the arrival of the continental plate in the subduction zone. In models with weaker rheology, a relatively pronounced thinning (or necking) is seen in the upper parts of the slab. But this effect has more to do with the increasing rate of slab descent as it grows in length, rather than a mode of extensional rifting that would be induced by the opposing buoyancy of the continental crust above. In the dynamic models slab breakoff is controlled by the viscosity structure. High-strength slabs manage to preserve their integrity against the growth of the crustal buoyancy with time. Reducing the strength of the slab, either by increasing the stress dependence of viscosity, or by increasing the plate temperature, can cause the detachment of the subducting slab. Breakoff always occurs well below the base of the thickened continental crust, and by the time it is completed (after about 10 m.y.), conductive cooling has had enough time to create a cold lithospheric mantle root below the crust. The breakoff does not occur at shallow depths and is not fast enough to let the hot asthenospheric material replace the detached material. Therefore, the base of the crust never experiences subcrustal temperatures during the collision, and syn-collisional magmatic activities cannot be inferred from the models.

The lithospheric root that forms as a consequence of crustal thickening appears to be thermally stable, since no model shows any rapid removal of this layer by convection. In this regard, the results of the models are consistent with those of Buck & Toksöz (1983) and Lenardic & Kaula (1995, 1996) who predict that under Newtonian rheologies the removal of the lithospheric root below orogenic belts is accomplished by slow thermal erosion as opposed to rapid gravitational instability. Houseman & Molnar (1997) have emphasized the importance of non-Newtonian viscosity on the instability of the thickened lithospheric root and its rapid removal, and Schott &

Schmeling (1998) have shown that delamination of the mantle lithosphere can happen only if both non-Newtonian and brittle rheologies are considered for the lithosphere. Also, Lenardic & Kaula (1995) have demonstrated the role of lateral variations in the lithospheric strength in the removal of the lithospheric root. In the dynamic models, non-Newtonian rheology is used to model the lithospheric plates, and they fail to show the convective removal of the root. This could be due to two factors: 1) As argued by Schott & Schmeling (1998), the weakening effect of brittle upper crust and pore pressure in the lithosphere have considerable influence on lithospheric delamination, since olivine rheology does not allow for delamination due to its high viscosity. The dynamic models lack both of these features. The viscosity functions were chosen in order to produce a realistic plate-like behavior. This restricted the acceptable viscosity range of the models to some extent, and may have resulted in a viscosity structure that was not suitable to model convective instability of the lithosphere. 2) The models do not provide any mechanism by which the peripheral regions of the thickened lithosphere could be weakened and assist the detachment and foundering of the central part of the lithosphere. The weakening should occur in the peripheral region where the mantle part of the lithosphere is already thinned (Lenardic & Kaula 1995). Examination of the thermal structure of the subducting lithosphere (e.g. Figure 5.16) reveals that the thickness of the peripheral mantle lithosphere is comparable to that of the peripheral crust. It is possible that a crustal plateau with a greater horizontal extent would result in a larger lithospheric root with a greater thickness variations across its length. This would require a longer subducting continental plate.

### **6.1.6 Advection of compositional heterogeneities**

The advection of compositionally distinct layers in the flow field requires the solution of the advective transport equation. An improved version of the second moment

method developed by Ghods, Sobouti & Arkani-Hamed (2000) is used to solve this equation. The method is compared with field and tracer methods in a variety of geodynamic problems. The method has less numerical diffusion than the field methods and is computationally more efficient than the tracer methods in thermo-chemical convection problems of long-term mixing.

## 6.2 Proposals for future research

Several proposals can be made for future improvements of the models:

- 1) A model that extends to the bottom of the mantle and has a greater horizontal extent, should be used. The inclusion of the lower mantle will allow to take into account the effect of the lower part of the slab on the stresses near the surface, since a longer slab exerts a stronger pulling force. This lack of downward force was partially compensated in the models by assuming a lower viscosity jump between the upper and lower mantle than that predicted from geophysical observations. The viscosity jump in the models was assumed to be a factor of two, whereas predicted values suggest 10 to 100 times viscosity variation across the upper-lower mantle boundary. Models with greater horizontal extent allow for plate geometries that can better approximate the Earth's lithosphere.
- 2) The effective decoupling of the two adjacent plates at the subduction zone has an important role in the plate-like behavior of the model lithosphere. Thus, numerical methods that can incorporate fault elements can be instrumental in achieving such behavior.
- 3) A more realistic rheology that could include the visco-elastic deformation of the crust should be used. This could be helpful in achieving a more effective crust-mantle

decoupling if delamination or any other convective instability involving the lower part of the lithosphere is to occur.

**4)** Internal heat sources such as radioactive heat production and frictional heating should be included in the model. This will result in a more accurate thermal structure of the crust that in turn will result in a more realistic viscosity variations. Heating along the subduction fault by friction can also have important consequences for the subduction depth of the continental crust.



## Appendix A

# Discretization of the Governing Equations

This appendix describes the discretization procedure of the governing fluid dynamics equations. The discretization process is described in detail by Patankar (1980) and only a brief summary is given here.

The general differential equation of a dependent variable  $\phi$  can be written as:

$$\frac{\partial}{\partial t}(\rho\phi) + \nabla \cdot (\rho\mathbf{v}\phi) = \nabla \cdot (\Gamma\nabla\phi) + S \quad (\text{A.1})$$

where  $\phi$  represents the scalar quantity of interest such as the velocity components  $u$  and  $v$ , pressure  $p$ , or temperature  $T$ ,  $\mathbf{v}$  is the velocity vector,  $\Gamma$  is the diffusion coefficient that corresponds to the viscosity or the thermal diffusivity in the momentum or energy equations, respectively, and  $S$  is the source term that represents the pressure gradient and the body force in the momentum equation, or the heat sources in the energy equation. In the case of equation of conservation of mass,  $\phi$  takes the value of 1, and the unsteady, the diffusion, and the source terms vanish in an incompressible fluid. In the control volume method the equations are integrated over the control

volumes that are centered at the grid points. Simple interpolation functions are used to evaluate the integrals. The final discretized equations at a given node  $p$  are cast in the following general form:

$$a_p \phi_p = \sum_n a_n \phi_n + b \quad (\text{A.2})$$

where summation is over the neighboring nodes  $n$  around node  $p$ . The constants  $a_n$  are the coefficients of the flux of the neighboring scalar values across the surfaces of the control volume, and the body term  $b$  is the volume integral of the source terms. The coefficient  $a_p$  is equal to the sum of the neighboring coefficients:

$$a_p = \sum_n a_n \quad (\text{A.3})$$

The resulting discretization for the  $x$  and  $z$  components of the momentum equation can be written as:

$$a_p^u u_p = \sum_n a_n^u u_n + b^u - \Delta V_p \frac{\partial p}{\partial x} \quad (\text{A.4})$$

and

$$a_p^v v_p = \sum_n a_n^v v_n + b^v - \Delta V_p \frac{\partial p}{\partial z} \quad (\text{A.5})$$

respectively, where the last term in each equation is the volume integral of the pressure derivative over the control volume  $\Delta V_p$ . The above equations can be rearranged as:

$$u_p = \hat{u}_p - \frac{\Delta V_p}{a_p^u} \frac{\partial p}{\partial x} \quad ; \quad v_p = \hat{v}_p - \frac{\Delta V_p}{a_p^v} \frac{\partial p}{\partial z} \quad (\text{A.6})$$

where the 'pseudo-velocities'  $\hat{u}_{i,j}$  and  $\hat{v}_{i,j}$  are defined by:

$$\hat{u}_p = \frac{\sum_n a_n^u u_n + b^u}{a_p^u} \quad ; \quad \hat{v}_p = \frac{\sum_n a_n^v v_n + b^v}{a_p^v} \quad (\text{A.7})$$

The discretized equation for the pressure is constructed by using velocity functions such as those in Equation A.6 to obtain integrals of the mass conservation equation. The resulting discretized equation can be written as:

$$a_p^p p_p = \sum_n a_n^p p_n + b^p \quad (\text{A.8})$$

The above procedure eliminates the spurious checkerboard pressure fields by making the velocity field dependent on the pressure gradient between adjacent nodes. The equations of momentum, continuity and energy are solved sequentially using iterative procedures. To accelerate the convergence rate of the above procedure, the iterative pressure-correction procedure of the SIMPLER algorithm by Parakash & Patankar (1985) is employed. The procedure works as follows:

- 1) The current pressure field,  $p^*$  is used to obtain the nodal velocity fields  $u^*$  and  $v^*$ , by solving the momentum equation.
- 2) The pseudo-velocity fields  $\hat{u}^*$  and  $\hat{v}^*$  are calculated by using the  $u^*$  and  $v^*$  fields.
- 3) A pressure correction field  $p'$  is introduced and is computed by requiring that the velocity fields,

$$u = \hat{u}^* - \frac{\Delta V_p}{a_p^u} \frac{\partial(p^* + p')}{\partial x} \quad ; \quad v = \hat{v}^* - \frac{\Delta V_p}{a_p^v} \frac{\partial(p^* + p')}{\partial z} \quad (\text{A.9})$$

satisfy the equation of continuity. This leads to a discretization equation for the  $p'$  field similar to that of Equation A.8.

- 4) Once the pressure correction field is obtained, the continuity-satisfying velocity field can be calculated.
- 5) The energy equation is solved using the new velocity and pressure values.
- 6) If the convergence criteria are not satisfied, the cycle is repeated.

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**PREVENTING “WARS” IN OUR NEIGHBOURHOODS  
WITH COMMUNITY MEDIATION**

**TERESA ANN JANZ**

**A thesis submitted to the Faculty of Graduate Studies in  
partial fulfillment of the requirements  
for the degree of**

**Doctor of Philosophy**

**Graduate Programme in Psychology  
York University  
North York, Ontario**

**May 2001**

**mediation   conflict resolution  
conflict   applied psychology  
community services**



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by

**TERESA ANN JANZ**

a dissertation submitted to the Faculty of Graduate Studies of  
York University in partial fulfillment of the requirements for the  
degree of

**DOCTOR OF PHILOSOPHY**

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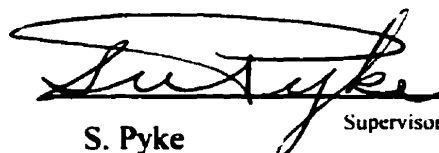
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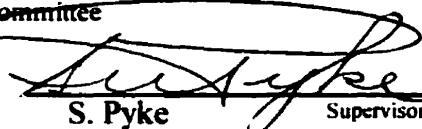
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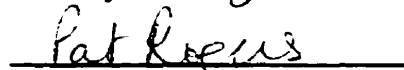
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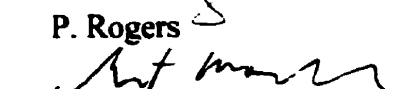
  
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May 2001

## ABSTRACT

This four-phase study of community mediation involving three urban mediation centres, was influenced by feminist and participatory action research approaches. *Phase 1* (research design) involved interviews with coordinators ( $N = 4$ ) and a focus group with mediators ( $N = 30$ ) to determine relevant and appropriate research questions and methods. One suggested topic was to explore the factors that influence a second-party's decision to mediate. This became the main focus of the dissertation. *Phase 2* involved a survey of police officers' ( $N = 56$ ) attitudes toward mediation, the referral process and the police-mediator relationship. The police are an important part of the mediation process because they provided the most referrals to the centres (23%).

*Phase 3* was an archival study of 1060 cases recorded between 1990 to 1996. Statistical analyses were used to describe the data and predict the outcome of conflict. For example, most conflicts were between neighbours involving relationship issues, noise and/or harassment. The most frequent outcomes were second-parties declining mediation (28%). Twenty percent of all the cases were mediated, resulting in an agreement 87% of the time. Inferential statistics suggested that the referral source and outcome were significantly related ( $\chi^2 [18, N = 844] = 41.14, p < .001$ ). Additionally, a logistic regression of *relationship* and *conflict* variables in a model predicting *mediation* significantly fit the data ( $\chi^2 (12) = 67.81, p < .00005$ ).

Finally, in *Phase 4*, in-depth interviews were conducted with 22 *second-party* disputants--approximately half had participated in mediation, while the other half had refused. These two groups of disputants were qualitatively compared to explore the

saliency of several variables in relation to the decision to mediate. Consideration was given to disputants' perceptions of: personal *characteristics*, including strategies for responding to conflict; *the first party*, including trust and perceived motives for requesting mediation; *relationship issues*, including characteristics of the past, present (supportiveness, interdependence and power), and future relationship; the *conflict*; the impact of *third party involvement*; and *alternatives*, including whether the alternatives meet one's needs for justice.

This dissertation benefited from *methodological triangulation* (focus groups, interviews, and surveys), and *data triangulation* (qualitative and quantitative) where data were gathered from different sources (mediators, archives, police officers and community members). Action-related results were another important contribution of this study. This project concludes by reflecting on the process and results and by looking ahead to ideas for future research and social change.

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I would also like to express my appreciation to all those who were participants in this study. Thanks to the community members who shared their experiences of conflict. I hope your stories will impact others to consider constructive approaches to conflict. Thanks also to the police officers who participated as co-researchers, and to those who responded to the survey and provided feedback throughout this study.

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My deepest gratitude to my husband and best friend, Jeff Partrick. I am thankful everyday that you are in my life. Completing this project without your love and support would have been inconceivable.

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## CHAPTER 1 – OVERVIEW OF DISSERTATION

Like other persons. I look around me with abhorrence and dismay at the brutality of much human conduct, including oppressive domination and destructive conflicts. I am convinced that such conduct is not inherent in the human condition and that with experience, reflection, and creativity we can reduce it. (Kriesberg, 1998, p. xiii)

As this quotation suggests, conflict can be very destructive, and people have been interested in understanding these destructive processes for a long time (Rubin, Pruitt, & Kim, 1994). Although conflict is often viewed as harmful, it also provides opportunities for positive change. A great deal of research on conflict tends to focus on the processes that promote constructive and/or destructive outcomes (Boardman & Horowitz, 1994; Deutsch, 1991), and in that regard this study is no different. Specifically, community mediation is the constructive approach that is the focus of this study.

Mediation, as an informal approach to conflict resolution, has had a very long history. It has existed in a variety of forms in a number of religions and countries. However, 1978 marked the emergence of the first community mediation centre in Canada (Picard, 1998), which was said to arise partly from the dissatisfaction people felt with formal dispute resolution processes (Folberg & Taylor, 1984).

Community mediation in the current study refers to a voluntary process whereby an impartial third party facilitates a problem-solving process that encourages the disputants to construct their own resolution. The party who contacts the service requesting assistance is considered the *first party*, while the *second party* is contacted by the mediators. Mediators generally attempt to explore disputants' underlying interests

relevant to the conflict, hoping that commonalities may be discovered. One objective is to develop an agreement that is acceptable to both parties.

Very little research has been done on community mediation, especially in Canada (Dukes, 1990; Wall, 1981; Picard, 1998). However, research that is done tends to focus on issues related to "successful" mediation (e.g., reaching an agreement, satisfaction, and duration of the agreement). Since mediation is voluntary, one drawback is that community members tend not to seek its use spontaneously. Moreover, many second parties tend to decline offers of mediation. Although we know very little about the motives for mediation, past research suggests that certain issues may be related to its use, including: personal characteristics, perceptions of the other party, the relationship between the disputants, conflict-related issues, and third party involvement. The perception of alternatives including considerations of the options that will meet the disputants' needs for justice (e.g., distributive, procedural and retributive) may also be important to consider.

Unfortunately, the research in this area has several limitations. One problem is that the discoveries are generally not practical and do not reach those, like mediators, who could most benefit from the findings (Dukes, 1990). The focus on lab research, simulations and role plays also has several shortcomings. Such studies tend to oversimplify conflict and conflict processes, which are very complex. According to LeBaron (1997), another common limitation is that researchers often attempt to "simplify" their studies by focusing more on dominant social groups and ignoring diversity.

Past research has also tended to focus on divorce and other types of mediation while relatively little attention has been given specifically to *community* mediation. This is problematic because preliminary findings comparing different types of mediation seem to suggest that certain factors are differentially related to different types of mediation. These and other shortcomings led to the idea for the current study that includes community mediators as co-researchers, investigates real conflicts, focuses on *community* mediation, and embraces (rather than controls or eliminates) diversity.

Although my perspective has been heavily influenced by a social psychological approach, a traditional or conventional study was not appropriate given the nature of this social setting and the research questions. Consequently, I looked to feminist and participatory action research (PAR) approaches for inspiration. Feminist principles that were particularly influential included recognizing the importance of the “self” in research, collaborative scholarship—minimizing differences between the researcher and researched, an “action orientation,” and use of the situation at hand. These principles parallel those of participatory action research (PAR). In particular, PAR approaches value participation and action. By valuing participation, PAR recognizes the link between knowledge and power and that the processes of constructing one’s own knowledge can be empowering. Such approaches also value the knowledge of the participants and attempt to decrease the power imbalance that often exists between the researcher and researched. By valuing “action,” PAR approaches also tend to focus on practical issues, usually deriving research questions from particular social settings. The underlying goal is to

promote change that responds to the needs of the community and to empower those in the setting to make change a self-generating process.

There were several groups of participants involved in this study (i.e., police, community disputants, mediators and mediation-centre coordinators). however, the co-researchers were primarily the "Metro Mediators." This group included the coordinators of three community mediation centres and an additional 5 to 12 mediators (including myself), depending on who was present at the meetings. Thus, the police officers and community disputants who were involved in this study could be more appropriately viewed as consultants with valuable knowledge to share, rather than as co-researchers. Ideally, from a PAR perspective, all participants would have been co-researchers. Since they were not, some of the limitations to mutual inquiry will be explored later in this paper.

The goals of this study that were influenced by PAR and feminist approaches to research, included the following:

1. to foster a *trusting and respectful relationship* with the Metro Mediators,
2. to *minimize the power imbalance* between myself and the Metro Mediators, and
3. to examine a problem in a particular context using a *problem-solving* approach to produce *useful knowledge*.

To meet the above goals I adhered to three principles that included: (1) encouraging as much participation as possible; (2) encouraging the Metro Mediators to control the

research decisions; and (3) making it a priority to provide useful knowledge that *may* be used to promote change.

The epistemological influences of feminism and PAR approaches distinguish this study from traditional psychological research. Although a “traditional” positivist researcher may critique this approach as having little or nothing to offer, to understand its contributions it is necessary to consider research from a different perspective. It requires considering action (change or ideas for change) as part of the results. It is also important to recognize that there is valuable information to be gained by collaborating with the participants, rather than controlling or manipulating them. Moreover, it is beneficial to recognize that the researcher’s own knowledge and history can influence each aspect of a study from the research design to the use of the findings.

Although combining psychology and PAR approaches may seem contradictory, Brydon-Miller (1997) suggests that “Participatory Action Research has the potential to transform our notions of the practice and purposes of psychological research. However, integrating Participatory Action Research into our discipline will require flexibility and reflection” (Brydon-Miller, 1997, p. 664). Flexibility was necessary for the completion of this study, and by reflecting on the process I hope to contribute to our understanding regarding some of the challenges and benefits of this approach to research.

This four-phase study began in the summer of 1995 and involved three Toronto-area community mediation centres (Scarborough Conflict Resolution Services [SCRS], Conflict Mediation Services of Downsview [CMS-D], and St. Stephen’s Community House Conflict Resolution Services [CRS]). After volunteering for several months in one



of the centres and establishing relationships with all of the centres, the Metro Mediators (i.e., a group of mediators and coordinators) asked me to present some initial ideas for research at their first group meeting. This provided us with a starting point for discussing the main problems the mediators faced when providing their services.

After interviewing the coordinators, conducting a focus group with the mediators, and obtaining feedback from the Metro Mediators, we identified the need for several research projects. The primary topics of interest were narrowed down to three additional research projects—a police study, an archival study of mediation-centre case files and a qualitative analysis of in-depth interviews with second-party disputants.

The next research phase, *Phase 2*, involved a study of the mediation centres' largest referral source, the police. A survey was used to explore police attitudes toward mediation, the referral process and ideas regarding an effective police-mediator relationship. The officers reported that they would be more likely to refer neighbours, landlords and their tenants, families, co-workers, and any other individuals who were experiencing minor on-going disputes, and less likely to refer disputes involving violence, criminal offences and/or sexual assault.

Regarding the referral process, the findings suggested that not all officers wanted feedback regarding the cases. Some concerns about the referral process suggested by officers included: mediator-police communication regarding cases, mediator response time, negative public perception of officers (e.g., not doing their job), and the voluntary nature of the mediation process. On the other hand, the perceived benefits of referrals included saving the police time to respond to other "more serious" issues and fostering

positive public perceptions (e.g., that officers are considerate of community members' problems).

The findings led to several responses from the mediation centres and also promoted ideas for change. For example, the research process used during this phase helped to foster a better working relationship with the police. The same process was also applied to other police divisions and referral sources, which helped the mediators build new relationships.

The type of information provided by this study was descriptive and had some methodological limitations, but perhaps one of the main benefits was that it investigated a topic of primary importance to the Metro Mediators. Moreover, several researchers suggest that acting as co-investigators, as the Metro Mediators did throughout this research phase, can be an empowering process that helps foster self-reliant researchers (Elden & Chisholm, 1993; Kirby & McKenna, 1989; Maguire, 1987).

The next research phase (*Phase 3*) involved examination of 1062 cases recorded between 1990 to 1996 at the three mediation centres. One outcome of this process was the provision of descriptive statistics regarding the number and types of cases, referral sources, types of relationships and conflicts between the disputants, and the outcomes of cases. Demographics of the disputants including "culture," sex and age were also reported. Inferential statistics suggested that the type of referral source, relationship and conflict were significantly related to the outcome of disputes.

The action-related results of this study included using the data for funding applications, media information, to inform the topics selected for educational workshops

for the mediators and to write letters requesting support from different community organizations. The difficulties I faced while gathering some of the data for this study also provided several ideas for improving record keeping that were implemented at the centres.

The final research phase (*Phase 4*) involved in-depth interviews with 22 second-party disputants—approximately half had accepted an offer of mediation, while the other half declined. This was done to investigate the reasons why so many decline offers of mediation. Several researchers provided guidance for the specific analytic process used to examine transcripts of the data (e.g., Coffey & Atkinson, 1996; Denzin & Lincoln, 1994; Ely, et al., 1991; Kirby & McKenna, 1989; Lofland & Lofland, 1995; Patton, 1990; Rhyne, 1996; Tesch, 1990; Whyte, 1989).

I was also influenced by several qualitative approaches (e.g., comparative thematic analysis, interpretational analysis, consequential analysis, and discourse analysis). Furthermore, I also examined the *attributions* that the respondents made regarding the conflict and the other party (i.e., stable versus unstable; internal versus external; and intentional versus unintentional).

The specific analytic method involved a *code-and-retrieve* process whereby tentative categories were developed, the data were segmented into smaller meaning units, code labels were assigned to the segments, and then all the segments were gathered together to explore patterns, themes and connections between them. The actual process is not linear. Rather, the steps overlap and tend to be recursive.

Throughout the analysis, I constantly compared the group of participants who agreed to offers of mediation with those who declined, looking for patterns in the data (cf., Hayes, 1997a; Sherrard, 1997). The description of the results focused on several different themes including: personal characteristics (e.g., socioeconomic status and conflict tactics); perceptions of the first party (e.g., trust and motives for mediation); relationship issues (e.g., supportiveness, interdependence and power); the conflict (i.e., type of issue, conflict metaphors and attributions of blame); the impact of third party involvement; and the perception of alternatives (especially considering the disputants' needs for justice). While the data from this study informed educational workshops for the mediators, it was mostly used to provide ideas for change.

By investigating disputants' experiences, their perceptions, emotions and attributions regarding the other party and the conflict, this phase of the study was once again intended to explore the main research question regarding the decision to mediate. Although the results were compared with theories and past research regarding destructive and constructive conflict, I also remained open to unique findings. This phase was not intended to be predictive, it was intended to explore and describe actual conflicts and the characteristics that may be related to the decision to mediate.

At the completion of this report some conclusions are drawn regarding the findings and I also look ahead to future research and provide some suggestions for methods of promoting more widespread acceptance and use of mediation (i.e., by considering change at the individual, community and societal levels). In this chapter, I also reflect on the influence of feminist and PAR principles by examining how the goals

of participation and action were realized in the current study. For example, although this project involved collaborating with a core group of mediators and coordinators (called the “Metro Mediators”), other participants were not involved in the research to the same extent. Thus, it is perhaps more appropriate to view the police and community members as participants who contributed valuable information, rather than as co-researchers.

Implemented changes and ideas for change that were related to the findings from each of the research phases are also considered in this chapter. The application of PAR principles to the study of community mediation was another contribution of this study (cf., Dukes, 1990), as was the integration of PAR principles and psychological research (cf., Brydon-Miller, 1997).

The majority of the findings are descriptive and exploratory and do not purport to be predictive. Consideration was given to past research on destructive and constructive (i.e., mediation) conflict, while remaining open to the discovery of new findings. Although this project has not solved the problem of why so few conflicts proceed to mediation, it has added to our understanding of some of the barriers and bridges to the use of this process. This study also improved upon some past research by including an important referral source (i.e., the police) in a study of mediation (*Chapter 5*); providing descriptive statistics regarding three Canadian mediation centres (*Chapter 6*); and by conducting a qualitative study that provided rich detail regarding disputants’ perceptions of “real” conflict and how such experiences may have contributed to destructive or constructive outcomes (*Chapter 7*).

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Arguably, another contribution of this study was the use of triangulation. Both the processes of *data triangulation* and *methodological triangulation* were used (Janesick, 1994). That is, I gathered different kinds of data—qualitative interview data and quantitative archival data: from different sources—mediators, police and disputants; using different methods—focus groups, in-depth interviews and surveys. Although there are limitations to triangulation, this study improves upon some previous studies by outlining where the findings converged and diverged using different sources and types of data. In particular, relationship issues, third party involvement and the conflict were all discussed in more detail in relation to the decision to mediate. Other convergences in the findings regarding the severity of community conflict, cultural issues and the challenges I faced while gathering data during each of the research phases, were also summarized. This chapter concludes by looking ahead to ideas for future research and to promoting change in the use of mediation.

### SUMMARY

The current study that began in the summer of 1995 and continued until March 2000, investigated several aspects of community mediation. This paper begins with a review and critique of some of the community mediation literature to illustrate how this study builds on past research. Although each phase of my dissertation had a slightly different objective, the overarching goal was to gain a better understanding of the factors (i.e., individual, interpersonal, and situational) that foster constructive conflict, especially mediation. This study differs in many ways from a “traditional” psychological approach, and is instead influenced by feminist and participatory action research. Had I not been

influenced by such approaches. I may have faced several barriers that probably would have prevented the completion of this study. With this approach, however, I was able to conduct a four-phase investigation of several factors related to the decision to mediate.

Since mediation is a constructive way to respond to conflict, *Chapter 2* explores some of the theories and past research on conflict and mediation, especially those related to the decision to mediate. This chapter also provides a brief overview of the history of community mediation and describes the type of mediation explored in the current study. *Chapter 3* describes social psychological, feminist and participatory action research approaches and considers how they influenced the current study. This chapter also describes the co-researchers of this study, the Metro Mediators, and reflects on the extent of their participation in this research.

*Phase 1*, the participatory research design process with the community mediators and coordinators, is summarized in *Chapter 4*. *Chapter 5* provides a report of *Phase 2*--a survey of the police. This chapter contains all of the elements of most psychological research reports (e.g., introduction, method, results and discussion). The archival analysis of the mediation centre case-file data is outlined in *Phase 3* (Chapter 6). Once again, this chapter contains all the elements of a traditional research report. The final research phase (*Phase 4*) is described in *Chapter 7*. This chapter provides an extended discussion of the qualitative research methodology used to analyze interview data with 22 second-party disputants and the results of this process.

Finally, *Chapter 8* outlines some action-related results, recommendations for mediators and researchers, limitations of the findings and additional ideas for future

research. This chapter also discusses the points where the findings from all of the research phases converged and diverged. Because the title of this project was intended to reflect all of the research phases, it is at this point where it can be meaningfully explained. Perhaps your curiosity to discover the meaning of the title and the patterns in the findings will encourage you to keep turning the pages.



## **CHAPTER 2**

### **CONFLICT AND MEDIATION THEORY: A BRIEF REVIEW OF THE LITERATURE**

The goal of most conflict research is to understand what factors contribute to the development of constructive and destructive conflict (Boardman & Horowitz, 1994; Deutsch, 1991). The goal of this study is no different--to understand why some people approach conflict constructively, using community mediation, while other conflicts remain entrenched in destructive patterns. To successfully embark on this type of venture requires background knowledge of several topics. First, it is essential to understand conflict and the main research findings in the conflict literature. Second, it is also important to understand how individuals respond to conflict. The conflicts in this study were transformed into disputes when a third party (e.g., a mediator) became involved. Thus, it was also useful to understand this transformation process. Third, since this study is an examination of community mediation, information regarding mediation theory, a brief history of this process, and characteristics of the mediation movement, will also be examined. I will also critically review some of the main themes in mediation research. Since time and space do not permit an all-inclusive review of the literature, I will focus on the issues that are most pertinent to the current study.

### **CONFLICT**

Conflict is complex and multifaceted. It can be understood at a number of levels, including intrapersonal, interpersonal, intergroup, or international (Worchel & Lundgren, 1991). Although other types of conflict occur frequently, interpersonal conflict--that

occurs between two or more people (or families)--will be the focus of this study.

Conflicts can be over scarce resources or incompatible goals (Cooks. 1995; Folberg & Taylor. 1984). "Resources can be physical, economic or social commodities" (Picard. 1998, p. 3). They can be tangible, which are usually easier to identify (e.g., money and jobs), or intangible (e.g., respect, power, status and love). Conflict involving incompatible goals occurs when an individual perceives someone has interfered with, or will interfere with, the achievement of a desired outcome (Rubin. Pruitt & Kim. 1994; Thomas. 1976). Some researchers emphasize that it is the *perception* of differences (e.g., Levinger & Rubin. 1994; Rubin et al., 1994; Thomas. 1976), and interdependence between the parties that are key elements of conflict (Cooks. 1995; Hocker & Wilmot. 1985).

Conflict may have many layers, with latent issues underlying manifest problems. Manifest conflict is overt and often readily apparent, while latent issues may be implicit or concealed (Deutsch. 1973; Peterson. 1983). For example, a manifest conflict may be expressed as a dispute about noise, while the underlying or latent conflict may involve disrespect for the other party's lifestyle (Raven & Kruglanski. 1970). The hidden layers of conflict add to its complexity, but for a resolution to be effective it is important to deal with the underlying issues (Deutsch. 1973).

Conflict can also be viewed as *divergence* of behaviours, affect, cognitions and goals (cf., Boardman & Horowitz. 1994). Moreover, Folberg and Taylor (1984) argue that "the degree of divergence determines the severity and duration of the conflict and affects the likelihood of successful conflict resolution" (p. 24). To contrast, the opposite of conflict is defined as "*convergence*: the aims, processes, methods, or behaviour that

create order, stability, and unity of direction” (Folberg & Taylor, 1984, p. 24). Of course, the method of promoting convergence that will be discussed later is mediation.

### **Themes in the Research on Conflict**

In a review of the conflict literature, Deutsch (1994) suggests that there are four common themes: (1) conflicts are mostly mixed-motive; (2) the two dimensions of conflict resolution are cooperative and competitive, which are associated with a number of conflict tactics; (3) the abilities of the parties can determine the outcome of conflict; and (4) conflict can be destructive or constructive.

### **Types of Conflict Outcomes**

There are many ways to view potential outcomes of interpersonal conflict. Conflicts can result in mutual loss (i.e., a lose/lose result); a gain for one and loss for the other (i.e., a win/lose result); and a mutual gain (i.e., a win/win result) (Deutsch, 1994). Research suggests that most conflicts involve “mixed motives” (Deutsch, 1994; Worchel & Lundgren, 1991). In such instances there is not necessarily a distinct winner and loser because of the wide range of possible solutions.

### **Cooperative/Competitive Conflict Resolution Tactics**

According to Deutsch (1994), a second main theme of conflict research is that there are two main processes involved in conflict resolution—cooperation and competition. Competitiveness reflects attempts by individuals to satisfy their own needs, while cooperativeness represents attempts to satisfy both the needs of the self and the other. Cooperative and competitive processes are associated with different conflict resolution tactics, attitudes, and communication styles.

Thomas and Kilmann (1996) describe five conflict styles based on these dimensions: competing, avoiding, compromising, collaborating (problem solving) and accommodating. *Competing* (high competition and low cooperation) is an uncooperative style where an individual tends to heed only his/her own interests. Competitive individuals often use power tactics in order to “win.” *Accommodating* (low competition and high cooperation) is the opposite of competing whereby an individual complies with the wishes of another party at the expense of her/his own concerns. *Avoiding* (low on both competition and cooperation) occurs when an individual does not pursue either her/his own or the other party's concerns. Disputants who *compromise* try to find solutions that partially satisfies both parties, while those who *collaborate* or *problem-solve* (high on both competition and cooperation) work to find a “win-win” solution that is mutually acceptable.

### **Abilities and Skills of Parties**

Deutsch (1994) argues that the third main theme of conflict research is that the abilities and skills of the parties to balance their own needs and the needs of the other party, will influence whether the conflict will be constructive or destructive. Disputants' conflict management skills such as active listening and the ability to identify underlying interests can also influence the outcome (Boardman & Horowitz, 1994).

### **Constructive or Destructive Outcomes**

Deutsch (1973; 1994) suggests that because a great deal of research has been done on the conditions that foster cooperative and competitive processes, this is the fourth main theme of conflict research. People in our society often view conflict negatively as a

process that produces a win/lose situation (Folberg & Taylor, 1984), or as being associated with a host of negative emotions, including stress (Irving & Benjamin, 1992). According to Folger et al. (1993), destructive conflicts are characterized by “protracted, uncontrolled escalation cycles. . .” (p. 9), avoiding the issues, ending the conflict by force and inflexible response styles. Such outcomes tend to leave at least one party dissatisfied.

While conflict can be very harmful, it can also be constructive when it provides opportunities to promote personal and social growth (Deutsch, 1994). In fact, interpersonal conflict exists “on a continuum ranging from totally destructive (or relationship-damaging) to totally constructive (or relationship-enhancing)” (Levinger & Rubin, 1994, p. 205). Constructive conflict can improve the relationship and the situation by reducing tension, encouraging creative thought, and establishing new norms for behaviour (Folberg & Taylor, 1984; Folger et al., 1993). Constructive approaches require parties to use flexible and diverse behaviours. It is also helpful if they believe that finding a win/win solution is possible and important (Deutsch, 1973), there is no excuse for unresolved conflict, they may have a biased view of the conflict, and the other party sincerely wants to resolve the conflict (Picard, 1998).

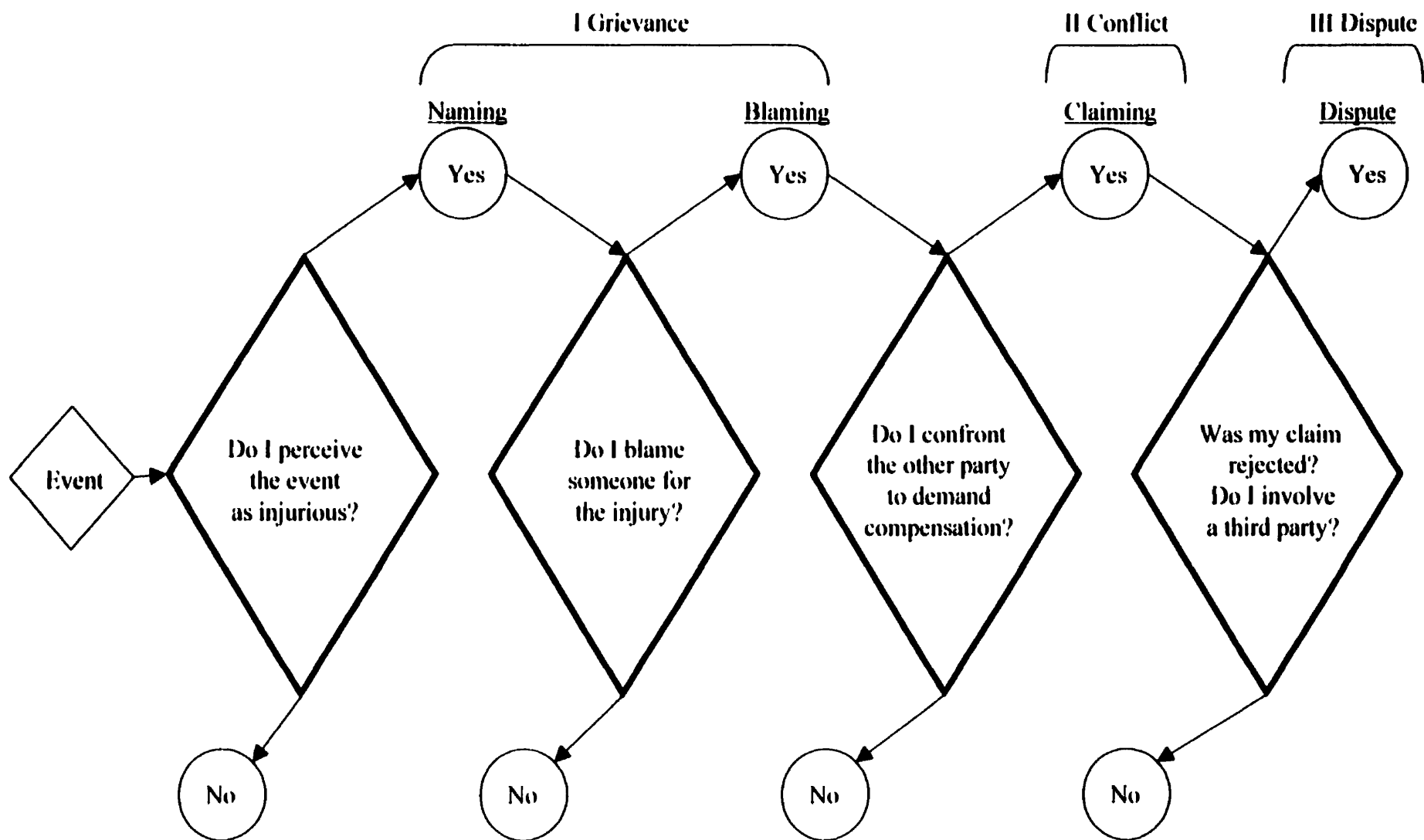
“Understanding the conditions which give rise to cooperative or competitive social processes, as well as their characteristics, is central to understanding the circumstances that give rise to constructive or destructive processes of conflict resolution” (Deutsch, 1994, p. 15). Thus, by investigating the cognitive (e.g., perceptions and motivations), behavioural and affective factors that may encourage mediation, one goal of this study is to contribute to previous findings regarding these topics.

## RESPONDING TO CONFLICT

### Transformation of a Conflict into a Dispute

There are important cognitive processes involved when an individual transforms an event into a conflict, and a conflict into a dispute (where a third party is involved). I developed Figure 2.1 based on theoretical explanations of this process (Coates & Penrod, 1980-81; Felstiner et al., 1980-81; and Paquin, 1992). This figure identifies three main stages in the transformation of a dispute: 1) *grievance*, 2) *conflict*, and 3) *dispute*. Moreover, it represents the transformation as a *process*. That is, after some event has occurred, an individual must ask her/himself a question at each stage (represented by the diamond shapes). When the answer is "yes," a transformation occurs, but if the answer is "no" the transformation terminates. A "yes" response to all four questions indicates that an event had been transformed into a dispute.

First, an event becomes a grievance after two cognitive transformations occur: *naming*--perceiving an event as injurious or as an injustice; and *blaming*--attributing fault to an individual or "social entity" (Felstiner et al., 1980-81, p. 635). An event becomes a *conflict* when a third cognitive transformation--*claiming* occurs. An individual who demands compensation for an injury is making a claim. "A claim is transformed into a *dispute* when it is rejected in whole or part" (Felstiner et al., 1980-81, p. 636), or when a third party becomes involved (Paquin, 1992). Attributional biases may influence this process. Therefore, several social psychological theories--attribution theory, relative deprivation, and equity theory--are useful for understanding the psychological processes involved in the transformation processes.



**Figure 2.1. The Transformation of a Conflict.**

### **Naming**

People must perceive a particular event and label it as injurious before the first transformation, *naming*, will occur (Coates & Penrod, 1980-81; Felstiner et al., 1980-81). Assessments of injury are very subjective so the *Relative Deprivation Theory* is particularly helpful for understanding this transformation (Coates & Penrod, 1980-81). This theory argues that judgements of injury depend on the standard that individuals used for *comparison* and how they perceived their situation *relative* to that standard. For example, people may compare themselves to socially similar others, and/or make temporal comparisons (Berscheid, 1985; Coates & Penrod, 1980-81). When an event does not match social norms of what is acceptable, then people may perceive it as injurious (Coates & Penrod, 1980-81; Peterson, 1983). For example, I recently moved to a new area and I occasionally hear a neighbour playing her drums. Since hearing drum music is not objectively harmful, I consider additional information before I label it as an annoyance. I might ask myself: (1) What do other neighbours think of the drum music? (*social comparisons*); (2) Have my neighbours been quiet in the past? (*temporal comparison*); or (3) Is it socially acceptable for a neighbour to play the drums (*normative consideration*)? If the answers lead me to experience *relative deprivation* then I would feel injured.

### **Blaming**

The next transformation, *blaming*, occurs with the realization that an individual is responsible and is able to do something to rectify the injury (Coates & Penrod, 1980-81; Felstiner, et al., 1980-81). Individuals also consider their own role in the conflict (self-



blame) at this stage. *Attribution theory* is helpful for understanding this process.

To explain when individuals might blame themselves or at least accept some responsibility for the conflict, Coates and Penrod (1980-81) have applied three dimensions of attribution theory. First, individuals contemplate whether the individual or the situation (the internal-external dimension) caused the harmful event. Next, they consider the *stability-instability* of the event to determine the likelihood that the behaviour can/will change. Third, individuals often consider whether the harmful event was an accident or intentional (the *intentional-unintentional* dimension). More specifically, they argue that Kelley's contributions to attribution theory are important. Kelley suggests that when we observe someone's behaviour, we ask three questions relevant to distinctiveness, consensus and consistency (Coates & Penrod, 1980-81).

Thus applying the same "drum music" example to the blaming process, I might consider the following:

- (1) Am I the only one noticing the drum music? (*distinctiveness*);
- (2) Do all my neighbours play loud music? (*consensus*); and
- (3) How often does my neighbour play the drums? (*consistency*).

This approach suggests that I would likely blame myself (rather than my neighbour) if I was the only neighbour bothered by the music (*distinctiveness*), and if most neighbours (*consensus*) play loud music often (*consistency*). I might think, for example, that I am too sensitive to noise or that I moved into the "wrong" neighbourhood. Research on attributions, however, suggests that they are not always formed rationally. The *fundamental attribution error* suggests that, in this example, I would be more likely to

blame my neighbour for being a noisy person, rather than blaming the situation or myself (e.g., Deutsch, 1991; Folger et al., 1997; Worchel & Lundgren, 1991).

### **Claiming & Disputing**

After individuals blame someone for causing injury, they make several considerations before claiming compensation or including a third party in the conflict (see Figure 2.1). *Attribution theory* and *perceived control* are most helpful for understanding these transformations (Coates & Penrod, 1980-81). Based on attribution theory, Coates and Penrod (1980-81) suggest there is a curvilinear relationship between the dimension of stability (the likelihood that the conflict situation will change in the future) and "claiming." Either very stable or very unstable attributions will discourage claiming. In other words, an annoyance that was a one-time occurrence, or conversely, happened all the time, are both situations that discourage claiming.

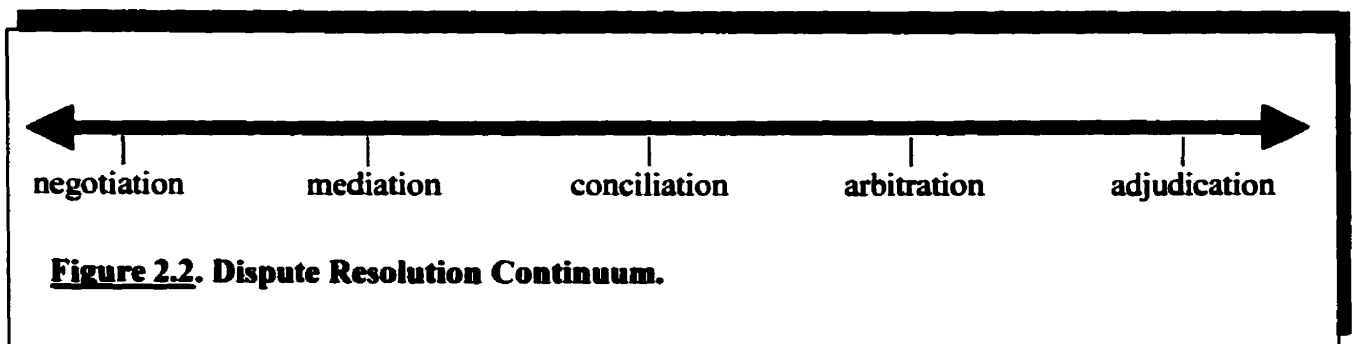
The claiming and disputing transformations may also be explained by the theory of *perceived control* (Coates & Penrod, 1980-81). That is, individuals who feel they can influence the outcome of a conflict are more likely to make a claim or to ask someone else for assistance (dispute). On the other hand, when people feel hopeless or helpless they remain unresponsive. Once again, applying the same drum-playing example, this theory suggests that I would ask my neighbour to stop playing her drums if I thought it would have an impact. If my neighbour rejected my claim, then I might involve the police, for example, if I thought they would be effective at stopping the noise.

An empirical study of this theory found that it was effective for describing the cognitive-behavioural transformations that occur in community conflict (Paquin, 1992).

This telephone survey of California residents found that most respondents (60%) either took no action or coped passively when faced with an annoying neighbour. Passive coping methods included: obtaining information but not using it, praying, observing, and waiting for others to intervene. Only one third of the community members who were faced with an annoying neighbour took some form of action, and a conflict was more likely only after one individual became *very* annoyed (Paquin, 1992). Conflicts were less likely to proceed to the dispute stage (i.e., involving a third party) if the annoyed person did not know who was to blame, if they believed their neighbour was not responsible for the annoyance, or if they felt they had no control over the situation. Before taking some form of action (i.e., claiming or disputing), the annoyed neighbour had to: perceive that an injustice had occurred, identify who was responsible, and consider other available options.

### **Dispute Resolution**

Once a third party becomes involved in a conflict it is transformed into a dispute. There are a number of dispute resolution processes. For ease of explanation, it helps to place these procedures on a continuum with respect to several characteristics (See Figure 2.2 --based on information from Picard [1998], p. 8). At one end of the continuum is



**Figure 2.2. Dispute Resolution Continuum.**

“negotiation” where disputants are required to resolve the conflict themselves or through a representative. Processes toward the left provide disputants with more control, are more flexible, voluntary, informal, interest based and private. At the other end of the continuum is “adjudication” which is a formal process conducted in a court and based on the law (Picard, 1998). Dispute resolution processes toward this end of the continuum are more formal, based on legal norms, expensive, public, involuntary and provide disputants with relatively little control.

Mediation is one alternative dispute resolution (ADR) process that “represents a move away from adjudicative methods of dispute resolution” (Picard, 1998, p. 8). The process of mediation falls along this spectrum “. . . defy[ing] a strict definition. The specifics of mediation depend on what is being mediated, the parties in dispute, who is doing the mediating and the setting in which mediation is offered” (Folberg & Taylor, 1984, p. 7). Although mediation will be described in more detail later, it can be generally defined as a process involving a third party who works with disputants to help them arrive at their own resolution.

This form of “alternative” dispute resolution has been used to resolve a wide range of disputes: family, neighbourhood and organizational (e.g., schools, hospitals, prisons) conflicts, claims involving government agencies, and criminal offences (e.g., sexual harassment, vandalism, parking, and small-claims, etc.). The impact of mediation centres is usually wide-reaching because they offer: resources for other social service agencies, specialized programmes (victim-offender programmes), and conflict resolution training (Dukes, 1990). Additionally, centres often have an impact on the community

through publicity and public education.

### **Community Mediation**

#### **History**

The concept of mediation has a long history, being “one of the oldest and most common forms of conflict resolution” (Picard, 1998, p. 16). It has existed in a variety of forms, in a number of religions and cultures that have discouraged violence (Danielsson, 1994). There are references to mediation processes in Asia, Africa (the *moot* or community meeting), in early Native American cultures, Russia and South America (Folberg & Taylor, 1984; Picard, 1998). In these traditions, “extended families, healers, clan members, and religious leaders have all offered wisdom, precedent, and models to assist in the resolution of social conflict” (Picard, 1998, p. 17).

As people began to rely more on formal dispute resolution processes, courthouses became overwhelmed with addressing conflicts that had once been resolved by extended family members, religious or ethnic groups and communities organizations (Danielsson, 1994; Folberg & Taylor, 1984). In the United States, the 1960s marks the beginning of the *alternative dispute resolution* (ADR) movement (Picard, 1998). ADR is used to describe alternatives to the adversarial court system and is a movement away from formal adjudication processes for resolving conflict. “Advocates of ADR believed it would promote compromise over win-lose outcomes, replace confrontation with harmony and consensus, minimize state control, and empower communities to achieve harmonious resolutions to social conflicts” (Picard, 1998, p. 9).

This movement includes a variety of conflict resolution procedures, but the one

that receives the most attention is mediation (Bush & Folger, 1994; Picard, 1998). In the United States, the community dispute resolution movement began in the 1970s (Danielsson, 1994), and community mediation centres, neighbourhood justice centres and community boards began to emerge in the 1980s (Folberg & Taylor, 1984).

“The history of mediation is entwined with the core values of Canadian society, most notably justice, self-determination, and the acceptance of humans as rational, problem-solving beings” (Picard, 1998, p. 16). The ADR movement in Canada arose from major concerns with the justice system. Thus, the first mediation centres wanted to distance themselves from the goals of punitive and retributive justice, toward a restorative justice approach (Husk, 1997). The first mediation programme was a Victim Offender Reconciliation Programme (VORP) that originated in Kitchener, Ontario in 1974; and in 1978, the first community mediation programme (called Community Justice Initiatives) was established by the Central Mennonite Committee in Ontario (Picard, 1998).

#### **Four Stories of the Mediation Movement**

According to Bush and Folger (1994), four “stories” characterize the mediation movement—the Satisfaction Story, the Social Justice Story, the Oppression Story, and the Transformation Story. Those who adhere to the “Satisfaction Story” perceive that the ADR movement arose from dissatisfaction with legal system. The courtrooms were perceived as costly, time-consuming, serving the interests of the wealthy and damaging to relationships (Danielsson, 1994; Picard, 1998). From this perspective, mediation is seen as a problem-solving or “win-win” approach that is more efficient and satisfying for *both* parties as compared to the adversarial system (Bush & Folger, 1994). The “Social Justice

Story” views mediation as a grassroots movement to decrease individual and community dependency on formal legal procedures, thus empowering people to work together to promote social justice issues like reducing inequality (Bush & Folger, 1994). The “Transformation Story” suggests that because mediation empowers individuals to resolve their own disputes this fosters the “transformation” of individuals, relationships and society. The implicit assumption is that mediation promotes moral development (Bush & Folger, 1994). Finally, the “Oppression Story” is the only negative story of this movement. People adhering to this view believe that mediation privileges stronger parties and is oppressive for those who are less powerful and disadvantaged (Bush & Folger, 1994).

Bush and Folger (1994) argue that these diverse stories partly explain why various types of mediation are practised today. They also suggest that the problem-solving or settlement-focussed approach has been the focal point of this movement, while the “transformation story” has received the least attention. Other researchers agree that “whereas in the past, mediation was associated with a discourse of empowerment and transformation; today’s benchmarks increasingly speak of cost-effectiveness, timeliness, and satisfaction” (Picard, 1998, p. 34). There are limitations to this current state. One limitation is that adhering to the goals of one of the “stories” often means that other goals are ignored. Moreover, a problem-solving orientation views conflicts as problems, whereas a “transformative” orientation has the advantages of viewing conflicts as providing opportunities for moral development. Thus, Bush and Folger (1994) propose that while the “satisfaction story” reflects the current focus of the mediation movement,

“transformation” should be the goal.

### **Mediation in the Current Study**

This project began at the Scarborough Conflict Resolution Centre (SCRS). The project grew to include two other mediation centres in the Toronto area—Conflict Resolution Service (CRS) and Conflict Mediation Services of Downsview (CMS-D). These organizations provide free mediation services to disputants within the community who volunteer to participate in the process. All of the centres had very modest beginnings and required considerable support from volunteers. They were completely distinct services, differing with respect to: the areas they served (Scarborough, Metropolitan Toronto, Downsview), number of years in operation (9 to 16 years), number of paid staff (0 to 2 full-time staff) and volunteers (21 to 75), connection with another community centre (St. Stephen’s Community House, Warden Woods Community Centre, and Mennonite Central Committee), and the security and sources of their funding (e.g., non-profit organizations, government organizations, private donations and fundraising).

As previously mentioned, the term “mediation” is very difficult to define because it is often used to refer to diverse dispute resolution processes that reflect disparate underlying ideologies. The mediation process investigated in this study was used by all three centres. The mediation process, in general, is a method of resolving conflicts between individuals that makes use of the resources of an *impartial* third party who is trained in the process of mediation and problem solving. Often, the person who contacts the service requesting assistance with a conflict is called the *first party*, while the other individual, the *second party*, is contacted by the service. Each of these parties can consist



of more than one person (e.g., a husband and wife can be the first party and a family could comprise the second party). The mediator brings the disputants together, sets norms for interacting, helps the disputants focus on the issues and guides the resolution process.

All mediators involved in this study were trained to use the same mediation process (i.e., based on the San Francisco model [Husk, 1997]). Two mediators typically facilitate the process, which is usually divided into four stages with a distinct opening and closing. The opening phase is used to welcome and introduce the parties. Stages one through four provide the disputants with an opportunity to present their views, discuss the conflict and their feelings, and then problem-solve to develop a mutually acceptable agreement. Throughout the process, mediators treat the parties impartially and facilitate an understanding of both sides of the dispute. The final agreement is completed in written form, which all parties are encouraged to sign. During the closing phase, disputants are validated for their efforts (Adapted from Conflict Resolution Service St. Stephen's House, 1995, October, mediation training workshop).

One of the main objectives of mediation is to help shift disputants away from a focus on their positions (wants) to identify their underlying interests (needs) (Fisher & Ury, 1981; Landau et al., 2000; Rubin et al., 1994). In fact, some argue that this is where the "magic of mediation" occurs (Picard, 1998). The implication is that by identifying underlying interests, common concerns may be revealed. This process may also help mediators reframe the conflict into a "mutual problem statement" that reflects the needs of both parties (Landau et al., 2000, p. 55). Another objective of mediation is to develop a consensual, mutually beneficial agreement that is acceptable to both parties (Folberg &

Taylor, 1984). Additionally, “mediation is cognitive and behavioral in perspective rather than existential” (Folberg & Taylor, 1984, p. 8-9). In other words, the focus is short-term and emphasizes the present and future behaviours, rather than concentrating on the past.

### **Benefits of Mediation**

Mediation is a process of empowering citizens to resolve their own disputes without relying on formal dispute resolution processes (LeBaron, 1997; Picard, 1998). Community mediators respond to conflicts as diverse as: neighbour disputes; criminal and civil court cases; family, public and workplace disputes; and environmental planning issues (Carnevale & Pruitt, 1992). When compared with other dispute resolution techniques like adjudication, mediation has several advantages. It is more flexible because it can be scheduled at times that are convenient for all participants. It is also much faster, less expensive, more empowering and procedurally satisfying than the judicial system (Fitz-James, 1996; McEwen & Milburn, 1993; Pearson, Thoennes & Vanderkooi, 1982; Picard, 1998; Singer, 1989).

Because mediation is not adversarial, the process is thought to be particularly valuable for those involved in ongoing relationships (Matz, 1987; Singer, 1989).

Moreover, the adversarial process tends to increase conflict, and is rarely able to find satisfactory solutions to interpersonal conflicts (Pearson, et al., 1982; Picard, 1998).

Mediators, on the other hand, often diffuse tension and help disputants view the conflict more positively (Ross & Stillinger, 1991). Additionally, mediators can temper the influence of cognitive and motivational barriers on the resolution process (Ross & Ward, 1995). For example, suggestions for resolution that may be perceived as weak or “giving

in.” can be reframed by mediators as a compromise. Moreover, the presence of a mediator suggests there are time limits to the resolution process, which may encourage parties to attribute concessions to a deadline, rather than to the negative characteristics of their opponent (Ross & Stillinger, 1991). In addition, mediation has also been touted as a way to decrease the strain on the courts and prisons, and for the promise it holds to promote a new, restorative form of justice. For all these reasons some believe mediation has the potential to transform communities.

### **Criticisms of Mediation**

Criticisms have also been directed at community mediation. First, mediation is not advisable for every conflict, particularly those with large power imbalances that may be difficult for mediators to address (e.g., Singer, 1989). Although it is an advantage that community mediation is voluntary, it has sometimes been criticized for its relatively low rate of use and is considered problematic when disputants do not abide by the agreement. One way that mediators address this disadvantage is by including conditions in written agreements that provide disputants with options if one party fails to comply.

One of the most serious criticisms of mediation is that it is an extension of the state’s control over private lives (Abel, 1982; Kressel, et al., 1989). Feminist critics fear that this approach to dispute resolution oppresses marginalized groups by reinforcing patriarchal and middle-class values. Legal critics are also concerned that the process turns public concerns into private mediations, which precludes the development of legal precedent and may prevent social change. Additionally, mediation has also been accused of relegating less affluent and powerful people to this “second-class” type of justice

(Dukes, 1990; Folberg & Taylor, 1984; Picard, 1998; Roehl & Cook, 1985).

As a result, some critics argue that the legal system provides more just outcomes than mediation. Others have responded to these criticisms by arguing that mediation is being compared with a “...romanticized notion of formal justice” (Folberg & Taylor, 1984, p. 246). In fact, for 90% of all court-cases the agreements are plea-bargained before ever reaching a trial. Moreover, the fairness of a case in the court can also be biased in favour of those who have the most money to buy the best lawyer, and other factors like luck in choosing the judge and/or jury, and the prejudices of the judge and/or jury.

### **Research on Mediation**

#### **Mediation Effectiveness**

Although mediation is widely practiced, there have been relatively few studies on this process (Dukes, 1990; Wall, 1981; Picard, 1998), and even fewer studies on mediation in Canada (Picard, 1998). One area of research has involved investigations of the “success” or outcomes of mediation. These studies tend to examine the influence of the mediator (i.e., characteristics, behaviours, and roles) (e.g., Carnevale & Pruitt, 1992; Carnevale, Putnam, Conlon & O'Connor, 1991; Donohue, Drake & Roberto, 1994; Thoennes & Pearson, 1985; Zubek, Pruitt, Peirce, McGillicuddy & Syna, 1992); and/or disputant characteristics (i.e., perceptions and behaviours) (e.g., McGillicuddy, Pruitt, Welton, Zubek & Peirce, 1991; Thoennes & Pearson, 1985; Welton & Pruitt, 1987; Zubek et al., 1992) on mediation outcomes.

Investigations of “success” tend to evaluate whether an agreement was reached, whether disputants were satisfied with the process and outcome, and/or the duration of an

agreement. The likelihood of reaching an agreement with mediation is high (Roehl & Cook, 1985). For example, a study by Richan (1988) and a literature review (Folberg & Taylor, 1984) indicated that between 58% and 85% of the time, disputants reached an agreement or reconciled. However, even when an agreement is not reached, one of the most consistent findings of mediation research is that disputants generally find the process satisfying, regardless of the outcome (Folberg & Taylor, 1984; Kelly & Gigy, 1988; Picard, 1998). The third general finding regarding "success" is that mediation agreements are more durable than imposed "resolutions" (i.e., court-orders) because they can be more creative in order to address underlying (or latent) issues and meet the needs of *both* parties (Matz, 1987; McEwen & Milburn, 1993; Singer, 1989).

According to Carnevale and Pruitt (1992), mediation is generally most effective when the conflict is moderate and does not involve principles, and there are plenty of resources. Disputant characteristics such as: commitment to mediation, interdependence, high motivation, and relatively equal power also contribute to successful mediations. Some researchers have found that the mediators' actions (e.g., controlling the agenda, a friendly style, establishing priorities) may be more important than disputant characteristics on the outcome of the dispute (Carnevale & Pruitt, 1992; Thoennes & Pearson, 1985).

"Although the evidence is not unequivocal, it is remarkably consistent: mediation works fairly well across a variety of disputes and settings, and citizens like it. Its main strength continues to be its humanizing force, its treatment of citizens with concern and dignity, and its satisfactory resolution of disputes while leaving relationships intact"

(Roehl & Cook, 1985, p. 175). While the general trends in mediation research have been presented, some of the studies have methodological problems that will be discussed later in this section.

### **The Decision to Mediate**

It is rare for community members to spontaneously seek the services of mediators (Paquin, 1992), but when they do, many of the conflicts never proceed to mediation. In studies investigating refusal rates, as many as one-third (Pearson et al., 1982) to one-half (Roehl & Cook, 1985) of the disputants rejected mediation. Even though one of the main challenges of voluntary mediation is its infrequent use, we know very little about incentives to mediate (Carnevale & Pruitt, 1992; Pearson et al., 1982).

“...Disputes have histories and those histories tend to work against voluntary entry into mediation” (McEwen & Milburn, 1993, p. 26). But what is it about a dispute’s history that seems to preclude mediation? Research on the decision to mediate often investigates variables that foster destructive versus constructive approaches to conflict (e.g., Boardman & Horowitz, 1994). *Destructive* conflict includes “domination, capitulation, inaction, and withdrawal” (Boardman & Horowitz, 1994, p. 7), while mediation is an example of a *constructive* process of managing conflict. Thus, the assumption of such research is that the same factors that promote constructive conflict will also promote a constructive process like mediation.

Figure 2.3 depicts some of the factors identified in the literature that may contribute to destructive and constructive (e.g., the decision to mediate) conflict. This conceptual framework is provided as an outline or a starting point for the following

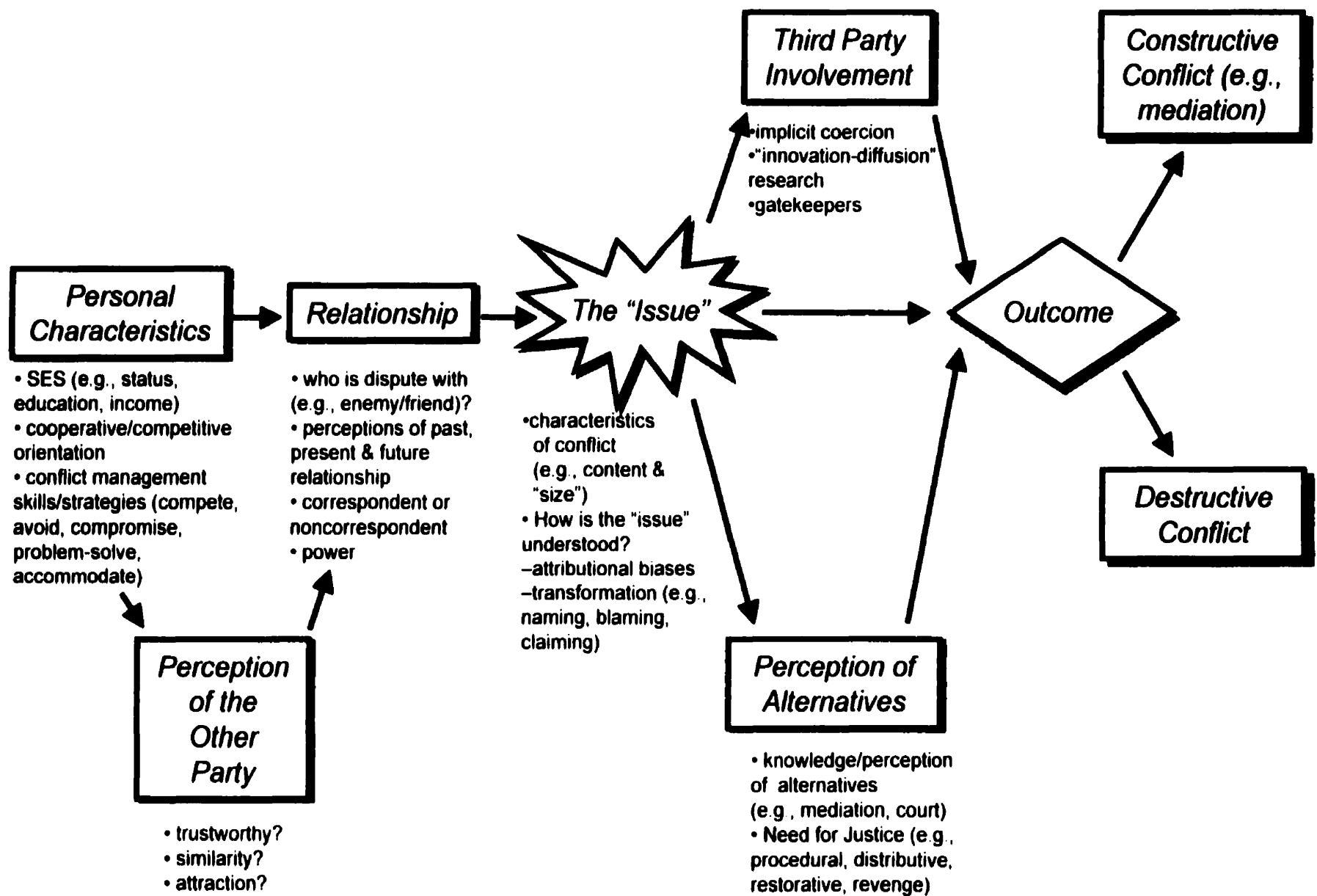
discussion. While cognitive maps are useful because they “help orient oneself in an unfamiliar territory” (Tesch, 1990, p. 59), they also have several shortcomings.

Since by necessity, they [maps] must reduce objects, the objects lose their details. In fact, on a map every town looks like every other town, except when they are different enough in size to warrant a different size dot. The same holds true for most cognitive maps and they are simplifications. (Tesch, 1990, p. 59)

Thus, while the diagram is intended to portray the complexity of this literature, it does not reflect everything that is known about this subject--several variables are bound to be missing (e.g., certain individual skills, past experiences, and additional socio-cultural and environmental factors). Moreover, some factors are absent from this figure because information regarding their influence on conflict is scarce or I did not locate the relevant data.

Many different organizational schemes could have been used to describe and categorize the following information. That is why Tesch (1990) argues that “when organizing systems serve as data management tools, there is no requirement that such structure be ‘valid’: arranging one’s categories is merely a convenience to provide an overview of an otherwise unwieldy number of individual categories” (p. 140). The following discussion elaborates on each of these categories, and additional research will be provided in subsequent chapters.

**Personal characteristics.** Personal traits, characteristics and perceptions of oneself may influence the outcome of a conflict. For example, “personality variables that may affect transformations [of disputes] include risk preferences, contentiousness, and



**Figure 2.3. Factors Influencing Constructive and Destructive Conflict.**



feelings about personal efficacy, privacy, independence, and attachment to justice (rule-mindedness)” (Felstiner et al., 1980-81, p. 640). One’s cooperative and competitive orientation, conflict management skills (e.g., active listening, capacity for empathy, ability to identify interests), and conflict strategies/tactics (e.g., competing, avoiding, compromising, problem-solving and accommodating) also moderate conflict outcomes (Deutsch, 1991; Thomas & Kilmann, 1996). Competitive conflict tends to have many deleterious effects on the relationship and conflict is more likely to escalate.

An individual’s social class is another variable that has often been investigated in relation to the decision to mediate. Divergent findings, however, make it difficult to determine the nature of this relationship. That is, some researchers have found that middle- and upper-socioeconomic classes use mediation more often (Beer, 1986; Irving & Benjamin, 1992; Merry & Silbey, 1984; Pearson et al., 1982), while others found that high use was associated with lower-socioeconomic class (Richan, 1988).

**Perceptions of the other party.** Past research suggests that interpersonal trust partially determines satisfaction within a relationship and how disputes will be resolved (Levinger & Rubin, 1994; Potapchuk & Carlson, 1987; Ross & Stillinger, 1991; Sitkin & Bies, 1993; Worchel & Lundgren, 1991). Distrust often “sets the stage” for conflict (Worchel & Lundgren, 1991, p. 12). An individual can deem another untrustworthy from as little as one interaction. However, distrust is more likely to increase when a disputant is unwilling to accept responsibility or apologize for his/her harmful actions, or if one party is perceived as acting deceptively (Ross & Stillinger, 1991). Research has shown that a disputant is less likely to agree to mediation when they do not trust the other party

(e.g., Pearson et al., 1982). Thus, mistrust increases the likelihood of conflict, and decreases the likelihood that resolution processes (such as mediation) will be accepted.

Perceived similarity and attraction are other variables that have been studied extensively by social psychologists as variables that influence destructive versus constructive conflict (Boardman & Horowitz, 1994; Deutsch, 1991). Cooperative approaches are fostered by the perception of common interests.

**Nature of the relationship.** The nature of the relationship between disputants is also related to reaching a resolution in mediation cases (Folger, Poole & Stutman, 1997; Potapchuk & Carlson, 1987; Schuller & Hastings, 1996; Thoennes & Pearson, 1985). Those who have had a dissatisfying or nonexistent past relationship (e.g., a stranger) are more likely to experience adversarial contact and are less likely to consider collaborating (Boardman & Horowitz, 1994; Potapchuk & Carlson, 1987).

Characteristics of the past and current relationship such as the degree of supportiveness, interdependence and power are also important for understanding whether conflict will be constructive or destructive. For example, Pearson et al. (1982) found that divorcing couples who have good communication were more likely to accept mediation. Additionally, interdependent disputants tend to experience mutual outcomes, which fosters friendship and collaboration; whereas independent disputants tend to perceive outcomes as noncorrespondent (interests are opposed), which fosters competition and conflict (LaTour, Houlden, Walker & Thibaut, 1976; Potapchuk & Carlson, 1987; Rusbult & Arriaga, 1997). An enduring power imbalance can be problematic in a relationship that is expected to be equal (Janz, 2000). Large power imbalances are more

likely to result in conflictual relationships, particularly when individuals attempt to exert power through violence or threats (Worchel & Lundgren, 1991), and such relationships also tend to preclude mediation (Singer, 1989).

Once conflict occurs, those without a strong previous relationship may perceive their opponent as an enemy who is aggressive and evil (Ross & Stillinger, 1991; Worchel & Lundgren, 1991). Perceiving one's opponent as the enemy is problematic because it influences the conflict and perceptions of concessions, compromises and gains that occur during conflict resolution processes (Ross & Stillinger, 1991).

When disputants have no plans for a future relationship, this enhances adversarial contact and reduces collaboration—including considerations of mediation (Potapchuk & Carlson, 1987; Schuller & Hastings, 1996). In accordance with this finding, Pearson et al. (1982) discovered that divorcing couples who were interested in reconciliation and were ambivalent about getting a divorce (i.e., wanted a future relationship), were more likely to agree to mediate their dispute.

**The issue.** Certain types of issues seem to be more conducive to mediation than others. For example, Richan (1988) found that conflicts regarding interpersonal issues that were unrelated to property and money were more likely to be mediated than other types of conflicts. One explanation for this was that the courts were more likely to refer interpersonal conflicts because they were perceived as the most appropriate type of conflict for mediation. Researchers have also found that the duration and intensity of a dispute are also related to the occurrence of mediation (e.g., McEwen & Milburn, 1993; Pearson et al., 1982; Thoennes & Pearson, 1985). For example, Deutsch (1973; 1991)

suggests that smaller conflicts (shorter, fewer issues and fewer disputants) may be easier to resolve constructively. As mentioned earlier, important cognitive processes (i.e., naming, blaming, claiming) may occur when an individual transforms an event into a conflict, and a conflict into a dispute. Attributional biases that influence this process may also promote constructive or destructive conflict outcomes (Folster et al., 1980-81; Paquin, 1992).

Disputants' perceptions of conflict issues are also very important. For example, the theoretical processes involved in the transformation of a dispute (i.e., naming, blaming, claiming, disputing) that were discussed earlier, examine how individuals interpret an event. Past research on attributional biases regarding the impact and the causes of perceived harm (e.g., self-serving biases, the *fundamental attribution error*, and the *expectancy confirmation process*) have been related to constructive or destructive outcomes in past research (Boardman & Horowitz, 1994; Deutsch, 1991; Folger et al., 1997; Snyder & Swann, 1978; Thomas & Pondy, 1977; Worchel & Lundgren, 1991). Biases regarding the *intentions* of the other party may also influence the conflict (Levinger & Rubin, 1994). For example, perceiving the harm as intentional tends to influence destructive conflict because people are more likely to become very angry and want to punish the other party (e.g., Coates & Penrod, 1980-81; Thomas & Pondy, 1977).

**Third party involvement.** Researchers have also found that a third party's involvement seems to influence whether a dispute will be constructive or destructive (Boardman & Horowitz, 1994). For example, researchers suggest that other "traditional" dispute resolvers such as attorneys and judges can influence disputants to use the legal

system or mediation to resolve their conflict (Matz, 1987; Olczak, 1991; Pearson et al., 1982; Richan, 1988). Past research and theories regarding the potential influence of the third party is contradictory as some research suggest they encourage mediation (e.g., Pearson et al., 1982), while others suggest they discourage mediation (e.g., Matz, 1987).

**Perception of alternatives.** Individuals may also weigh the costs and benefits of alternatives before deciding how to respond to the conflict (Figure 2.3). An individual who has considered their BATNA (**B**est **A**lternative **T**o a **N**egotiated **A**greement) has thought about different ways that their interests can be satisfied, and what they will do if they do not resolve the conflict (Fisher & Ury, 1991). Knowledge and perceptions of options (e.g., mediation and the court) also seem to influence the outcome. For example, lacking knowledge of mediation, having incorrect knowledge and/or a fear of this relatively unknown process, may decrease its use (Matz, 1987; Volpe & Bahn, 1987).

Research suggests that disputants may also consider which options meet their needs for justice when determining how to respond to conflict (e.g., Pearson et al., 1982; Peachey, 1989; Thoennes & Pearson, 1985; Tyler, 1987). "The rising interest in mediation in the past decade has often been expressed as part of the elusive search for justice" (Peachey, 1989a, p. 301). Some researchers argue there are different types of justice--distributive, procedural and restorative (e.g., Peachey, 1989a; Tyler, 1987). *Distributive justice*, for example, is a social psychological concept focussed on the outcomes of conflict. Judgements of fair outcomes may include: perceptions of equality--parties receive equal outcomes; or equity--parties receive outcomes based on their input (Peachey, 1989a).

*Procedural justice* refers to fair conflict resolution procedures. "Within the legal system, this approach produces the common understanding of justice as the right application of the right rules" (Peachey, 1989a, p. 301). Resolving a conflict using a fair process is very important to people and is "widely supported in the research" (Tyler, 1987, p. 368).

Another type of justice described by Peachey (1989a) is *restorative justice*. This refers to "a variety of approaches to 'make right the wrong,' ranging from retribution to forgiveness" (p. 302). *Retributive justice*, or revenge, has been defined as "the attempt to inflict harm in return for harm" (Kim & Smith, 1993, p. 38). Revenge often promotes destructive rather than constructive approaches to conflict resolution (Kim & Smith, 1993). Moreover, according to some researchers, the desire for revenge makes mediation inappropriate because agreements are constructed by both parties and people rarely elect to harm themselves (Peachey, 1989; Ross & Stillinger, 1991).

### **Summary**

In sum, the literature suggests that the factors depicted in Figure 2.3 may foster destructive or constructive (e.g., mediation) conflict. These themes have been identified as being theoretically important or as having support from past research. That is, conflict outcomes are more likely to be constructive when the disputant has a cooperative orientation to conflict; when the other party is perceived as similar and trustworthy; the relationship is supportive, interdependent, relatively equal, and ongoing; and the dispute is relatively "small" and concerns interpersonal issues.

On the other hand, destructive conflict is more likely when: the disputant's

personal orientation is competitive: they mistrust the other party or perceive them as dissimilar; the past relationship is dissatisfying or nonexistent. there is a relatively large power imbalance. and there are no plans for a future relationship; and when the harm caused by the conflict is perceived as intentional. Disputants may also consider which approaches to conflict resolution (e.g., formal justice system or mediation) best meet their needs, including their needs for justice (i.e., distributive, procedural and restorative). That is, disputants who desire revenge may feel a constructive approach to conflict, such as mediation, is inappropriate. Unfortunately, relatively little is known about *how* some of these factors may encourage mediation, including: a disputant's socioeconomic status and the types of conflict tactics they are more likely to use, the conflict issues, and third party involvement.

### **Limitations of Research on Mediation**

Several weaknesses of research on community mediation need to be addressed in order to advance our understanding of this topic. Dukes (1990) argues that one problem with research in this area is that the findings never reach the people who need them the most (e.g., mediators, policymakers). He further argues that "a more significant change that could greatly enhance our understanding of community dispute resolution would be to involve staff, including volunteers, in research" (Dukes, 1990, p. 34). Including mediators in the research process would also improve the reliability and validity of the results (Greenwood et al., 1993).

Dukes (1990) argues that another shortcoming of previous research is that investigators have too often relied on methods where the variables can be easily

operationalized. Moreover, the types of conflicts that are investigated are usually simulations or role-plays (e.g., Houlden, LaTour, Walker & Thibaut, 1978; Schuller & Hastings, 1996; Welton & Pruitt, 1987). For example, the samples often consist of college students who read scenarios about conflict (e.g., Schuller & Hastings, 1996), and therefore do not actually experience the stress associated with real life disputes. These types of studies are problematic because they limit the kinds of questions that can be answered, particularly with processes as complex as conflict and as adaptive as mediation. Moreover, Lissak and Sheppard (1983) suggest that when participants are asked to predict their behaviour in simulated conflict they may be more influenced by social desirability. Thus, their responses tend to be unemotional and rational, which probably does not reflect their responses to real conflict.

One study by Richan (1988) used only archival data to investigate first party attrition from the mediation process. The problem with only using archival data is that the influence of disputants' perceptions on the process cannot be examined. The reason Richan focussed on the first party was that "since second parties were not asking for help, their failure to respond was more understandable" (p. 83). This type of rationalization has left us with relatively less knowledge about second-party disputants' motives for mediation. The perspectives of both parties are important since they must both volunteer to participate before a mediation will occur.

Consequently, Dukes (1990) suggests that more interesting and useful answers would be found by addressing the kinds of questions "... that do not readily lend themselves to the most popular tools of empirical investigation" (p. 30). Solely focussing



on criteria of prediction and control can preclude a complete understanding of conflict processes. Moreover, Lissak and Sheppard (1983) argue that more descriptive research is needed to complement past research.

it also appears that we should consult actual participants in the dispute process more often. They appear to have something important and different to say. This and other forms of descriptive research are a necessary complement to the prevalent hypothesis testing research if we are ever to develop a comprehensive theory of dispute resolution. (Lissak & Sheppard, 1983, p. 63)

Another limitation, which is not unique to research in this area, is that the majority of the research and conflict resolution procedures are being practised by dominant social groups (LeBaron, 1997). This is problematic because the literature makes “. . . particular assumptions regarding how people think, behave, and change” (p. 326), and if these underlying assumptions are not challenged and critically examined, conflict resolution processes, like mediation, will not be acceptable to diverse groups of people (LeBaron, 1997).

Finally, many studies are limited to investigations of divorce mediation (e.g., Kelly & Gigy, 1988; Pearson, Thoennes & Vanderkooi, 1982; Thoennes & Pearson, 1985). Since mediation processes are so diverse (Picard, 1998), findings about one type of mediation should not be generalized to other types of mediation. Researchers who refer to any non-adjudicative process as mediation also fail to tease out the influence of the process on the outcome. This may partly explain why there are often contradictory findings in mediation research. Thus, it is misleading and methodologically problematic to investigate mediation as if it were a homogenous process. It would be more beneficial

for researchers to clearly distinguish between the diverse kinds of mediation, and “. . . to develop a discourse that more adequately reflects both the approach and ideology of the service being provided” (Picard, 1998, p. 34).

### **THE CURRENT STUDY**

Conflict and conflict resolution theory and research have had a long history in social psychology and many other disciplines (Deutsch, 1994). As we have seen, the essence of most conflict research is to investigate the conditions that foster constructive and destructive conflict. Such research assumes that constructive conflict is beneficial because it can promote positive change. Ideally, knowledge from such research would be applicable to promoting constructive conflict and preventing destructive conflict.

Community mediation is one process that facilitates constructive responses to conflict. Research in this area has applied conflict theory in an attempt to understand the disputant and mediator characteristics that are related to “effective” mediation, and the conditions influencing the decision to mediate. The findings on these topics sometimes overlap because in order for mediation to be effective, disputants must first volunteer to participate. Such research has identified several variables that moderate conflict outcomes: personal traits and characteristics, the issue (content, duration, intensity), perceptions of the other party, characteristics of the relationship, third party involvement, and an individual’s needs for justice (distributive, procedural and restorative). This study attempts to build on past research by comparing these findings with those from the current study.

Research on mediation has been limited because of its failure to involve mediators

in the research. its focus on simulated “conflict.” inadequate consideration of diverse social groups. and its focus on divorce mediation. The current study attempts to address these limitations by adopting feminist. social psychological. and participatory approaches to research. It also improves upon past research by including mediators as co-researchers: investigating “real” conflict and how it influences constructive or destructive outcomes (especially the decision to mediate); and focusing on voluntary community mediation (i.e.. not divorce mediation). Another contribution is that rather than avoiding diversity. it is incorporated into the study by examining the impact of cultural biases on conflict. including “culturally” diverse respondents in the research. and by gathering statistics on diversity.

## **CHAPTER 3**

### **RESEARCH PERSPECTIVES AND THEIR INFLUENCE ON THIS PROJECT**

#### **EPISTEMOLOGICAL OVERVIEW**

This project, which continued for almost six years, involved collaborating with mediation centre coordinators and mediators to investigate community mediation. Although each phase of this study used quite different methodology, my dissertation has been heavily influenced by social psychological and feminist approaches. Additionally, while this is not a participatory action research (PAR) project in that the participants did not engage in the codesign of every aspect of the research with me, this study was influenced by PAR principles and objectives. These approaches to research are described in this chapter to examine their impact on the goals and the research methods of this study.

This study differs in many ways from the “dominant” or “traditional” approach to social science research. “As used here, dominant social science research refers to research grounded in positivism, the view that recognizes only positive facts and observable, ‘objective’ phenomena” (Maguire, 1987, p. 9). There are often several requirements of “objectivity” including manipulating and controlling the variables and maintaining distance from the people being studied (Patton, 1990). While traditional researchers believe it is possible to find “objective” truth, a variety of critical theorists (e.g., feminists, social constructionists, and postmodernists) perceive objectivity as an illusion and recognize that all aspects of research can be influenced by researcher biases (e.g.,

Agnew & Pyke, 1994; Denzin & Lincoln, 1994). Moreover, Patton (1990) adds that *“distance does not guarantee objectivity; it merely guarantees distance”* (emphasis in original, p. 480).

Being freed from this criterion of “objectivity” has allowed other epistemological influences to have an impact on the social sciences. For example, feminist (e.g., Reinharz, 1992) and interpretivist (e.g., Greene, 1993) researchers have written that it is appropriate to get close to the participants and acknowledge the presence of the “self” in research. In accordance with this idea, I wanted to value my own experiences as a mediator, and include this knowledge in the current study. Some researchers perceive it as a benefit rather than a detriment to be a mediator doing mediation research (e.g., Whyte, 1984), since my “personal experiences and insights are an important part of the inquiry and critical to understanding the phenomenon” (Patton, 1990, p. 40). Another reason for examining the “self” is because

. . . all interpretivist studies are colored by the substantive, political and value predispositions of the inquirer. Qualitative evaluators are urged to make such predispositions explicit. . . . (Greene, 1993, p. 35)

Making such predispositions explicit is beneficial both for the researcher and the reader so they may evaluate their influence on the research process and findings.

### **My Story**

What are some of the personal experiences and assumptions that framed my perspective or “voice,” guiding the way I interpreted this work (see Appendix 3.1 for a description of personal reasons for perceiving a participatory approach was particularly appropriate)? My perspective has been particularly influenced by my personal

experiences in the community mediation movement over the past 6 years as a mediator and conflict resolution trainer. Although I believe that conflict can be very damaging, after witnessing the “magic” of mediation as a conflict resolution tool, I also believe that conflict can provide valuable opportunities for positive change. Nevertheless, there appear to be some limits to the use of mediation, which are not well understood. Since mediation is a conflict resolution technique, I also assume that the conditions that are conducive to conflict resolution similarly foster mediation. Moreover, I believe that there is room for change in the pre-mediation and mediation processes that would benefit disputants. Thus, understanding both the conditions that foster and preclude mediation, is useful for advancing our understanding of both conflict resolution and mediation.

Throughout my studies in psychology I have been drawn to a social psychological approach because it recognizes the importance of personal and situational (i.e., interpersonal, social and cultural) influences on behaviour. Thus, when examining conflict I believe it is important to consider the influence of disputant perceptions and cognitions, how expectations influence their interactions, and the broader social environment or context where conflict interactions occur (e.g., interpersonal relationship, family, community, and culture).

Feminism and feminist approaches to research have also influenced my perspective. That is, feminist influences on the current study included recognizing the importance of the “self” in research, “collaborative scholarship” (between researcher and researched), an “action orientation,” and “use of the situation-at-hand” (cf., Fonow & Cook, 1991). Minimizing differences between myself (as a researcher) and the

participants, fostering a trusting, respectful relationship, and giving something back to the participants, were principles I adhered to and were also influenced by feminist researchers (cf., Fonow & Cook, 1991; Keller, 1982; Olesen, 1994; Rabinowitz & Sechzer, 1993; Reinhartz, 1992). These principles parallel those of participatory action research.

### **PARTICIPATORY ACTION RESEARCH (PAR)**

Given these epistemological influences and characteristics of the social setting I wanted to investigate (mediation centres), traditional approaches to research did not seem appropriate. Participatory approaches, on the other hand, were very compelling because of the value attached to “participation” and “action.” Some researchers describe participatory action research (PAR) as “cousins” in a family of participative research (Reason, 1994), while others suggest there are many diverse varieties of PAR (e.g., Elden & Taylor [1983] specify 15 different kinds). Moreover, because the term “PAR”<sup>1</sup> encompasses diverse methods and research traditions (e.g., see Brown [1993], Brown & Tandon [1983] for comparisons of the Northern and Southern schools), researchers suggest that PAR is a *process* or an *approach* to research not a research method (Brydon-Miller, 1997; Maguire, 1987; Tandon, 1988). A brief presentation of the values<sup>2</sup> associated with PAR (i.e., participation and action) and key features of the “Northern”

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<sup>1</sup> Like Chataway (1997), I am not necessarily recommending the use of the term “PAR.” Although this study reflects values associated with “participation” and “action,” I have purposely avoided “naming” the method because terms like “participatory action research,” “action research,” and “participatory research” are used in the literature to describe *diverse* methods. Thus, I believe it is more important to focus on the goals that influenced this study and how these were attained, rather than labelling the method used in the current study.

<sup>2</sup> “Values have been defined as preferences for courses of action and outcomes. . .” (Brown & Tandon, 1983, p. 280).

and “Southern” traditions (to adopt Brown’s [1993] terminology) is helpful for understanding its influence on the current study.

PAR approaches value *participation*, which differentiates them from traditional social science research (Brown & Tandon, 1983). Traditional researchers who manipulated, controlled, and/or deceived “subjects,” perceived themselves as more knowledgeable and powerful than their research “subjects.” This often contributed to research that was alienating and exploitive (Elden, 1981; Hall, 1975; Maguire, 1987; Reason, 1994; Susman & Evered, 1978). PAR approaches, on the other hand, recognize the link between knowledge and power—that the way knowledge is generated and the types of knowledge we value are influenced by power (Fals-Borda, 1991a; Tandon, 1988). Although “ordinary” people have been constructing knowledge “. . . since the very beginning of the human race” (Tandon, 1988, p. 7), once the elite began producing knowledge it tended to serve the status quo, and “scientific” information became the legitimate form of knowledge (Rahman, 1991; Maguire, 1987). Including participants in a study recognizes that they have valuable knowledge and skills to contribute (Gilmore et al., 1986; Reason, 1994; Rosenthal, 1976). The underlying assumption is that participation improves the quality of the research findings (Elden & Chisholm, 1993; Reason, 1994; Rahman & Fals-Borda, 1991). Thus, a traditional approach to research tends to establish a researcher-researched (or subject-object) relationship, whereas a participatory approach establishes a researcher-researcher (subject-subject) relationship (Brown, 1993; Brydon-Miller, 1997; Chataway, 1997; Elden & Taylor, 1983; Fals-Borda, 1991a; Gaventa, 1991; Maguire, 1987; Tandon, 1988).



PAR researchers attempt to redress the power imbalance between the researcher and researched by collaborating with the participants (co-researchers) as much as possible—from the very beginning (deciding on the research topic) to determining what to do with the results (Fals-Borda, 1991a; Greenwood, Whyte & Harkavy, 1993). Participation can exist on a continuum (from informing participants to giving them complete control) which varies depending on many conditions including the context, and the roles of the researcher and those involved in the process (Chisholm & Elden, 1993; Elden & Taylor, 1983; Maguire, 1987). Reason and Rowan (1981) succinctly state the critique and the remedy. “For too long social science has treated people like things, and we are going on now to treat them like people, and like ourselves” (p. 491; see also Tandon [1988] who expresses a similar idea).

Traditional research has also been critiqued because it generally did not promote ideas for change that could be readily translated into *action* (Brown & Tandon, 1983; Hall, 1975; Torbert, 1981). While traditional investigators often derive their research questions from theory and literature reviews, PAR investigations generally focus on solving specific problems in a social setting. Research ideas are shaped by the participants who contribute information about the practical questions, issues, and concerns of their setting (Patton, 1990). One benefit of this approach is that it produces useful and relevant information that is more conducive to *action* (Dukes, 1990; Greenwood et al., 1993). By involving participants in the process and investigating practical problems, the underlying goal is to “. . . make change and learning a self-generating and self-maintaining process. . .” (Elden & Chisholm, 1993, p. 125; see also

Greenwood et al., 1993; Maguire, 1987; Rahman, 1991; Reason, 1994). In this way the participants are empowered to construct and use their own knowledge in the future.

### **History**

A brief examination of the history of the development of the Northern and Southern traditions of PAR provides a context for understanding the influence of PAR in the current study. The Northern tradition seems to have emerged in the 1940s from action-based modes of inquiry, such as the research of Kurt Lewin in the United States and the Tavistock Institute in England (Fals-Borda, 1991b; Gilmore, Krantz & Ramirez, 1986; Rapoport, 1970; Sanford, 1981). While the Northern tradition shares some of the same values and goals as "classical" action research, the clearest distinction is that it has evolved to include the participants as collaborators or co-researchers (Elden & Taylor, 1983; Gilmore et al., 1986; Greenwood et al., 1993; Rapoport, 1970; see also Elden & Chisholm [1993] for other comparisons of "classical" and "emerging" varieties of action research). Another key features of this approach is the commitment to addressing both practical problems in a social setting (usually an organization), and advancing social science knowledge (Brown & Tandon, 1983; Chisholm & Elden, 1993; Elden & Chisholm, 1993; Gilmore, Krantz & Ramirez, 1986; Rapoport, 1970; Susman & Evered, 1978; Whyte, Greenwood & Lazes, 1991). Researchers also strive to empower the participants by fostering the development of self-reliant local researchers who will be able to perpetuate the change process (Elden & Chisholm, 1993). This approach may reinforce the status quo because it tends to be used in social settings where there is consensus and with groups that are more powerful (Brown, 1993).

The second main type of PAR has been called the “Southern tradition,” or research from the “Southern Hemisphere” or “Third World.” This research tradition emerged through work with oppressed people in countries such as Africa, Asia and Latin America (Brown & Tandon, 1983; Reason, 1994; Tandon, 1988). It is grounded in a philosophy of adult education—that adults “are capable of learning, of changing, of acting, and of transforming the world” (Tandon, 1988, p. 5). Early work occurred in “. . . the areas of adult education, agricultural development, and economic reform” (Brydon-Miller, 1997, p. 658). It has since spread from Third World countries to use in medicine, public health, and in non-positivist social sciences (Rahman & Fals-Borda, 1991).

Since much of the work has been done with people in the Third World, problems tend to be analyzed from a community perspective, and in terms of economic dependence and oppression (Brown & Tandon, 1983). Such researchers tend to work at a grassroots level with people from developing countries. The participants tend to be oppressed or poor (not generally elite groups) and they contribute their skills and knowledge to the project. The researchers also tend to combine education, research and action (to work *with* people, not for them) to promote social change (Brown, 1993; Brydon-Miller, 1997; Chisholm & Elden, 1993; Fals-Borda & Rahman, 1991; Maguire, 1987).

Given that the history of the development of PAR and “traditional” psychological approaches to research are very different, it may seem unrealistic to integrate them. Nevertheless, Brydon-Miller (1997) suggests that although there are challenges to integration there are also many potential benefits.

. . . it will allow us to place our skills and training as psychologists in the service of our personal and political values, giving our work new energy

and meaning. For those of us with a commitment to addressing social issues in an open and democratic fashion, it will provide a way to integrate our politics and our psychology—to the benefit of both. (p. 664)

## **THE CURRENT STUDY**

### **The Co-researchers: The Metro Mediators**

After seven months of volunteering and establishing relationships with mediators and coordinators, I realized that they were motivated to conduct research but were frustrated with their lack of resources (i.e., both time and money) to complete research projects. The coordinators formed a group called the **Metro Mediators** that included the coordinators of all three centres and an additional 5 to 12 mediators (the number of mediators in attendance varied at each meeting). I was also a member of this group. We met regularly and I was present at every meeting in my capacity as a researcher and as a mediator. This group became the co-researchers with whom I formally collaborated in this study (I informally collaborated with several other mediators). Two goals articulated by this group pointed to the desire for research: (1) “to evaluate our mediation process at every step and improve the effectiveness of service:” and (2) “to promote community-based conflict resolution services among officers of the Metropolitan Toronto Police Department” (S. Clunis, personal communication, December 9, 1995). This group determined the research priorities, the method, and how to implement the findings.

### **Goals of the Current Study**

The goals of the current study that were influenced by PAR (e.g., Brown, 1993; Brown & Tandon, 1983; Chataway, 1997; Chisholm & Elden, 1993; Elden & Chisholm, 1993; Fals-Borda, 1991b; Greenwood et al., 1993; Maguire, 1987; Rahman, 1991; Whyte

et al., 1991) and feminist (e.g., Fonow & Cook, 1991; Keller, 1982; Olesen, 1994; Rabinowitz & Sechzer, 1993; Reinhartz, 1992) approaches to research, include the following:

1. to foster a *trusting and respectful relationship* with the Metro Mediators.
2. to *minimize the power imbalance* between myself and the Metro Mediators, and
3. to examine a problem in a particular context using a *problem-solving* approach to produce *useful knowledge*.

Three main principles guided the research which allowed me to meet the above goals: (1) I encouraged as much participation as possible without forcing it on this group; (2) I gave the Metro Mediators control over research decisions; and (3) I made it a priority to provide useful knowledge that *may* be used to promote change (cf., Chataway, 1997). Evidence of my commitment to these principles can be demonstrated by examining how I met the goals of this study.

The mediators and coordinators were individuals with whom I had volunteered, learned about mediation, and developed relationships. I felt it was an ethical necessity to collaborate with them in a research project, rather than use a "traditional" approach where the researcher controls the process. Thus, the first goal--developing trusting and respectful relationships with the participants--established a safe foundation for exploring issues together. One way that I demonstrated my commitment to this goal was by establishing that I valued their knowledge and skills, but was not going to exploit them for my own goals. I committed to this verbally and in writing. For example, in the informed consent forms (Appendices 4.1 and 4.2) I wrote

I believe your experience as a mediator will allow you to provide me with valuable insight into research problems and possible solutions of important issues in this area. In return I will offer you my time, energy, commitment to this project, skills in the area of research design, and a summary of the results upon completion of this study. Since we both have certain skills to offer, I hope you will join me in this co-learner approach.

Furthermore, we agreed that since their limited resources provided them with little time and money to do research, I would do most of the work; however, the Metro Mediator group would provide direction for this study—from the research design to decisions regarding what to do with the results.

Several actions demonstrated my commitment to the second goal of minimizing the power imbalance between the participants and myself. First, anyone who wanted to be involved in the process was encouraged to participate. Second, research decisions were made by consensus among the Metro Mediators during group meetings. Additionally, commitments were made verbally to the Metro Mediators that their priorities would take precedence over my own research interests and goals. Third, power imbalances were minimized by giving the Metro Mediators complete access and control of the research findings. This included control over decisions regarding whether and how the findings would be disseminated (e.g., through publication or presentations) and used to promote change at the centres.

Meeting the third research objective—to investigate practical problems in this social setting--was facilitated by the fact that the research problem originated in the community and was further refined by the Metro Mediators. One aspect of this goal was that a *multidisciplinary* approach was used. What makes this approach multidisciplinary is that "it mobilizes theories, methods, and information from whatever source the

participants jointly believe to be relevant” (Greenwood et al., 1993, p. 178). Thus,

information was incorporated into this project from several sources:

- (1) the Metro Mediators.
- (2) any mediator who wished to have input or be involved in the research process.
- (3) other participants (or consultants) such as the police and community disputants, and
- (4) myself as a researcher. I committed my resources (time, research skills and knowledge) in the service of this project, thus adding social science knowledge (cf., Elden & Chisholm, 1993; Elden & Taylor, 1983; Greenwood et al., 1993; Hall, 1975).

One reason for investigating practical problems was to provide useful knowledge for the mediators. Although practical knowledge may be used to foster change, producing action-related outcomes was not an explicit goal of this study. That is, before I began the research I did not assume that change was desired or needed. Nevertheless, I supported the Metro Mediators in the change process by working with them to develop ideas for change, educating them about the research process (e.g., how I gathered and analyzed the data and challenges I faced), and giving them complete access to the findings. By taking these steps, I hoped to encourage the mediators to become self-sufficient researchers. However, whether the results would be used, and how change may be implemented, would be in the control of the Metro Mediators. Thus, the specific action-related outcomes of this study were not predetermined, but were expected to be an emergent aspect of the research.

### **Overview of the Method**

While I encouraged as much participation as possible throughout this study, it occurred to varying degrees during the different research phases. I will provide an

overview of the method for this entire project, and clarify and summarize where participation was most evident (see Table 3.1) by dividing the research process into steps (c.f., Elden & Taylor, 1983; Chataway, 1994; who divide the research process into several stages).

### **Step 1: Relationship Building**

According to Whyte (1984), the process of gaining entry into a social setting is a very important step that must be included in the research process. One way to gain entry is to build trusting and respectful relationships with the participants. Maguire (1987) suggests that this requires learning about the community, the problems they face, and establishing relationships. Thus, prior to initiating the research process, I familiarized myself with the service, the staff and volunteers of the three mediation centres (See Appendix 3.2, for a time line of the research process). While volunteering as a mediator and case coordinator (at Scarborough Conflict Resolution Service--SCRS) for seven months<sup>3</sup> I established relationships and familiarized myself with the mediation process and the setting. I also volunteered and attended meetings and training sessions involving all three centres.

Another technique for gaining entry is what Patton (1990) calls the *known sponsor approach*. This involves establishing contacts with individuals in leadership positions who are then able to provide other contacts. A leader's support will often provide researchers with credibility that they may not otherwise achieve (Whyte, 1994).

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<sup>3</sup> This was approximately 300 hours of volunteer work. Half of these hours were for an applied practicum for which I received credit in partial fulfillment of the requirements for my degree.



**Table 3.1****Overview of the Method**

<b>Research Phase</b> <b>Research Process</b>	<b>Police Project (Phase 2)</b>	<b>Examination of Case- File Data (Phase 3)</b>	<b>In-depth Interviews with Disputants (Phase 4)</b>
<b>Problem Definition/ Research Design</b>	Collaborative definition of the research problem/issues and procedure with the mediators, coordinators and Metro Mediators.		
<b>Instrument Design</b>	Survey designed in collaboration with Metro-Mediators and the police.	Coding sheet (to guide the data collection) and definitions of variables developed with Metro-Mediators.	I designed the <u>Discussion Guide</u> then received feedback from the Metro-Mediators.
<b>Data Collection</b>	A few police officers, mediators and I gathered data from the police.	Mediators and I recorded data in case files at one centre.  I gathered the data from the other centres with varying degrees of assistance from mediators and coordinators.	We wrote letters to encourage participation.  I gathered the data by interviewing community disputants.
<b>Data Analysis &amp; Results (Action-Steps)</b>	For the duration of this project, I analyzed the data and received feedback on the findings through group discussions, individual and group meetings (Metro Mediators), and written feedback. Together, we implemented change and developed ideas for implementing change at the centres.		

I used this process by establishing a relationship with the SCRS coordinator. She and other mediators vouched for my credibility and sincerity in the research process, allowing me to gain access to the other mediation settings and police departments.

Five years after the initial contact with the centres, I continued to volunteer and maintain relationships with people from these settings. I believe that the volunteer work I did (and continue to do), and the influence of nontraditional, feminist, and participatory action research approaches, were essential for the successful completion of this project.

### **Step 2: Information Gathering/ Problem Definition**

Participatory research generally “begins with collective problem posting. Ideally, a community group, working with a researcher, names existing problems which they want to eliminate or change” (Maguire, 1987, p. 29; see also Brown & Tandon, 1983). The Metro Mediators approached me to present some initial research ideas at their first meeting (January 15, 1996). While it may seem contradictory for me to propose some research ideas (i.e., from a PAR perspective), this reflects Whyte’s (1984) recommendations of maintaining a balanced approach to research design:

I am not proposing that we enter with blank minds, leaving it to subsequent observations and experience to shape research plans. Striving for such a state of unconsciousness would be folly, but it is important to avoid the other extreme of becoming so fixated on a previously prepared and detailed research design as to miss opportunities to gather data about problems that may turn out to be more important. (p. 35)

Additionally, others suggest that in practice, many PAR projects are initiated by a researcher with the time, skills and commitment to investigate the topic (Maguire, 1987; Reason, 1994).

The initial research ideas (Appendix 3.3) were formulated with: (1) input from other mediators in accordance with the objectives proposed by the Metro-Mediators (i.e., to evaluate and improve the service, and to improve the police-mediator relationship); (2) academics on my dissertation supervisory committee; and (3) a brief review of the social science literature relevant to mediation, PAR and conflict. Research questions also arose from my experiences as a new mediator. For example, the inspiration for the main research question--what factors encourage second party disputants to mediate--was partly the result of my own and other mediators' frustration with the high refusal rate of second-party disputants. This issue also provided a place where my practical experience intersected with past research on mediation, because they both suggested this was an important research topic.

Relevant to *Objective 2*, promoting community mediation among the police, I initially outlined two research ideas (Appendix 3.3). One idea was to examine the influence of the police on the disputants' decisions to mediate. For example, when the police are called to attend a dispute that seems appropriate for mediation, they could randomly assign the disputants to one of two groups: (1) where they refer only the first party to mediation, or (2) where they recommend that both parties use mediation. The groups of disputants could later be compared to see whether differences in the referral process had an impact on the disputants' decisions to mediate. I also considered the possibility that encouraging police participation on this project might be difficult so I suggested another way of meeting *Objective 2*--by surveying the police regarding their attitudes toward mediation.

I presented these ideas at a Metro Mediators' (3 coordinators and 6 other mediators) meeting on January 15, 1996. During the presentation I emphasized that, if they were interested, I had time and research skills that I was willing to commit to meet their research interests and needs. I also emphasized that I planned to use a participatory approach. I explained what this meant, and I described the goals of this project. We discussed the ideas and the process; and I received positive feedback and support to proceed.

During this meeting we agreed that I would interview all of the coordinators and facilitate a focus group with the mediators to obtain their input regarding the research (explained in detail in *Chapter 4*). This process is in accordance with PAR approaches that generally use several techniques to identify the most relevant problems (Maguire, 1987).

We also agreed that for this to be an effective collaboration, I would receive informal and formal feedback throughout the project. The formal feedback was provided by the Metro Mediators at pre-arranged meetings (e.g., Feb. 3, March 5, March 19, June 6, July 9, Sept. 10, 1996; May 13, May 23, June 26, July 8, 1997). At each meeting, there were always a minimum of 3 coordinators and an additional 5 to 12 people (volunteer and paid mediators). Meetings are important in participatory research to help make sense of information that has been collected, to reflect on the progress of the project, to develop the ability of community members to continue the research (Reason, 1994), and to define how the results may be implemented (Maguire, 1987).

Although I continually received informal feedback throughout the process, meeting regularly with this group was beneficial in several ways. The meetings provided regular contact where the ideas from each mediation centre were represented, and decisions were made by consensus. This process also fostered continued momentum for the research process.

### **Step 3: Three Research Phases**

The Metro Mediators decided that in order to address their issues, it was essential to obtain information from other groups of individuals—police officers and community disputants. Since the police and community disputants did not participate in the research in the same manner as the Metro Mediators they may be more appropriately viewed as “consultants” (rather than co-researchers) or as research participants who have valuable knowledge to contribute to the research problem. Three research phases were designed to meet our needs: *Phase 2: Community Mediation and the Police*; *Phase 3: Archival Analysis of Mediation Case Files*; and *Phase 4: Qualitative Analysis of Community Conflict*. These research phases are described in detail in subsequent chapters.

Table 3.1 depicts the amount of collaboration that occurred during these next three phases of my dissertation (i.e., instrument design, data collection, analysis and results). During *Phase 2* (the police project, see *Chapter 5*), the Metro Mediators played an integral role in several ways. Together, we designed and revised the police survey, the procedure, and gathered the data. One important consequence of their participation was that it allowed me to gain entry into police stations. One mediator, who had previously established a good relationship with some of the staff sergeants, facilitated the process of

recruiting police officers as participants. Additionally, a coordinator from one centre had a good working relationship with a constable and a community-relations officer. These relationships allowed me to meet staff sergeants from several police divisions to build rapport and to discuss research issues and concerns. As a result, the sergeants supported the research, which I believe encouraged the officers to participate.

The completion of *Phases 3* and *4* required access to very sensitive and confidential records of community conflicts. In *Phase 3* (the archival study), I relied on case-file data that had been previously recorded by other mediators and I. Together, the Metro Mediators and I designed a coding sheet that was used to gather the data. During *Phase 4*, I also required access to the case-file data to obtain participants for the qualitative study. The coordinators also assisted in the recruitment process by writing a letter to encourage the disputants to participate. I was solely responsible for gathering the data for this research phase.

#### **Step 4: Data Analysis and Results--Action and Definition of Action Projects**

For the duration of this project, I analyzed the data and received feedback on the findings through group discussions, individual and group meetings, and written feedback. We also used the Metro-Mediator meetings as an opportunity to institute change and to develop additional ideas for implementing change. As mentioned earlier, decisions regarding how the results would be used were determined by this group. *Chapter 8* provides information regarding some of the action steps that were implemented and also explains some of the difficulties and limitations of implementing a PAR project.

## **SUMMARY**

Given the relationships that were cultivated and characteristics of this social setting, I felt that “traditional” approaches to research were inappropriate. Instead, I decided to offer my resources (time and research skills) to investigate this topic within a feminist and PAR framework. This liberated me from traditional epistemological influences, allowing me to “get close” to the participants because they did not have to be manipulated and controlled: value my own experience and knowledge: value diversity instead of trying to “control” it: value the skills and knowledge of the participants: investigate practical questions: and attempt to redress the power imbalance that traditionally occurs between the researcher and researched.

Without a feminist and participatory approach, this research would probably not have been possible. With this approach, the current study benefited from several types of research (in-depth interviews, focus group, archival study, survey, etc.) with diverse participants (mediators, coordinators, police and disputants). Although I encouraged as much participation as possible with the participants, it occurred to varying degrees during the different research phases. Thus, the Metro Mediators were the co-researchers of this study, while the police and community disputants may be more appropriately viewed as “consultants” or research participants. The following chapters elaborate on the four research phases that were completed for this study.

## **CHAPTER 4**

### ***PHASE 1: RESEARCH DESIGN***

This chapter describes the processes involved in collaborating with the mediators, coordinators and Metro Mediators to design this research project. Interviews, focus groups and meetings were used in this endeavor. In addition to fulfilling the main goals of this study, another purpose of this research phase was to gain a clear understanding of research issues that were important and relevant to the mediators. Furthermore, it provided an opportunity to understand their perspective on appropriate research methods and how they preferred to collaborate in this process. Several research ideas were suggested regarding the decision to mediate, mediation, follow up and other research issues, which will be described in this chapter. One “other” topic of interest involved issues relevant to culture and conflict. Because this topic was important throughout the current study, consideration is given to both the mediators’ ideas of culture and past research regarding how to define culture. Time restrictions made it impossible to examine every suggested topic, so it was necessary to narrow the focus to the primary research topics. The reasons for selecting the main research question regarding the decision to mediate will also be provided in this chapter.



## **METHOD**

### **Participants**

#### **Mediation Centre Coordinators**

The coordinators ( $N = 4^4$ ) of all mediation centres in the Toronto area—Scarborough, Metropolitan Toronto, and Downsview—were involved in this project. Each centre had a different title for the “coordinator” of the service, including director, executive director, and manager. For ease of understanding, they will all be referred to as coordinators. All of the coordinators were also community mediators.

#### **Volunteer Mediators**

Volunteer mediators ( $N = 30$ ) were also consulted during this research design phase. All volunteers at the three mediation centres were given an opportunity to participate, however, most were from the downtown location (62%). Although 30 mediators participated, only 21 completed a short demographic questionnaire that allowed me to describe this group.

The volunteers represented both inexperienced (i.e., mediating for a few months) and experienced (i.e., mediating for 10 years) volunteers. On average, they had been mediating two years. The group consisted of approximately an equal number of men ( $n = 10$ ) and women ( $n = 11$ ), and they ranged in age from 28 to 59 years ( $M = 39$ ). The

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<sup>4</sup>The reason there were four coordinators, even though there were only three centres, was because two people from one centre were present during one of the interviews—the manager and the volunteer coordinator. The interviews that occurred at the other centres involved only one individual.

volunteers' primary occupations were relatively diverse (See Table 4.1). However, the three most frequently mentioned "occupations" were mediator/negotiator (29%), lawyer (24%), and student (19%).

**Table 4.1**

**Occupations of Volunteer Mediators (N = 21)**

<b>Occupation</b>	<b>Percent</b>
Mediator/Negotiator	29
Lawyer	24
Student	19
Public Servant	10
Youth Worker	5
Educator	5
Management Training Consultant	5
Taxi-cab Owner	5

**Procedure**

**Interviewing Coordinators of Mediation Centres**

I interviewed the coordinators of the three mediation centres. In addition to obtaining their research ideas, the other main goal was to discuss research methods and address their concerns. Each coordinator was interviewed in February of 1996 (February 6, 12, and 20) at their respective places of work.

When I met each coordinator, I explained the purpose of the interview, gave them an informed consent form (Appendix 4.1), and asked for permission to tape record our conversation. All of the coordinators commented that the informed consent form seemed unusual given the fact that we had a good relationship and they were the co-researchers.

Nevertheless, it was university policy and it was beneficial for instigating discussion of issues related to confidentiality. It also provided me with the opportunity to verbally commit to the goals of this study (see *Chapter 3*). The first version of the consent form was used during the first interview, but as a result of our discussion we created a new version of the form that was used in subsequent interviews (Appendix 4.2).

After consent was discussed and the informed consent form was signed, I began the semi-structured interview following a discussion guide (Appendix 4.3). The interviews lasted between 1 and ½ to 2 and ½ hours. All interviews were tape-recorded and later transcribed.

### **Focus Group with Mediators**

I chose a focus group format to interview volunteer mediators for several reasons. Since there were many mediators, I believed this would be a faster, more efficient, and cost effective way to obtain a sample of views and opinions. Additionally, group interviews are appropriate for topics that are not especially sensitive. Further, a group focus

has the advantage of allowing people more time to reflect and to recall experiences; also, something that one person mentions can spur memories and opinions in others. Moreover, by allowing moments of not having to talk, of being able to listen to others, group interviewing allows each person to rethink and amend any initial account that, upon reflection, seems in need of amplification, qualification, amendment, or contradiction. (Lofland & Lofland, 1984, p. 15)

The Metro Mediators decided that I should facilitate the focus group at a training session to which mediators of all three centres were invited and encouraged to attend.

One coordinator informed all of the volunteers about the session by letter (Appendix 4.4). Twenty-one volunteers received two information letters because the location of the session changed after they had received their initial letter. A staff-member called all the mediators the week of the workshop/focus group as an additional reminder.

At the beginning of the focus group, I introduced myself, provided everyone with an informed consent form (Appendix 4.5), and verbally emphasized certain aspects of the form. The participants were given an opportunity to ask questions, and then were asked to sign the form. I also asked them to complete a very short demographic questionnaire (Appendix 4.6) so that I had a better understanding of who attended the focus group.

I began by posing the following questions: “What difficulties do you experience when you are volunteering as a mediator?”; and “What questions would you like to know the answers to in order to provide this service more effectively?”. Participants were encouraged to brainstorm ideas and I actively listened to the discussion by asking follow-up questions, clarifying, and probing for additional information. I also wrote down the main ideas of the discussion on a flip-chart at the front of the room (these notes can be found in Appendix 4.7). The focus group continued for approximately an hour and many research ideas were generated. A tape-recording of the session was later transcribed and analyzed.

### **Obtaining Feedback on the Findings**

This research design process resulted in the mediators and coordinators generating many research ideas. In fact, one mediator expressed my own feelings about the potential

for research in this area: “there are millions of things to focus on and you can’t do them all!” (Coordinator Interview #2). Thus, after analyzing the data, I presented a summary of the findings (March 19, 1996) to the Metro Mediators (see Appendix 4.8). At this meeting I received feedback regarding my interpretation of the findings. Additionally, since I was unable to study all the research topics, I received further direction by asking the mediators to identify the most pressing issues.

## **RESULTS AND DISCUSSION**

### **Research Issues Identified by Mediators<sup>5</sup>**

The mediators identified several areas of research they felt were important (see Appendix 4.8 for an outline of these findings), including: (1) the decision to mediate; (2) mediation; (3) follow-up and evaluation; and other research issues, including: (4) the police-mediator relationship, (5) volunteer issues, (6) power imbalances, (7) culture, and (8) mental health. Since I was unable to research all of these issues, the Metro Mediators and I agreed to investigate three major research projects: (1) a survey of *police* attitudes (*Phase 2*); (2) an examination of the *case-file data* of all people who had been clients of the centres (*Phase 3*); and (3) personal interviews with *second-party* disputants (*Phase 4*). In this section, I will outline the research ideas that were incorporated into my dissertation. I will also explain why the Metro Mediators prioritized particular research

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<sup>5</sup> The “mediators” include both the coordinators of the three mediation centres and the volunteer mediators who participated in this phase of the study. The reason why I called them “mediators” is because the coordinators of the centres also mediate community conflicts. For the interested reader, Appendix 4.8 distinguishes between the research topics that were suggested by the coordinators versus the mediators.

topics over others. Third, I will include some of the mediators' expectations regarding the findings.

### **1. The Decision to Mediate**

One research question, "What factors influence the second party's decision to mediate?" became the main focus of my dissertation for several reasons. First, as I mentioned earlier, my experiences as a mediator led to my interest in this topic. Second, all of the coordinators and several mediators raised this issue as a topic of interest. For example,

One issue you know, Teresa, is a lot of first parties call and the case doesn't go to mediation because the second party doesn't come. It is important to find out about what influences people to come to mediation when they weren't the ones who initiated it. . . . What should we be doing, that we aren't doing to get more of those second parties in? What does interest them? What does compel them? (Coordinator Interview #2)

Third, after presenting the results of this research phase (Appendix 4.8) to the Metro-Mediator group, they selected this question as the most important and relevant. In spite of the enthusiasm for this topic, one coordinator foreshadowed that it was not going to be easy to investigate:

To go in and persuade the second party to mediate-- I think it takes people [mediators] with really special skills. And I don't know how you would research this with the low numbers we have. But it is a topic best suited to psychology. (Coordinator Interview #3)

Nevertheless, for all of the above reasons, this topic became the main focus of my dissertation.

The mediators predicted that certain factors should be investigated because

they may be related to the decision to mediate, including: (1) perceptions of the mediator; (2) perceptions of mediation; (3) the referral source; (4) the type of conflict; and (5) the relationship between the disputants (see Appendix 4.8). First, mediators were interested in *disputants' perceptions of the mediator*. They wondered whether the *process* of contacting disputants (i.e., by letter, telephone or in person), a mediator's appearance (e.g., the type of clothing they wore), and/or mediator behaviours influenced the second party's decision to mediate.

Second, the mediators were interested in *disputants' perceptions of mediation* because they postulated that it influenced the decision to participate. Specifically, they perceived that disputants' lack of knowledge, biased perceptions and incorrect information were preventing people from mediating. For example, one coordinator suggested that "part of the problem is that people do not understand what mediation is and they are afraid of it" (Interview #1). Moreover, some believed that community members were receiving incorrect information from the media and other sources:

I think that there is a big issue of the status of mediation and people's understanding of what mediation is. Some people, the only thing they know about mediation is what they saw in the movie "Disclosure," and I think that's a big problem. Mediation is a big word right now, there are a whole lot of people doing mediation and they're not all using the same model. (Mediator #3, Focus Group)

All of the coordinators wondered whether the *referral source* had an impact on the decision to mediate. Specifically, several mediators predicted that the police and the court played an integral role. "I think the police would be a real key with the second party. Not just telling them to come [to mediation] but . . . also getting them to stay"

(Coordinator Interview #1). Additionally, the mediators were interested in the impact of different police-referral procedures. "Maybe compare different divisions or compare different police approaches to referral to see what impact it has. You might compare an informal referral process with a process where the police are saying 'get over there'" (Coordinator Interview #2).

The next two factors that the mediators believed may influence the decision to mediate were the *type of conflict* and *relationship between the disputants*--"I feel that's another issue to look at. . .the issues and types of relationships and see how the results are" (Interview #2). One coordinator noticed certain types of conflicts may preclude mediation. "I think we have never had a fence case that went to mediation. is that true?" (Interview #2). This same coordinator also predicted that being involved in a co-worker relationship might pressure people to mediate:

The highest frequency of mediation occurs for workplace and organizations, where virtually all the time they seem to go to mediation. And we guess it is because it is a closed system and the pressure is on everybody, and plus it is sometimes initiated in the collective, everyone agrees, sometimes it is initiated by a manager. But we are not sure if people really feel the same freedom to say "no," because if you say "no" you look uncooperative.

Since investigating the decision to mediate was central to the current study, these issues were explored in all three of the research phases.

## **2. Mediation**

Research topics regarding mediation were also suggested (see Appendix 4.8 for details). For example, one of the coordinators expressed interest in examining how



mediation “fits into the justice system” (Coordinator Interview #3), and how mediators could foster a good relationship with the court (e.g., lawyers and judges). They also wondered if mediation positively changes (or “transforms”) disputants and their relationships. The coordinators also wondered whether disputants' perceptions of mediation changed as a result of being involved in the process. The mediators were also very interested in issues regarding follow-up of the disputants and the conflicts, and in improving mediation through evaluation. Even though I did not specifically evaluate mediation, the findings of the current study were helpful for providing feedback and recommendations relevant to the mediators' interests.

Although mediators suggested several research questions relevant to mediation, the Metro Mediators decided to focus on pre-mediation processes rather than actual mediations. We felt that the decision to mediate was more important than investigating actual mediations. For example, one coordinator suggested “I don't have any concerns with the process itself. I think it is a wonderful process. I think the important research and issues occur before mediation” (Interview #1). Another stated,

we already know when people decide to sit down and try to work it out that 85% of the time it works. And it's much more difficult to define what makes mediation work versus not work. And it would be difficult to sit in or tape that many mediations. So I think that focusing on case development, how to get more people to take advantage of the process, would really be advantageous. (Coordinator Interview #2)

### **Other Research Issues**

#### **3. The Police**

There were five other issues that the mediators and coordinators suggested were

important, including: the mediator-police relationship, volunteer issues, power imbalances, culture and mental health. Since the Metro Mediators suggested that the most important of these "other" topics involved the police, one phase of the current study (*Phase 2*) focussed solely on the mediator-police relationship. Police-related issues were investigated in all three research phases, but especially in *Phase 2: Community Mediation and the Police (Chapter 5)*.

#### **4. Volunteer Issues**

The second "other" research issue suggested by the coordinators of the centres concerned volunteer mediators.

Research on volunteers is a good question for somebody. What really gives satisfaction to people? . . . We run into problems. People who are on the list [of volunteers] and say they are eager but somehow they always say 'no' or they are really excited and take the training and then they kind of seem to make a number of other commitments and they are never available. . . .

All the stuff about credentials and competence [of volunteers] is important. One thing that is more important to us now than it used to be is we're going to start setting some criteria for different levels of competence and we don't know how we're going to do it yet because everybody's fumbling around in the entire continent and nobody's really sure how to do it. . . . What makes somebody effective? . . . That's a whole area.  
(Coordinator Interview #2)

Thus, there were three main volunteer-related questions of importance to coordinators:

- (1) What factors encourage and motivate people to volunteer, and how can their commitment be encouraged?
- (2) How can we identify who is an effective mediator and provide credentials for volunteers?
- and (3) What is the optimal number of volunteers

necessary to operate a mediation service effectively? Although volunteer issues are important, they were not investigated due to time restrictions and because they did not theoretically relate to the other research topics.

### **5. Power Imbalances**

Coordinators and mediators were also concerned about power imbalances in disputes. I have touched on the topic of power in a very cursory way in the qualitative research phase of my dissertation by discussing the impact of power on the decision to mediate. I asked the disputants whether they felt powerful or powerless in their conflict and whether they felt mediation could help address power imbalances.

### **6. Culture**

Past research on conflict and the mediators both suggested that investigating issues relevant to “culture” were very important. The literature suggests that a disputant’s culture is important because it provides a “system of meaning” for understanding conflict and resolution processes (e.g., Picard, 1998). Additionally, it was not surprising that the mediators suggested cultural issues were important given the rich diversity of people in the Toronto area. For example, the mediators were interested in questions such as: (1) “Is it important to ‘match’ the mediator’s culture with the disputant’s culture?”; (2) “Is it possible to make mediation more attractive to diverse groups of people?”; (3) “How do misunderstandings involving culture and language contribute to conflict?”; and (4) “What are important issues to consider when an interpreter is present during a mediation?”

## **Defining Culture**

“Culture” is a very complex construct. Price-Williams (1985) suggests that there are over 150 definitions of this term. Although culture, race and ethnicity are often used interchangeably, culture is often more broadly defined than racial or ethnic differences.

Gadlin (1994) defines cultural background:

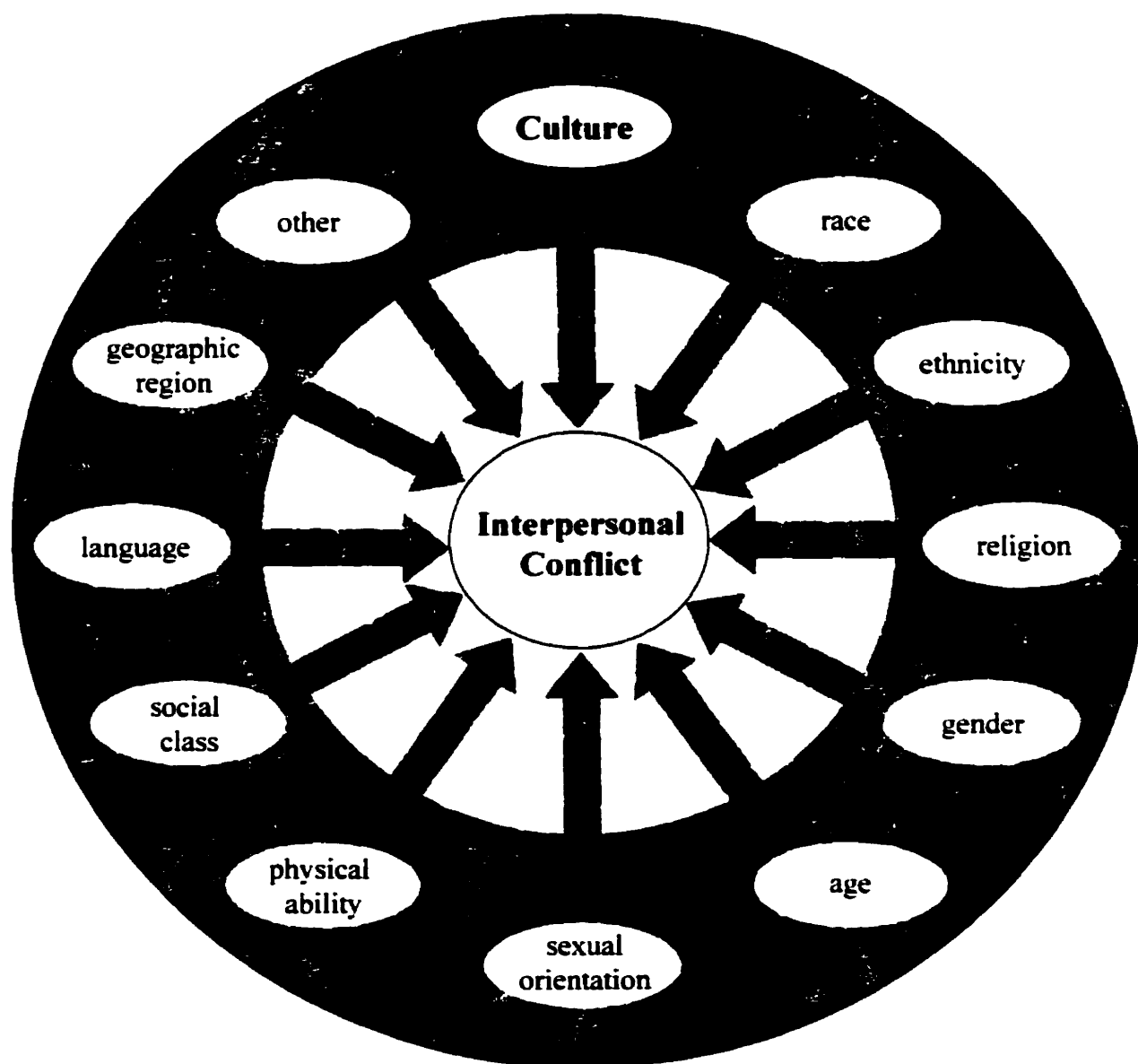
as one of the contributing factors that goes into the make-up of the personality or character of the disputant, added on to or integrated with the particulars of family size and history, early childhood experiences, relationships with parents, socioeconomic class, and so on. (p. 36-37)

LeBaron (1997) similarly offers a broad definition of culture, suggesting that “cultural differences flow from age, gender, socioeconomic status, national origin, recency of immigration, education, sexual orientation, and disability” (p. 319). One of the coordinators also viewed culture as a term encompassing diverse characteristics “. . . whether culture represents age or sexual orientation or ethnic culture or whatever” (Interview #2).

In the current study, I view culture as encompassing a wide range of social group characteristics (see Figure 4.1<sup>o</sup>). In Figure 4.1, culture is depicted as influencing conflict, and is portrayed as a system with interdependent parts, rather than as a single variable. From this perspective, any one person can represent many cultural characteristics. The diverse characteristics represented by the term “culture” have been placed in the outer

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<sup>o</sup> In addition to literature on culture (e.g., Gadlin, 1994; LeBaron, 1997), ideas for this figure were also influenced by participating in an anti-oppression workshop conducted in November, 1996, at St. Stephen's Community House Conflict Resolution Services.



**Figure 4.1. The Impact of Culture on Interpersonal Conflict.**

circle, while interpersonal conflict is in the inner circle. The smaller social system that exists in the “interpersonal conflict” circle (i.e., how people approach the conflict and perceptions of others) operates within the larger social/cultural system. Using this figure, I could describe myself as white, able-bodied, heterosexual, English-speaking, young adult, and female. This figure also considers the influence of one’s upbringing. For example, I was raised: on the prairies (*geographic region*), as a Christian (*religion*), and in a working-class family (*social class*). Two “other” cultural influences, for example, include educational level (e.g., 14 years of post-secondary education), and a feminist orientation. It is important to note that some cultural characteristics will be more or less influential in different situations and will also change over the lifespan. By depicting culture this way I am attempting to expand its meaning from a narrow association with ethnic identity to a broader meaning that reflects diverse social characteristics.

Culture was investigated in the current study in two main ways: (1) in the case file data when I examined the culture of people who sought mediation; and (2) in the qualitative chapter when I analyzed the role of culture in the conflict, the resolution, and the decision to mediate.

## **7. Mental Health**

The final research issue that was important to some of the mediators involved mental health and conflict.

The other interesting thing is mental health. I think we are going to get more and more cases where that will be an issue. I thought that these would be cases where you cannot do mediation. However, when I spoke with the experts in the field of mental health, they told me that I could. I'm

very interested in how that can work. (Coordinator Interview #1)

I investigated this issue during the qualitative interviews (*Phase 4*) by analyzing the impact of second-party *perceptions* of mental illness on the conflict.

### **Methodological Issues Identified by Coordinators**

In addition to discussing research ideas, the coordinators also made some recommendations regarding research methods. One suggestion from all the coordinators was that I analyze the case file data (*Phase 3*). Another methodological recommendation concerned the process of recruiting the second-party disputants as research participants (*Phase 4*). The coordinators suggested that I send two letters to potential participants--one letter from me explaining the study, and one from the coordinators to introduce me. "I think we would always want to talk to mediators and disputants before they heard from a researcher, even if it's you" (Coordinator Interview #2). All of these suggestions were implemented in the current study.

The coordinators also indicated their desire to be involved during the instrument design process. This request was easily incorporated into my research procedures and also allowed me to receive individual and group (at the Metro-Mediator meetings) feedback on the police survey (*Phase 2*, Appendices 5.1, 5.2, 5.3), coding sheet (*Phase 3*), and the Discussion Guide (*Phase 4*, Appendix 7.1).

The final methodological issue concerned time commitments of the mediators and coordinators.

Well, I'm the one who is always saying that time is an issue for us and it's because we feel so overloaded and it's very interesting and useful to us [to

talk about the research. And it's also fun and it's easy to be spending time talking about it and then we will find. oh my God, there are 87 people we still haven't had time to talk to. I've been saying for two weeks I'm going to make certain phone calls and I still haven't done them. My concern is that we [the coordinators and mediators] don't want to be a major focus of this [the research] because we would do it [the research] instead of our work.  
(Coordinator Interview #2)

As you can see, there was a concern that the research project would create extra work for the coordinators and/or mediators who have little time to contribute to such a project. To address this concern I was careful to ensure that this study did not become a burden and that they only participated to the degree they wanted. Obtaining their input at regular Metro Mediator meetings was another way to address this concern.

### SUMMARY

During this research design phase I obtained many research ideas and methodological suggestions from the coordinators and mediators of three Toronto-area mediation centres. They suggested that it was important to investigate *pre-mediation* topics like the factors that influence the decision to mediate. They also suggested research ideas relevant to the *mediation process*. Finally, a miscellaneous category of issues including the mediator-police relationship, volunteer issues, power imbalances, culture and mental health, were also recommended. Because it was impossible to investigate every topic, the coordinators, mediators and Metro Mediators were essential to the research design process and for refining the research questions. This process resulted in the selection of the main research question. "What factors (i.e., individual, interpersonal, and situational) are related to the decision to mediate (i.e., a constructive approach to



conflict)?”

The mediators also described their expectations regarding this research question. First, they perceived that particular referral sources, especially the justice system (i.e., police or courts), might encourage disputants to agree to mediate. Second, they suggested that perceptions of mediation, especially a “fear of the unknown” or misunderstandings about the process, could bias disputants against participating. Third, they felt that first impressions of the mediators—their behaviours and appearance—might be influential. Finally, they believed that the type of conflict and relationship between the disputants might also be important factors in the decision to mediate.

I addressed the research question regarding the decision to mediate in each of the following three research phases of my dissertation. In the next chapter, I examine the role of the main referral source, the police, by exploring their perceptions of the process. In *Chapter 6, Phase 3*, I provide descriptive and inferential statistics of the case file data, with a particular focus on the role of the conflict and relationship on the decision to mediate. Finally, in *Chapter 7, Phase 4*, I present data from second-party disputants to examine how their cognitive, behavioural and emotional responses to the conflict, the first party, and mediation, influenced their decision to mediate.

## **CHAPTER 5**

### ***PHASE 2: COMMUNITY MEDIATION AND THE POLICE***

Why study the police in a dissertation about mediation? The main reason was that during the research design phase the Metro Mediators suggested that investigating police perceptions of mediation was important. Second, the findings from the archival study (*Chapter 6*), indicated that the police provide the largest number of referrals to these centres (23%;  $n = 237$ ). Third, the literature review (*Chapter 2*) indicated that the likelihood of a disputant agreeing to mediate is related to the type of referral source (Richan, 1988).

Many police related research questions were generated by the mediators (see Appendix 4.8) Although I initially considered conducting either a field experiment or a survey of the police (See Appendix 3.3), discussions with the Metro Mediators and the police led us to select the survey option. A survey was perceived as more appropriate because it was less intrusive and enabled the Metro Mediators to address most of the specific police-related research questions identified by the mediators.

One way that a referral source can exert influence is through the provision of information regarding mediation. Since the police are often the first to respond to community conflict (Volpe, 1989), they regularly provide the first source of information or the first "connection" the parties have with the mediation service. They also "play a central role in determining the gravity of citizen complaints and thereby affect the degree to which mediation is used" (Palenski, 1984, p. 31). Thus, they can act as "gatekeepers" by determining who hears about mediation and what they are told. One coordinator

(Interview #3) suggested that the police have certain “discretionary powers” to determine which cases will be mediated, and she wanted to know more about these “powers.” Consequently, researchers have suggested that the relationship between dispute resolution centres and the police is interdependent (Volpe, 1989).

Another purpose for including this research component was that the mediators were very interested in understanding the role of the police in mediation (see Appendix 4.8). They believed that “because the police are authority figures, when they say mediation should be used, people often take advantage of it” (Coordinator Interview #2). Specifically, they were interested in (1) the relationship between the police and mediators; (2) the referral process; and (3) the outcome of cases referred by the police.

Considering the important role of police officers in the mediation process, it is surprising that relatively little research has been done in this area (Palenski, 1984). In order to investigate the impact of the police on the decision to mediate, we conducted a survey of police attitudes regarding mediation. More specifically, we researched their perceptions of the referral *process*, especially the types of cases that were considered suitable for mediation. We also investigated the officers’ views regarding how the two services may complement each other. This chapter concludes by outlining recommendations for improving the mediator-police relationship.

## **METHOD**

### **Participants**

The research participants for this phase of the dissertation were police officers from 41, 42 and 54 Divisions in the Toronto area. These particular divisions were

included in this study because they were in the same catchment area as one of the mediation services, which means they provided referrals to this service. There were 15 shifts of officers with approximately 25 officers per shift (a total of about 375 officers) who were targeted for inclusion in this study.

Fifty-six officers responded to the survey. Of these officers, 89% were male, 7% were female and 4% did not state their sex. The respondents reported being involved in the police force between 4 to 30 years. The average length of time in the force was 16 years, and the modal length was 23 years. The officers were 38 years old, on average, ranging from 24 to 51 years. In other words, most respondents were male and quite experienced with police work.

### **Response Rate**

The response rate was approximately 15%; it was not possible to accurately calculate the officers' response rate. The total sample of officers targeted for inclusion (375) was an approximation because the number of officers who received questionnaires was not always recorded. Moreover, during the presentations, many officers sporadically came and went to deal with various duties. For example, officers were occasionally paged to respond to emergencies. This prevented them from hearing the entire presentation regarding the purpose of the questionnaire and the procedure. Another reason why the response rate is likely an underestimate is because some officers who were supposed to attend the sessions did not show. Nevertheless, the officers who did participate provided valuable information.

## **Procedure**

### **Gaining Entry**

The mediators and I worked together to gain entry into the police stations, but the primary connection came through one of the mediation centre coordinators. This technique for gaining entry is what Patton (1990) calls the *known sponsor approach*. Together, we had several meetings with the sergeants, and one of the coordinators met with the superintendent and chair of the police services board. At the end of this process the coordinator commented that

we have the full support of the police, from the very top. . . The chair of the police services board, we have her support. We also have the support of the superintendent. We also have the support of the very top layer, and all the way down. So full support. (Interview #1)

### **Interview with One Officer**

Before distributing the surveys, one mediator discussed issues regarding this project with a police officer. She obtained feedback regarding the construction of the police questionnaire, appropriate methods for gathering information from the officers and approaches to information sharing. This feedback was used to develop the initial questionnaire and determined the administration of the survey. For example, the officer stated that it would be best if we attended the police training meetings and simply explained the service, answered questions and then administered the survey. In addition, he commented that the questionnaire should be short enough for the officers to complete it at the meeting, suggesting they would not respond otherwise. He also reminded us that most officers had little knowledge of mediation because it is a relatively new process. He

further explained that in order to obtain responses it would be necessary to make a presentation regarding the dispute resolution centres. He argued that such a presentation would allow the officers to make more informed responses to the survey.

### **Development of the Police Questionnaire**

A sixteen-item police questionnaire (see Appendix 5.1) was developed for the purposes of this study. The survey was designed to obtain information regarding police attitudes toward mediation and suggestions regarding the development of an effective mediator-police relationship. Before distributing it to the officers, I incorporated suggested revisions from two experienced mediators, one police officer, and two faculty members from York University. The survey was distributed to an initial group of 25 officers. Several officers commented that there were too many questions, and that it was too time consuming to complete. As a result of their feedback, I modified the questionnaire by removing or altering several questions. See Appendix 5.2 for a description of the questionnaire modification process, and Appendix 5.3 for the revised questionnaire. The responses of these 25 officers to unaltered questions were incorporated into the results, and the revised questionnaire was distributed to the remaining officers.

### **Gathering Survey Data**

One other mediator and I gathered survey data from the officers.<sup>7</sup> We (staff sergeants, the other mediator and I) decided to administer the survey at previously scheduled weekly information meetings (15 weeks). First, a police constable introduced us and we explained that the purpose of our visit was to present information regarding mediation and to receive input on a questionnaire that would be distributed at the conclusion of the presentation. Then we gave a simple ten-minute presentation of mediation theory, and provided concrete examples of cases we had successfully mediated (see Appendix 5.4 for more details of the presentation). We further explained that the information would be used in my dissertation research at York University, and that a summary of the findings would be given to the mediation services and the staff sergeants. To protect the officers' identities, we explained that they should not place their names on the questionnaires. They were also told that completing the questionnaire was voluntary, and that they could choose not to answer any of the questions. At the conclusion of the

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<sup>7</sup> The main reason why another mediator accompanied me was because she planned to facilitate ongoing communication between the police and mediation service. Officers who made referrals or wanted additional information regarding mediation would contact her. This was an important consideration if the research was to encourage lasting changes. The presence of another mediator also increased my comfort level with this data gathering process. At first, we found it intimidating to be in an environment of mostly men who were wearing bullet proof vests, carrying guns, and had billy clubs hanging from their belts. When the staff sergeant warned us that the officers might be unreceptive to the topic, this added to the intimidation factor. The presence of two researchers was also beneficial because the process of distributing and gathering the surveys was faster and more efficient. Since time was of the essence, this was a very important consideration. Thus, the presence of another researcher to field questions regarding mediation and to privately share concerns about the process allowed us to present ourselves and gather the data in a confident manner.

presentation. officers had the opportunity to ask questions and to discuss issues or concerns regarding mediation or the study. Then the short survey was distributed (Appendix 5.3).

The officers were given approximately ten minutes to complete the questionnaire. while we (the mediator and I) remained in the room to answer questions. Finally, brochures and business cards from the mediation centre were distributed to provide additional information regarding mediation. Officers were also given a contact number for me at the mediation centre if they had additional information, questions or concerns regarding the research project. If the respondents completed the questionnaire in the allotted time frame, then we gathered their responses. If they required additional time, however, they kept the survey and returned it to their sergeant in a sealed envelope that was provided.

Subsequently, the responses were analyzed and the findings were presented to the directors of the three mediation services. Written summaries (i.e., that were very similar to this chapter) were also provided to the directors of each mediation centre and to the sergeants at the three police divisions.

## **RESULTS AND DISCUSSION**

In the following section, I provide a summary of the responses to the survey questions with a focus on police attitudes toward mediation, the referral process, and the types of conflicts considered appropriate and inappropriate for mediation. The results will also be critically discussed with the inclusion of past research and comments from the officers.



### **The Referral Process**

Because officers often provide the first source of information regarding mediation, they are able to serve as gatekeepers of the process. Thus, it is important to understand their preferred method of referring disputants. In this study, 97% ( $n = 54$ ) of the officers stated that they would refer disputants to mediation. When considering their preferred referral methods, they want to encourage people to use mediation, but wish to do so in an unobtrusive manner (see Table 5.1). That is, while most officers prefer to provide contact information for the centres (i.e., telephone numbers, brochures or business cards), they do not want to explain mediation, and would rather have a mediator explain the process. Perhaps one reason for this preference is that the police may be unsure of how to define mediation and would prefer that the “mediators define it for the parties. Officers in another study stated that one barrier to making mediation referrals was their desire to “maintain authority and distance from the public” (Palenski, 1984, p. 36). Furthermore, these officers stated that they jeopardize their authority image and control over situations if they advise people that mediation may be a more effective way to resolve their conflict (Palenski, 1984). Thus, perhaps the officers in the current study who preferred to provide a telephone number rather than information regarding mediation used this as a strategy to maintain their distance and, therefore, control over the situation.

There are advantages and disadvantages of this minimalist method of referring disputants to mediation. On the one hand, if the police do not “strongly” recommend mediation they may inadvertently send the message that mediation is not effective. Moreover, if police do not recommend mediation, but then ask mediators to call the

disputants, the disputants may feel this is inappropriate. In this type of scenario, both parties might feel like the mediators are intruding on their private matters without being asked.

**Table 5.1**

**Police Referral Process**

<b>Police officers were willing to provide disputants with:</b>	<b>Percent (n)</b>
Telephone number of mediation service	79% (44)
Business card from mediation centre	39% (22)
Telephone number and information regarding mediation	29% (16)
Brochure from mediation centre	27% (15)
No direct information (i.e., Contact mediation service and have mediators contact disputants)	13% (7)

On the other hand, there are possible advantages to this more indirect approach. For example, if officers do not understand the mediation process it is probably better that they provide only contact information rather than communicating incorrect information about mediation. Inaccurate or misleading information may cause disputants to become confused and dissatisfied with the process. Moreover, if the mediation process does not occur as the police said it would, then mediation may not meet the disputants' expectations. Another advantage of simply providing contact information is that disputants may be less likely to confuse the mediation process as being "connected" with the police. Generally, mediators do not want to be perceived as an "arm" of the police force. Evidence supporting this statement comes from the fact that mediation began as a

grassroots organization in response to dissatisfaction with the way conflicts are dealt with in the legal system (Duffy, 1991). Of course, disputants may continue to be confused unless the referring officers and mediators clarify that mediators are not police officers.

Officers suggested that by referring disputants to mediation they would improve the communities' perception of the police. For example, one officer said that when the police make referrals it shows people that they care about peoples' issues and concerns. Another advantage of the referral process was that officers suggested it would help improve their relationship with community members. For example, when police provide a referral they might help address disputant issues, thereby improving the situation.

A third self-serving advantage of referring cases to mediation was provided by another officer who stated that once a problem was referred to a mediation service, "it is not our problem anymore." Mediators (i.e., Metro Mediators) suggested that this was a problematic comment because they view their relationship with the police as cooperative. In other words, not every conflict that comes to the attention of the mediation service is resolved; therefore, parties may need to return to the police. The mediators want that option to remain open to individuals so they receive appropriate assistance for their dispute. Second, officers who regard a police-referred conflict as no longer their responsibility may refer inappropriate cases to mediation. This is problematic because disputants may become frustrated at being tossed about from one social service agency to another without having their issues resolved. A second problem is that mediators will not mediate inappropriate cases and/or disputants may refuse to mediate. This inability to "resolve" such cases may reflect negatively on the mediation centres, especially to other

outside agencies who may not understand why the cases were not “successfully” resolved. This is especially problematic considering the fact that community mediation services rely on funding and public support to survive. One way to deal with the potential problem of inappropriate referrals is to educate the police about the types of cases that are appropriate for mediation versus those that are better handled by the legal system.

When referring disputants to mediation, most officers (95%;  $n = 53$ ) said they felt there was a need to approach both parties in the conflict. (See Table 5.2). Officers (16%;  $n = 9$ ) suggested that they visited both parties because they were the first mediators at the scene of a dispute. Other research has similarly suggested that although police often use force to resolve conflict, they may also act as “mediators” (Volpe, 1989). Thus, it appears that most of the officers in this study indicate their intention is something other than coercion. In fact, one officer simply said that s/he would make referrals because “I do care” about the parties.

**Table 5.2**

**Reasons for Approaching *Both* the First and Second Party**

<b>Reasons</b>	<b>Percent (<math>n</math>)</b>
Being fair to both parties	32% (18)
Increase likelihood that disputants will agree to mediate	20% (11)
Enable police to mediate the conflict	16% (9)
Prevent escalation	4% (2)

Although officers in this study provided many reasons why they would approach both disputants, one officer clearly summarized the difficulty with this process. "the person who called the police has shown the first step, and the other party is usually mad when we arrive." Another officer commented that even if they wanted to speak with both disputants, sometimes the second party refuses to speak with them. Thus, although officers would like to approach both parties, and perceive this as the best approach for conflict resolution, there are usually a number of impediments. Future research investigating methods of addressing these barriers and clarifying the impact of the referral process is essential.

### **Feedback Regarding Referrals**

Considering the fact that most officers (80%) would appreciate feedback regarding the cases they have referred, it is important to consider their suggestions regarding communication methods. For example, those who want feedback recommended sending a single page report regarding the outcome of the case or a copy of the final agreement directly to the referring officer or to one designated officer at the station. Not all the officers wanted feedback, and several suggested that the circumstances should dictate the process. Considering the diverse preferences for feedback, mediators would be well advised to ask the referring officers their preferences regarding what information they want, and the process they would prefer.

One advantage of providing feedback is that the process would encourage regular communication between the police and mediators. Feedback regarding the outcome could also be instructive by helping the police gain a better understanding of the types of cases

that are appropriate and inappropriate for mediation. Moreover, when officers hear success stories they would realize how their cooperation through referrals benefits community members.

### **Appropriate Conflicts for Mediation**

The police were asked to consider the types of disputes they felt were appropriate to refer to mediation (see Table 5.3 for a summary of their responses). Neighbour disputes, including conflicts about noise, mutual driveways, property, pets and children, were mentioned most often (57%) as being suitable for mediation.

The list of disputes provided by the officers indicates that the majority may refer “appropriate” and diverse disputes for mediation. However, a small minority suggested they may refer potentially inappropriate disputes. For example, these officers mentioned that mediation was beneficial because it provided a source of free counselling, and it was appropriate in situations involving “mentally ill” patients. Although some cases involving “mentally ill” patients have been mediated at these centres, such cases are rare. The appropriateness of such cases is generally determined after the mediators have informally assessed the individual’s ability to articulate issues regarding the conflict and to make commitments and uphold them. Mediators do not formally assess “mental illness,” but often determine the disputants’ abilities through conversations or observations. A disputant or a family member may also disclose mental illness. These examples highlight the difficulty of quickly assessing whether a conflict is suitable for mediation and how particularly difficult it would be for the police, who often encounter disputants when emotions are high.

**Table 5.3****Disputes that are Appropriate for Mediation (N = 56)**

<b>Disputes</b>	<b>Number (Percent)</b>
<u>Neighbour disputes</u>	80 (57%)
<i>Including:</i>	
Noise	23 (16%)
Mutual drive	15 (11%)
Property	8 (6%)
Pets	4 (3%)
Children	2 (1%)
Other neighbour disputes	28 (20%)
Landlord-tenant	18 (13%)
Family and "domestic" <sup>8</sup> disputes	17 (12%)
Any dispute (especially minor and/or ongoing)	15 (11%)
By-law infractions	7 (5%)
Community businesses	4 (3%)
Other	4 (3%)
<i>Total</i> <sup>9</sup>	141

<sup>8</sup> According to Mackenzie (1985), police officers commonly refer to wife abuse as "domestic disputes" or "disturbances." The reason why the word "domestic" has been placed in quotation marks is to identify that the officers' terminology is often viewed as inaccurate and trivializing the problem of wife abuse because it does not acknowledge that the primary victims are women.

<sup>9</sup> This total reflects the frequency of responses, not the number of officers.

Only a small minority of officers stated that mediation is beneficial for disputes between elderly individuals (1%), people from different cultures (1%), and for disputes caused by neighbourhood children (1%). Contrary to the officers' perceptions, disputants often bring these issues to mediation centres, and such interpersonal disputes are well suited to mediation. For example, one officer mentioned that cultural issues, including language barriers, posed obstacles for him when he was called to a crisis situation, and that mediators are particularly helpful in such cases. This same officer provided an interesting example of what he meant by "cultural issues." He said that he has seen cases where "foreign customs deemed acceptable 'there' but unacceptable or illegal here" were causes of disputes. I believe this officer is correct in saying that mediators are particularly helpful for such issues because they are trained to be sensitive to cultural issues, and many conflicts are mediated between people of different cultures. Additionally, the volunteer mediators represent the diversity of the community and, therefore, provide a wealth of knowledge regarding cultural and linguistic differences. In sum, while there are similarities between the mediators' and officers' opinions regarding the types of cases that are suitable for mediation, some divergence still exists.

### **Conflicts Considered Inappropriate for Mediation**

The police suggested that certain cases were not suitable for mediation (Table 5.4). For example, most officers (73%) said that conflicts involving violence or the "potential for violence" are not appropriate for mediation. Specifically, violent or potentially violent cases included conflicts involving criminal offenses (11%), sexual assault (8%), "mentally ill" people who are violent (7%), and "domestic disputes" (4%).



**Table 5.4****Disputes that are Not Suitable for Mediation (N = 56)**

<b>Disputes</b>	<b>Number (Percent)</b>
Violence or potential for violence	33 (73%)
Mentally ill	7 (16%)
Mentally ill <u>and</u> violent	3 (7%)
Only one party	6 (13%)
Criminal offenses	5 (11%)
Sexual assault	4 (9%)
"Domestic" disputes	2 (4%)
Very large groups	1 (2%)
Person is intoxicated	1 (2%)
<i>Total</i> <sup>10</sup>	45

**Police Attitudes Toward Mediation**

Next, it is interesting to explore the police officers' attitudes regarding the disadvantages and advantages of mediation. One disadvantage that was mentioned concerned the referral process. For example, if a breakdown in communication regarding the process and outcome of a dispute were to happen between the police and mediators, this was considered problematic.

Some officers were also concerned that mediators may take too long to respond to a dispute, and they felt they could deal with a conflict more expeditiously themselves.

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<sup>10</sup> Officers in this study responded to an open-ended question that asked them to list all the disputes they felt were *inappropriate* for mediation. Again, this total represents the frequency of responses, not the number of officers.

The voluntary nature of community mediation was identified as a third disadvantage. As one officer commented, "if only one party is willing to mediate it may leave the other party with no hope." When one officer commented that for violent disputes "sometimes people just want the police because of their authority," this seemed to reflect a fourth concern that mediation would not be effective for violent disputes.

Finally, the police expressed it was disadvantageous to refer disputants to mediation because it might have a detrimental impact on the perceptions of the police or on police funding. For example, one officer said, "if they [the disputants] tell a mediator more than they were willing to tell the police, it may appear as if some neglect was involved by the police." It is not surprising that officers expressed some concerns regarding mediation because as Folberg and Taylor (1984) suggest, building professional relationships and networks is not easy "... territorial encroachment by mediators in conflicts formerly the domain of a single profession [like the police] can be seen as real threats to income and establishment" (p. 308).

One officer, who stated that "hopefully police will do their job and not just 'pass the buck,'" suggested he was concerned the police might refer inappropriate cases to mediation to avoid the work it takes to respond appropriately to the conflict. This would be a disadvantage not only for the police, who may be perceived as ineffective at responding to conflict; but also for the disputants, whose conflict may remain unresolved. Moreover, when referrals are made as a way to get rid of a difficult case rather than to address the individuals' needs, this is problematic if mediation is discredited for not successfully addressing such cases (Folberg & Taylor, 1984).

The officers also recognized several practical advantages of mediation for both the police and community. First, they realized that mediators might provide more satisfactory services for community members because they are able to spend more time with disputants to resolve the conflict or to make appropriate referrals to other agencies. They reasoned that a tension exists between the time needed to effectively resolve conflicts and time restrictions that result from the need to respond to many urgent calls each shift. Thus they often felt like they did not have enough time to satisfactorily respond to some disputes.

The officers also believed that mediators complement their work. For example, officers often spend considerable time responding to repeat calls of conflicts that cannot be dealt with by the police (Volpe, 1989). Consequently, if people in the community resolve their conflict, this would save the officers' time by decreasing the number of repeat calls to ongoing disputes. Thus, if mediators resolve "less serious" (or as one officer called them—"Mickey Mouse") disputes, the officers will have more time for "serious" cases, which they believe is a more efficient use of resources.

The police-mediator relationship appears mutually beneficial. For example, mediators rely on the police to provide referrals, while the police are able to receive assistance on cases they feel are inappropriate for their intervention. When the police make referrals, they benefit from allowing another service a "share" of their workload. Moreover, the police perceive themselves as similar to mediators in the sense that they feel they are in effect the first "mediators" called to a dispute. While the police and

mediators use different approaches to mediation, both feel their techniques prevent conflict from escalating.

### **Action**

Other important types of results from this study included ideas for change and actual changes that were based on the findings. Among such changes are the following. First, it allowed the mediators to foster a better working relationship with the police. Evidence for this was provided by the fact that one police division presented the mediation centre with a plaque thanking them for the services they provide. One mediator reported that it also increased the number of calls by officers requesting information. Additionally, several officers indicated their interest in working more closely with mediators by offering to attend actual mediations, conflict resolution training sessions, and volunteering to be mediators.

Second, brainstorming sessions with the Metro Mediators regarding the results, generated ideas to improve the police-mediator relationship. For example, they decided to provide regular information sessions for the officers, particularly informing them about the consequences of police-referred mediations. Third, mediators established relationships with other referral sources by following some of the steps used in this project. For example, CMS-D used the same process of gaining entry (via staff sergeants) and the same questionnaire to learn more about another group of police officers. Furthermore, a similar approach was applied to other referral agencies (e.g., landlord-tenant affairs), and in an outreach project for non-English speaking communities.

Although the findings of the study were practical and allowed the mediators to implement change, perhaps the process of being involved in the research was one of the main benefits. Kirby and McKenna (1989) argue that

from our experience it is clear that as people engage in this kind of research, as they become creators of knowledge, they become more confident in their ability to 'intervene in reality' in a meaningful way. They are less intimidated by traditional research approaches and become better critics of such results. (p. 167)

## **GENERAL DISCUSSION**

Since the police are the largest referral source, they often provide disputants with the first contact and the first source of information regarding mediation. This study provided important information in an under-researched area. That is, pre-mediation incidents such as the referral process have generally not been explored in past research. Fifty-six officers responded to a survey regarding their attitudes toward mediation, the referral process, and methods of fostering the police-mediator relationship. Most respondents were very experienced police officers (i.e., an average of 16 years on the police force), but it is important to note that because mediation is a relatively new process, at least some officers were responding based on predictions of future behaviour.

Most officers (97%) indicated they would refer disputants to mediation centres. Additionally, the officers plan to refer in a "detached" way, that is, by providing phone numbers but not providing information regarding mediation. The officers are more likely to refer disputes involving neighbours (i.e., regarding noise, mutual driveways, property, pets and children), landlords and tenants, family members, community businesses and/or any ongoing minor issues. However, the police may be less likely to refer disputes

involving violence, one disputant, criminal offenses, and/or sexual assault. Officers disagreed whether a third category of disputes was appropriate for mediation. This "controversial" category included conflicts involving "domestic" issues, large groups of people, intoxicated individuals, "mentally ill" disputants, the elderly, cultural differences and instances where counselling or therapy is required. These varying views reflect disagreement regarding appropriate cases, which suggests a need for mediators. researchers and the police to further consider the types of conflicts that are suitable for problem-solving approaches.

Although some mediators (e.g., Landau et al., 2000) suggest that providing feedback to professionals who make referrals ". . . is not only a professional courtesy, but also serves to educate other professionals about the mediative process" (p. 32). These findings indicated that not all officers want feedback. Thus, mediators would be well-advised to determine the feedback preferences of individual officers. Some police were concerned about effective communication procedures between police and mediators, the length of time before mediators respond to conflict, and the voluntary nature of mediation. Officers were also concerned about mediation because they felt some conflicts, especially violent ones, required the authority and control that only the police could provide. Some officers worried that the public might perceive them as ineffective if they referred disputants to mediation, especially if mediators resolved a dispute that they were unable to resolve. Other officers suggested it was beneficial to make referrals because mediators could save the police time (which has many positive ramifications), and the public may perceive the police as considerate by assisting disputants with their

problems this way.

### **Limitations of the Findings**

It is also important to consider the limitations of the findings. First, because the sample size was very small the findings should not be considered representative of Canadian officers. Also consider the demographics of the respondents—most were male (89%), and quite experienced with police work ( $M = 16$  years in the police force; and  $M = 38$  years old). The fact that most of the officers were male is not unusual and, therefore, the sex of the respondents did not likely influence the findings in a biased way. Moreover, other studies of police officers have not included any females (e.g., Palenski, 1984), so this study is an improvement in that regard.

Although it is difficult to specify exactly how the age demographic influenced the findings, it may be that older and more experienced officers are more accepting of mediation. One sergeant commented that young and relatively inexperienced officers believe they can solve every problem themselves. He went on to say that with experience came the wisdom that not every issue is best dealt with by the police. Since this sample appeared to be relatively older and more experienced, they may be more favorable to mediation than the average officer. Thus, these findings may reflect a positive bias toward mediation.

One method of addressing the concern that the average officers were older and more experienced than the norm is to recall the fact that the respondents represented a wide age range (24 to 51 years) and a broad range of experience with the police force (4 to 30 years). Since all responses were represented in this study, not just the average or

typical response, the results reflect the attitudes of a more diverse group than is represented by the average demographics. Additionally, since most of the questions were open-ended, I would caution the reader not to place too much emphasis on the frequency information and, rather, to give more consideration to the diversity of the responses. That is, the frequencies do not delineate the centrality or lack of centrality of the themes, rather they are a reflection of the questionnaire methodology.

Survey methodology is advantageous because it can be used to identify patterns of responding from many people using few resources, and it “. . .represent[s] a way of arousing initial interest in a social problem. . .” (Hall, 1975, p. 30). However, the use of a survey also has several shortcomings. Hall (1975) provides several criticisms of survey research including the way they oversimplify the “. . .richness of human experience” (p.25), and the fact that they are ahistorical. That is, “the way people respond on one day under one set of conditions by no means guarantees a similar reaction at another time” (Hall, 1975, p. 26). Although some of the officers may have received indirect benefits (i.e., increased their knowledge of options for responding to “inappropriate” cases), they probably did not directly profit from this approach. This process was also limited because the officers were not directly involved in the construction of knowledge. Thus, they did not experience the same empowering effects that were experienced by the Metro Mediators who were involved as co-researchers in the construction of knowledge (Kirby & McKenna, 1989; Maguire, 1987). Thus, this approach should be viewed as a first step in the research process because much more work needs to be done with the police. Future research would benefit from involving the police in a participatory research project, or by



using more interactive research methods. Moreover, the findings from the current study could be used as a source of information for dialogue and additional interactions with the police.

### **Recommendations**

Based on this research and dialogue with police officers, several recommendations can be made. First, specific recommendations can be made regarding the relationship between mediators and a referral source. Mediators must consider several factors before doing outreach (i.e., approaching services that make referrals to provide information regarding mediation and the referral process) with the police or any other agency. One first and essential step is to develop rapport with people in leadership positions, for example, the constables or sergeants at police stations. The goal of this step is to gain the support of respected officers and to "gain entry" into the police milieu. Once mediators have gained entry, it is important to clarify community mediation and the referral process. Thus, it would be useful for mediators to establish more specific criteria regarding appropriate and inappropriate cases for mediation. Additionally, it is important for mediators to maintain close contact (i.e., provide continued outreach) to ensure the referral source has current information regarding mediation. Encouraging open dialogue with a referral source would provide the opportunity for mediators to address any concerns or problems that arise from the referral process. Open dialogue would also promote a better understanding of mediation. Moreover, as the officers in this study suggested, building a trusting relationship would help to address their concerns that mediation may reflect negatively on them. A mutually beneficial relationship can exist

between the police and mediators, or between mediators and any referring agency. It is essential to foster the growth of such relationships, and educate the public on issues related to resolving conflict.

It is also important to both the mediators and the police officers that these agencies are perceived as distinct from one another. Community mediation began as a grassroots organization of neighbours helping neighbours, and according to the mediators, perceiving them as police officers would be antithetical to this movement. One recommendation would be to develop referral procedures that emphasize the distinctions between the referral source and mediation. For example, when approaching disputants who have been referred by the police, mediators could emphasize distinctions between mediation and the police. Moreover, when the police make referrals, they could emphasize that they are suggesting the individuals call an "outside" service that is not a police service. It would be beneficial for both services to emphasize their distinctiveness.

Educating people about mediation, in general, is another method of preventing the public from confusing mediation services with the referral source. Education might also help to increase the acceptance of mediation as a conflict resolution method. If more people understood mediation this might also increase the likelihood that appropriate cases are mediated. Additionally, other researchers (e.g., Palenski, 1984) found that police may be reluctant to refer cases to mediation for fear of being seen as "indecisive." Thus if the community, including the police, recognized mediation as a viable and important way to resolve conflict, then the police would not likely be perceived as indecisive for referring disputants to mediation. Probably the most important benefit of increasing public

awareness of such services is to provide more alternatives for conflict resolution to members of the community.

Finally, a novel recommendation for improving the community's responses to conflict was provided by one officer. He thought it would be ideal if community members were able to call one central telephone number when they were involved in conflict and needed assistance. Staff at this hypothetical centre would be informed about different options for conflict resolution and would immediately direct the individual to the appropriate service (e.g., police, mediation, city hall, or some other service). The rationale for this officer's visionary idea was if individuals were immediately referred to the appropriate service, conflicts would be resolved more quickly and satisfactorily than current the trial-and-error approaches used by most disputants. One drawback of this officer's recommendation is the difficulty involved in specifically matching appropriate conflicts with resolution techniques.

Additional research is needed with mediation-referral sources like the police. They are an important and often-forgotten step in the mediation process. As one coordinator (Interview #1) mentioned, the goal would be to develop "a united front by mediation services and the police to promote harmony in neighbourhoods. That's the outcome I'd like to see."

## **CHAPTER 6**

### ***PHASE 3: ARCHIVAL ANALYSIS OF MEDIATION CASE FILES***

The next major component of my dissertation involved a quantitative analysis of the case files accumulated since 1990 at the three mediation centres (i.e., Scarborough, Downsview and Metropolitan Toronto). The main objectives of this research phase were to describe the nature of community conflict and to explore some of the factors that may be related to the occurrence of mediation. The case file data were used to examine several issues. First, I investigated how community members initially heard about mediation (i.e., the referral sources). Second, I analyzed *who* contacted the mediation centres with respect to demographics such as: culture, sex and age. Next, I followed the path that disputes take to explore some of the consequences of community conflict. Finally, inferential statistics such as logistic regression allowed me to examine how the types of conflicts and relationships between the disputants may predict mediation.

### **METHOD**

Because these data are sensitive and confidential, one important step in the analysis process involved gaining access to the data. This process was described in *Chapter 3*. In this section, I describe the data source and the process of gathering the data.

#### **Case File Data**

The mediation-centre case files contained a rich source of information, including: demographic and contact information for the disputants, the nature of their relationship, and details about the conflict, including the outcome. There was also information regarding the referral source and the tasks completed by the mediators. The centre

coordinators usually recorded data during intake (i.e., when a disputant called with an initial complaint), when any action was taken on the case, and when a disputant was contacted (e.g., during case development, mediation or referral). Occasionally, mediators would also record case-file information or provide additional details regarding a case.

Each centre had its own standard forms (e.g., intake, case development, mediation, and case progress forms) that the coordinators/mediators used to summarize important case information. Case files also contained detailed hand-written notes that elaborated on the summarized data. I had access to the original case file data at two of the centres, which included both the standard forms and handwritten details of the cases. At one centre, I only had access to summative statistics that had been recorded by one coordinator.

An attempt to impose more consistency and structure on the data was done by using a coding sheet and the variable names and definitions outlined in Appendices 6.1, 6.2, 6.3 and 6.4. For the two centres where I had access to the original case file notes, I was able to check for consistency both within and between the cases by reading the details of the case to code the descriptive variables myself. Even though I was able to do this, some inconsistencies probably remained because several mediators and coordinators gathered the original data that was not recorded primarily for research purposes.

## **Procedure**

### **Gathering the Data**

Data were obtained from community mediation centres in Scarborough, Downsview and Metropolitan Toronto. All analyses were based on aggregated data because these services used the same mediation model, and therefore, no major differences were expected among the centres.

First, several first- and second-party demographic variables were recorded, including: the number of disputants, their age (adult, youth, senior), "culture" (e.g., race, first language, religion, sexual orientation), and sex. The case number, referral source, important dates (i.e., intake and outcome), type of dispute, outcome, and relationship between the disputants (e.g., family, friend, co-worker, and neighbour) were also recorded (see Appendix 6.1 for the variables coded from the case files). The names of the community disputants were not recorded and, hence, their identity was protected.

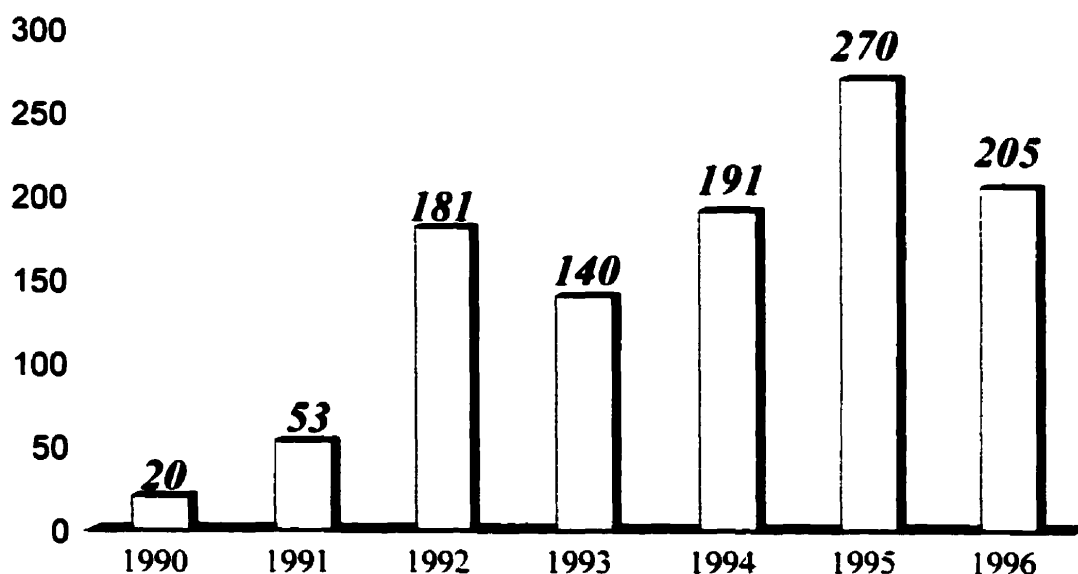
There were slight variations from one centre to another in the information recorded in the files. For example, most centres recorded the outcome as either: "mediated agreement", "mediation and no agreement", "first party refusal", "second party refusal", "the case was inappropriate" (as determined by the mediators), or "disputants were referred to another agency." The staff from one centre, however, also recorded outcomes that they defined as "partial mediation agreements." Some mediators also recorded: whether violence or fear of violence was an issue; if a court date was scheduled; and whether discrimination (specifically racism, homophobia, classism, and/or ageism) was an issue in the dispute. This information was noted when available.

Case file data were gathered on site at the mediation centres over a period of six months (See Appendix 3.2 for a time line of the data collection process). I recorded the data directly from the files at two of the centres. At the third centre, however, I recorded data from summary sheets provided by the coordinators because the original case files were not available. I examined all cases that were on file between 1990 to 1996. There were 1060 case files of community disputes. The data were entered into Version 8 of SPSS/Windows and analyzed.

## **RESULTS AND DISCUSSION**

### **Community Mediation Cases**

There were relatively few cases during 1990 and 1991 (see Figure 6.1). This can be partly explained by the fact that one of the centres had not yet opened, and one was in its first year of operation. In fact, it was not until 1992 that all three centres were



**Figure 6.1. Number of Cases Per Year (N=1060)**

operational. Thus, in the early years, these centres were contacted by relatively few people, with the largest number of cases occurring in 1995 (25% of all the cases).

### **Referral Sources**

Mediators may receive a referral from other service providers who feel disputants are at a stalemate or when they have been unsuccessful responding to the issues. The Metro-Mediators had observed cases where the referral source, especially the police, had “played a pivotal role” in the disputants decision to mediate and in the outcome of the conflict. They explained this observation by suggesting that “the police have a centuries old reputation, some good, some bad, but at least as an authority when they say mediation should be used, people often take advantage of it” (Metro-Mediator Meeting).

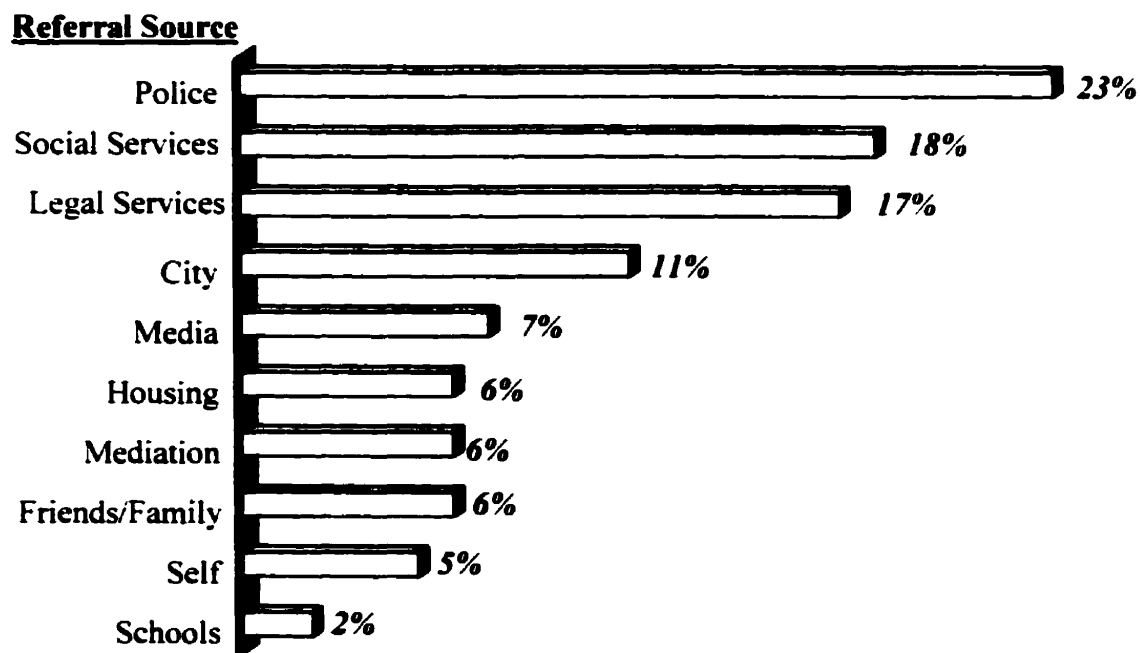
Past research on referral sources, has found that they can influence the outcome of conflicts. For example, in a study of referrals to a mediation centre, Richan (1988) found that cases referred by the court were more likely to proceed to mediation. One explanation for this finding was that individuals referred by the court felt they had been “sent under threat, actual or implied” (Richan, 1988, p. 84), which encouraged mediation. That is, Richan reported a 50% attrition rate for cases referred by the courts, as compared with an 85% attrition rate for disputes referred by other sources. Other researchers have similarly found that when individuals are “pressured” to participate in mediation, the services are used more often (e.g., Matz, 1987). Although the referral source may partially explain the first parties’ decision to mediate, this information does not apply to the second party who is usually contacted by the mediation centre. Nevertheless, the Metro-Mediators and past research both suggest that the referral source may influence a disputant’s decision to



mediate.

How did disputants in this study first hear about mediation? Police officers provided the largest number of referrals (23%) (See Figure 6.2). Social service agencies (18%) and legal services (17%) such as lawyers, judges, and probation officers, also provided a large number of referrals. It is interesting to note that relatively few people (7%) were informed about these services through the media, which may suggest that more outreach and public information campaigns could be initiated to raise awareness.

What were the outcomes of cases referred by different referral sources? A chi-square test was used to examine whether the referral source and outcome were related.



**Figure 6.2. Referral Sources (N = 1030).**

Three possible conflict outcomes were selected for this analysis: (1) conflict was resolved (i.e., successfully mediated or resolved independently), (2) conflict was not resolved, and (3) disputant was referred to another service. I chose to consider whether disputants were referred to another agency because this provides information about the “appropriateness” of the referral.

The findings suggested that the referral source and outcome were significantly related ( $\chi^2 [18, N = 844] = 41.14, p < .001$ ). I will highlight some interesting findings from this crosstabulation. Considering all possible referral sources, those referred by the “city” were most often (81%) not resolved. Cases were less likely to be resolved when individuals contacted the mediation centres after hearing about it from the police (69%) or the media (71%). Cases that were self-referred, or referred by housing and other social services, legal services, other mediation centres and schools, however, were resolved more than average (27%). Also of note is that self-referred cases and those referred by one’s family and friends often had to be referred elsewhere (15% and 20% respectively).

How do these findings compare with past research on community mediation? A study done by Richan (1988) found that the highest attrition rate for first-party disputants (93%) occurred when individuals simply walked in off the street (i.e., they were not referred by an independent party). When family, friends or neighbours recommended that the parties use mediation, there was also a high attrition rate (87%). Third, when police departments and other social service agencies made the referral, 83% withdrew from mediation. Lower attrition rates (77%) were observed in cases referred by lawyers and the courts (50% of these types of cases proceeded to mediation).

### **Who Uses Mediation Services?**

The centres provided dispute resolution services for more than 1406 people (including both first and second parties), in total, over this seven-year period. Most often (41%), two people were served per case, that is, a first and a second party. Quite often (26%), however, only one person was served. Infrequently (3.6%), mediators provided dispute resolution for large groups ranging from 6 to 20 people.

### **Culture**

Who contacted these community mediation centres looking for assistance? There were approximately 72 different “cultures” identified in the case files. The culture variable subsumes diverse characteristics including: ethnicity or race, religion, sexual orientation, and/or first language of the disputants (See *Chapter 4* and Figure 4.1 for an explanation of “culture”). Because this data pool was so diverse, it was necessary to combine categories in order to provide a summary of the cultures represented by this group (see Appendix 6.2)<sup>11</sup>. Table 6.1 lists the cultural categories and the number of people in each group. “Caucasians” represented the largest group of disputants ( $n = 164$ ).

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<sup>11</sup> The “cultural” labels were arbitrary in the sense that there were many possible ways they could have been presented. Appendix 6.2 indicates what each cultural label represents. Categories other than: “Caucasian,” “Black,” “Gay/Lesbian” “Native Indian,” and “religious groups,” were defined by geographical location and “common usage” of the terms. For example, I grouped all people from China, Korea, Japan and Vietnam into the category “East Asia” because world maps and information on the Internet most often suggested this was appropriate. I used this same process to categorize people from other regions of the world (i.e., Africa, South Asia, East & West Europe, and South & Central America). Certain Internet sources were helpful during this categorization process (e.g., (1) [www.worldatlas.com](http://www.worldatlas.com); (2) <http://www.weu.int>; (3) <http://city.net/regions/europe>; (4) [http://www.ncl.ac.uk/~naiesec/eastern\\_europe/anna.html](http://www.ncl.ac.uk/~naiesec/eastern_europe/anna.html)).

36%), while people from Europe represented the second largest group ( $n = 145$ , 31.6%).

As can be seen in Table 6.1, the number of second party disputants representing each cultural category parallels the categorization of first-party disputants.

What does it mean that less than 2% of the respondents were categorized as: Native Indian, African, Gay, religious minority or Middle Eastern (Table 6.1)? Perhaps certain cultural groups do not perceive mediation as a viable conflict resolution option. Past research has shown that culture may be related to preferences for certain types of dispute resolution procedures (Carnevale & Pruitt, 1992). This finding might also reflect the fact that there are relatively fewer people belonging to these groups in Canada. For example, the 1996 census indicated that the Aboriginal population was 2.8% of the Canadian population; and in Ontario, only 1.3% of the population is Aboriginal (The Vanier Institute of the Family, 2000). Alternatively, this finding may be an artifact of the way the data were recorded. Cultural information was not recorded for approximately half of the disputants (56%), and was generally recorded only if it was perceived as relevant to the dispute (culture was identified as being associated with the conflict in 268 [33%] cases). Moreover, culture was not clearly defined by the mediators, which led to identities that were not mutually exclusive. For example, some people described as "Black" ( $n = 22$ , 5%) may have been African, Caribbean, Gay or Lesbian, which may contribute to missing or inaccurate data.

**Table 6.1****Number of People Representing Each "Culture"**

<b>Cultural Label</b>	<b>Number (Percent)</b>	
	<b>First Party (<u>n</u> = 459)</b>	<b>Second Party (<u>n</u> = 366)</b>
Caucasian	164 (35.7%)	117 (32%)
West European	98 (21.4%)	85 (23.2%)
East European	47 (10.2%)	33 (9.0%)
South Asian	31 (6.8%)	31 (8.5%)
East Asian	25 (5.4%)	22 (6.0%)
Black	22 (4.8%)	17 (4.6%)
Caribbean	21 (4.6%)	18 (4.9%)
South & Central American	17 (3.7%)	14 (3.8%)
Religious Social Identity	11 (2.4%)	7 (1.9%)
Middle Eastern	7 (1.5%)	5 (1.4%)
African	4 (.9%)	6 (1.6%)
Gay or Lesbian	6 (1.3%)	3 (.8%)
Native Indian	2 (.4)	2 (.5%)
More than one	4 (.9%)	6 (1.6%)

### **Sex**

Slightly more females (57%) than males (43%) initiated contact with the services. Similarly, more females (51%) than males (49%) were identified as one of the members of the second party.

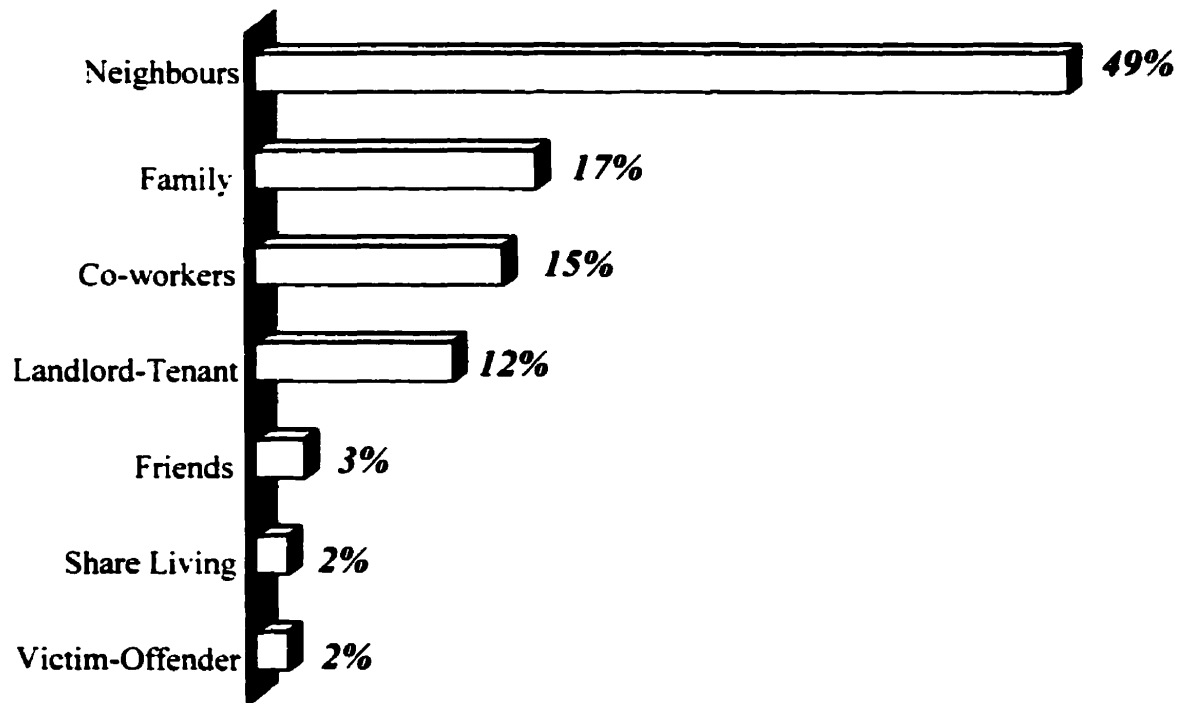
### **Age**

Categorical ages of the disputants were recorded for about 61% of the first parties who contacted the centres. Disputants were classified as: child, youth, adult, or senior citizen. Adults primarily contacted the centres (81%), but seniors (10%) and youth (9%) also explored mediation as an option. The second party tabulations revealed a similar distribution of respondents with mediators contacting mostly adults (65%), then youth (13%) and seniors (11%).

### **Relationships**

Who were the parties to the conflicts? Most conflicts were between neighbours (49%) (See Figure 6.3). However, mediators also resolved many families' disputes (17%), including those involving spousal, parent-teen and sibling relationships. Disputes between co-workers (15%) and landlords and their tenants (12%) were also quite common. Only 2% of the disputes were between cohabitants, such as: roommates and housemates. Two percent is likely an underestimate of the number of conflicts between non-family members who live together because for some of the neighbour and landlord-tenant disputes the parties lived in the same apartment or house. Since only one centre dealt with victim-offender disputes, these constituted a small percent of the types of relationships. People were typically categorized as being in a victim-offender relationship

because the dispute was referred via the court system and one party had been charged with committing a crime. This category is not mutually exclusive of the other categories since victim-offenders may also be neighbours, friends or family members, for example.



**Figure 6.3. Relationships ( N = 1030 cases).**

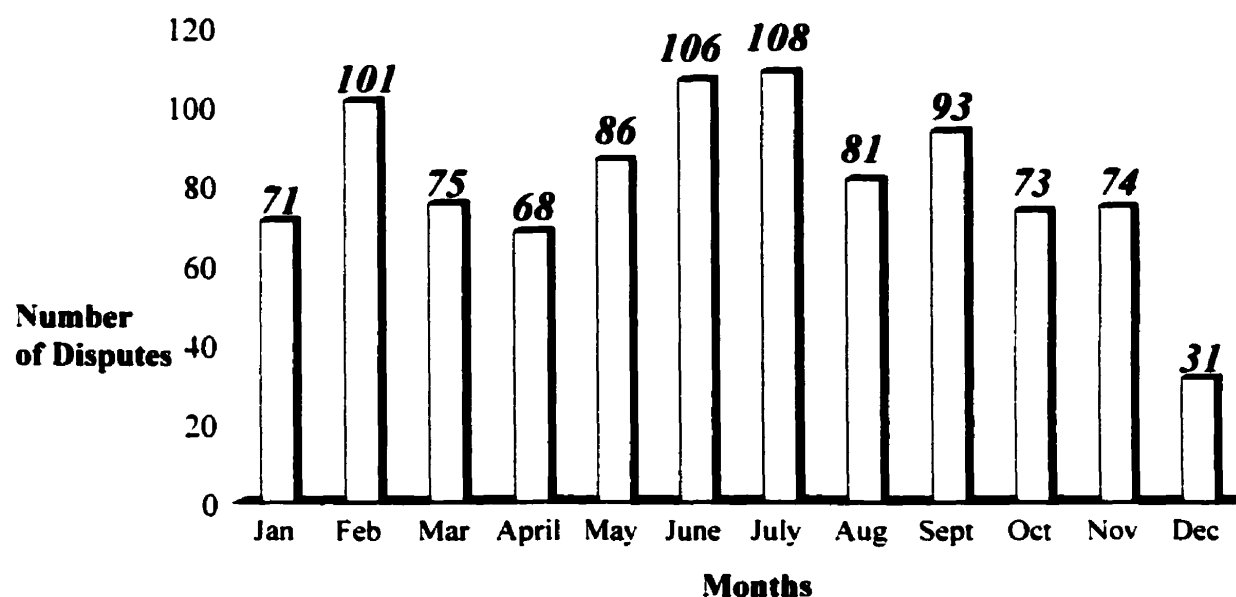
## **Conflicts**

### **When did conflicts occur?**

Most conflicts occurred in the summer (June, July and August, 31%), followed by autumn (September, October, November, 25%), and spring (24%; see Figure 6.4). Ten percent fewer conflicts occurred in the winter (21%) as compared with the summer. Moreover, the fewest conflicts were reported in December. This descriptive finding regarding increased neighbour conflict in the summer, suggests further exploration of a potential situational influence of conflict.

One possible explanation for the increased number of cases in the summer is that people may tend to go outside more often during this season, thus increasing the amount of both positive and potentially conflictual contact with their neighbours. Social psychologists have also found that in addition to social, cultural and personal influences, one situational factor that is strongly and consistently related to aggression is high temperature (e.g., Baron & Byrne, 2000). Several studies both in the lab and “real world” support a heat-aggression link, suggesting that high temperatures are related to increased aggression up to a point (i.e., a curvilinear relationship). Such findings support a *negative-affect escape* model, which suggests that although high temperature is related to increased aggression, beyond some temperature level individuals become too uncomfortable to be aggressive.



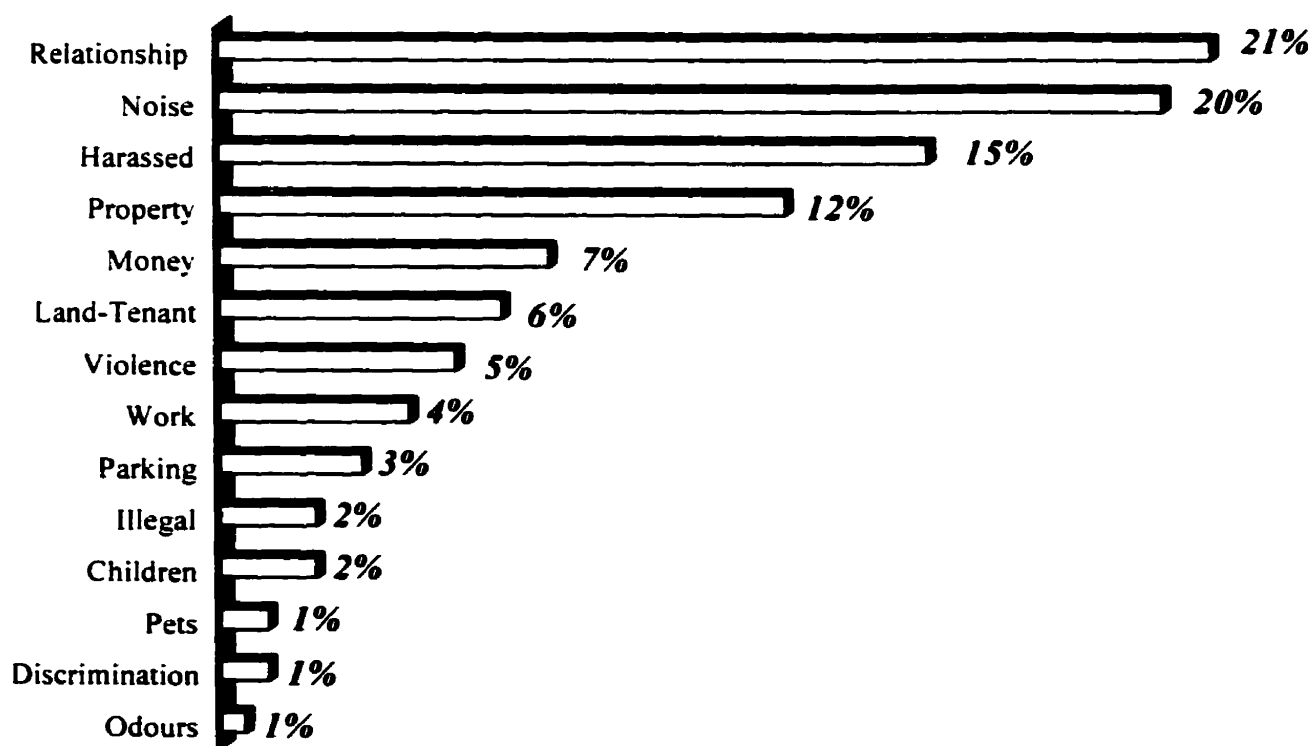


**Figure 6.4. Number of Disputes Per Month ( $N = 967$ ).**

People may also be subjected to increased neighbour noise in the summer. One respondent from the qualitative study (*Phase 4*) commented, "In the summer sometimes we open the windows and we can't avoid the noise. . . In the summer people are driving to my neighbour's house, washing their cars in the driveway, turning on their music" (Jackie Chan). Basically, this disputant was arguing that the noise was less problematic in the winter because it was too cold for his neighbours to be outside making noise, and closed windows insulated his family from unwanted sounds.

### **Types of conflicts**

Most presenting conflicts (i.e., the main conflict) involved relationship issues (21%) and noise (20%) (See Figure 6.5). Feeling harassed (15%) was also frequently mentioned. Categorizing disputes as harassment is problematic because people can feel harassed about a number of different issues including: noise, pets, and parking issues; but the label "harassment" does not distinguish among these. In other words, the conflict categories are not mutually exclusive. The next most frequently mentioned disputes were property issues (12%), including conflicts over: fences, vandalism, tree leaves, the property line, garbage, and vehicles. Disputes that occurred infrequently (2% or less) involved complaints regarding pets, discrimination, illegal activity, odors, and those



**Figure 6.5. Types of Conflicts (N = 994).**

where children were described as the cause of the dispute. Some of these small frequencies may be underestimates because there are not mutually exclusive definitions of these conflicts. For example, "discrimination" may have been recorded as a "relationship issue," therefore, 2% may underestimate the frequency of this type of conflict. This is a particularly good example given the fact that, as mentioned earlier, "cultural" issues were frequently identified as problematic (33%;  $n = 268$ ).

### **Outcome of Conflicts**

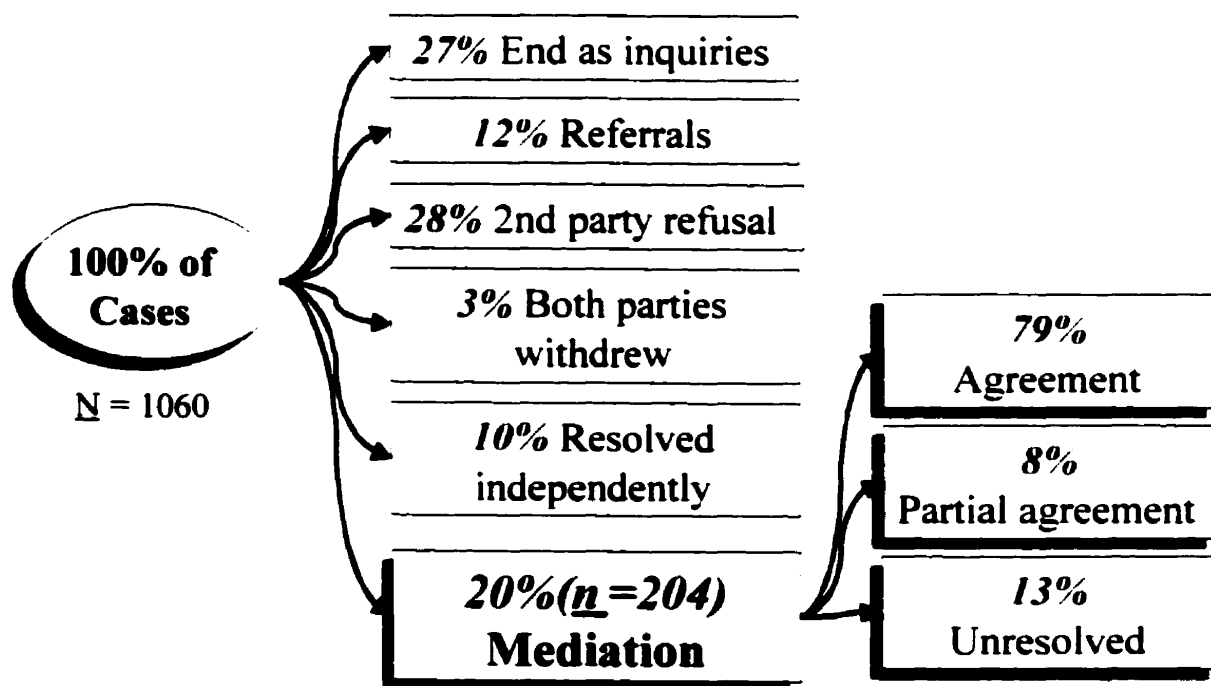
What happens to a case that comes to the attention of the mediation services? On average, the length of time between intake and the outcome was 38 days. However, it took up to as long as four months before the outcome of one case was decided. For other cases ( $n = 65$ , 9%), the outcome was determined in one day. This occurs, for example, when a case is obviously inappropriate and a referral is made immediately.

As you can see in Figure 6.6, the cases may take a variety of paths. Twenty-seven percent ended their involvement as an inquiry. This meant that either the disputant or a mediator decided the case was inappropriate for mediation. In general, mediators provided referrals about 12% ( $n = 120$ ) of the time, indicating that this was another major activity of the centres. Cases were referred when a mediator felt another service could respond more appropriately to the situation. For example, mediators often refer disputants to legal aid, the landlord-tenant hotline, the police, and/or other social services, depending on the needs of the caller.

One of the most *frequent* outcomes was that the second parties refused mediation (28% of all cases), and the most *infrequent* outcome occurred when both parties refused

participation (3%). When a second party is unwilling to mediate this creates another area of disagreement between the two parties and, hence, may escalate the conflict. The qualitative study presented in the next chapter addresses why so many second parties decline mediation.

Ten percent of the people who contacted the services resolved their conflicts independently. This might have occurred because of the mediators' interventions. For example, during a pre-mediation meeting (case development), mediators actively listen to



**Figure 6.6.**  
**Outcome of Community Mediation Cases.**

each individual disputant's concerns in the absence of the other party. This process of active listening can facilitate a resolution by encouraging disputants to question their beliefs and consider alternatives to conflict. It also allows the parties to "vent" their frustrations and anger to the mediator rather than the other party. Cases may also be resolved independently if, for example, one party relocates, thus ending the conflict situation. Other researchers have also suggested that people who know a third party may intervene in a less serious conflict are more likely to reach an agreement on their own. This is because the need for autonomy is important, and if a third party appears "bossy" or ready to "take over," disputants want to demonstrate they have the skills to resolve their own conflicts (Rubin, Pruitt & Kim, 1994).

Finally, 20% of the cases proceeded to mediation. These cases were often resolved (79%) or partially resolved (8%). Partial agreements were recorded in the case files in a number of situations. For example, they sometimes referred to verbal agreements, or written agreements where some of the main issues (but not all) were resolved.

### **Getting to the Table**

Although there are many possible outcomes for a dispute, mediators hope that the parties will try mediation when it is appropriate. This section explores what types of relationships and conflicts are more likely to proceed to mediation. A multivariate logistic regression was used to examine the types of relationships and conflicts that were more likely to be mediated. A logistic regression was appropriate because there were two predictor variables (i.e., type of relationship and conflict), and one dichotomous criterion variable—"mediation" (yes/no). Second, a logistic model is suitable for use with

categorical variables, and the assumptions underlying the data are not as restrictive as they are for other types of statistics such as discriminant analysis (Wright, 1995). An advantage of having more than one predictor in the model (i.e., both conflict and relationship) is that SPSS Version 8/Windows statistically adjusts (or controls) for other predictors in the model. When performing hypotheses tests with logistic regression, the results tell us whether or not the predictor coefficients (i.e., relationship and conflict) significantly predict mediation (Wright, 1995). Logistic regression is also suitable for this type of categorical data because it is appropriate to assume a nonlinear relationship exists between the dependent and independent variables. Finally, the sample size was large enough to justify logistic regression. Wright (1995) argues that a minimum of 50 cases is required per predictor variable. In the current study, there are two predictor variables, which suggests that 100 cases are required for the analysis. Thus the sample size of 854 used in this regression analysis appreciably exceeds the minimum requirement.

Before presenting these results, it is important to operationally define the predictor variables (i.e., "conflict" and "relationship") used in the model. The relationship and conflict variables were re-grouped into fewer categories for the logistic regression so the variables would be theoretically and statistically meaningful (see Appendices 6.3 and 6.4 respectively). For example, when considering the *relationship* variable, there were originally 14 different categories of relationships. From these original 14 codes, I reduced the number of categories to five: (1) *Family*, (2) *Landlord-Tenant*, (3) *Co-workers*, (4) *Friends & Co-Habitants*, and (5) *Neighbours* (see Appendix 6.3). *Co-habitants* included

roommates and neighbours living in the same house. Since cohabitants are probably friends, I felt justified combining them.

Originally, 26 different types of conflicts were recorded from the case files (Appendix 6.4). These conflicts were categorized into nine types of conflicts:

1. **Noise:**
2. **Parking.**
3. **Illegal Activity:**
4. **Eviction & Being Fired**--refers to conflicts regarding: an employer firing an employee, or a landlord evicting a tenant:
5. **Relationship**--refer to disputes that involved: racism, interpersonal and relationship issues, heterosexism, privacy, and sexual harassment:
6. **Violence**--conflicts involving physical violence or threats, and where one party was concerned about his/her safety:
7. **Property** disputes--include issues regarding: vandalism, fences, leaves and trees, garbage, car accidents and other property issues:
8. **Harassment:** and
9. **Money.**

After I categorized the conflicts into the above nine categories, there were still several variables that were not categorized: (2) **landlord-tenant**, (9) **workplace**, (7) **pet**, (10) conflicts where **children were the cause**, and (23) **odors** (i.e., smoking and cooking). I chose not to categorize: **pet**, **children**, and **odor** conflicts into one of the nine conflict groups because these conflicts occurred so infrequently in this sample (i.e., 1.2%, 1.5%.

and .5% respectively). Instead, for these three conflicts, I examined the original data files to investigate whether another issue was recorded as being important to the case. If another conflict (that occurred more frequently in the sample) was recorded, then this conflict was used in the analysis; but if there was no other issue, I deleted the dispute (i.e., the *type of conflict* was considered missing for this analysis). It was important to delete such small frequency conflicts from this analysis to avoid problems caused by empty cells that occur in logistic regression. Another reason for reducing the number of categories was to make the interpretation of the results more meaningful.

*Landlord-tenant* and *workplace* disputes also had to be reconsidered before running the logistic regression. The problem with these conflict categories was that they were also relationship categories, which means they would be collinear. This is problematic because the findings and inferences of regression analyses are affected when the predictor variables are intercorrelated (Licht, 1995). In other words, if *landlord-tenant* and *workplace* were identified as both the *type of conflict* and *type of relationship*, these variables would be perfectly correlated. To address the potential problem of multicollinearity between the predictor variables, both the conflict and type of relationship could not be categorized as *landlord-tenant* and *workplace*. Since these labels seem to better reflect the type of relationship between the disputants, I re-examined these cases to determine whether another type of conflict was recorded as the secondary or tertiary conflict. If there was another conflict, I relabeled it using one of the nine predetermined conflict categories (see Appendix 6.4). Where no other conflict was listed, the type of dispute was labeled “missing.”

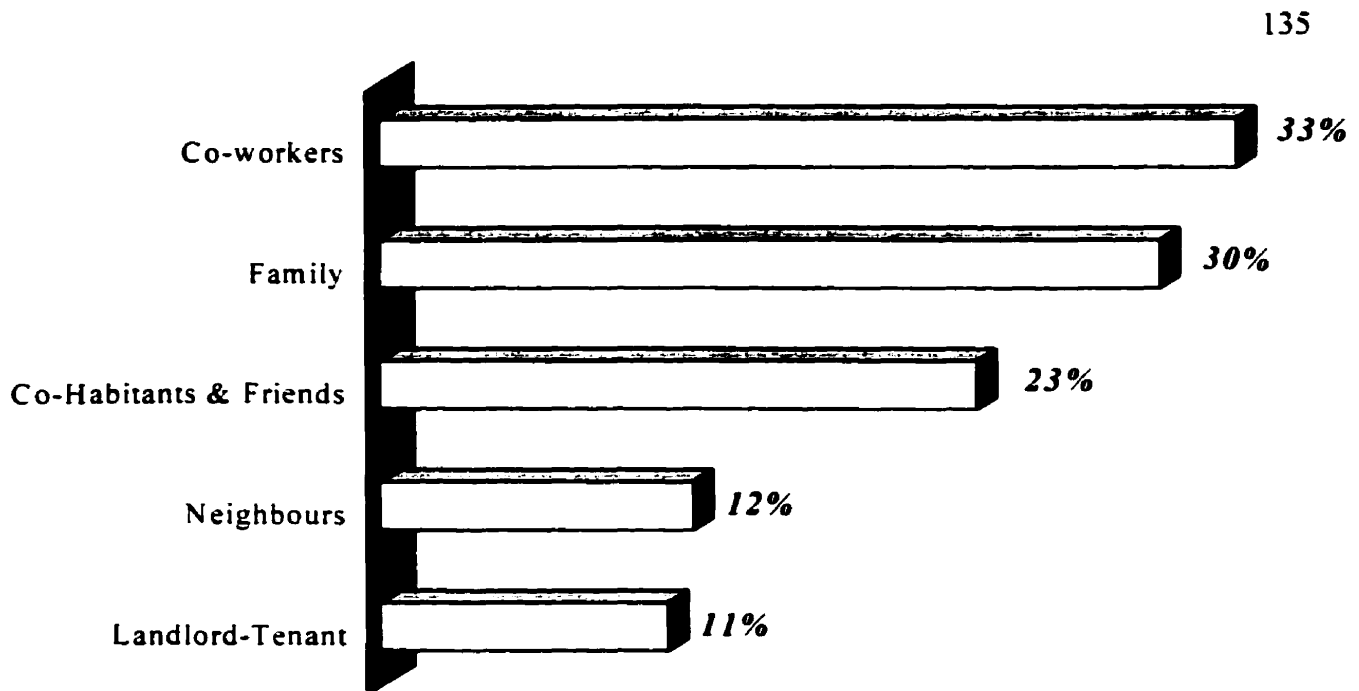


I used SPSS Version 8/Windows to perform the logistic regression with both *relationship* (i.e., family, landlord-tenant, neighbour, co-worker and cohabitant/friend) and *conflict* (i.e., noise, parking, illegal, eviction and being fired, relationship issues, concerns of violence, property, harassment, and money) variables in the model predicting *mediation* (yes/no). I found that *type of conflict* (Wald's Statistic [8 df] = 15.89,  $p < .044$ ), and *type of relationship* (Wald's Statistic [4 df] = 15.59,  $p < .0036$ ), were both significant predictors of mediation ( $N = 854$ ). The overall percentage of cases that were correctly classified by this model (i.e., percentage accuracy in classification, or *PAC*) was equal to 81.85%; and this model significantly fit the data ( $\chi^2(12) = 67.81$ ,  $p < .00005$ , the Overall Goodness of Fit Statistic = 826.550, and the -2 Log Likelihood Statistic = 741.20).

What can I conclude from this multivariate logistic regression? To understand how the type of conflict and relationship predicted mediation, I examined two crosstabulations: (1) mediation (yes/no) with type of relationship; and (2) mediation (yes/no) with type of conflict (see Appendices 6.3 and 6.4).

### **Types of relationships**

The crosstabulation of mediation (yes/no) by relationship (see Figure 6.7) indicated that mediations were more likely (i.e., occurred more than average--20%) between: co-workers (33%), family (30%), and friends (23%), and less likely between: neighbours (12%) and landlords and tenants (11%).



**Figure 6.7.**  
**Percent of Mediations Completed for**  
**Each Type of Relationship (N = 1005).**

The finding that the type of relationship was related to mediation supports Rubin et al.'s (1994) assertion that certain relationships are more likely to foster "genuine" concern for the other party (i.e., concern that is not related to self-interest). That is, "interpersonal bonds" are more likely to foster genuine concern for the other. For example, people often have a bond with those they perceive as similar--family members, friends and loved ones. The important aspect of the bond is the stability of the relationship. Such bonds are more likely to encourage people to use conflict resolution methods such as *yielding* (i.e., giving in to the other or settling for less) and *problem*

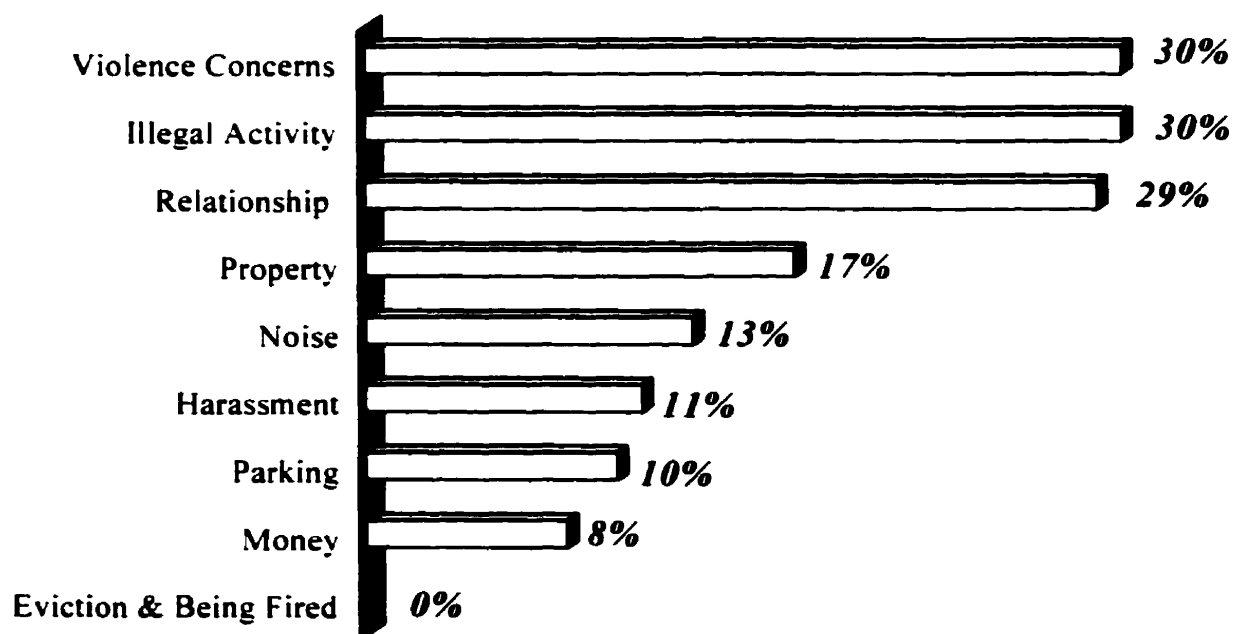
*solving* (e.g., mediation). The fact that I found co-workers, co-habitants, and family members were more likely to try mediation, is congruent with Rubin et al.'s assertions.

Another point made by Rubin et al. (1994), however, was that interpersonal bonds are also important because they produce “. . . positive attitudes, respect, friendship, kinship, perceived similarity, common group membership, and *future dependence* [italics added]” (Rubin et al., 1994, p. 127). This point is important because I found that landlords and their tenants, who are arguably in a dependent relationship, are less likely to mediate. First of all, what do these researchers mean by *dependence*? They argue that “Party is dependent on Other to the extent that Other has control over certain of Party's outcomes and can reward Party for desired behaviour and/or punish Party for undesired behaviour” (p. 128). I would argue that landlords and their tenants often have a *mutually dependent* relationship because landlords depend on tenants for rent, and tenants depend on landlords for shelter. Additionally, they both depend on each other to adequately maintain the property. Rubin et al. further argue that dependent relationships create a social bond that influences conflict—“dependence on a reliable Other is a source of stability, but dependence on an unreliable Other can produce multiple conflicts and heavy escalation” (Rubin et al., 1994, p. 129). Based on this information, the landlords and tenants in this study more likely had dependent and unreliable relationships. The unreliable relationship between the parties may be another paradox of mediation (cf., McEwen & Milburn, 1993). That is, unreliable relationships lead to conflicts that are difficult to resolve which may encourage one disputant to seek the assistance of mediators. However, since mediation relies on the disputants to resolve the conflict, that

same unreliable relationship may lead the other disputant to refuse participation. So the very factor that encourages conflict may be the same characteristic that prevents resolution via mediation. The reliability of a relationship and its relation to the decision to mediate is an important avenue for future research.

### **Types of Disputes**

Since the logistic regression also indicated that the type of dispute was a significant predictor of mediation, I took a closer look at this variable. Approximately 30% of the time, disputes regarding relationship issues, concerns about violence and illegal activity proceeded to mediation (see Figure 6.8). Perhaps one reason why



**Figure 6.8. Percent of Mediations Per Dispute Type ( $N = 892$ ).**

conflicts regarding relationship issues were frequently mediated was because mediators are most effective at resolving these types of conflicts. Other researchers have found that conflicts regarding interpersonal problems were more often referred to mediators (i.e., perceived by others in the community as most appropriate for mediation), and were most likely to reach the mediation-stage (e.g., Richan, 1988).

It is also interesting to consider why issues regarding violence and illegal activity were mediated more than average. Rubin et al. (1994) argue that when a conflict is intense or hostile, people are more likely to appreciate the intervention of a third party. They suggest that intervention is appealing because the parties are less likely to see any common ground, and often do not feel that they can resolve the conflict on their own. Perhaps a second reason why violent conflicts are more likely to be mediated is because disputants may feel that mediation provides a safe environment to deal with conflict. Third, a power imbalance may exist in a relationship where one person is violent and the other is fearful. Perhaps less powerful individuals are more likely to seek assistance from a third party (e.g., mediators, and police) in order to redress the power imbalance.

The remaining disputes (i.e., property, noise, harassment, parking, money and eviction and being fired) were mediated less often, especially when compared with the average (i.e., 20% of all cases proceed to mediation). Although cases involving an eviction or an employee being fired are relatively rare ( $n = 14$ ), it is especially notable that these cases were *never* mediated. Perhaps an employer who decides to fire an employee, or a landlord who decides to evict a tenant feels the conflict has been "resolved," and, therefore, has no reason to mediate. It is also not surprising that such

cases are never mediated because, for example, several of the Metro Mediators explained that they generally feel it is inappropriate to “use” mediation as a method to fire or evict someone, rather than working toward a mutually acceptable alternative. Nevertheless, if the individual in the relatively less powerful position prefers mediation, then it is more likely to be used.

### **Action**

Because this study was influenced by participatory action research methodology, it is important to consider changes that made use of the findings, and to make further recommendations for change. On May 13, 1997 and July 8, 1997, I met with the Metro-Mediators group (core group of mediators and coordinators with whom I regularly communicated). At the first meeting, I presented some of the findings from this study: and at both meetings one of the key issues we discussed was record keeping. Although we reached agreement on issues such as the importance of improving record keeping and standardizing it for the three centres, we found it difficult to reach consensus on how to categorize the complex issues that occur in a conflict. For example, we considered issues regarding defining: a case, the services that are provided, the types of relationships between disputants, and the types of disputes (see Appendix 6.5 for the minutes for this meeting that pertain to these record-keeping issues). While some changes occurred in the way case-file records were kept, we realized that this was just the first step in a process that requires further discussion.

One goal of participatory action research approaches is to encourage those involved in the study to become self-sufficient researchers, able to generate and utilize

their own knowledge (Brown, 1993; Chataway, 1997). There are often many constraints to this goal and, as a result, there is no guarantee that it will occur (Maguire, 1987). Nevertheless, at the completion of this process of co-investigating the case files (i.e., gathering the archival data together) and brainstorming methods of improving this process, there was evidence that several self-sufficient researchers emerged at each of the centres.

Data from my dissertation, particularly from the archival study, were also used in funding applications (e.g., Community Building Action Grants with the United Way Action Grants), in public education and letters requesting community support (i.e., educate others about the service and for political activism). For example, in August, 1998, three mediators used my data to write letters to the local councilors to educate them about the service and request financial support. Data from the Police study (*Chapter 5*) were used to describe the officers' attitudes toward mediation and the benefits of fostering a police-mediator relationship; and data from the archival study (*Chapter 6*) regarding the number of individuals and organizations who received mediation services, the number of conflicts resulting in an agreement, and the diverse array of cultures who benefited from access to the services; were also included in their letters. The need to write these letters arose during this study because one of the centres was in danger of losing its core funding and becoming extinct.

One other change occurred that might have been indirectly related to the findings. For example, the findings from this study suggested that a diverse range of ethnic and cultural groups were represented by the disputants (i.e., approximately 72 different

groups). Following a presentation of this finding a “cross-cultural mediations workshop” was scheduled for mediators to address issues involved in cross-cultural mediations. Because the mediators at the centres were already aware of the diversity of the community, the implementation of this workshop likely would have occurred regardless of these findings.

## **GENERAL DISCUSSION**

Several findings from this examination of the case file data should be emphasized. With respect to referral sources, people most often heard about mediation from the police (23%). Cases referred by people who work at city hall were most often not resolved: while cases referred by housing and social service agencies, legal services, schools, and other mediation centres and volunteers, were resolved more than average.

Many people in the community benefited from the opportunity to use mediation. Most often, two people were involved in each case: less frequently, mediation services were provided for larger groups (i.e., 6 to 20 people). Most often, white adults approached the service, however, the sample reflected tremendous diversity (i.e., 72 different cultures), and males and females were equally represented.

Conflicts occurred most often between neighbours during the summer months. Most of the disputes were about relationship issues, noise or harassment. On average, cases took about 38 days from intake until conclusion. There were a number of possible consequences of these complaints. In this study, 28% of the second parties refused to participate in mediation. Twenty percent of these cases reached the dispute-resolution phase, and the parties achieved an agreement 87% of the time. Twenty-seven percent of



the cases ended as inquiries. 12% of the first parties were referred to other agencies. 10% of the disputes were resolved independently, and both parties withdrew from the process 3% of the time.

A logistic regression indicated that both the type of conflict and relationship were significant predictors of mediation. In fact, co-workers, cohabitants/friends and family members were more likely than neighbours and landlords and their tenants to participate in mediation. The types of conflicts that were mediated more often were those involving violence, illegal activity and relationship issues, while cases involving an eviction or an employee being fired were never mediated.

### **Limitations of the Findings**

These findings must be interpreted cautiously as a result of the limitations of the data. First, the analyses were limited by the type of case file data that was recorded by the staff and volunteers of the mediation services. Archival data is often selectively documented (Smith & Davis, 1997), such that some data of interest to a researcher may not be recorded. For example, past research suggests there may be a relationship between socioeconomic status and the decision to mediate (Richan, 1988), but since there were no socioeconomic data, this relationship could not be investigated.

Missing information was a problem with this data set. Data could have been missing because it was lost, not recorded and/or did not *survive* (Smith & Davis, 1997). A lack of surviving data was not a major problem for this study considering the fact that I obtained data for 1060 cases. However, one of the centres had already begun the process of destroying the original case file data. Thus, for some of the cases I only had access to

summary sheets of the original data. This was problematic only when information was missing because I was unable to return to the original case files to fill in any blanks. The survival of mediation data is a major concern since case file information is regularly destroyed to protect the confidentiality of the disputants. Some potentially informative data were also not recorded. For example, as mentioned earlier, I was interested in investigating issues relevant to the parties' cultures. Unfortunately, however, "culture" was usually recorded only when it was relevant to the conflict or the mediation process (e.g., the cause of the conflict or when an interpreter was needed).

I have mentioned a number of ways that data can be missing from mediation case files. If the missing data differed in some systematic way from the recorded data, then this would have a biasing effect on the outcome. However, gathering a very large sample of data ( $N = 1060$ ) helps to minimize the problem of missing data. Nevertheless, for some variables (e.g., "culture") we should be cautious when interpreting the findings.

One issue regarding how conflict was defined is that a dispute is often very complex and can not always be described with one word. Although the results used statistical information that referred to the "main" conflict (i.e., one word), more than one issue was listed as being very important to understanding the dispute 24% of the time. Categorizing the conflicts in a simplistic manner, however, had the advantage of allowing statistical analysis regarding the relationship between the type of conflict and the outcome of the dispute. It was the qualitative analysis in the next chapter that enabled me to examine conflict as a complex, multifaceted construct.

One final issue regarding the interpretation of these results is that there were some slight variations between mediation centres in how the data were recorded. For example, in addition to the “usual” outcomes (i.e., mediated agreement, mediation and no agreement, first party refusal, second party refusal, the case was inappropriate and/or referred to another agency) one centre recorded what they called “partial mediation agreements.” Although it was rare that a partial agreement was reached (i.e., 8% of the time), this might be an outcome that mediation centres could record in the future.

### **Recommendations**

In addition to the recommendation that mediators document the occurrence of “partial agreements,” other recommendations can be made. For example, mediators may benefit by improving the way they gather statistics. Such information may be helpful both for mediators and for potential and actual funding agencies. For example, potential funding agencies may want to know the number of community members being served by mediation, their demographics, what services are provided, and the consequences of community conflict. Mediators may also find statistics helpful for learning more about conflict and the characteristics of cases that are mediated. Moreover, the information could be used in self-evaluations to improve the services.

Typically, mediators only recorded cultural background information when disputants required mediators with particular language skills or cultural knowledge, or if the dispute specifically involved a cross-cultural misunderstanding. Even though “culture” is very difficult to record, and does not seem directly relevant for every case, more consistent recording of this information for all disputants would be desirable. It

would be useful to know which cultures use mediation services and whether some eschew mediation, and, if so, why. Investigations of cultural perceptions of the appropriateness of mediation, and of other conflict resolution methods currently being used in diverse communities, would be productive areas of inquiry. Investigating how diverse cultures perceive mediation is important for the well-being of the community. Cultural information could be used to ensure the pool of mediator-volunteers represents the diverse cultures and languages of the community. This is important so community members are able to receive mediation services that are sensitive to their needs. While the practise of “matching” cultures is relatively common, there is no research on how this influences the effectiveness of the mediation (Olczak, Grosch & Duffy, 1991). Thus, future research on culture and conflict resolution is essential to advance our understanding in this area.

There are some obvious drawbacks that mediators and researchers must face if they plan to record cultural information. First, the data from this study indicated that mediators had recorded approximately 72 different cultures in the case files. To summarize these in a meaningful way, thirteen broad categories were selected and different cultures were grouped together (see Appendix 6.2). While such categorizations were necessary, they were arbitrary in the sense that there were many possible ways to group the cultures. Moreover, many people identify with more than one culture, making this “categorization” process difficult. Such difficulties highlight the problems with recording cultural data. How meaningful are these broad categories? How well do they represent the cultures of the disputants? Gadlin (1994) also cautions researchers who

investigate culture:

Any effort to describe and take into account cultural differences in dispute resolution, or in any other endeavor for that matter, necessarily risks compartmentalizing the phenomenon of racial and gender conflict and separating the psychological dynamics from their social contexts, which actually heightens discrimination. (p. 38)

If cultural data were gathered, mediators would also be well advised to exercise caution regarding who has access to such data and how it is used. One can imagine the potential for misuse if individuals were able to use cultural data as “proof” that certain social groups are more conflictual than others are, for example. Although it is very difficult and potentially controversial to investigate cultural issues, this does not mean that researchers should avoid this topic because there is some evidence that culture contributes to the climate of a dispute.

I also think it would be beneficial for mediators to continue the processes of standardizing their data and developing clear definitions of the items of information recorded. For example, the current procedure of describing the conflict with one word may be limited because there are often several issues involved. Mediators could consider defining other main issues as well. I previously mentioned that another issue regarding the way conflicts were defined was that “harassment” was often used to describe diverse conflicts. This is problematic because when the term “harassment” encompasses a broad range of conflicts, the word becomes less meaningful. For example, many community members say they are “harassed” about diverse issues such as: noise, pets, etc.. Thus, it would be beneficial to consider alternative ways to define conflict. Another suggestion for defining the conflict, for example, may be to gather separate statistics regarding how

the disputant “names” the conflict (i.e., the current practice), while at the same time record the mediators’ definitions. This may be useful for comparison purposes. Third, it would be beneficial for mediators to develop clear and mutually exclusive definitions of the different types of conflicts. Such definitions would help ensure that different mediators categorize conflicts in a similar way. A similar process could be developed for other areas of interest to the mediators, such as types of relationships.

A final recommendation regarding the case files is that mediators consider whether children are influenced by conflict in the community. Although one of the centres has recently begun to gather such statistics, this is a very recent and under-recorded phenomenon. After reviewing the case files I realized that children might be influenced by community conflict in a number of ways. For example, they may witness disputes between their parents or other community members, and they may also be directly involved in conflict. For example, several centres mediated parent-teen disputes where children and their parents were involved in conflict. Some mediators also identified children as the cause of a relatively small number of disputes (2%). For example, disputants complained about children when they played loudly in the neighbourhood, fought with other neighbours’ children, or stole and/or vandalized property. If one goal of the mediation centres is to reduce conflict in the community, then it is important to examine the effects of conflict on future community members—the children. Such an examination may also be very helpful in the prevention of violence.

## CHAPTER 7

### **PHASE 4: QUALITATIVE ANALYSIS OF COMMUNITY CONFLICT**

Disputes are not things: they are social constructs. Their shapes reflect whatever definition the observer gives to the concept. Moreover, a significant portion of any dispute exists only in the minds of the disputants. (Felstiner, Abel & Sarat, 1980-81, p. 631-32)

As the above quotation suggests, examining disputant *perceptions* is key to understanding conflict. One way to do this is to talk to individuals about their experiences with conflict. So, in this final phase of my dissertation, I interviewed second-party disputants who had been contacted by one of the three mediation centres in the Toronto area. I analyzed their perceptions of the conflicts in order to:

- (1) Examine and build upon previous theoretical and empirical findings with a view to gaining new insights on conflict and resolution; and
- (2) Better understand how people's experiences—their perceptions, emotions and attributions—may be related to their decision to mediate.

In other words, this research was not intended to be predictive, it was intended to explore and describe real conflict and its potential influences on the decision to mediate.

We (Metro Mediators and I) decided that I would interview second-party disputants for several reasons. First, we reasoned that the first parties' decisions were not as important to investigate since they made the initial contact with the centres and presumably wanted to proceed with mediation. Second parties, on the other hand, are contacted by the service and often do not wish to proceed. In fact, the analysis of case file data in the previous phase of my dissertation revealed that 28% of second parties declined

mediation. Other researchers have similarly found high rates of second-party refusals in voluntary mediation. For example, Kressel and Pruitt (1989) found that one-third to two-thirds of second parties refused to participate in mediation. Thus, I wanted to compare the experiences of second parties who had agreed to mediate with those who had not, to explore what factors encourage disputants to “get to the table.” The decision to explore second-party disputants’ perceptions of their experiences necessitated the use of qualitative methodology.

There are other reasons why I selected a qualitative approach. First, as mentioned in *Chapter 2*, there are limitations to past research that has used simulation experiments or other approaches where conflict variables could be easily operationalized. Real conflicts with real consequences are far more complex and involving than the typical imaginary scenario. Other researchers have also suggested that it is the complexity of real conflicts and the history of behaviour between disputants that tends to prevent voluntary mediation (McEwen & Milburn, 1993). Obviously, conflicts in a laboratory setting do not have a history.

Second, a qualitative approach is the best method of investigating how a disputant’s *experiences* of the conflict may be related to their decision to mediate. As noted by Denzin and Lincoln (1994), “qualitative researchers . . . seek answers to questions that stress how social experience is created and given meaning” (p. 4), and interviews are the most appropriate method to investigate how people arrive at particular attitudes (Whyte, 1984). Interviewing also “offers researchers access to people’s ideas, thoughts,



and memories in their own words rather than the words of the researcher” (Reinharz, 1992, p. 19). In this chapter I provide the method, results and discussion of my research with second-party disputants.

## **METHOD**

### **Participants**

Participants were selected from the case files of the three mediation centres. Potential respondents had to meet six predetermined criteria to be eligible for participation. Patton (1990) calls this selection process *criterion sampling*. First, a respondent was only eligible if a mediator had determined his/her case was appropriate for mediation. Next, it was essential that mediators had contacted the second party in the dispute. For those second-party disputants who had proceeded to mediation, a third criteria for inclusion was that the mediation must have been completed. Disputants were contacted only after they had participated in mediation to avoid the risk of jeopardizing the outcome of the mediation process. Moreover, the only way to ensure the “yes group”<sup>12</sup> did not change their mind prior to mediation (and should, therefore, truly remain in the “yes” category) was to wait until after the mediation to conduct the interview.

The fourth selection criterion was that the case had to be less than two years old, since the older the case, the more difficult it would be to obtain correct telephone and address information for potential participants. Moreover, the more time that elapsed

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<sup>12</sup> This refers to the group of second-party respondents who agreed to participate in mediation.

between the initial contact with the service and the interview, the more likely individuals would forget important details about their experience. The fifth criterion was related to the type of conflict. Spousal or parent-teen conflicts where abuse was an issue were excluded because only one centre mediated such cases. Finally, it was essential that a telephone number or address was recorded so I was able to contact the disputant.

A total of 71 disputants met these six main criteria for contact. Twenty-three interviews were completed for this phase of the study, but only 22 were included in the analyses<sup>13</sup>. More details regarding the attrition rate and why one interview was not included will be provided later in the section regarding attrition. Table 7.1 identifies participants (by pseudonyms) and provides a brief description of the conflict and whether or not the dispute was mediated (Table 7.1). Throughout the results section, I use the words of the respondents and identify them by "name" to make the results more meaningful. Thus, this table may serve as a reference regarding the types of conflicts and disputants included in this study.

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<sup>13</sup> Interview Number 8 was not included because after the interview was completed I realized it did not meet the predetermined selection criteria.

**Table 7.1****Summary Sheet of Participants**

<b>Code Name</b>	<b>Main Conflicts</b>	<b>Mediation</b>
Lyn Gilbert	Neighbours (same house)—temperature & noise	No
Jackie Chan	Neighbours (share wall)—noise, parking, lifestyle & racism	No
Joy Mashita	Neighbours—children throwing bricks	Yes
Jacques Neuvelles	Neighbours—shared driveway & relationship	Yes
Patty Andrews	Neighbours—noise, harassment & racism	Yes/No*
Kumar Southasa	Landlord-tenant (same house)—money, noise & property	No
Hillary & Jon Mitchell	Neighbours—noise, harassment, parking & prejudice	No
Meera Wing	Landlord-tenant (same house)—noise, relationship & eviction	Yes
Brian Levinson	Landlord-tenant (same house)—theft, money & eviction	Yes
June Green	Neighbour (same house)—noise, harassment & relationship	Yes
Stevan Gumersall	Landlord-tenant (same house)—eviction, relationship & property	Yes
Jen Mint	Co-workers—sexual harassment & relationship	Yes/No*
Joan Dubrow	Landlord-tenant—money, eviction & relationship	Yes
Liz Cunningham	Co-workers—relationship	Yes
Alice Runner	Landlord-tenant—money & relationship	Yes
Suzanne Gold	Neighbour—property-line, fence, property & relationship	No
Ben Dunne	Neighbour—retaining wall & relationship	Yes
Dan Palomino	Neighbour—property line & damaged property	Yes
Helen Pashkau	Neighbour—pet, noise & relationship	No
Niki Tatopolous	Neighbour—damaged property, theft & relationship	No
Irene Storey	Neighbour—relationship	No
Jason So	Co-workers (volunteer)—money & relationship	No

\*These respondents participated in one mediation session. The conflict was not resolved so a second session was scheduled and then they declined participation.

Most of the respondents were from Scarborough (55%), while the remainder were from Metropolitan Toronto (32%) and Downsview (14%). Other demographic information regarding the respondents can be found in Table 7.2. Half of the respondents mediated their disputes; 41% ( $n = 9$ ) declined requests for mediation; and two participated in one mediation session, scheduled the second session, and then declined participation. These respondents represent a very diverse group. Fifty-nine percent were women, 36% were men, and in one interview (5%), both a man and a woman were present. The age distribution of the respondents was bimodal. One modal category was the 30 to 39 age group, while the other was over 60 years of age. Although the first language of most respondents was English (68%), this sample was also ethnically diverse, with half identifying with a culture that differs from the dominant culture. A small proportion of the sample did not complete high school (14%), while a relatively large proportion (45%) had obtained a college or university degree.

Although participants were not asked to disclose their income level, information regarding their occupational status, observations of their housing situations, and comments made during our discussions, suggest there is considerable diversity on this variable. For example, five respondents (23%) commented that they were in very difficult financial circumstances, were living in social housing, and were either unemployed or on social assistance. The remaining participants, approximately 77% of the sample, were probably middle- or upper-middle class.

**Table 7.2****Demographic Information**

<b>Variables</b>		<b>Agree to Mediation?</b>			
		<b>Percent (n)</b>			
		<b>Yes</b>	<b>No</b>	<b>Yes/No</b>	<b>Total*</b>
<b>Sex</b>	Women	27% (6)	23% (5)	9% (2)	59% (13)
	Men	23% (5)	14% (3)	.	36% (8)
	Man & Woman	.	5% (1)	.	5% (1)
<b>Age Range</b>	20 to 29 years	.	6% (1)	.	6% (1)
	30 to 39 years	18% (3)	18% (3)	.	35% (6)
	40 to 49 years	12% (2)	.	.	12% (2)
	50 to 59 years	.	6% (1)	6% (1)	12% (2)
	60 and older	24% (4)	12% (2)	.	35% (6)
<b>First Language</b>	English	32% (7)	27% (6)	9% (2)	68% (15)
	Other	18% (4)	14% (3)	.	32% (7)
<b>Ethnic Identity</b>	White (not visible minority)	24% (5)	19% (4)	10%	50% (11)
	African Canadian	5% (1)	5% (1)	(2)	9% (2)
	Chinese	5% (1)	5% (1)	.	9% (2)
	French Canadian	5% (1)	.	.	5% (1)
	Greek	.	5% (1)	.	5% (1)
	Hindu	.	5% (1)	.	5% (1)
	Jewish	.	5% (1)	.	5% (1)
	Romanian	5% (1)	.	.	5% (1)
	Yugoslavian	5% (1)	.	.	5% (1)
<b>Highest Level of Education</b>	Some high school	11% (2)	6% (1)	.	17% (3)
	Completed high school	6% (1)	.	.	6% (1)
	Some university/college	11% (2)	6% (1)	6% (1)	22% (4)
	College Degree	6% (1)	11% (2)	.	17% (3)
	University Degree	17% (3)	11% (2)	6% (1)	33% (6)
	Post-Graduate	.	6% (1)	.	6% (1)

\*Some of the frequencies do not equal 100% due to missing demographic data and rounding.

(Table 7.2 continues)

**Table 7.2 (continued)****Demographic Information**

<b>Variables</b>		<b>Agree to Mediation?</b>			
		<b>Percent (n)</b>			
		<b>Yes</b>	<b>No</b>	<b>Yes/No</b>	<b>TOTAL</b>
<b>Occupation</b>	<u>Not working for pay:</u>				
	Retired	5% (1)	10% (2)	.	14% (3)
	Soc. assistance	10% (2)	10% (2)	5% (1)	24% (5)
	Homemaker	.	5% (1)	.	5% (1)
	<b>TOTAL</b>	14% (3)	24% (5)	5% (1)	43% (9)
	<u>Working for pay:</u>				
	Service Industry	14% (3)	14% (3)	.	29% (6)
	Professional	5% (1)	.	.	10% (2)
	Education	5% (1)	5% (1)	5% (1)	10% (2)
	Social Service	5% (1)	.	.	5% (1)
	Property Manager	5% (1)	.	.	5% (1)
	<b>TOTAL</b>	33% (7)	19% (4)	5% (1)	57% (12)
<b>Relationship Between Disputants</b>	<u>Neighbour:</u>				
	In different houses	18% (4)	23% (5)	5%	45% (10)
	In the same house	5% (1)	5% (1)	(1)	9% (2)
	Duplex (i.e.. shared wall)	.	5% (1)	.	5% (1)
	<b>TOTAL</b>	23% (5)	32% (7)	.	59% (13)
				5% (1)	
	<u>Landlord-Tenant:</u>				
	In the same house	14% (3)	5% (1)	.	18% (4)
	In different buildings	9% (2)	.	.	9% (2)
	<b>TOTAL</b>	23% (5)	5% (1)	.	27% (6)
	<u>Co-worker</u>	5% (1)	5% (1)	5% (1)	14% (3)
<b>TOTAL</b>		50%(11)	41% (9)	9% (2)	100% (22)

### **Response Rate**

There were a total of 71 potential respondents, and 23 interviews were completed, for a response rate of 32%. Because the response rate was relatively low, I investigated whether those who participated differed in any systematic way from those who declined. Using a chi-square test, no significant relationship [ $\chi^2(2, N = 71) = 2.29, p > .32$ ] was found for the respondents' community of origin (i.e., Scarborough, Downsview and Metropolitan Toronto). There was also no significant difference in the attrition rate (i.e., those participants who did not participate in this study for a variety of reasons) between those who had participated in mediation versus those who declined,  $\chi^2(1, N = 71) = 1.389, p > .24$ . Next, I examined the relationship between refusing to participate in the study and refusing mediation, but this relationship was also not significant,  $\chi^2(1, N = 71) = 1.58, p > .21$ .

Table 7.3 provides a summary of the reasons for respondent attrition. There were only 13 (18%) people who simply refused to meet with me—the “real” refusals. I was unable to contact 13 (18%) of the respondents because the telephone and/or address information was incorrect. Even when contact information was available, I was still *unable to reach* 12 (17%) of the disputants. Generally, I would telephone respondents a minimum of six times and if I still had not reached them I stopped trying. I was also unable to reach three potential respondents because another member of their family refused to let me speak with them.

**Table 7.3****Attrition Rate**

<b>Reasons for Attrition</b>	<b>Percent (<u>n</u>)</b>
1. Refused participation <sup>14</sup>	18% (13)
2. No contact information	18% (13)
3. Unable to reach	17% (12)
4. Moved	4% (3)
5. Translation needed	3% (2)
6. Not appropriate	3% (2)
7. No show	3% (2)
<b>TOTAL ATTRITION</b>	<b>66% (47)</b>

While translators were available to assist with gathering the data (and did assist with a respondent who spoke Mandarin), language difficulties were also relevant to the response rate (Table 7.3). Two potential respondents spoke Portuguese. Although a Portuguese translator was available, she was unable to schedule a meeting with one of the respondents, and then she became too busy to assist me with interviewing the second

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<sup>14</sup> Reasons for declining participation included feeling: too busy to participate (n = 2); the conflict was too emotionally difficult to discuss (n = 3); they had nothing to say because they did not choose mediation (n = 2); suspicious of the intent of the research (n = 2); and it was inappropriate to discuss the conflict because it was ongoing (n = 2).



respondent.

Two potential respondents (3%) were *not appropriate* for inclusion. One individual was interested but unavailable for six months, and a second was not included because it was unclear whether she was the first or second party of the dispute. Finally, two respondents did not appear for their scheduled interviews on two occasions. Given the statistical analyses I completed, and the diverse reasons for attrition, there is no reason to believe that attrition biased this sample in any systematic way.

In one case (Interview #8), the data were discarded after the interview was completed because the conflict violated several criteria for inclusion. The case file indicated this was a conflict between two families, but during the interview I discovered that the main conflict was between the husband and wife I interviewed. Second, since this conflict might have involved wife abuse, I questioned the validity of the data because the wife may not have felt safe to respond candidly. Additionally, since the mediation occurred between the husband and wife, both the first and second party were present during the interview, which was also inappropriate. Finally, the participants' first language was Tamil, and this led to some misunderstandings. Since a translator was not present, the validity of the data is even more uncertain.

### **Discussion Guide and Expectations**

The Discussion Guide questions (Appendix 7.1) were designed with feedback from the mediators and coordinators, and were modified in conjunction with the Metro-Mediators. The questions were designed to elicit detailed information about the

disputants' experiences of the conflict. The question order was designed to help develop rapport by discussing relatively less sensitive topics first. However, the sensitive nature of the conflicts required a flexible approach to interviewing. I saw no reason to adhere to the question order if a respondent wanted to discuss another topic first. Thus, I allowed the respondents to guide the course of the discussions as much as possible. For example, many respondents wanted to discuss the dispute immediately, so I turned to the conflict section of the Discussion Guide, and then returned to the other sections later.

For this reason, the interview instrument is called a guide rather than a schedule or questionnaire. You want interviewees to speak freely in their own terms about a set of concerns you bring to the interaction, plus whatever else they might introduce. Thus, interviews might more accurately be termed *guided conversations*. (Lofland & Lofland, 1984, p. 59)

The Discussion Guide (Appendix 7.1) covers five major topics: 1) Perceptions of Mediation, 2) The Disagreement, 3) Perceptions of the Other Party, 4) Relationship Issues, and 5) Community Involvement. Section 6, The Mediation, was only used with respondents who had participated in mediation. More detailed discussion regarding the origin of these questions can be found in Appendix 7.2.

### **Comment Sheet**

Following each interview, I completed a Comment Sheet (Appendix 7.3). The questions on the comment sheet were recommended by Lofland and Lofland (1984). Its purpose was to focus and standardize my reflections on each interview, especially the emotional tone, and document insights regarding the research questions. The comment sheets, as well as other memos, were written systematically during the process of

gathering and analyzing the data. Memos are useful for documenting biases and assumptions that may occur throughout the research process in order to “contain their influence” (Rennie, Phillips, & Quartaro, 1988, p. 141). Memos also allow the researcher to record ideas about patterns that are emerging in the data. Thus, by completing the questions on the comment sheet, I recorded the emotional tone of each interview, my biases, assumptions and emerging ideas relevant to the research questions.

## **Procedure**

### **Participant Recruitment**

The participants for this phase of the research were recruited from three mediation centres in Toronto: Scarborough (SCRS), Downsview (CMS-D) and Metropolitan Toronto (CRS). I had volunteered with one of the agencies for two years and had volunteered with the other two agencies for over a year. Volunteering allowed me to gain the trust and confidence of the staff and other volunteers who all assisted me with obtaining names of potential respondents. The process of gaining entry was explained in greater detail in *Chapter 3*.

Before I began recruiting participants, I met with the coordinators of the mediation centres and we agreed on appropriate procedures for contacting respondents. Contact information for potential respondents (i.e., addresses and telephone numbers) was located in the case files and had been previously recorded by volunteers.

As discussed earlier, 71 individuals comprised the potential pool of respondents. Since mediators had recorded addresses for 65 of the 71 community members, they were

sent an information package. Two letters were later returned because of incorrect address information. The information package consisted of two letters, one from the corresponding mediation centre (See Appendix 7.4), and one from me, explaining the purpose and procedure of this study (See Appendix 7.5). The letters differed slightly depending on which mediation centre initially contacted the disputant. The letter of support from each coordinator was included to address a concern that arose during the participatory phase of my dissertation. One coordinator mentioned that "I think we would always want to talk to mediators and disputants before they heard from a researcher, even if it's you" (Coordinator Interview #2). The coordinators' letters allowed them to satisfactorily address their concerns by introducing me and indicating their support for this study.

A few weeks after mailing the introductory letters, I attempted to contact the participants by telephone. Some people were very difficult to contact even though I telephoned at various times throughout the day and evening. I made a total of 186 telephone calls, an average of 3 calls per person. Some of these initial phone calls took a considerable amount of time, between 40 to 60 minutes. Generally, longer discussions focussed on the conflict.

Once I reached a participant, I reminded them of the letters I sent. Then, I briefly explained the purpose of the study and addressed any questions or concerns. These telephone conversations allowed me to establish rapport with some of the respondents, which probably encouraged them to participate. I was very careful not to pressure people

to speak with me. However, I did attempt to address any concerns they had regarding the research. If the individual agreed to the interview, we selected a time and location to meet. Before ending the conversation, I asked the respondents if they felt comfortable conversing in English or if they preferred a translator. Only one interview was completed with a translator. Finally, the evening before every interview I telephoned the participant to confirm our meeting.

### **Interview Procedure**

The interviews were conducted over a one-year period from May 5, 1997 to April 3, 1998 (see Appendix 3.2 for a time line of the research process). Since each respondent selected the location for the interview, I met people at a variety of locations. Most participants chose to be interviewed in their own home ( $n = 12$ ; 55%). However, some interviews occurred in a community centre ( $n = 5$ ; 23%), three interviews (14%) occurred in the respondent's workplace, one interview (5%) occurred over the telephone, and one respondent (5%) preferred to meet in a coffee shop.

Once we were comfortable, I began the interview by introducing myself and briefly explaining the purpose of the study. I verbalized important aspects of the informed consent form (Appendix 7.6) and asked for permission to tape record the interview. I also suggested that I could turn off the tape recorder at any point during the interview. I reminded the respondents that their identity would remain confidential, and that I would remove identifying information from the transcripts. I also told them that only two people would have access to the taped interviews--a paid assistant to help me

transcribe the data, and I. Then I asked the respondents to read the informed consent form, ask me any questions, and when they felt comfortable proceeding, to sign the form. Next, I asked the respondents if they would be interested in receiving a summary of the findings. If they were interested, they were asked to write their name and address on a separate sheet of paper.

Apart from interruptions and comments from other family members, there was usually only one respondent present during the interviews. In two instances, however, more than one individual was present. During one interview when this occurred (Interview #8), I decided not to use the data for reasons I will discuss later. Also, during Interview #7, two respondents, both Hillary and Jon Mitchell (husband and wife), were present. I felt it was appropriate to include them because they both wanted to participate, and they were both second parties because they were feuding with another family.

After the respondents had signed the informed consent form and I had answered their questions, I conducted the interviews following the Discussion Guide (Appendix 7.1). The interview process I used is described by Lofland and Lofland (1984) as “a guided conversation whose goal is to elicit from the interviewee rich, detailed materials that can be used in qualitative analysis” (p. 12). According to Lofland and Lofland, such interviews allow researchers to “*discover the informant's experience* of a particular topic or situation” (emphasis in original, p. 12). The interviews were relatively flexible and the order of the questions sometimes changed because the respondents guided the discussion as much as possible.

During the interviews I adhered to several suggestions provided by Whyte (1984). For example, I listened more than I spoke. I also probed for additional information, particularly using active listening techniques I learned as mediator, such as: summarizing, reflecting, clarifying, and validating. I did not provide advice or judge the respondents' answers, and I was conscious of asking open-ended questions, being careful not to lead the respondents.

The interviews lasted, on average, one hour and 45 minutes. The shortest interview took 45 minutes while the longest lasted 4 hours. The longest interview was unique in that it occurred in 2 separate sessions during the same evening. I met this particular respondent at a coffee shop for a two-hour interval. Then she invited me to sit in on a class she was taking about the ethics of mediation. In fact, she actually decided to take this course after participating in a "failed" mediation. After the mediation class, we returned to the same coffee shop to complete the interview for two more hours. This was the only interview that occurred in two sessions.

All of the interviews were recorded on audiotapes and then transcribed verbatim by a paid assistant and myself. Copies of the transcripts were kept in locked containers. The participants' names were removed from all data. In fact, as mentioned earlier, code names were assigned to all the respondents (see Table 7.1) that were used while coding, analyzing and writing-up the data. Moreover, I was also careful to remove any other information that might identify the respondents.

At the completion of each interview, the respondent completed a brief

demographic questionnaire regarding their age, occupation, ethnic identity, first language and education (Appendix 7.7), to investigate whether such demographics related to the decision to mediate. Then, as a precautionary measure, I gave each respondent a brochure from their respective mediation centres in case our discussion caused them to recall or re-experience stressful emotions. Disputants were given this contact information so they could reach the mediators or myself if they required additional information, a referral, or other assistance (e.g., two centres provide counselling). Since I had discussed the interview procedure with the staff, they expected telephone calls from the respondents. Finally, participants were paid \$20.00 and thanked for their participation.

### **Data Analysis**

I was influenced by different analytic approaches including comparative thematic analysis (Ely, Anzul, Friedman, Garner, & Steinmetz, 1991; Hayes, 1997b); constant comparative analysis (Janesick, 1994; Straus & Corbin, 1994); interpretational analysis (Rhyne, 1996; Tesch, 1990); and consequential analysis (Lofland & Lofland, 1984). Moreover, when I examined the *function* of respondents' narratives—what, how and especially why they said certain things—I was influenced by discourse analysis (Sherrard, 1997). I did this because Sherrard argues that “trying to answer the *why* will take you to the highest level of analysis” (p. 76). Additionally, I examined the causal *attributions* of the conflict and the other party. I extracted the attributions in separate files and then identified whether the respondents were making: 1) stable versus unstable; 2) internal versus external; and 3) intentional versus unintentional attributions. Throughout the



analysis I constantly compared the group of participants who agreed to mediate with those who did not, looking for patterns in the data. Suggestions for this approach came from Hayes (1997a) and Sherrard (1997). Examining the data through different qualitative lenses provided me with a more complete answer to my research questions.

Several researchers provided guidance for the specific analytic process I used (e.g., Coffey & Atkinson, 1996; Denzin & Lincoln, 1994; Ely, et al., 1991; Kirby & McKenna, 1989; Lofland & Lofland, 1995; Patton, 1990; Rhyne, 1996; Tesch, 1990; Whyte, 1989). In general, they first recommended studying the raw data to develop intimate knowledge, initial impressions and tentative categories (Ely et al., 1991). Next, a process of “data reduction” (Huberman & Miles, 1994) or segmenting (de-contextualizing) (Tesch, 1990) was generally recommended, whereby the data are broken down into smaller units that are meaningful, manageable, and conceptually similar. Kirby and McKenna (1989) call these meaning units *bibbits* “(piece, snippet or bite of information). Each bibbit should be able to stand on its own, that is, make sense when it is separated from its context” (p. 135-136).

Second, these researchers recommend assigning labels or codes to the units of meaning. This process may be called “open categorizing” (Rennie, et al., 1988) or simply “coding” (Tesch, 1990). Once the data have been coded they are still not ready for interpretation. The next step generally involves re-contextualizing the data, or gathering everything that belongs in one category so that it may be read concurrently (Tesch, 1990). Thus, coding the data does not involve simply reducing the data, but can be thought of as

data *complication* “. . .expand[ing], transform[ing] and reconceptualiz[ing] data, opening up more diverse analytical possibilities” (Coffey & Atkinson, 1996, p. 29). The codes become “tools to think with,” because they allow for discussion and analysis (Coffey & Atkinson, 1996), and they may also be viewed as research results (Tesch, 1990). Some researchers call the process I have described the *code-and-retrieve* process which involves *coding* or labeling passages of the data; and the *retrieval* process, which involves collecting passages with the same codes (Richards & Richards, 1994).

Next, researchers generally explore connections between the concepts or categories, by finding “patterns, themes, and regularities as well as contrasts, paradoxes, and irregularities” (Coffey & Atkinson, 1996, p. 47). If certain concepts occur together more often than not, then the researcher might assume that a connection is stronger between those concepts relative to others (Tesch, 1990). Researchers may develop visual images or cognitive maps of the connections between the concepts—a classification system or conceptual framework, or what some researchers call an “organizing system,” “organizing scheme” (Tesch, 1990), “substantive theory”<sup>15</sup> (Kirby & McKenna, 1989), “model” (Janesick, 1994), “analytical framework” or “analytical model” (Wolcott, 1994). According to Tesch (1990), such systems “. . .exist for the purpose of bringing order to a collection of material that is not naturally arranged in a way amenable to analysis” (p.

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<sup>15</sup> “**Substantive** theories are developed from the categorized data that help to describe and explain the research focus. These theories remain close to the data. . . . Any conceptual development, that is the linking of categories, can be called the beginnings of substantive theory” (Kirby & McKenna, 1989, p. 137-138).

139). and they also facilitate interpretation of the data. While the analysis process requires segmenting and de-contextualizing the data, the end goal is to produce a broader (but still manageable), summative picture (Janesick, 1994; Tesch, 1990).

This approach to analyzing qualitative data is the “most widely recommended technique for management of rich and complex records” (Richards & Richards, 1994, p. 447). Moreover, it has the added benefit of enabling the researcher to discover new information and allows for faster and more efficient ways of handling the data.

It is important to note that while I have presented the qualitative analysis process as sequential steps, in reality, the steps are not mutually exclusive and instead overlap and are continuous (e.g., Huberman & Miles [1994], depict the process as circular and recursive). For example, the codes “can be expanded changed, or scrapped altogether as our ideas develop through repeated interactions with the data” (Coffey & Atkinson, 1996, p. 32). Thus, the analysis is never really “finished.” Instead, the researcher must reach a point where s/he is able to “let go” of the manuscript.

I began the actual analysis for the current study by developing an initial list of analytic codes (Appendix 7.8) based on the Discussion Guide (Appendix 7.1), a literature review of community mediation and conflict resolution (see *Chapter 2*), and my experience as a mediator. Next, I carefully analyzed and re-analyzed five interview

transcripts (Interview Numbers: 1, 7, 9, 18, and 21)<sup>16</sup>, modifying the codes several times to allow additional themes to emerge from the data. This allowed for the development of a more comprehensive code list (Appendix 7.8), which was used to re-analyze the initial five transcripts and the remaining transcripts. Codes that emerged from the data were continuously added to the codebook, and transcripts were re-analyzed as necessary to include additional codes.

The coding process was facilitated by the use of The Ethnograph, v4.0 software<sup>17</sup> (Seidel, Friese & Leonard, 1995). First, printouts of verbatim transcripts (with line numbers inserted by the programme) were taken and “code maps” were developed. A sample code map is depicted in Figure 7.1 from Interview #2 with Jackie Chan (Lines 7 to 49). Note that speaker identifiers “TJ” refer to me, while “JC” refers to this particular respondent, Jackie Chan. For example, Jackie discussed the “Conflict” between lines 13 to 23 and between lines 37 to 47 (see Figure 7.1). A square bracket was manually drawn in the right-hand margin and these segments of text were labeled with the code word “Conflict” (see Appendix 7.8 for definitions of code words).

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<sup>16</sup> These transcripts seemed particularly “good” because the respondents were very forthcoming, often sharing unusually sensitive and private information. Moreover, the interviews were heterogeneous, which allowed for diverse categories to emerge early in the data analysis.

<sup>17</sup> The Ethnograph software allows for complex methods of managing qualitative data--viewing, retrieving and analysis (Richards & Richards, 1994). See Tesch (1990) for an overview of The Ethnograph and other software tools.

TJ: OK so basically the first question is about mediation. How did you first hear about the mediation service? Who told you about it?

JC: I heard about it from the police. Because I called the police several times and my neighbour was so tricky and because they have parties. they have a lot of people. 10 to 15 people and some people were sitting in front of the window when I called the police and the police come they went (?)

TJ: They stopped the noise?

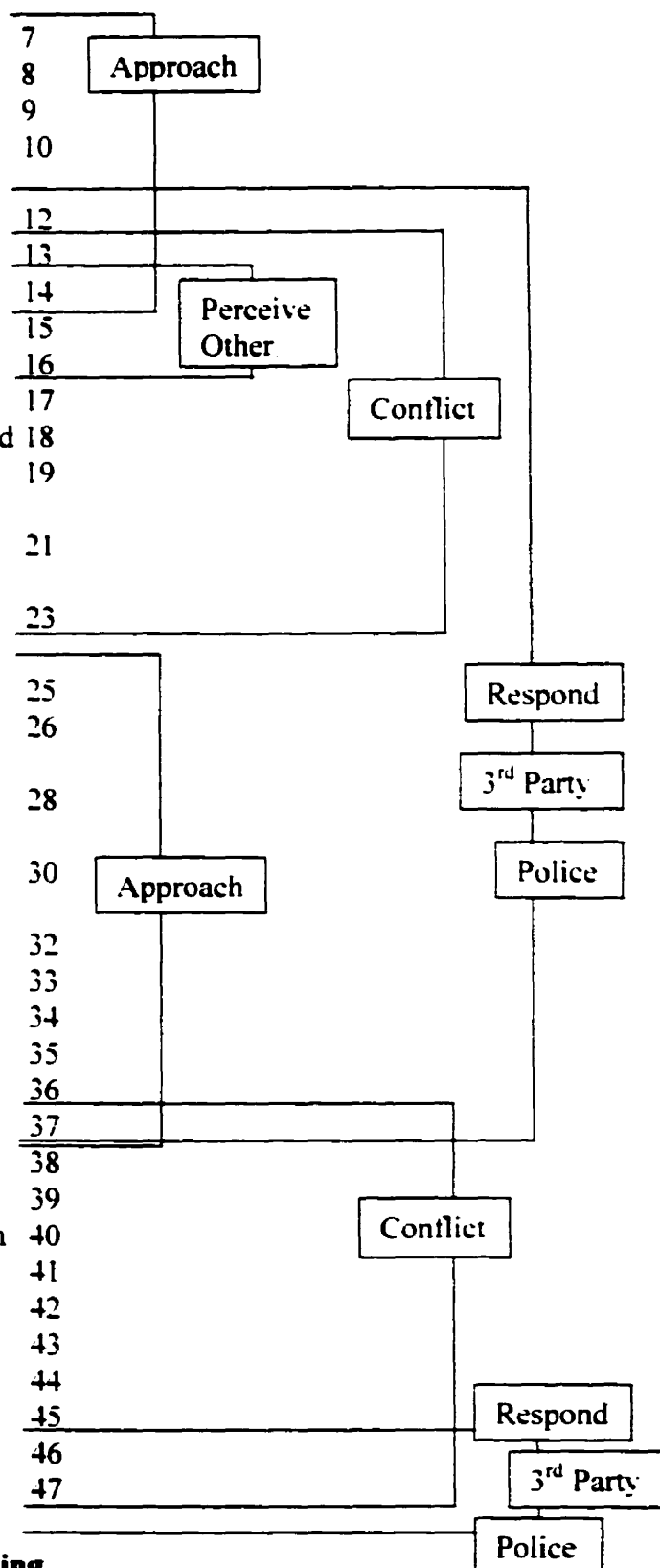
JC: Yes. and the police didn't catch them.

TJ: So the police told you about mediation?

JC: Yes.

TJ: And how did they describe it?

JC: They said that maybe we should try this [mediation] because sometime it is difficult for the police. because you say this and they say that. It is difficult. They [the police] don't know what is happening. But the problem is we live. me and my neighbour. we live in a semi-detached house. And whenever he make noise we can hear. Especially the problem is they make noise all over the night until 6:00 and 7:00 in the morning. Every weekend in the summer. Even in the winter. It is even worse in the winter because they close the windows. And when the police come they never catch them. They never can.



**Figure 7.1. An Example of Code Mapping.**

Another point is that segments of text may be identified by more than one code and they may be *nested* or *overlapping*. Figure 7.1 identifies two segments of text (Lines 12 to 37 and lines 46 to 47) that were identified with three code words: “Respond,” “3<sup>rd</sup> Party,” and “Police.” That is because these segments both demonstrate how this respondent, Jackie Chan, responded to the conflict (“Respond”) by contacting a third party (“3<sup>rd</sup> Party”)—the police (“Police”). A *nested* segment occurs when a smaller segment of text is contained within a larger one. For example, Jackie described characteristics of the other party (“Perceive Other”) between lines 14 to 16 while he was describing the “Conflict” (lines 13 to 23). This is an example of how data regarding perceptions of the other party (“Perceive Other”) is nested within the “Conflict” segment. Several of the segments in Figure 7.1 are *overlapping*. This occurs when the start or stop lines of different segments of text overlap.

Once the transcripts were manually mapped and the codes were transferred into The Ethnograph, the data did not simply remain there unchanged. After segmenting the data, it was necessary to re-contextualize it by gathering all segments with the same code names and then reading them continuously. I constantly compared the data from respondents who agreed to mediate with the data from those who refused, exploring connections and key issues (see Tesch, 1990, for excellent examples of how to find relationships between qualitative variables). I also selected key descriptive phrases from the respondents to reflect the findings.

Qualitative analysis is an iterative and interactive process and the data were

continually subjected to further de-contextualizing and re-contextualizing. The codes were modified and an organizing system for explaining the data evolved through continued analysis. Since the process is a reflective activity (Rhyne, 1996), another important analytic step involved writing memos to document the data analysis and reflections on this process. The results and discussion of this process follows.

## RESULTS AND DISCUSSION

There is no such thing as immaculate perception, and there is no immaculate description, either. (Wolcott, 1994, p. 15)

The quotation above suggests that there is not one correct way to perceive the data nor is there one way to communicate the findings. *How* I describe the findings and *what* I choose to report are both influenced by my perceptions of what is relevant. The findings are accompanied by illustrations to provide ample context for the reader to assess the credibility of the conclusions. Some of the strategies used to quote respondents were recommended by Morse (1994).<sup>18</sup> Following each citation, I labelled whether the respondent had participated in mediation “yes—” or “no—.” and used their pseudonym from Table 7.1 (e.g., yes—Joy Mashita).

Although I expected most of the findings would be grounded in the data through the process of inductive analysis (c.f., Patton, 1990), researchers do not embark on a

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<sup>18</sup> For example, pauses, “mms,” and repetitive words were removed unless they were important for emphasis or interpretation. Sentences and phrases that were irrelevant for the illustration are replaced with “. . .”. Comments that we (hired transcriber and I) were unable to discern were replaced by “(?)”. I also attempted to match the punctuation with the phrasing used by the respondents. Information that clearly identified the respondents, such as the names of people and businesses, was also deleted and replaced with “[---]”. Extra information was added for clarification in “[ ]”.

project as a tabula rasa. Burman (1997) argues that too often qualitative research is justified as being exploratory or inductive, but this is problematic because it “maintains a rhetoric of discovery” (p. 794). Instead, she and others (e.g., Greene, 1993; Kirby & McKenna, 1989) recommend that an important step in qualitative research is to acknowledge and document the theories, biases, and “guiding presuppositions” that may influence the interpretation of the findings. Such records also allow researchers to examine how the findings differ from their initial expectations. Of course, one challenge to this suggestion is that it assumes researchers are aware of their biases. Thus, in addition to presenting the results, this chapter also includes my initial assumptions.

My initial expectations were based on in-depth interviews with mediation centre coordinators (*Chapter 4*), a focus group with volunteer mediators (*Chapter 4*), a review of the community mediation and conflict resolution literature (*Chapter 2*), discussions with the Metro Mediators, and my own experiences as a mediator. These preconceived notions were documented in a self-interview (i.e., I asked myself questions from the Discussion Guide, and made predictions regarding the findings), and in numerous analytic, process and outcome memos.

### **AGREEING AND REFUSING TO MEDIATE**

In this study, individuals were directly asked why they refused or accepted the offer of mediation. On average, 2.3 reasons per person were recorded for refusing mediation, and 2 reasons for agreeing to mediate (see Table 7.4). Most often (29%), people refused to mediate because they believed the process would not resolve the conflict or improve the situation. People also refused mediation because their preference



was to avoid the conflict and the other party (24%). Disputants declined mediation for many "other" reasons (29%). because: they perceived the request to mediate as insincere, as a threat or as an invasion of privacy; they felt there was no conflict, and because they believed the other party was "crazy."

To contrast, approximately half of the respondents agreed to mediate and they provided diverse reasons to explain their decisions (see Table 7.4). The most common reason for accepting mediation was to resolve the conflict or improve the situation (45%). Respondents also accepted offers of mediation because: they felt the process would be fair (23%); a third party influenced them to participate (14%); and they felt unfairly blamed for causing the conflict and they wanted to defend their reputation (9%). "Other" reasons (9%) for accepting the request to mediate included the desire to avoid the legal system and the perception that no other options existed to resolve the conflict.

**Table 7.4**

**Reasons Given for Rejecting and Accepting the Mediation Offer**

Reasons for <b>Rejecting</b> Mediation		Reasons for <b>Accepting</b> Mediation	
<b>Reason</b>	<b>Percent of Total (n)</b>	<b>Reason</b>	<b>Percent of Total (n)</b>
Mediation will not work	29% (6)	Resolve conflict/ Improve situation	45% (10)
Prefers avoiding conflict	24% (5)	Mediation provides procedural justice	23% (5)
Invested in legal process	10% (2)	Felt coerced to participate	14% (3)
Mistrusts other party	10% (2)	Defend own reputation	9% (2)
Other	29% (6)	Other	9% (2)
Total	21	Total	22

Although these motives for accepting and declining mediation are informative, an analysis that stopped with these overt responses would not tell the complete story.

Additional reasons can be gleaned by examining other issues raised during discussions with the respondents. Like Pearson, Thoennes and Vanderkooi (1982) who investigated divorce mediation, the following analysis is an “attempt to go beyond the overt reasons offered by respondents and explore the saliency of . . . [other] variables that could affect the decision to mediate” (p. 24).

Several other issues seemed to factor into the second party’s decision to mediate. The six main themes I will focus on are: *personal characteristics*, including socioeconomic status and how the disputant tended to respond to conflict (i.e., compete, accommodate, avoid, compromise and problem solve); *perceptions of the first party*, including whether the party is perceived as trustworthy and perceived motives regarding the request for mediation; *relationship issues*, including characteristics of the past and present relationship (supportiveness, interdependence and interpersonal power), and the desire for a future relationship; the *conflict* (i.e., type of issue, conflict metaphors and attributions of blame); the impact of *third party involvement*; and the *perception of alternatives*, including attitudes toward the legal system and mediation (i.e., considering whether the alternatives meet one’s needs for distributive, procedural and retributive justice). A summary of the findings is presented in tabulated form in Appendix 7.10. Past research relevant to these themes is considered prior to summarizing the findings of this study. Comparing and contrasting findings from past research and the current study will be done to develop profiles of disputants who are more likely to accept and decline offers

to mediate. I must caution the reader that the interpretations made in the following section are speculative given the exploratory nature of the data, and the following analysis is descriptive and is not intended to imply prediction.

### **PERSONAL CHARACTERISTICS**

The literature review in *Chapter 2* indicated that several personal characteristics such as: socioeconomic status, personal traits, characteristics, perceptions of oneself, cooperative/ competitive orientation, and conflict strategies/tactics (e.g., competing, avoiding, compromising, problem-solving and accommodating) are related to constructive and destructive conflict (also see Figure 1.3).

#### **Socioeconomic Status**

An individual's social class is another variable that has often been investigated in relation to the decision to mediate. Some researchers have found that middle- and upper-socioeconomic classes use mediation more often (Beer, 1986; Irving & Benjamin, 1992; Merry & Silbey, 1984; Pearson et al., 1982), while others found that high use was associated with lower-socioeconomic class (Richan, 1988). Pearson et al. (1982) argued that findings regarding social class are divergent because the relationship depends on the type of mediation. That is, they argue that community mediators are more likely to work with relatively powerless social groups (i.e., those who are poor, visible minorities and less educated), while the opposite is true for divorce mediators.

Pearson et al. (1982) provide a theoretical explanation for why middle- and upper-socioeconomic classes use mediation more often by referring to "innovation-diffusion" researchers (e.g., they cite Rogers & Shoemaker [1971]). Innovation-diffusion theories

suggest that those belonging to higher socioeconomic classes (i.e., are more likely to have a higher income, occupational status and education) tend to be more accepting of new procedures and technologies. Pearson et al. (1982) drew parallels between research on those who are likely to accept new technology and those who are likely to accept mediation. Like those who adopt new technologies “mediation-minded individuals are better educated and have higher occupational statuses and incomes than their rejecting counterparts” (p. 31). Although it appears that a relationship exists between the decision to mediate and SES, the divergent findings make it difficult to predict the nature of this relationship.

The participants in the current study were not asked to disclose their income level directly. However, income was inferred from their occupational status, observations of their housing situations, and comments made during our discussions. As mentioned earlier, approximately nine respondents (41%) were low income or lower middle-class while the remaining participants were probably middle- or upper-middle class (see Table 7.2 and Appendix 7.10). Since these respondents were equally likely to agree or refuse to mediate, it appears that socioeconomic class was not related to the decision to mediate (a summary of the main qualitative variables is presented in tabulated form in Appendix 7.10). Of course, since this variable was not measured directly these findings should be interpreted with caution.

### **Responding to Conflict**

Deutsch (1991) uses a “dual concern” model of motivational orientation to explain responses to conflict, suggesting that “concern for self” and “concern for other”

are “dual” independent concerns. Consequently, there are two major orientations to conflict, competitive versus cooperative, which can vary from low to high. The competitive continuum reflects individuals’ attempts to obtain their own needs while the cooperativeness continuum represents the extent that the other parties’ needs are considered. Based on research with his colleagues, Deutsch (1994) developed a “crude law of social relations” that suggests cooperation induces and is induced by cooperation. He further suggests that once a disputant takes a competitive stance, the conflict generally continues in that direction. “Understanding the conditions which give rise to cooperative or competitive social processes, as well as their characteristics, is central to understanding the circumstances that give rise to constructive or destructive processes of conflict resolution” (Deutsch, 1994, p. 15)

Thomas and Kilmann (1996) have derived five conflict resolution styles or “conflict tactics” from these dimensions. They suggest that people tend to use certain conflict tactics more often than others, either because they are more skilled at a particular method or because of their temperament. These tactics include: (1) compete/confront, (2) accommodate, (3) avoid/withdraw, (4) compromise, and (5) collaborate/problem-solve.

*Competing* is an uncooperative style where an individual heeds only his/her own interests. Competitive individuals often use power tactics in order to “win.”

*Accommodating* is the opposite of competing whereby the individual complies with the wishes of the other party at the expense of their own concerns. *Avoiding* occurs when an individual does not pursue either their own or the other party’s concerns. Disputants who *compromise* try to find solutions that partially satisfy both parties, while those who

*collaborate* or *problem-solve* work with the other party to find a solution that is mutually acceptable.

There is no universally "right" way to resolve conflict, because the appropriateness of the method usually depends on the situation (Thomas & Kilmann, 1996). Nevertheless, an individual's style influences how a conflict will proceed (e.g., Boardman & Horowitz, 1994; Thomas, 1976; Thomas & Kilmann, 1996), and may be related to whether or not people would be willing to initiate mediation. Past research has shown that the ability to recognize and generate alternative options for responding to conflict (e.g., joint problem solving) promotes constructive approaches to conflict (Boardman & Horowitz, 1994; Zubek et al., 1992). Research has also found that disputants who use contentions or competing behaviour decrease their likelihood of finding agreement. This tends to occur because such disputants tend to rigidly hold their positions which does not lend itself to the creative thinking and yielding processes which are often necessary for resolution (Zubek et al., 1992). Thus, definitions of these conflict strategies and past research suggest that people who prefer to respond to conflict by collaborating/ problem solving, compromising and/or accommodating may be more willing to mediate; whereas those who prefer competing/confronting and avoiding may be less willing to mediate.

### **Competing/Confronting**

The findings in the current study regarding a competitive versus a cooperative orientation showed some parallels but also some discrepancies as compared with past research. The findings were similar in that all disputants with a cooperative orientation or

“personality” agreed to mediate. However, the discrepancy arose because those disputants who had used a competitive approach were approximately equally likely to agree as to decline mediation (see Appendix 7.10).

Many respondents provided accounts of how they perceived their personalities, and there was a clear relationship between identifying oneself as cooperative and using constructive approaches to conflict. For example, those with a cooperative orientation or “personality” described themselves as fair, easygoing, understanding, not vengeful, and as valuing relationships and peace:

Despite my feelings I want to be *a fair person*. (yes—Liz Cunningham)

I'm *not a vengeful person*. I just wanted to solve the problem as best as we could. . . .I *don't hold grudges*. (yes—Joan Dubrow)

Being the *type of person I am* I was *not fond of fighting*. I wanted to have a decent neighbourly relationship. (yes—Ben Dunne)

I'm kind of really like *easy going person and really understanding* everybody. . . .I guess I want to *make everybody happy*. (?) I want to lead a very peaceful life, very happy with each other. (yes—Meera Wing)

Cooperative individuals also appeared “open-minded” because they recognised that many “correct” perspectives were possible in conflict. This was conducive to conflict resolution because it demonstrated a willingness to listen to the other party.

I'm *not a confrontational personality* to begin with. I always feel there's a better way to deal with things. . . .I have often said to people there's never two sides to an argument--there's three or more. And to understand it, or even pretend to reach a conclusion, you've got to make sure you've got all the sides, and that you've been *willing to listen* to all the sides fairly, and without prior judgement or opinion or bias coming into it. (yes—Alice Runner)

As evident from the above illustrations, every individual who described her/himself as having a cooperative orientation agreed to mediate.

In contrast, the second parties responded to the first party with several types of competitive approaches. Competitive/confronting tactics tend to be uncooperative and highly assertive, characterized by an individual's attempts to do whatever is necessary to "win," or meet their own needs, regardless of the other party (Thomas & Kilmann, 1996). Coercion and using force are also methods of competing to "resolve" conflicts (Folberg & Taylor, 1984). The types of competitive responses described by disputants in this study included: viewing the conflict as a competition, making demands of the other party, and/or using power tactics (e.g., evicting a tenant).

Several disputants described conflict resolution processes as a competition where one point-of-view "wins" and the other loses. For example,

It's like saying, "that's a piece of paper." And you can't come along and tell me "no it's not". . . I don't need to sit down for my own purposes and talk to someone about something that they know nothing about. . . No one should try and push their beliefs onto me. (no—Irene Storey)

Since Irene felt that she held the correct view, and she also believed that two people can not express differences of opinion without one party "pushing" their views onto the other, she felt there was no need for further discussion. Other disputants described their approach to conflict as a battle with winners and losers. Disputants who used "war" metaphors to describe their conflict also took a severely competitive approach. These and other conflict metaphors will be discussed in more detail later in this chapter. Suffice it to say that framing conflicts in this way fostered a climate of competition that was not conducive to resolution.



Demanding that the other party behave in a particular way was another competitive tactic used by second-party disputants. Telling (or yelling at) the other party to do something was generally not effective, and usually resulted in an escalation of the conflict. Perhaps such behaviours escalated conflict because they usually occurred when emotions were intense, while the "offensive" behaviour was in progress. For example, after Jackie confronted his neighbours to be quiet, this is how they responded:

When they make noise we complain to the neighbours and they *treat you as nuts*. . . And they *ignore us*. They say it was their right [to make noise].  
(no--Jackie Chan)

In other words, Jackie's neighbours reacted defensively to demands that they be quiet. This made Jackie more angry and escalated the conflict.

The use of "power tactics" was another type of competitive strategy used by disputants. These tactics included violent and threatening behaviours, landlords evicting their tenants, and second parties using a third party (e.g., police, lawyer) to enforce some type of change. For example,

I gave her a notice to evict my place. . . It wasn't worth keeping her here anymore. . . There was a court order, so she had to move no matter what.  
(no--Kumar Southasa)

Most competitive strategies, including involving a third party, appeared to escalate the conflict. For example,

Well, first of all, he was absolutely stunned and totally unforgiving, by my reporting him to his boss. . . . And reporting him was more than he could handle. And he just was beside himself. (yes/no--Jen Mint)

Then he [the tenant] got a policeman one day, another cop now. The cop says to me, "ra ra ra ra." I says, "You know what, charge me." . . . This did not help matters at all. (yes--Brian Levinson)

Some disputants believed that involving a third party, such as the police, in a competitive manner might make the situation worse, and as a result, they were opposed to this approach.

My point of view is that I wasn't going to go to the police, and I could have. . . .If I made the move [to go to the police] then he would be destroyed. They would throw him out of the country. . . .He would never stand up to the charges, and he would run. I thought if I destroy the guy that will totally destroy him. Not only will he have to go back to the United States, and who the hell knows what he'll do then. I didn't want to be responsible for his destruction. I wouldn't want to be. I just wouldn't. (yes--Brian Levinson)

On some occasions, one party may perceive that a conflict is resolved after certain competitive tactics have been used. For example, a landlord who evicted an "undesirable" tenant, and a neighbour who "won" a court case, felt like the conflict had been "resolved." Usually, these types of outcomes only satisfy the "winner," which may be problematic if the conflict surfaces again at a later time. Although the disputants in this study who had used a competitive approach were equally likely to agree and refuse mediation (see Appendix 7.10), a competitive orientation did not appear conducive to reconciliation.

### **Accommodating**

Disputants may also respond to conflicts by accommodating. This tactic is unassertive and co-operative, and involves complying with another party's wishes at the expense of one's own (Thomas & Kilmann, 1996). In general, this style may be useful to preserve relationships, for "trivial" problems, when a party feels they are wrong (Picard, 1998), or when there is a large power imbalance (e.g., a supervisor-student conflict). Past

research has shown that disputants are more likely to accommodate when they are afraid of the conflict, depend on another person or feel the conflict may be destructive (Rubin et al., 1994).

In the current study, accommodating behaviours included making major lifestyle changes and acting in ways to satisfy the other party. For example,

The kids couldn't make any noise, and I was forever saying 'shhhh' and 'sit down' and 'watch TV,' and it wasn't a good environment for them. I was always worrying about making too much noise. . . . I would just sit there and try to put up with it [the neighbours' demands for silence]. (no--Lyn Gilbert)

We put in double carpets for them because they said we walk upstairs. . . . That's why I bought that carpet. Actually we don't need it. . . . We know the tenants downstairs, so we bought a piano that makes the sound very soft. . . . We have to pay extra money but we said we don't mind because we don't want to bother the people downstairs. . . . I'm doing as much as I can do. (yes--Meera Wing)

As you can see, accommodating involved lifestyle changes such as being very quiet in anticipation of a complaint from the other party. For some, it also involved a great expense in terms of time, money or other resources. In these particular examples the respondents also felt as though they had made all (or nearly all) of the accommodations, while the other party made few or no changes.

One unfortunate consequence of accommodating for some of the second parties was that they felt the first party had taken advantage of their obliging behaviour. For example,

We extended the olive branch to live peacefully by asking what could we do to live beside them and not get harassed. They gave us this very long list of demands. We felt like they were trying to take advantage of us. (yes/no--Patty Andrews)

Meera Wing, whose accommodating style<sup>19</sup> prevented her from asserting her needs, described another problematic consequence of accommodating. She had made many accommodations for her basement-dwelling tenant, including agreeing to mediation. During the mediation she agreed to further accommodations that she later regretted. As a consequence, Meera was not completely happy with the outcome because she did not feel it was fair.

But I'm feeling actually it is quite unfair for me. . . It is not fair for me, but I don't want to say anything. In life lots of things are not fair. So I guess that's ok. (yes--Meera Wing)

Although disputants who had used accommodating tactics were more likely to agree to mediate (Appendix 7.10), these findings also suggest that accommodating may have potentially detrimental consequences on the outcome of a conflict. Mediators who are aware of the potentially detrimental consequences could use certain procedures to prevent the design of disappointing agreements. For example, when disputants appear to be maximally accommodating, mediators may want to caucus with them to question their motives. Speaking with such disputants after an agreement has been drafted and during follow-up could provide further opportunities to explore disputants' comfort with the agreement. Such processes may decrease the likelihood of reaching unbalanced agreements when one party has been overly accommodating.

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<sup>19</sup>The reason why I believe accommodating is Meera Wing's style (i.e., rather than a tactic or a simple behavioural response) was because she said, "I'm kind of really like *easy going person* and *really understanding* everybody. . . .I guess I want to *make everybody happy*. (?) I want to lead a very peaceful life, very happy with each other."

### **Avoid/Withdrawal**

Avoiding tactics are unassertive and uncooperative, and are typically useful when continuing the conflict is perceived as more harmful than ending it (Picard, 1998; Thomas & Kilmann, 1996). Past research has shown that avoidance is a very common method of responding to conflict (Folberg & Taylor, 1984; Folger et al., 1993), and some argue that this explains why voluntary use of mediation is rare (Peachey, 1989). In a telephone survey of California residents' reactions to annoying neighbours, Paquin (1992) found that most respondents (60%) either took no action or coped passively when faced with an annoying neighbour. Passive coping methods included obtaining information but not using it, praying, observing, and waiting for others to intervene. Only one third of the community members who were faced with an annoying neighbour took some form of action, and a conflict was more likely only after one individual became *very* annoyed (Paquin, 1992). Thus, past research suggests that avoiding conflict is a very common tactic, which might be related to the decision to mediate.

The findings of the current study support past research because avoiding was the most common tactic used to respond to the first party. As mentioned earlier, when respondents were asked why they rejected mediation, the second most common response was that they preferred to avoid the conflict (see Table 7.4). When analyzing disputants' comments to investigate whether the use of avoidance tactics may have influenced their decision, I found evidence that all nine disputants (100% of those who had declined mediation) had avoided the conflict at one point. However, a considerable number of those who agreed to mediate ( $n = 9$ , 82%), similarly reported avoiding the conflict (see

Appendix 7.10). One type of avoidance tactic included *gaining support for one's own position*. That is, respondents reported documenting or gathering evidence, laying a "trap," keeping log-books, taking pictures, asking friends to provide sworn statements, and gathering petitions to gain support for their position. Table 7.5 provides an example from Jackie Chan who decided to record every time his neighbour made a noise or "misbehaved," rather than dealing directly with the conflict.

A second way that disputants avoided conflict was to gossip with others about the situation (Table 7.5). The third set of examples provided in Table 7.5, illustrates how respondents apparently spoke with other third parties as a way to justify the conflict, and emotionally cope with their "failure" at not resolving the conflict. According to Geen (1995), when people make *consensus* and *distinctiveness* judgements they are also making excuses. *Consensus* judgements are made when people believe that most everyone would fail in the same situation. For example, respondents explained that they were not the only ones who "failed" at getting along with the other party (see Table 7.5). Second, respondents also made particular judgements about the *distinctiveness* of their "failed" relationship (Geen, 1995). In other words, when respondents told me that they have a good relationship with most other neighbours, they were emphasizing the distinctiveness of this conflict situation. Other avoidance tactics described by the respondents included: asking a third party to intervene, ignoring or tolerating a frustrating situation, and leaving their home.

Table 7.5

**Avoidance Tactics*****I. Gathering support for own position***

TJ: What happens now when you hear noise?

JC: We write it down in the book.

TJ: You are keeping a log book?

JC: I have a big, big book. That it is helpful when you go to the court. .  
. I also talk to every person on the street to sign a petition. (no--Jackie Chan)

***II. Gossip***

My parents just don't want to talk about things. It's their nature to. . .talk and gossip to get it off their chest, and then still be complacent about it. I don't think they mean harm, it's just bothering them and they want to tell somebody. (no--Niki Tatopolous)

And the neighbours around couldn't believe that they would do all the things that they did. . . .This other neighbour and I got a few laughs out of it. (no--Suzanne Gold)

***III. Justifying the conflict******a. Consensus judgements***

She's [first party] very untrustworthy and she lies. . . .And other staff people feel the same way. It's not just me, they feel the same thing. So you know you're on the right track when the vast majority of your co-workers, and it is the majority, feel the same way. (yes--Liz Cunningham)

It isn't just me. If you took a survey and you went on the street, 99% are going to be against her [first party]. I'll guarantee you that. (yes--Jacques Neuvelle)

***b. Distinctiveness judgements***

And he [pointing to another neighbour] bought me something for being such a good neighbour. You know, other neighbours, we borrowed things from each other, but not with them [the first party]. (yes—Jacques Neuvelle)

The other neighbours tell us how great we are. We were very, very friendly with our other neighbours, but not them (pointing to first party's house). (no—Jon & Hillary Mitchell)

### **Reasons for Avoiding**

So why did disputants avoid the conflict? They provided reasons such as: the other party was too violent or there was a court order preventing communication. Some respondents were afraid of the other party, and were afraid the conflict would escalate. For example, Suzanne Gold, suggested that the conflict had escalated too much, "it had gone too far," which discouraged her from responding to the situation. Respondents also said they avoided conflict because they disliked confrontation; or they perceived the conflict was too difficult or inconvenient to address.

Some respondents seemed to avoid the conflict because they believed the situation would spontaneously improve if they did nothing:

I just more or less ignored it [the conflict] and hoped eventually it would stop. (no--Lyn Gilbert)

I have a firm belief that time heals anything if you leave it alone. (no—Irene Storey)

Respondents may have also decided to avoid the conflict because they constructed the situation as being non-problematic--there was "no problem." In the left-hand column of Table 7.6, I provide narrations from five respondents who, when asked to describe the conflict, *explicitly* stated there was no conflict or "no problem." The argument that there is "no problem" provides a perfectly legitimate reason to avoid resolving the situation.



Table 7.6

**Discourse Regarding the "Problem"**

Explicit Discourse of "no problem"	Implicit Discourse of Injury
Suzanne Gold (no)	
There's <i>nothing to resolve</i> . . . It doesn't bother us anymore.	The mental aggravation in the summer affected us. . . The fence had been built and it was too high. . . They also moved the fence and took property back.
Jon & Hillary Mitchell (no)	
Well we haven't got anything to resolve. There is no problem.	I do not wish to continue this turmoil. . . We had looked forward to retirement, but we have been deprived of it by those people [first party]. We have been punished. . . She insists on making our life quite miserable. . . I was a nervous wreck. . . The harassment and threats are just constant.
Helen Pashkau (no)	
It wasn't a problem. . . I don't have a problem.	I really get upset. . . She's a thorn in my side. . . I felt jumpy all the time. . . They're jeopardizing my home.
Niki Tatopolous (no)	
<i>There is no conflict</i> . There's no conflict at all.	My mother was so mad. . . My mother looked at the letter she [first party] wrote us and was really ticked off, because this woman ripped us off for \$150.00 and she killed the lawn.
June Green (yes)	
Like I told them [mediators], <i>there was nothing to resolve</i> . . . She kept making something, something, something over nothing.	It [the conflict] was too stressful. I was so upset. I couldn't do nothing. If I played my music the security guards or police would come knocking on my door. . . Now I can never stay in my apartment. I always go out.
Jacques Neauvelle (yes)	
I came here and <i>I had no problem</i> . This is a "Mickey Mouse" affair. It is so minor. It doesn't bother me. . . I felt like <i>there was nothing to resolve</i> , it was her [the neighbour] who wanted to resolve it.	I had put up with them for 8 years and didn't want to put up with them anymore. . . All this stuff gets to you. They're nagging at me all the time. It's cops, deeds, lawyers, money, that's all you hear. It got so bad my mother-in-law and grand-kids don't want to go and sit on the patio in the back or go outside.

Comments in the right-hand column of Table 7.6, however, suggest a contradictory discourse. I analyzed these narratives by considering their functions, which is a task recommended by Coffey and Atkinson (1996). One way researchers can do this is by analyzing what the respondents were *implicitly* saying, by asking, "What impact do the comments have on me?" and "What is the deeper meaning?" This process suggested that the respondents felt implicitly injured. First, the respondents' affective comments revealed their dissatisfaction and perceived injury. For example, they felt: annoyed (*mental aggravation, thorn in my side*), defensive (*back against the wall, push me*), stressed, upset, frustrated (*it gets to you*), betrayed (*stab me in the back*), anxious (*jumpy*), afraid (*jeopardizing my home*), angry (*ticked off, mad*), and resentful (*interfering with my life, put up with them for eight years*).

Second, some respondents provided information that suggested they felt injured because the other party had compromised their lifestyle. For example, June Green said she was not able to stay in her apartment because she was concerned that her neighbour would call the police if she made "normal" living noises. Jacques Neuvelles similarly suggested his life satisfaction had declined because he felt that he and his family could no longer use their yard without being harassed by their neighbours. Moreover, Helen Pashkau felt her neighbour leased rooms to "repulsive" tenants, which caused her to worry about the safety of her family and belongings. A third issue that suggested these respondents felt injured was when they described specific situations that sounded very much like problems. For example, Niki Tatopolous said her neighbour "stole" some

money and “killed” her lawn, and Suzanne Gold said there were problems with the height and placement of her neighbours’ fence.

### **Self-Defensive Strategies**

Disputants who told me there was “no problem” may have simply been providing a reason for avoiding the situation, but there might have been other reasons why they said this. The contradictory discourses signal the use of self-defensive strategies or emotion-focussed coping techniques, which are used to help maintain self-esteem. Such techniques lead to “. . .reduced anxiety and negative affect, increased self-esteem, to less depression and improved general health. . .” (Geen, 1995, p. 99).

There are certain assumptions underlying the following analysis. First, I assumed that the respondents perceived conflict as a *negative outcome* or a “failure.”<sup>20</sup> Past research has shown that defense mechanisms are often used to defend against a perception of failure (Folberg & Taylor, 1984). When disputants cognitively reframed the situation as unproblematic, they may have been motivated to: (1) provide excuses or justifications, (2) harm the other party, (3) gain more power, and/or (4) reduce cognitive dissonance.

Respondents may have framed the “situation” as unproblematic as a type of *psychological defence*, especially if they were feeling blamed for causing the conflict (if

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<sup>20</sup> Although conflict can be very constructive and often provides an opportunity for change and growth, people typically view it “as abnormal, destructive, pathological, or related to personality clashes” (Hocker & Wilmot, 1985, p. 30). “Many ethnic groups regard any intervention by mediators, counselors, and other helping professionals as an explicit expression of their personal failure. . .” (Folberg & Taylor, 1984, p. 320). They may perceive it indicates their failure to communicate effectively or to have a functional relationship.

there is no problem. they cannot be held responsible). Accounting devices such as excuses and justifications are two methods to defend the existence of a "conflict" (c.f., Coffey & Atkinson, 1996). *Excuses* "can be thought of as socially approved vocabularies designed to mitigate or relieve questionable action or conduct" while *justifications* are used to label behaviours as acceptable or appropriate (Coffey & Atkinson, 1996, p. 101). Hocker and Wilmot (1985), call this *simple denial*. This seems to be an excuse because even if the second party believes there is no problem, they know the first party has a problem because the latter has asked for mediation. A second reason that this may be interpreted as an excuse is because, although respondents *explicitly* stated that there was no conflict, from their affective descriptions and descriptions of the "situation", they seemed to be experiencing harm.

Another possible function of the "no problem" discourse was to *inflict harm* on the other party. Since the first party believed there was a problem, the second party's denial served to discount the first-party's perspective, thus potentially escalating the conflict. For example, Hocker and Wilmot suggest that "the nonrecognition of conflict is a painful, disconfirming experience" (p. 113). These researchers also suggest that relatively powerless individuals may be motivated to deny conflict as a tactic to gain more power. Those who are powerful, on the other hand, may refuse to recognize the existence of conflict so they will not have to enter a negotiation process which may require giving up some of their power (Hocker & Wilmot, 1985).

Fourth, *cognitive dissonance* may have been operating when disputants argued there was no conflict. Festinger's approach to cognitive dissonance suggests it can be a

motivating force that is aroused by discrepancies between cognitions, or between cognitions and behaviour (e.g., Lott & Lott, 1985; Ross & Fletcher, 1985). Motivation researchers assume that individuals have an *ideal self*, or the kind of person they want to be; and an *actual self*, or the person they are at the present time (Geen, 1995). The role of self-defensive strategies is to decrease the negative affect that results from perceived discrepancies between the ideal self and actual self. In other words, being involved in a conflict and doing nothing to resolve it may cause dissonance. Thus, dissonance arousal may have motivated some respondents to tell me that there was "no problem" so there was a match between their behaviour and cognitions, and/or between their perceptions of their ideal and actual self.

### **Consequences of Avoiding**

Avoiding conflict was the most common response mentioned by respondents. Those who avoided were approximately equally likely to accept and decline offers to mediate (see Appendix 7.10). There were several other consequences of avoiding the conflict. First, avoiding conflict can cause it to escalate. For example, Helen Pashkau mentioned that, "I just totally ignored her. . . And I guess that I aggravated the situation." Several conflicts escalated when neighbours gossiped and spread rumours about the other party. As you may imagine, another consequence of avoiding conflict is that resolution is difficult or impossible when there is no communication. For example, Niki Tatopolous told me that her neighbour "never even knew we were mad. . . so she couldn't really do anything." Moreover, although Dan Palomino discussed the property line issue with his neighbour and they decided "we won't worry about it." Five years later, the conflict was

still unresolved and, once again, became an issue. Finally, several findings suggested that avoiding the conflict might have protected the disputants' self-esteem.

### **Compromising and Problem Solving**

Compromising and problem-solving tactics are the last two responses to conflict that will be addressed. Compromising tactics are intermediate on both the cooperative and assertive dimensions, while problem solving (or collaborating) tactics are highly assertive and cooperative (Picard, 1998; Thomas & Kilmann, 1996). Compromising involves finding a middle ground that partially satisfies the parties, while problem solving requires creating a "win-win" resolution that fully meet the needs of all parties. Compromising is useful when the relationship is important and the issues are only somewhat important; while collaborating "is useful when merging insights from different perspectives is important, when concerns must not be compromised, or when commitment must be gained by incorporating other peoples views into a consensual decision" (Picard, 1998, p. 6-7). Mediation is a collaborative/problem solving approach.

The respondents in this study rarely mentioned using compromising or problem solving tactics. This was an unfortunate finding given the fact that every respondent who used these tactics also agreed to mediate (see Appendix 7.10). There was only one example of a disputant who reported attempting to compromise with the other party.

I said I wouldn't mind if it (the property) was split down the middle. . .  
 .You know, fighting wasn't worth it. But for me a couple of feet (of land)  
 one way or the other, it's not the end of the world. (yes---Dan Palomino)

Additionally, only a few respondents mentioned utilizing problem-solving techniques. For example,

*We had talked together and tried working together to resolve this problem before.* (yes---Ben Dunne)

Everybody should *always try to work it out* without it being a confrontation right from the start. . . . We want to be *open and listen as much as we possibly can.* (yes—Alice Runner)

Although some respondents attempted problem solving and compromising, these techniques were not used effectively because the disputants still required mediation. However, there was a clear pattern where those who were open to these techniques were also more likely to mediate. Perhaps being willing to collaborate with a disputant allows an individual to consider the possibility of collaborating with the assistance of mediators.

Why did so few disputants in the current study fail to use compromising and problem solving techniques? Ross and Stillinger (1991) suggest that *loss aversion* is a particular type of biased assessment that may prevent disputants from compromising and problem solving. This refers to the idea that any gains made during negotiations are perceived as being relatively unimportant as compared to any concessions that parties are asked to make. In other words *loss aversion* is a psychological barrier that often causes parties to view compromises or concessions as losses rather than gains. Another bias they describe is called *reactive devaluation of compromises and concessions*. One party may "react against" a proposed change simply because it comes from the other disputant. Thus, biased assessments may create psychological barriers that prevent compromising and problem solving from being used spontaneously by disputing parties.

When considering some of the personal characteristics of the respondents in this study and how they may have been related to the decision to mediate, some interesting

patterns emerged. The disputants in this study responded to conflict a number of ways-- competing, accommodating, avoiding, compromising and problem solving. The most frequently used tactics were avoiding and competing/confronting; while compromising and problem solving were rarely reported. The respondents who recounted the use of accommodating, compromising and/or problem solving strategies were likely to agree to mediate; whereas those who reported avoiding and/or competing with the first party, were just as likely to agree as to decline offers of mediation (see Appendix 7.10).

There are several limitations of using the Thomas-Kilmann (1996) two-dimensional, stylistic approach to understanding responses to conflict. One critique of this approach is that because it was developed from a Western perspective, it may not be applicable to diverse individuals. For example, LeBaron (1997) argues that people from other cultures may view responses to conflict along more than two dimensions. Moreover, while avoiding may be viewed as unassertive in Canadian culture, in a collectivist culture like Japan, for example, avoiding may be viewed as a cooperative approach. Another critique of this approach is that it seems inappropriate to view responses to conflict as a personality trait. In reality, people tend to use more than one style or tactic to respond to conflict (Hocker & Wilmot, 1985). Thus, the limitations of this approach to understanding conflict responses must be taken into consideration when interpreting these findings.

### **PERCEPTIONS OF THE OTHER PARTY**

Perceptions of the other party are also important to understanding conflict. When I first began mediating conflicts, I was often surprised to hear one disputant describe the



other as an "evil monster" who was violent and/or "mentally incompetent." I used to be more than a little frightened to visit the other party after hearing such stories. but I quickly discovered that after talking to "the monster" about the conflict. my fears were unfounded. Nevertheless. there seemed to be a pattern that such perceptions did not encourage mediation. Thus. I wanted to systematically examine whether perceptions of the other party seemed to be related to the decision to mediate.

### **Trust**

The literature suggests that the level of perceived trust and sincerity may influence how a conflict will proceed (Levinger & Rubin. 1994; Potapchuk & Carlson. 1987; Ross & Stillinger. 1991; Sitkin & Bies. 1993; Worchel & Lundgren. 1991). Distrust often "sets the stage" for conflict (Worchel & Lundgren. 1991. p. 12; see also Terhune. 1970). Moreover. distrust can be caused by one incident and once trust has been broken it may be very difficult to regain. When a disputant is unwilling to admit that they have done anything wrong and will not apologize. distrust is likely to increase.

When individuals do not trust each other it is also very difficult to resolve a dispute. For example. when a party believes it is advantageous to withhold relevant information or misrepresent their interests. this type of *secrecy and deception* may produce psychological barriers to conflict resolution (Ross & Stillinger. 1991). Moreover. if one party perceives the other party is insincere. this will sabotage the resolution process (Sitkin & Bies. 1993). Other researchers also suggest that disputants are more likely to agree to mediate when they trust the other party (e.g.. Pearson et al.. 1982). and trust

produces a climate that is necessary for an effective mediation (Folberg & Taylor, 1984; Potapchuk & Carlson, 1987).

Earlier when I discussed the reasons given by respondents for rejecting mediation (see Table 7.4), only two (22% of those who declined mediation) responded that the reason was that they mistrusted the other party. Further analysis of disputant comments, however, suggested that while a trusting relationship may promote mediation, a lack of trust did not preclude mediation (see Appendix 7.10). Examples of comments regarding perceived trust are in Table 7.7. The respondents who did not trust the other party, but still agreed to mediate are interesting to examine because they show a pattern of behaviour that is quite the opposite from theories and research on constructive conflict. These respondents suggested that trust was not necessary for mediation because the mediators and the process would compensate for mistrusting the other party. For example,

The reason I'm worried is because she [tenant] talks to me so many times about when she is going to move, and she never moves. . . . The meeting [mediation] would help her understand that she had to move out. (yes—Meera Wing)

The mediators would help to keep us on track. . . . They provide another pair of ears. So from my perspective it was as a witness to basically what I've been saying all along. (yes—Ben Dunne).

Meera Wing did not trust that her tenant would move out on the agreed upon date and she believed the mediation would help enforce the agreement. Ben Dunne believed that the process would be beneficial regardless of their lack of trust (i.e., “keep us on track”), and the mediators would provide a “witness” so the agreement could be enforced.

Time did not permit me to analyze whether trust differentially influenced the process or the outcome of the mediation. Perhaps the findings would indicate that disputants who mistrust the other party are ill-suited to mediation. Thus, it would be useful for future research to examine the impact of trust on the mediation process.

**Table 7.7**

**Perceptions of Trust**

**I. Trustworthy**

I trusted the person, which is maybe on the wrong side. But I did trust him. (yes—Brian Levinson).

Ya, I trust them. (yes—Jacques Neuville)

I have a lot of respect and trust for this guy. (yes—Alice Runner)

**II. Not trustworthy**

I believe my neighbour is playing tricks. . . so they can't be trusted. (no—Jackie Chan)

I definitely could not trust her. I wouldn't trust her as far as I could spit. (no—Helen Pashkau)

I wouldn't trust her. No, no, no, no, I wouldn't trust her. No I wouldn't. (yes—June Green)

Trust was a biggee and I didn't trust her. . . .She's not trustworthy and she lies. (yes—Liz Cunningham)

I absolutely do not trust them. I would never feel they are trustable on any of the details. (yes—Ben Dunne)

**Motives for Requesting Mediation**

Since all respondents experienced the same incident—a request from the first party to participate in mediation (via the mediators)—I considered how this “simple” request was interpreted and what consequences the interpretations had on the decision to

mediate. Past research suggests that biased attributions influence a disputant's perceptions of the conflict strategies used by the other party. That is, people are more likely to see themselves as using "integrative" (i.e., collaborative and problem solving) approaches to resolve a conflict, while viewing others as using "distributive tactics" (i.e., attempting to "win" at the other's expense) (Folger et al., 1997). Thus, requests for mediation are more likely to be interpreted by the second party as a tactic by the first party to "win" or take advantage of the situation.

In general, the respondents interpreted the requests as (1) *not harmful*: unselfish or the first party was coerced to request mediation; or (2) *harmful*: selfish, as a method of intimidation, an invasion of privacy or a betrayal, and as a way to blame the second party for causing the conflict (Table 7.8). The impact of these interpretations will be examined in this section.

Second-party disputants were less likely to perceive the request for mediation as "not harmful." This was unfortunate because such disputants were more likely to agree to mediate (see Appendix 7.10). Requests that appeared to be motivated by a sincere desire to resolve the conflict were considered not harmful, as were requests that were considered the result of implicit coercion from a third party. Attributions of coercion were surprising considering the fact that mediation is a voluntary process. Perhaps such attributions were conducive to mediation because attributions of harm (i.e., for the request to mediate) that may normally be directed at the first party, were re-directed at the third party who "encouraged" mediation.

Table 7.8

**Attributions of First Party's Motives for Mediation****I. Not Harmful request****a. Wants to resolve the conflict**

He went to mediation because he needed help of some sort. In this case *I think he wanted to work it out.* (yes--Brian Levinson)

My tenant asked for this [mediation] because he wanted to *work the problem out.* (yes--Alice Runner)

**b. No choice: Coerced by a powerful third party**

She [first party] just went [to mediation] because *she was forced to go* [by the Board of Directors]. (yes--Liz Cunningham)

He [first party] just wants to get it [conflict] over with because *the City is hanging this noose over his head.* (yes--Ben Dunne)

**II. Harmful request****a. Insincere/Selfish**

I think she [1<sup>st</sup> party] actually thought the conflict resolution thing [mediation] would help her get her own way. (yes--Dan Palomino)

No it was like the mediation was only for their benefit. . . .It was their last ditch effort to keep their fence the way they wanted it. (no--Suzanne Gold)

She only wants mediation to get her own way, not in an agreeable way, just so she wins. . . .If we would have said "yes" she would have been the happiest woman because she would have got her way. (no--Jon & Hillary Mitchell)

(Table 7.8 continues)

Table 7.8 (continued)

**II. Harmful request (continued)****b. Intimidation**

I don't think he wanted to work this out. I think what he wanted was to *scare everybody to get his own way*. That's all he wanted. (yes--Joan Dubrow).

She was doing a lot of things to more or less put *pressure* on us to get it resolved or she was going to *report us to the police*. (no--Jason So).

**c. Intrusion/Betrayal**

To me it was like *butting in on my private business*. I didn't ask you to come in here I didn't ask you [mediators and first party] to contact me. . . . My point with her [the neighbour] is, 'Why don't you mind your own business?'. . . . Like don't give me a friendly front and then *stab me in the back* by *going behind my back* to these people [mediators]. (no--Helen Pashkau)

She called me, I didn't call her. She *invaded* my world. . . . I remember being ticked off because I didn't request it [mediation]. . . . I think the approach was wrong. I think the person who requested it without first coming to me, was wrong. . . . I don't like anyone *going behind my back*. If you want to talk to me, talk to me. . . . If I ask someone to get involved that's my business. But when someone else goes the extra mile to bring someone in, to get involved in my life, I take offense to it. (no--Irene Storey)

**d. Blame/accuse for causing conflict**

They brought me here [to mediation] to try to make me pass like I was the devil. (yes--Jacques Neuvelle)

It made me look like the bad guy. (yes--Ben Dunne)

Like past research suggested (e.g., Folger et al., 1997), the disputants in this study most often interpreted requests for mediation as harmful (see Appendix 7.10).

Attributions of harm were made when disputants felt the request was (1) insincere or selfish; (2) used as an intimidation method; (3) an invasion of privacy and/or a betrayal (i.e., “stabbed in the back”); and (4) a method of publicly blamed them for causing the conflict (Table 7.8). Those who interpreted the request as harmful were slightly less likely to decline mediation (Appendix 7.10). However, such attributions appeared to have other detrimental consequences. Moreover, comments from the respondents suggested how attributions of harmful requests might have contributed to their refusal to mediate.

One common factor underlying these “harmful requests” was that they were interpreted as inappropriate, suggesting that the first party broke some unwritten “rule” of conflict resolution. One “rule” that was broken by several first parties was that they requested mediation before dealing directly with the second party. The mediation request was then interpreted as an intrusion or betrayal (see Table 7.8). Past research has similarly found that some people view interventions by people in helping professions (like mediation) as an intrusion (Folberg & Taylor, 1984). Suzanne Gold was one disputant, for example, who emphasized the importance of this “rule” of conflict resolution. She argued that if the first party had approached her before the conflict had escalated, when compromises were still possible, mediation would have been more appropriate. Approaching her after the damage was done, was “too little, too late.”

They [the neighbours] should have approached us right from the start. They should have come over as a couple and said, ‘This is what we’d like to do. Do you want to have any input?’ So if the mediator would have got involved before the fence was built . . . Speaking as just one couple to

another couple we might have been able to resolve this. . . .I don't know if they're the type of people who realized that they handled it wrong. (no-- Suzanne Gold)

Another example was provided by Helen Pashkau. She knew her neighbour was unhappy with her because of her dog's barking

I said I don't have a problem. my problem is I own a dog and she barks so I don't have a problem. . . .She has a problem with the dog. I have a lot of problems with her. . . .I thought it's like. 'Why are you [first party and the mediators] bothering me?' I don't want you. I didn't ask for you. you know. I didn't. (no--Helen Pashkau)

Helen further told me. "Well you want peace and quiet lady [first party]. go and hibernate way up North out of the city." This suggests Helen felt her neighbour's complaint was inappropriate. Moreover, she also felt that her neighbour was a hypocrite because she was not the "perfect" neighbour either.

There's a dog over there [pointing to her neighbour's house]. And she had drug addicts there before who set the place on fire. That's jeopardizing my home. You know the fire trucks were here. the ambulance was here. and the cops were here when the guy. he died. He fell over and keeled over right on the front lawn here. He OD'd. . . . so I mean *I had a beef*.

Both of the second-party disputants in these examples felt inappropriately accused of being a "bad neighbour." They tended to become defensive and, as a result, the emotions and conflict escalated. This may partly explain why they declined mediation.

Attributions of harm may have prevented conflict resolution in several additional ways. For example, requests that were deemed "selfish" or insincere (Table 7.8) were sometimes refused by second parties as a way to prevent the first party from taking advantage of them. In other words, respondents felt the other party was attempting to



restrict their freedom or take something from them, so refusing to participate was a self-defense mechanism. Psychological reactance may have also caused others (e.g., Jon and Hillary Mitchell and Jackie Chan) to refuse mediation simply because they knew the first party wanted them to participate (see Table 7.8).

While interpreting the request for mediation as harmful was more likely to preclude mediation, there were a few notable exceptions. A few respondents agreed to the problem-solving process because they believed mediators would help protect their interests. Another exception occurred when disputants felt publicly blamed (i.e., to the mediators) or accused of causing the conflict. Perhaps in these cases they felt humiliated or incorrectly accused of wrong-doing and agreed to mediate as a way to repair their reputation, or as Ben Dunne said to “defend my position.”

### SUMMARY

In sum, the second-party's perceptions of the first party appeared to be related to the decision to mediate. Trust was an important ingredient that fostered mediation but a lack of trust did not preclude mediation (see Appendix 7.10). The respondents who mistrusted the first party, yet still agreed to mediate, believed that the mediators and the process would protect them from potential harm. Attributions of the first-parties' motives for mediation also appeared to be related to the decision to mediate. Generally, when requests were considered not harmful, that is, sincere requests and those coerced by some other third party (i.e., superior at work, board of directors, city, and lawyer or other officers of the law), the second party was more likely to mediate. However, perceiving the request for mediation as harmful did not preclude a willingness to mediate. This may

be explained by the finding that when respondents felt they had been humiliated or wrongly accused of causing harm they seemed eager to mediate as a way to defend their reputation. Further analyses of the respondents' perceptions of the other party occur in later sections when I consider perceptions of the relationship and attributions of responsibility for the conflict.

### RELATIONSHIP

Relationship issues are also important determinants of the path the conflict will take. In the following analysis I examine the impact of the *type* and *quality* of the relationship, including characteristics of supportiveness, interdependence and power, on the decision to mediate. According to Potapchuk and Carlson (1987), characteristics of the past, present, and plans for the future relationship, influence whether collaborative or adversarial interactions occur. Dissatisfying or nonexistent relationships (e.g., a stranger), and no plans for a future relationship, are conditions that enhance adversarial contact and reduce collaboration—including considerations of mediation (Potapchuk & Carlson, 1987; Schuller & Hastings, 1996).

“The history of the relationship refers to previous experience with, and prior attitudes and beliefs about, the other party” (Boardman & Horowitz, 1994, p. 6). One characteristic of past and current relationships that influence constructive conflict is the stability of the relationship. That is because long-term relationships can encourage problem solving (Rubin et al., 1994). When the relationship has been destructive over a long period of time, however, there are “...many chances for parties to offend one another reciprocally and for growing hostility to undermine the conditions necessary for

the perception that negotiation can be fruitful” (McEwen & Milburn, 1993, p. 32). Close interpersonal bonds (e.g., family, friendship and love relationships) are another relationship characteristic that promotes constructive conflict because they encourage feelings of similarity and liking (Rubin et al., 1994; see also Janz [2000] for a review of the literature regarding the characteristics of close interpersonal relationships). Folger, Poole and Stutman (1997) have argued that supportiveness (e.g., To what degree are the disputants friendly, intimate, trusting, safe to express emotions, and tolerant?) is another important relationship characteristic. Finally, interdependence and interpersonal power also contribute to the outcome of a conflict. As I mentioned in the literature review in *Chapter 2*, both interdependence and relatively equal relationships tend to foster collaboration.

During conflict, a relationship proceeds through a number of psychological changes, often encouraging the development of negative attitudes. The opponent may even be perceived as “. . .being self-centred, morally unfit, or perhaps even diabolical” (Welton, 1991, p. 110; see also Ross & Stillinger, 1991; Worchel & Lundgren, 1991). Such perceptions reduce the likelihood of successful conflict resolution.

Thus, past research suggests that disputants may be more likely to agree to mediate if they perceived their past/current relationships as: supportive, interdependent, and/or relatively equal. The desire for a future relationship with the other party would similarly foster mediation. In the following analysis I will examine several characteristics of past/present relationships including (1) the degree of supportiveness, (2) interdependence, and (3) interpersonal power. I will also consider nature and influence of

the desire to continue the relationship in the future.

### **Past and Present Relationship**

The findings from the current study suggested that disputants involved in landlord-tenant relationships were more likely to agree relative to those involved in other *types* of relationships (see Table 7.2 and Appendix 7.10). Investigating characteristics of the relationships provided more insight into understanding why particular relationships fostered mediation.

Although the research suggested that a past relationship was important to constructive conflict, one contrary findings from this study was that for a few respondents their opponents were complete strangers, and the first time they met was at the mediation.

When I met him here [at the mediation centre] I didn't even know who he was. I didn't even know where he lived or anything. (yes—Joy Mashita)

JN: Well like I said I didn't know the young one's name, or the mother, or the father, until I came into this meeting [mediation].

TJ: So you didn't have any relationship with the neighbours?

JN: Never, never, never. Like I said they never talked to me. (yes—Jacques Neauvelle)

Joy and Jacques were unique because the other respondents in the study were at least acquaintances of the first parties. In these examples, being strangers seemed to encourage mediation because there were few or no opportunities for adversarial contact to escalate the perceived harm and injury.

### **Supportiveness**

The findings also suggested that respondents who described past relationships as supportive (e.g., friendly, intimate, safe and tolerant), were almost equally willing to try mediation (see Appendix 7.10). Those who described the past relationship as destructive, however, were more likely to decline mediation. To closely examine this relationship, I compared several long-term relationships (the disputants reported knowing the other party for many years--8 to 28 years). The illustrations of the relationships depicted in Table 7.9 can be contrasted in several ways. One obvious difference is the quality or supportiveness of the relationships. In the left-hand column are illustrations of two supportive relationships, one between neighbours and the other between a landlord and her tenant. The respondents indicated these relationships were friendly, supportive and trustworthy.

To contrast, consider the two illustrations in the right-hand column of Table 7.9, they were very destructive. Both relationships were long-term (17 years and 8 years), and the disputants' perceptions of harm and injury were quite severe. In fact, throughout our discussion both respondents indicated they did not respect or trust the other party, rather, they hated and feared them. Moreover, both conflicts had escalated to include death threats and assault. There also appeared to be a lack of communication, and when there was communication, there was little tolerance for differences. Thus, the disputants with a historically good relationship went to mediation, while those with a destructive relationship did not. These findings support past research that suggests long-term destructive relationships undermine the possibility of constructive approaches to conflict.

**Table 7.9****Degree of Supportiveness**

<b>Supportive Relationships</b>	<b>Destructive Relationships</b>
<p>Well I've been living here twenty-eight years and we've been neighbours for twenty-eight years. We always got along really good. (yes—Dan Palomino)</p> <p>And this tenant had been a tenant of ours for about six, seven years, and we never had a problem with rent. . . . It did disturb me because we had such a good relationship with this tenant in the past. . . We had a history. Actually, he used to be a volunteer of mine before he was even a tenant of mine, so we had a very cordial relationship and a lot of respect for each other. . . .I've known him about ten years and he's been a tenant with us officially for about seven. (yes—Alice Runner)</p>	<p>We came here in '59 and she came about '63 but we never ever talked to her. I just didn't like her . . .Absolutely from the outset we would wish no communication with those people. We have nothing in common with them. We don't want them. . . Well we've had the conflict with [the neighbours] for 17 years. Since then we've suffered with these people. (no—Hillary &amp; Jon Mitchell).</p> <p>TJ: How long has the conflict been going on for?</p> <p>JC: Since we first moved in. We find that they are all the time making noise, unreasonable noise. Since 1990.</p> <p>TJ: What is your current relationship like with your neighbours?</p> <p>JC: Oh, enemies. (no—Jackie Chan)</p>

**Interdependence**

Understanding the second relationship characteristic, interdependence, is also helpful for understanding conflict. In general, people are interdependent if “. . . a change in one person causes a change in the other and vice versa” (Berscheid & Peplau, 1983, p. 12). Some researchers define interdependence as the development of *mutual dependencies* (e.g., Larson, 1976). Interdependent disputants perceive their conflict outcomes as correspondent. When a relationship is highly correspondent it tends to foster collaboration because individuals experience mutual outcomes. Therefore, interdependent

parties generally attempt to maximize outcomes for both individuals (Rusbult & Arriaga, 1997). Many studies have also shown that constructive processes like mediation are more effective when disputants are mutually dependent. This has been shown to occur, for example, in working relationships where the individuals may rely on each other for diverse needs (Carnevale & Pruitt, 1992).

Independent disputants, on the other hand, generally perceive their outcomes as noncorrespondent, which fosters competition and conflict because the parties' "interests are opposed" (LaTour, Houlden, Walker & Thibaut, 1976, p. 322). Noncorrespondent (zero-sum) outcomes also foster distrustful and hostile attitudes. Attempts to resolve noncorrespondent outcomes are difficult because parties tend to make decisions that will maximize their own interests (Rusbult & Arriaga, 1997).

The findings from the current study clearly parallel past research on the influence of interdependence on the outcome of a dispute. All of the disputants who perceived their relationship as interdependent agreed to mediate, whereas those who declined mediation were likely to perceive their relationship as independent (see Appendix 7.10). In Table 7.10, the relationships in the left-hand column were categorized as interdependent because the respondents suggested that finding a resolution would benefit both the first- and second-party disputants (correspondent outcomes). These respondents wanted to improve or repair their relationships because they either wanted a future relationship, or they were "forced" to maintain close contact with the other party (e.g., worked together everyday). In the neighbour/landlord-tenant examples, the respondents did not want to damage their relationship by maintaining or escalating the conflict. For example, Dan

Palomino (neighbour dispute) perceived conflict as harmful because continued fighting “has a negative effect on the neighbourhood.”

Although one may think that power imbalances in a landlord-tenant relationship may foster dependence (i.e., the tenant’s dependence on the landlord) rather than interdependence, power imbalances were often mitigated by the fact that the landlords relied on their tenants for rent and to maintain the property. For example, Alice Runner, a property manager, realized that continued conflict might result in losing a good tenant.

The interdependent co-worker relationships (depicted at the bottom of Table 7.10 in the left-hand column) differed from the above examples because these disputants were “forced” to have a future relationship. That is, both Jen Mint and Liz Cunningham worked full-time with their co-workers. They relied on their jobs for pay and on their co-workers for information. Additionally, these respondents explained how the conflict, combined with the “forced” interaction, had serious implications for their quality of life. In that sense, their disputes had correspondent outcomes because developing a good working-relationship was beneficial for both parties, while an aversive working relationship was detrimental for both. These four examples of interdependent relationships demonstrate how the perception of correspondent outcomes may foster a peace-making climate.

### **Independent Relationships**

The independent relationships illustrated in Table 7.10 (right-hand column) clearly differed from the previous examples. In these conflicts, the disputants perceived the relationships as competitive, and felt the parties had opposing interests



Table 7.10

**Interdependent and Independent Relationships**

<b>Interdependent (correspondent outcomes)</b>	<b>Independent (noncorrespondent outcomes)</b>
<p style="text-align: center;"><b>Neighbour/Landlord-Tenant Relationships</b></p> <div> <div> <p>What that [continued fighting] would have left was a very good tenant, whom we had a prior really good history with, being left with a really sour taste in their mouth. Which would have affected the relationship from then on. (yes—Alice Runner)</p> </div> <div> <p>By going to court it becomes more antagonistic in the long run and that has also a negative effect on the neighbourhood. There's always enough squabbles in the neighbourhood . . . and I don't want to add to that. (yes—Dan Palomino)</p> </div> </div> <div> <div> <p>Oh another problem was that the dog woke her [the neighbour] up and she couldn't get back to sleep after that. . . . Should everyone be allowed to put up a big sign on the house saying, "Quiet. Don't live. Don't do anything because I need my rest?" . . . And at four o'clock in the morning if she [the dog] has to go for a piddle I'm not going to get dressed and walk her down the street, because we went to great expense to put a fence around here so we would keep her contained. (no—Helen Pashkau)</p> </div> <div> <p>They were taking their land back. They said it just like that . . . They were just interested in every inch of their property and just built the fence. . . . They did a number of things in building this fence and they took some other property back that was theirs all along, but it had been ours for the last seven years. (no—Suzanne Gold)</p> </div> </div>	
<p style="text-align: center;"><b><u>Co-Worker Relationships</u></b></p> <div> <div> <p>If we're doing a shift change I have to pass on information to her. I'll have to speak to her so we remain professional. That was important to me—that we remain professional in the work place. (yes—Liz Cunningham)</p> </div> <div> <p>I thought to myself well, no matter what, I'm going to have to maintain some kind of relationship with this man. (yes/no—Jen Mint)</p> </div> </div> <div> <div> <p>It was a question involving whether someone had misused funds and. . . . Ya, ok what happened was that when we started demanding the books and everything, this person [first party] organized an emergency meeting and none of us heard what was happening. So the meeting was over and then we were kicked out. . . . In those cases where somebody [first or second party] wants to get rid of [the other party], or somebody wants to stop something from being done, those cases would not be good ones for mediation. . . I don't think I'd want to be involved in the organization if the [first party] was still a member. (no—Jason So)</p> </div> </div>	

(noncorrespondent outcomes). For example, Helen Pashkau thought her neighbour wanted mediation to make her dog stop barking, which she felt would restrict both her freedom and the freedom of her dog. Suzanne Gold similarly perceived that she and her neighbour had opposing interests because deciding on the location of their mutual fence would determine who would “lose” the most property. In Jason So’s case, he wanted to see the financial statements of the organization and his co-worker did not want to reveal them. Additionally, he later stated that the outcome of the conflict would determine who would have to leave the organization. These disputants framed their outcomes as competitive—one party’s gain meant the other party’s loss.

It appeared that one consequence of these independent relationships was that the second-party disputants felt they had few options and did not recognize any benefits of resolving the conflict. In fact, they felt that attempts at problem solving might result in a loss. Such competitive relationships seemed to foster a climate of defensiveness because the disputants felt attacked (e.g., “She has a problem with the dog. I have a lot of problems with her”—Helen Pashkau). It also seemed to contribute to the automatic devaluation of recommendations made by the other party (e.g., refusing mediation because the other party recommended it).

### **Interpersonal Power**

The third past/present relationship characteristic concerns interpersonal power. Both the mediators (Appendix 4.8) and the literature suggested that power was important to investigate. “Just as a fundamental concept in physics is energy, one of the

fundamental concepts in conflict theory is power" (Hocker & Wilmot, 1985, p. 67; see also Folger et al., 1993).

Interpersonal power is a very complex phenomenon. For example, Huston (1983) defines power as the "...ability to achieve ends through influence" (p. 170). The key word in this definition is ability, which indicates that it is not necessary for power to be exercised, nor is it necessary for power to be successfully implemented. People may have social power, ascribed to them because of social norms; or interpersonal power within a given relationship (Huston, 1983).

While individuals can be viewed as powerful, "all power in interpersonal relations is a property of the social relationship rather than a quality of the individual outside of the relationship" (Hocker & Wilmot, p. 76). One party in a relationship is more powerful if they have the ability to "impose their will" on the other (Cobb, 1993, p. 247; see also Todd, Friedman & Steele, 1993). According to Veniegas and Peplau (1997),

in an equal-power relationship, both partners are roughly comparable in the influence they have on each other. In an unequal-power relationship, one person exercises more influence over the pair's activities and decision making. (p. 281)

Power imbalances in a relationship are evident when an individual attempts to exert their power through violence or threats. Threats are counterproductive to resolving disputes because they often lead to counterthreats which cause the focus of the conflict to increase and escalate (Worchel & Lundgren, 1991). Differences in interpersonal power may occur simply by requesting mediation. Welton (1991) argues that the individual who first initiated the complaint (first party) may perceive they have more power because they

feel their case is stronger and more legitimate than the other party. Power imbalances can also be the result of

differences and/or disparities in such areas as: levels of self-esteem (women with lower self-esteem are less likely to ask for what they want); resources (time, money, friends, jobs, attorneys, education, access to courts, etc.); gender, race and class; and the quantity and nature of information (as a result of hidden interests and agendas). (Cobb, 1993, p. 247)

“Power disparity between parties is a serious concern, yet little research has been conducted regarding its effects” (Roehl & Cook, 1985, p. 173). The research that has been done suggests that power may influence the outcome of a conflict (Boardman & Horowitz, 1994; Raven & Kruglanski, 1970). Some researchers suggest that the mediation process may be inappropriate or unlikely when a large power imbalance exists because collaboration is more difficult (Bevan, 1992; Deutsch, 1994; Potapchuk & Carlson, 1987; Roehl & Cook, 1989; Singer, 1989; Welton, 1991). This is because large power differentials between the parties may render the process and/or agreement unfair.

According to past research, power also seems to influence the decision to mediate. When individuals with less power or status are deciding whether or not to mediate, studies suggest that they may prefer adjudicated rather than cooperative conflict resolution strategies (LeBaron, 1997). This preference is based on the idea that the courts provide some power for less powerful disputants. Such individuals may also avoid mediation as a result of their fear that during a mediation their suggestions would have negative consequences, have no impact, or be perceived as causing “trouble” (Potapchuk & Carlson, 1987). Less powerful individuals, in general, often make attempts to withdraw from a relationship (Levinger & Rubin, 1994), which may also influence their

decision. Previous research has also found that disputants who are relatively powerful, such as landlords and employers, similarly tend to decline mediation (Roehl & Cook, 1989). One suggested explanation of this finding is that powerful parties are not motivated to make changes because they feel they have the advantage. Thus, past research seems to indicate that large power imbalances may not be conducive to mediation. Moreover, the findings suggest that both disputants who are relatively more powerful and less powerful are likely to decline mediation, albeit for different reasons.

### **Perceived Power**

Since interpersonal power is most often assessed by personal reports (Veniegas & Peplau, 1997), it was appropriate to ask the respondents in this study about their *perceptions* of power (see Question 45 in Appendix 7.1). Although this construct was a very difficult to analyze, the following section examines the impact of perceived interpersonal power (i.e., feeling powerful versus powerless) on the conflict.

In general, both those who felt relatively powerful and those who felt powerless both agreed to mediate (see Appendix 7.10). However, feeling equal or more powerful than the other party, seemed beneficial to the climate of the dispute. The following are examples of comments that suggested disputants felt equal or more powerful relative to the other party.

#### ***Perceive they are equal:***

We feel like we have equal power in this dispute. (yes/no—Patty Andrews)

Power was half-and-half. (yes—June Green)

***Perceive they are more powerful:***

Hey. I've got all the cards. He has no cards. . . .As a matter of fact I could have said the man is a thief and that's all there is to it. He had a lot of things to lose, a lot. (yes—Brian Levinson)

He didn't have a choice. I convinced him that the law was on my side. (yes—Stevan Gumersall)

From the above comments it is evident that one benefit of perceived power was that respondents felt they "could not lose" or might even have more to gain by mediating. Both Brian and Stevan's responses suggest they felt they had a "stronger case" or could "win."

**Self-Schema of Equality.** A second way that perceived power contributed to constructive conflict was when respondents were aware of their relatively powerful position and wanted to decrease the power imbalance. This characteristic might be termed a *self-schema of equality*. People have several self-schemata that contain the various ways we define ourselves, understand past behaviour, interpret current behaviour and use to predict future behaviour. Schemas help people understand the world, and may have a self-fulfilling effect on their behaviour—and this schema was no exception. I coined this term after talking with respondents involved in cross-cultural disputes who strongly believed in equality. These respondents believed that treating people equally was an important part of their self-perception (or self-schema). They were very sensitive to issues of discrimination and oppression, and behaved in ways to decrease power imbalances. The following illustrates this self-schema and its impact.

I've taken the time to understand other people's history, not just Black people, but other people's history. And I understand racism in a way I think most White people don't. And because I know that, and I have that awareness and that sensitivity, there's things that I just would not say or do out of respect for the history of what's happened to Black people. . . .

I'm married to a Black man and Black people in my family are my best friends. . . . I think the more time you take to know people's cultures and their history--and one way in which you do that is you engage in relationships with them. I'm not saying you have to marry a person in order to do that, but you should have some incentive to find out about different cultures and their histories. . . .

We all have our own things that are important to us and that's the place we come from. We have to have the ability to come outside of that place. Yes. I'm a white woman but I can empathize with you [people of other cultures] and this is why. So I'm taking time to educate myself and I can empathize with you. I think it takes an exceptional person to come outside of his or her own small little world. Not just intellectually either. You can intellectualize about it and be pro this and pro that, but it must happen on an emotional level. Too many people have this 'political correctness' stuff, and they don't feel it on an emotional level. (yes—Liz Cunningham)

As you can see, Liz Cunningham values equality and treating others with respect. She is very conscious of racism and the relatively powerful status that society assigns to her because she is white. Her attitudes toward equality combined with awareness of her status had an impact on the climate of the conflict—promoting conflict resolution.

Alice Runner provides another example of a respondent who strongly values equality. Alice is a property manager for a non-profit, government-subsidized apartment building, and she was involved in a conflict with her tenant. The potential for bias in this situation was between people of different social classes. Alice was aware that others discriminated against her tenants because of their difficult financial situations. She valued

treating her tenants as equals and wanted her behaviour to reflect her self-schema of equality.

Regrettably, a lot of the tenants feel the stigma of being in non-profit housing. . . . Those people often come attached with . . . the idea that fine, you're going to pick on me because I'm a single mom or I get welfare.

So very often I will try very hard to put myself in their [the tenants'] shoes. . . I know that their finances are tough and I hear the stereotyping that goes on out there. So I do get very protective and defensive of these people. . .

And if they're undereducated that shouldn't play a role either. If they feel intimidated by me, maybe because I speak better than them, you know, my grammar is better, and I know there are circumstances where some of my tenants are intimidated by that--even though I try not to. I come in jeans . . . If you come too dressed up they get a little bit wary of you. (yes--Alice Runner)

Alice recognized she had more power and agreed to mediate with her tenant at his convenience in order to give him more power.

I wanted him to feel he had just as much in-put and control over this situation. . . .I was willing to go [to mediate] at whatever time he wanted. (yes--Alice Runner)

When I first began analyzing these two conflicts they seemed different in many crucial ways, so I was very puzzled that both conflicts were resolved. For example, Alice had a good relationship with her tenant, respected him and attributed his conflict behaviour to situational, unstable causes. Liz, on the other hand, had a poor relationship with her co-worker, and attributed the conflict to internal, stable causes. One major similarity was what I described as their self-schema of equality. Alice and Liz were aware that the other party was traditionally discriminated against in our society, and they were advocates for those groups (i.e., African Canadians and the poor). Second, they both



recognized the societal power ascribed to them simply because they are white and middle class. They did not want to contribute to the discrimination, or be perceived as contributing to discrimination, by sustaining the conflict. Moreover, when the less powerful person in the conflict (the first party in these cases) recommended mediation they both agreed partly because they felt it would help decrease the power imbalance. They perceived the mediators would act as "advocates" for the other party and as "monitors" to ensure equality in the process and resolution. They may have also agreed as a way to demonstrate they valued equality. Thus, the *self-schema of equality* sensitized them to power imbalances. Moreover, awareness of their relatively powerful status and the desire to decrease the power imbalance produced a climate that was conducive to conflict resolution.

### **Perceived Powerlessness**

Unfortunately, many respondents felt relatively powerless in their relationships, and powerless to resolve the conflict (see Table 7.11). One interesting finding was that both landlords and tenants felt powerless. For example, two landlords (Meera Wing and Kumar Southasa) felt powerless relative to their tenants because they were having difficulties evicting them. Joan Dubrow, a tenant, felt powerless because she did not have enough money to pay her rent. Fear was another cause of powerlessness that was suggested by Jon and Hillary Mitchell. Ben Dunne felt powerless because he was dependent on co-operation from his neighbour to fix the retaining wall separating their property. Finally, Jen Mint felt powerless relative to her supervisor because he had the authority to fire her from her job.

**Table 7.11****Illustrations of Perceived Powerlessness**

In her mind, she [the first party] feels like, 'I'm the tenant. I'm the one paying money so I have to have a very quiet place to live and I have to do whatever I want'. . . .I also worry because we are the owners of the house and we have heard some people say tenants can do things to a house that you cannot imagine, before they move out. So you have to be very careful with your tenants and be careful about what you say. . . .They can damage your house and you cannot see them doing it. (yes--Meera Wing).

I was powerless, because you can't force anybody to do what you want, especially with a tenant (no--Kumar Southasa)

My daughter and I were the weak ones because we didn't have the money to pay this man [landlord]. . . . He [the landlord] wanted power over her. (yes--Joan Dubrow)

We feel powerless. We're always frightened about what he's going to do to the house or car. (no--Hillary & Jon Mitchell)

I felt powerless to be able to resolve the conflict. Mediation was really one of my only chances to be able to resolve it. . . . I was always being dragged along by my neighbour's contracts and my neighbour's this and that. He would never take the steps to do something. He would always put off doing anything because it's not urgent for him. (yes--Ben Dunne)

Once he was put into a position of power over me, considering he was in love with me and it was totally unrequited, life became very difficult. . . . I felt powerless if it were left to me to resolve it. (yes/no--Jen Mint)

**Consequences of Powerlessness.** Individuals who felt powerless both agreed and declined offers to mediate (see Appendix 7.10). Feeling powerless in the relationship, and powerless to enact change, had several other consequences for the conflict. First, for some disputants it seemed to motivate the need to redress the power imbalance. For example, Ben Dunne felt powerless to resolve his neighbour conflict because he

immediately wanted to fix the decaying retaining wall (separating his property from his neighbour's) that was encroaching on his property. Unfortunately, his neighbour thought it was too expensive and did not want to fix it (i.e., a noncorrespondent outcome).

BD: And his retaining wall that's there now has completely fallen down on my property. It's just eroding (?). I don't have a backyard that I can use right now. And this is something that's gone on for three years. Well I have a very dangerous situation with three young kids. I can't use the backyard. Whereas his situation is fine. And everything for him is completely fenced in inside and he can use the backyard, and does use it for his dogs. And he's not in any danger or anything.

TJ: It's a lot more serious for you?

BD: . . . But we can't do anything because it's on his property. So we're stuck in a 'catch-22' in this situation. . . . Well I can't go onto his property and fix his wall and then settle up in court. . . . And he's taking no initiative to solve it, which leaves me without a backyard. So I'm just spinning my wheels while this is going on. (yes--Ben Dunne)

As you can see in the above illustration, interpersonal power was an important factor. Ben's feelings of powerlessness seemed to contribute to the perception that mediation was his only option to reclaim his backyard.

One detrimental consequence of feeling powerless was that some respondents asserted their power with hostile methods. This is one example from Jackie Chan:

JC: I talk to every person on the street to sign a petition [about the neighbours' noise], and took it to the police. . . .

TJ: So you felt like you needed to have a whole bunch of other people supporting you before you were believed?

JC: Yes, because if you are the only person calling the court or the police, the police say, "Why aren't your other neighbours calling?"

TJ: Is that what the police said to you when you called them?

JC: Yes, most of the time.

TJ: Have they ever believed you?

JC: Well, you have to have at least 2 persons. . .I keep some weapons, sharpened wood, a wood stake. I put it under the bush in front of my house. I put several weapons say like those for the lawn, like rakes, or whatever, or spades. I put it behind the garage, just hiding it in the trees by the garage door.

TJ: Because you feel unsafe?

JC: Yes, I feel unsafe. I am ready to fight him any time. But if I fight him, you know, he's not going to win, because he is much older and he will die first. (no--Jackie Chan)

Although Jackie did not explicitly say he felt powerless, he made several comments that suggested the climate of this dispute made him feel relatively powerless. First, when he voiced his complaints to the police, he felt they did not believe him. Moreover, he felt that if the police were not going to respond, then he was powerless to stop his neighbours' aversive behaviour (i.e., uncontrollable noise and parking). Jackie also felt physically threatened by his neighbour. In this situation, feeling powerless created a very volatile situation especially because Jackie felt empowered after he hid "weapons" throughout his yard. His sense of power to "win" a physical fight seemed to come from the "hidden weapons," and his relative youth (i.e., "he [the neighbour] is much older"). Such behaviours are not that surprising given that "desperation and low-power tactics often arise from the feeling that one has no choice, that no power is available" (Hocker & Wilmot, 1985, p. 75). In fact, Hocker and Wilmot have found that disputants in such situations may use "severely dysfunctional behaviour" to regain power. Other researchers have similarly found that violence and threats may be a way for those who feel less

powerful to reassert their feelings of self-esteem, which often escalates the conflict (Raven & Kruglanski, 1970).

This research, like past research (e.g., Welton, 1991), found that assessing power and determining the impact on the conflict were complex tasks. Generally speaking, it seemed to promote constructive conflict when second parties felt powerful. Awareness of a relatively powerful status and a self-schema of equality encouraged problem solving. Feeling powerless, on the other hand, did not have a consistent influence on the conflict. Sometimes it was conducive to conflict resolution (use mediation to regain power), and sometimes it severely escalated the problem.

### **Future Relationship**

The final relationship topic examines the impact of plans for a future relationship on the outcome of a dispute. Past research suggested that relationships are very important and beneficial to most people (Janz, 2000). In fact, some psychologists argue that people have a very strong need to affiliate (or interact with others), which may have a neurological basis (Baron & Byrne, 2000). Thus, it is not surprising that some people are motivated to preserve particular relationships, which enhances the likelihood of constructive conflict (Folberg & Taylor, 1984; Potapchuk & Carlson, 1987; Schuller & Hastings, 1996). When such individuals are involved in conflict, they tend to be more persistent at finding mutually agreeable resolutions (Zubek et al., 1992). If a relationship is to be maintained, processes like mediation that produce “win-win” agreements are advantageous because litigation can destroy relationships (Bevan, 1992). Research has also found that disputants who plan to have an ongoing relationship are more likely to

agree to mediate their dispute (Pearson et al., 1982).

Findings from the current study support the idea that those who plan to have an ongoing relationship are more likely to agree to mediate (see Appendix 7.10). Those who do not plan to have a future relationship, however, are just as likely to agree as to decline mediation.

Findings presented earlier regarding interdependent relationships clearly demonstrated that those who perceived they had correspondent outcomes were more likely to mediate (see Table 7.10). In order to have a correspondent outcome there must be plans for a future relationship. Likewise, those who perceived they had independent (noncorrespondent) relationships had no plans for a future relationship, and declined mediation. Some were so entrenched in conflict that there was no interest in a future relationship. For example,

We don't want any relationship with them at all. . . . The only hope or favour that could possibly make my life more comfortable would be to live a 100 miles away from this person here [pointing at neighbour's house], as soon as possible. (no--Jon & Hillary Mitchell)

JC: A future relationship is not important. He is some garbage will be left over. . . . One way to [resolve this is to] kill him, or to kick him out for whatever reason, or try to push him or move him. . . I never can move now because I don't have the money. (no--Jackie Chan)

Thus, it was not surprising that a long history of aversive and destructive behaviour raised many barriers to conflict resolution.

The finding that requires some explanation is that respondents who had no interest in a future relationship were equally likely to agree and decline participation (Appendix 7.10). For example,

A future relationship is not important at all. We hope that they will ignore us but we know that they don't like being ignored. so we don't know if that is an option. (yes/no--Patty Andrews)

Now she doesn't speak to us and I don't speak to her. . . .I have no use for her and I don't want any contact with her at all. She is not a person that I ever want to be around. (no--Helen Pashkau)

There is no relationship and there never will be. . . .We will not speak to them ever again. They will not speak to us. (no--Suzanne Gold)

I wouldn't want a future relationship with him. My understanding of the man is that anything could happen. (yes--Brian Levinson).

We're not going to be friends or anything after this. It's [mediation] not going to change that. Our lifestyles are too different. (yes--Ben Dunne)

We didn't want a friendship. What the mediation did was to resolve the conflict. It wasn't the responsibility of the mediators to change how we felt about each other. We didn't want to love each other when it was over. That is not their [mediators'] task. That's too complicated. (yes--Stevan Gumersall)

Perhaps considerations of a future relationship were not relevant to some individuals because most of these disputants were acquaintances. The nature of these relationships appeared neutral, or not aversive (at least at first), but were also not intimate or supportive. Some of these disputants saw each other occasionally because of their close proximity but made no effort to increase contact or see each other socially. Thus, it appeared that these respondents did not perceive their acquaintances as someone with whom they had a "relationship," and when asked to consider the likelihood of a future relationship, they continued to perceive it as unlikely. Several commented that mediation would have no impact on the relationship, only on the "problem."

In sum, I have suggested that considerations of a future relationship, and several past/present relationship attributes—supportiveness, interdependence, and power—are

important to the climate of the dispute. Those involved in landlord-tenant relationships were more likely to mediate than those in other relationships. Those in both groups described their past relationships as supportive almost equally. For those who declined mediation, however, they suggested that the "conflict changed everything"--that although they had a good relationship in the past, it was no longer supportive. The impact of power on the decision to mediate was more difficult to discern because those who felt powerful and those who felt powerless both agreed to mediate. Nevertheless, perceived power, particularly when it was combined with a self-schema of equality, seemed to contribute to constructive conflict. Clearly, those respondents who planned to have a future relationship and those who perceived the relationship was interdependent were more likely to mediate. Nevertheless, people who did not want a future relationship still agreed to mediate. These respondents suggested that they wanted to mediate to deal with the "problem," that it was too difficult to respond to relationship issues. Those who perceived the past relationship as very destructive and independent were less likely to mediate.

## **CONFLICT**

### **Type of Issue**

The central focus of this study was on interpersonal conflict between community members. Past research on mediation centres in the United States suggested that the most common type of neighbour dispute was "harassment" (17% to 35%), which included name calling and threats (Beer, 1986; Richan, 1988). Children's behaviour was also a frequent source of conflicts in these studies (10% to 29%), especially when they played outside their own yard, made noise, or seemed "out of control," for example. Moreover,



disputes over property, including damage and theft, were reported as being problematic in 7 to 28% of the cases. Problems with pets, noise, threats with knives or guns, physical abuse, shared driveways, money, eviction, issues of respect, status and class were also mentioned as causing community conflict (Beer, 1986; Richan, 1988).

Conflicts can be about resources, values, or the relationship (Deutsch, 1973). The strategies used to respond to the conflict will depend on the type of issues and "size" (e.g., number of issues, number of disputants, and length) of the conflict (Boardman & Horowitz, 1994). Deutsch (1973; 1991) suggests that "smaller" conflicts (shorter, fewer issues and fewer disputants) may be easier to resolve constructively. Although there appear to be some patterns in past research on conflict issues, Hiltrop (1989) argues that there is "no consensus and little evidence on what type of disputes mediation is best able and least able to resolve" (p. 246). Hiltrop further argues that two major studies of the types of conflicts that are most likely to be resolved during mediation found very different results. One study found that mediators are best able to deal with issues where **different values** exist between the disputants; whereas another study found that it is easier to mediate disputes that allow for a **compromise**. For example, disputants can compromise when the issue involves a continuous variable like money because the amount of money divided between disputants can be negotiated.

Researchers have also found that the severity of the dispute (e.g., the duration and intensity) is also related to the occurrence of mediation. Merry and Silbey (1984) suggest that serious conflicts are not conducive to mediation because "at this point the grievant wants vindication, protection of his or her rights (as he or she perceives them), an

advocate to help in the battle, or a third party who will uncover the 'truth' and declare the other party wrong" (p. 153). Other researchers have similarly found that long-term conflicts that have caused psychological and/or physical damage are not conducive to mediation (e.g., McEwen & Milburn, 1993; Thoennes & Pearson, 1985). Contrary to these findings, others have found that divorcing couples who have experienced long-term disputes also choose to resolve through mediation (Pearson et al., 1982). Since the findings regarding the relationship between mediation and the type and "size" of the dispute are contradictory and uncertain, the data from the current study were used to explore these issues further.

In the current study, most of the disputes were regarding relationship or property issues (see Appendix 7.10 and Table 7.1). Such issues seemed equally likely to promote and preclude mediation. Surprisingly, many disputants (32%) reported that there was "no problem" and these disputants were more likely to decline mediation. This issue was discussed earlier as an avoidance tactic so will not be discussed further in this section. Noise disputes were less likely to be mediated, and money disputes were more likely to be mediated (see Appendix 7.10). When considering the length of the disputes, it appeared that people were more likely to agree to mediate short conflicts (less than 1 year), less likely to mediate moderate disputes (1 to 5 years), and equally likely to mediate long conflicts (more than 5 years). Although it is evident that some trends exist regarding the type of issue and length of the conflict, other issues were more revealing. This section examines how the disputants perceived the conflict (i.e., the metaphors they

used to describe the issue), and their attributions regarding who is responsible for the conflict (i.e., self, situation or other party).

### **Conflict Metaphors**

Examining the respondents' conflict metaphors is another way to examine their perceptions of the dispute (see Table 7.12). "A metaphor is a way of comparing one thing to another by speaking of it as if it were the other, for example, calling the world a stage" (Hocker & Wilmot, 1985, p. 10). Metaphors have also been described as "a ubiquitous feature of a culture's or an individual's thinking and discourse" (Coffey & Atkinson, 1996, p. 85). Since metaphors are communication tools that are pervasive in everyday speech, many qualitative researchers have recommended they be examined (e.g., Coffey & Atkinson, 1996; Sherrard, 1997).

The most common metaphors used by respondents to describe conflict were very negative (Table 7.12). They called the conflict a "war," and used other terms that signalled battle including: *attack*, *shot*, and *up in arms*. Some even viewed it as a fight to the death (e.g., Jackie Chan). This was not surprising since, according to Hocker and Wilmot (1985), "the military image is the central metaphor of conflict. . . . Conflict is often characterized as an argument or battle" (p. 13). They further argue that there are detrimental consequences of viewing conflict this way. "The *resolution possibilities* are reduced to offense and defense, and the *purpose* or outcome is inevitably a reduction of players, harm, desire for vengeance, and a repetition of the argument/battle" (Hocker & Wilmot, 1985, p. 14).

Table 7.12

**Conflict Metaphors**<sup>21</sup>***I. War***

It's a *war of consumption of time and energy*. . . I need to *fight him until he dies* one day. . . *One way to solve it is to kill him*. (no--Jackie Chan)

It seems as if my becoming a member actually *fanned the flames of war*. (no--Jason So)

We were *up in arms* about this. I could have done that [retaliated] with just one *shot*.  
(no--Jon & Hillary Mitchell)

***II. Explosive***

Oh yes, they would *explode* and *lose total control*. (no--Jon & Hillary Mitchell)

It wasn't as if we didn't have a history of *flaring*, we did. . . In every instance my complaints were proceeded by *blowing up* at him. (yes/no--Jen Mint)

***III. Heat/Temperature***

Sometimes you have to let it *thaw off* and let it *cool down*. . . Like I said leave the *fire* alone. . . You stay away from the *fire* and you are not going to *get burned*.  
(no--Irene Storey)

***IV. Competition***

This isn't going to be an *easy one to win* but I want to try. (yes/no--Jen Mint)

***V. Mess***

But it didn't end there. It just was a *big mess*. (no--Suzanne Gold)

<sup>21</sup>Some of the names and ideas for these metaphors came from Hocker and Wilmot (1985).

Respondents' narratives also portrayed the conflict and corresponding emotions as "explosive" and "flammable" (Table 7.12). They used terms like: *explode*, *lose control*, and *out of control*, that seemed to suggest that, like an explosive, once ignited the conflict was uncontrollable. It is interesting that one respondent, Jon Mitchell, viewed his conflict as both metaphorically and literally explosive:

JM: He will *blow up the place*. He will have a certain type of ignition system available whereby he will do it.

TJ: He will blow up your home?

JM: Well of course.

The war and explosion metaphors suggest that the way some people perceive conflict is very serious.

Some respondents used temperature metaphors to describe conflict. Conflicts were hot and simmering, and people were hot-tempered, which suggested the possibility of "boiling over" or being uncontrollable. This is similar to the explosion metaphors that identified conflict as hot and uncontrollable. Other disputants talked about their conflicts as *competitions* with winners and losers. Hocker and Wilmot (1985) described this as a metaphor where conflict is an "upward struggle," which is not conducive to resolution. Fifth, conflicts were described as a *mess*. Hocker and Wilmot (1985) explain that the main problem with "messes" is that they emanate into many other areas of the disputants' lives. This may be cognitively overwhelming for some people, making it difficult to recognize the possibility of a resolution.

To contrast these metaphors, describing the conflict as a *misunderstanding*, was atypical, yet this was a more positive and adaptive way to view conflict. A

misunderstanding implies the conflict is not “out of control” or too serious, and that resolving it simply requires clearing up the misunderstanding. For example,

They [the city] never bothered to check it out so that *misunderstanding* carried through all the way. . . . There was a clear *breakdown of communication*. (yes--Ben Dunne)

There was *confusion* over the property line. (yes—Dan Palomino)

Such disputants seemed to feel that conflict was not particularly aversive and was even “normal.” This metaphor also connotes shared responsibility for the conflict and resolution because “misunderstanding” suggests *mutual* confusion. Thus, it is not surprising that all the respondents who perceived the conflict as a misunderstanding agreed to participate in mediation.

The conflict metaphors were particularly interesting because they showed how negative, aversive and socially undesirable the respondents generally perceived the conflicts. Terms such as *war*, *battle*, *explosion*, *hot* and *messy* are not metaphors that indicate conflict is an opportunity for positive change. On the other hand, viewing conflict as a misunderstanding was more conducive to promoting change and resolution.

### **Attributions of Blame**

The next conflict issue examines the disputants' perceptions of who is responsible for the conflict. Theory regarding the transformation of a conflict into a dispute (i.e., naming, blaming, claiming, disputing) that was described in *Chapter 2* was particularly helpful (see Figure 1.1). After an individual perceives they have been injured (i.e., *named* the issue as an injury), they have a general need to understand the intent of another's actions (Thomas & Pondy, 1977). Respondents consider their own role in the conflict

(self-blame) and the role of the other party. Coates and Penrod suggest that while “. . . existing research does not sufficiently clarify when people will engage in the blaming transformation” (p. 671), *attribution theory* is helpful for understanding this process. Three dimensions of the attribution theory were considered during data analysis: (1) *internal-external* dimension; (2) the *stability-instability* of the event; and (3) the *intentional-unintentional* dimension.

Past research suggests that attributional biases influence whether a conflict will be destructive versus constructive (Boardman & Horowitz, 1994). Several types of biased assessments influence perceptions in conflict that can be applied to understanding blame. First, people generally make *self-serving biases*, retaining positive views of themselves as compared to others. When applied to conflict situations, this suggests that opponents will tend to perceive their own motives and behaviour as more positive than other party (Deutsch, 1991). Past research has found mixed support for this claim because some studies have found high rates of other-blame while others have found high rates of self-blame (Coates & Penrod, 1980-81). Second, the *fundamental attribution error* is another biased perception that suggests individuals are more likely to attribute the cause of another's behaviour to internal traits, ignoring situational causes of the behaviour. On the other hand, when considering one's own role for the conflict research has found that individuals tend to interpret their own behaviour as a normal reaction to their opponent because the situation dictates how they should react (Deutsch, 1991; Folger et al., 1997; Worchel & Lundgren, 1991). Such biased perceptions occur because disputants lack information about the cause of another's behaviour, while they have more information

about their own behaviour. Deutsch (1991) also suggests that when a conflict focuses on personality traits or dispositions rather than specific behaviours it tends to escalate.

In addition to the dilemmas that may arise from the fundamental attribution error, people involved in conflict also tend to find "evidence" to support their initial beliefs about their opponent being a "monster," the *expectancy confirmation process* (Snyder & Swamm, 1978). This type of bias tends to cause conflict to escalate and remain unresolved because any positive behaviours are reinterpreted as being the result of negative intentions. Thus, biases regarding the *intentions* of the other party may also influence the conflict. According to Levinger and Rubin (1994),

A frequent source of conflict is the parties' misconstrual of their own or the other side's intentions. An action that A sees as harmless or even beneficial to B may be perceived by B as interfering, constraining, or even insulting. (p. 206)

This type of bias is particularly problematic because perceived intent generally causes strong emotional reactions and increases the likelihood of retaliation and conflict escalation (Thomas & Pondy, 1977).

Based on past research, one would expect that attributional biases would be related to the outcome of the dispute. The second party would be more likely to blame the other party rather than themselves for the conflict. Moreover, they would more likely consider the harm caused by the first party as being intentional and the result of dispositional (internal-stable) factors. Perceived intent would probably be detrimental to the outcome of the conflict and may preclude mediation.

There were three main attributions of blame made by disputants in this study. Respondents blamed: (1) themselves (i.e., when they accepted partial or full



responsibility); (2) the situation (i.e., made external-unstable attributions); and/or (3) the other party (made internal attributions). When respondents blamed the other party they distinguished between *intentional* and *unintentional* causes of harm. In this section I will elaborate on these attributions of blame and examine their impact on the conflict resolution process.

### **Accept Responsibility**

In accordance with past research, disputants were clearly less likely to blame themselves and more likely to blame the other party for the conflict (see Appendix 7.10). Although attributions of self-blame were rare, there were two such cases. Joy Mashita and Alice Runner. Joy Mashita's children were accused of fighting with her neighbour's children:

My children were saying names to his children. Once, my kids threw pop bottles and bricks over his fence. (yes--Joy Mashita)

During our conversation, Joy accepted full responsibility for the conflict on behalf of her children. She did not dispute her neighbour's claim that her children were behaving inappropriately. Perhaps this was because her children had been in trouble with the police and with other neighbours in the past. Accepting responsibility for the conflict was beneficial for the resolution process. Rather than feeling threatened or defensive when asked to mediate, Joy was glad to have an opportunity to resolve this conflict in a less confrontational manner.

I've got four boys and they do get into a lot of trouble. And it's not fun to have a Police come to the door, or somebody you don't know, and start screaming at you. And a lot of times they won't listen to you. They just stand there screaming. You don't even get to say anything. . . So I thought well this [mediation] is great. . . .

Alice Runner, a property manager in conflict with her tenant, provides the second example of a disputant accepting responsibility.

It (the conflict) had to do with our own internal policies on how things were handled. . . . We're always well aware of the fact that no matter how well things are planned and laid out, mistakes are made. People are human. It doesn't mean we condone sloppiness, but it does mean that we do recognize the fact that people will slough off from time to time. (yes-- Alice Runner)

Alice similarly accepted full, or at least partial, responsibility for the conflict. First, she accepted responsibility indirectly, on behalf of her company, by suggesting there was something wrong with their procedural policies. Second, she also implicated her coworkers when she said they were "sloppy" or "sloughed off." Third, Alice suggested "mistakes are made," which is a comment that did not directly blame anyone. Instead, this comment suggested that perhaps she, her tenant, and/or another staff-member accidentally (i.e., not intentional) caused the conflict. When Alice accepted responsibility for her role in the conflict, this was beneficial for the resolution process because it addressed one of her tenant's needs. Her comments also reflected she was open to using a problem-solving approach when she said that something was "broken" with respect to their administrative processes that needed to be fixed. She was also accepting responsibility for her companies' role in the conflict, which was beneficial for conflict resolution. However, since most disputants either blamed the situation (external-unstable attributions) or the other party (internal-stable attributions), the remainder of this section will focus on these causal attributions.

### **External-Unstable Attributions (Situational)**

Relatively few respondents blamed situational causes for the conflict (i.e., unstable, external, unintentional). This was unfortunate because such attributions appeared to be conducive to constructive conflict. The following three illustrations of situational attributions represent diverse conflicts (i.e., landlord-tenant, neighbour, coworker), which were similar because they involved long-term relationships. Thus, these examples are interesting because they also illustrate the impact of the relationship on the climate of the conflict—especially regarding perceptions of blame.

As mentioned earlier, Alice Runner accepted some responsibility for the conflict with her tenant and she also considered situational influences:

We had such a good relationship with this tenant in the past, and it surprised me I truly wondered if there were other things happening in the tenant's life that might just be part and parcel of this [conflict]. . .

Now this tenant is also very well educated, very aware of his rights, very active let's say in environmental issues on behalf of tenants, on behalf of the underdog. . . . He's an excellent tenant in every other circumstance. I think we should give him the benefit of the doubt. . . with this type of scenario he was on the defense right from the start, and it was understandable. . . . And this is a good tenant who wouldn't normally make unnecessary demands of us. So obviously he's not happy and we've got to look into the situation. (yes--Alice Runner)

Clearly, Alice had a good relationship with her tenant, and they had known each other for approximately ten years. Alice also showed respect for her tenant when she complemented him (i.e., "well-educated," "very active on behalf of tenants," and "excellent tenant"). She did not blame her tenant for the conflict, and, instead considered situational causes (i.e., "other things happening in his life", and "this type of scenario").

Moreover, comments like "he's an excellent tenant in every other *circumstance*," and "a good tenant who *wouldn't normally* make unnecessary demands of us," indicated Alice's perception that the harm was unstable and unintentional—that the tenant's behaviour was unusual. When Alice stated her tenant's position was "understandable," she recognized that he did not intend to harm her.

The second example involves the case of Dan Palomino. His conflict was with his neighbour of twenty-eight years, regarding the property-line and damaged property. Dan described the conflict this way:

There was confusion over the property line. . . . Both our surveys and deeds are overlapping, so it was a matter over whose deed had priorities over which deeds. . . My survey shows it goes here. The neighbour's shows it goes over there. . . .By Labour Day she had moved our shed and started drilling holes in the driveway, and that was our holidays. . . .The husband had died and I think her kids, she's got two adult kids, so the kids told her to get her affairs in order. . . . I think she was afraid of her time coming up, and her affairs wouldn't be in order. That's where I think her bigger fear was. And her kids pressuring her too, or suggesting strongly, that she get her affairs in order, you know. She doesn't want to let her kids down either. It's her motherly thing. . . .She's elderly, she's getting older and her children were making sure she didn't get taken. (yes--Dan Palomino)

When Dan said the surveys were contradictory, he identified a situational cause for the dispute, suggesting neither party was to blame. He also said the conflict as initiated by external circumstances such as his neighbour's advancing age, and her children "pressuring" her to settle issues that might arise from her estate. In other words, Dan was not suggesting this situation arose from dispositional characteristics like greed or selfishness.

When Dan told me that his neighbour began drilling holes in his driveway while he was on vacation, he was surprisingly unruffled. Based on my experience, I expected such behaviours would have escalated the conflict. I also thought Dan would attribute harmful and deceitful motives to his neighbour for taking such action while he was away and, therefore, unable to defend his property. In fact, his reaction was quite opposite—he was very sympathetic and not hostile. Additionally, he attributed pro-social motives to both his neighbour and her children. That is, he perceived that the children stimulated this initiative to protect their mother and her estate, and he believed his neighbour was acting to protect her children. Once again it was perhaps the supportive, long-term (i.e., 28 years) relationship that allowed Dan to attribute causes of the conflict to situational rather than dispositional factors.

This pattern of attributing blame to external-unstable causes also occurred in the conflict Jen Mint had with her long-time supervisor-friend.

Suddenly he's working regular work hours and in addition to that he has lots of overtime, tons of overtime. And he is just exhausted. And I say to him, "welcome to the real world." And he is shaking, shaking. . . . He took his frustration out on me because I'm the person who is closest to him, and the person he trusts is not going to turn on him. . . . Well in the first meeting [mediation] I wanted it to come out that the problem was his [first party's] fatigue. (yes/no--Jen Mint)

One problem Jen had with her supervisor-friend was his angry outbursts. As you can see in the above comments, instead of blaming him, she blamed his fatigue and exhaustion. She further blames the situation when she argues his overtime hours (required by the company) caused his fatigue. Another dimension to this conflict was that Jen's supervisor

sexually harassed her, yet she did not blame him. Instead, she further blamed the company (an external source).

If somebody were to say to me today would you forgive [first party], you know what, I couldn't give a damn about [first party]. The people I cannot forgive are [the business where she worked]. If they will tolerate and indeed condone this kind of activity within the workplace, then I can't forgive them. (yes/no--Jen Mint)

Thus, Jen blamed the company because they did not have a sexual harassment policy.

Blaming external sources caused Jen's anger to be averted away from her supervisor and toward others, such as the company.

In sum, it was rare for respondents to make situational and, therefore unintentional, attributions for the conflict. Although these illustrations were quite diverse, one similarity was that they all occurred within long-term, supportive relationships. Close relationships seemed to foster empathy and respect (i.e., influencing the climate of the dispute) and when the conflict occurred, the second party perceived it was unusual. Attributions that the conflict was unusual (or unstable) implied that it was not permanent (stable) and could, therefore, be resolved with problem-solving methods. Situational attributions also contributed to the conflict resolution process because the second party did not perceive the harm was intentional. Other researchers (e.g., Thomas & Pondy, 1977) have similarly found that attributions of unintentional harm mitigate feelings of injury. Moreover, when these respondents attributed the injury to some other source, their anger was not directed at the first party.

### **Internal-Stable Attributions (Dispositional)**

People, in general, tend to overestimate the role of dispositional factors (e.g., personality traits, beliefs and attitudes) when they witness behaviour (Ross & Fletcher, 1985), and the respondents in this study were no exception (see Appendix 7.10). These disputants were making correspondent inferences (attributing behaviour to a disposition). When respondents overestimated the role of dispositional causes they were making the *fundamental attribution error*. In the following examples, the second parties made several dispositional attributions.

Although disputants more often made internal-stable attributions of harm, this did not appear to influence the decision to mediate (see Appendix 7.10). Thus, I had to delve deeper into the disputants' comments to see if there was a pattern related to mediation. In particular, I examined the intentional-unintentional dimension. The findings suggested that intentional harm did not prevent mediation, but the key factor involved attributions of unintentional harm. Perceived unintentional harm seemed to foster mediation (see Appendix 7.10). To understand this relationship, I will discuss particular dispositional attributions, whereby the first party was depicted as: (1) crazy, (2) belonging to the "wrong" race, or (3) violent. I selected these particular attributions because half, or more than half of the respondents, reported them at length during our discussions (see Appendix 7.10).

#### **"Crazy" Attributions**

In the following illustrations, the respondents made *dispositional* (internal-stable) attributions that the other party was "crazy" or abnormal. That is, the respondents argued

that the first party was "crazy," instead of suggesting their *behaviour* was crazy or that the situation made them act crazy. For example, the following are illustrations of such attributions made by respondents who either declined or agreed to participate in mediation.

Had they been *normal* people we would have been normal back. (no--Suzanne Gold)

After he fired me he thought we could work out our friendship, so the man *isn't playing with a full deck*. (yes/no--Jen Mint)

I said [to my neighbour], "Look, I think your wife is *mentally sick*. Why don't you do something? That's *not normal*. . . .People *in their right mind* don't do that." (yes--Jacques Neuvelle)

We know that boy has probably inherited some of *his father's genes*. . . .His father has *schizophrenia* or something. . . .*Mentally he* [the son] *has problems*. Even when you look at him he gets *all foamy at his mouth*. (no--Jon & Hillary Mitchell)

I think she has *deep-seated emotional problems*. (yes--Liz Cunningham)

As you can see, these were internal-stable attributions of "craziness." That is, they made judgements that the other party was crazy. The attributions ranged in severity from claims of "abnormalities" to very serious, permanent and stable psychological or psychiatric disorders.

The tendency to attribute others' behaviours to dispositional causes was very strong. Even when some respondents witnessed behaviours that appeared erratic, alternating between normal and "crazy," they continued to make dispositional attributions. For example,

She's a double-minded person. You can't tell what she's going to do. (no--Kumar Southasa)



I had a feeling that she sort of had a form of mental illness or something. Because I used to baby-sit for them and they were really nice and then all of a sudden her whole personality started changing. . .She needed professional help. . . . losing her mind to a certain extent. 'cause it was too much of a drastic change of personality. . . .She was just too crazy for mediation to work. (no--Lyn Gilbert)

JG: She has a split personality. . .that's how I would describe her because sometimes she would seem like she wasn't her. she was like somebody else.

TJ: What do you mean?

JG: Like sometimes she's very hostile and the next thing she wasn't hostile. Like sometimes she would be like two people in one body like you know what I mean? (yes--June Green)

The above are illustrations are a type of *Jekyll-Hyde personality attribution*. Because some of the respondents had developed relationships with the first party they had the opportunity to witness the friendly, "normal" (i.e., Dr. Jekyll), side of their personality. However, when these disputants were in conflict they witnessed violent, hostile, "crazy" (i.e., Mr. Hyde) behaviours. Instead of attributing the violent behaviour to the situation or to provocation from the conflict, the respondents developed a very creative way to explain the "erratic" behaviour with a stable personality trait--the "split personality."

As seen in the above examples, several respondents suggested that "mental illness" was the reason why they decided not to mediate. Sometimes, however, respondents who made these attributions agreed to mediate. What distinguished these two groups? One might expect attributions of "insanity" to be equated with unintentional behaviour, because, for example, in criminal trials, pleas of insanity are used to argue that a defendant's criminal behaviour was unintentional. In this study, relief from blame did not always follow "crazy" attributions. One example of intent being linked to "mental

incompetence" was demonstrated by Patty Andrews (Table 7.13). She argued that her neighbours were "making them suffer" (intent) because they are "a very dysfunctional family" (stable).

In contrast, an excerpt taken from Dan Palomino is provided in the right-hand column of Table 7.13. Dan was similar to the other respondents (including Patty) because he made attributions regarding the "mental abilities" (internal-stable) of his elderly neighbour with whom he was in conflict. He differed from Patty, however, because he did not perceive the harm as intentional. Instead, he attributed her inability to reason to her old age. He also differed because instead of blaming her, or being angry because of her perceived inability, he expressed sympathy and concern (i.e., "fast talkers can take advantage of older people"). The fact that Dan expressed sympathy toward his neighbour highlights another important distinction. In the previous examples, the disputants who declined mediation identified the other party's "psychological disorders" but did not feel empathy or sympathy for them. Instead, they used the "mental illness" as an insult and an excuse not to mediate. Dan's attributions seemed to attenuate perceptions of intent, harm and blame. He demonstrated that people could make attributions of the other party as having questionable cognitive abilities, yet still perceive it was beneficial to mediate.

Table 7.13

**"Crazy" Attributions**

Intentional Harm	Unintentional Harm
They are a <i>very dysfunctional</i> family. They have lots of problems and unfortunately <i>they are making us suffer</i> . . . They are not logical and not mentally competent. (no--Patty Andrews)	I had a little bit of worries about that, you know, <i>her mental abilities to be able to reason</i> . . . I don't know if it would be classified as <i>senility or something else</i> . You know some older people get taken very easily by people and get talked into a lot of things. fast talkers can take advantage of older people. (yes--Dan Palomino).

**Culturally Biased Attributions**

Disputants' prejudice or cultural biases influenced the second type of dispositional attributions.

Conflicts involving overt or subtle racism and sexism – or sometimes both – are probably the most volatile and least understood of any that a dispute resolver is called upon to handle. Despite their ugliness and severity, conflicts fueled by discrimination remain a relatively untouched area in the ever-burgeoning dispute resolution literature. (Gadlin, 1994, p. 33)

Gadlin's comments are both challenging and intimidating because of the lack of research in this area and the complexity and sensitive nature of the topic. I attempted to reflect the complexity of culture by providing an overview of definitions in *Chapter 4* (research design), and depicting the influence of culture on conflict in Figure 4.1.

Even though it is illegal to discriminate against people based on their race, this has not prevented discrimination. The Psychological Critical Race Theory is a social psychological explanation of the persistence of racism. According to Jones (1998), the

first tenet of this theory is that there is a pervasive tendency to categorize people racially. Moreover, people tend to have positive stereotypes regarding their own group. They also tend to focus on similarities of people within groups, while emphasizing differences of people between groups. Stereotypes can influence an individual's behaviour, perceptions and judgements. Such biases are insidious because their influence often occurs beyond an individual's awareness (Jones, 1998). Perceptions of cultural differences are established early in life and the stereotypes "... often have heavily laden emotional connotations of good and bad" (Deutsch, 1991, p. 33).

Ingroup ethnocentrism is a very common tendency whereby individuals perceive their own ingroup as central and every other group is understood relative to that group.

Although the term *ethnocentrism* is usually employed in relation to ethnic and nationality groups, it is well to recognize that an analogous process can occur in the relation between various social categories—e.g., those based on gender, age, race, religion, class, occupation, physical disability, sexual orientation. (Deutsch, 1994, p. 20)

Because ethnicity influences disputants interests, beliefs or values, their ethnic background (or what I called 'cultural' background in *Chapter 4*) provides a context within which conflict and conflict behaviours are understood (e.g., Deutsch, 1994). There are several "reasonably well-established" themes in the literature regarding ethnocentrism according to Deutsch (1991). Ingroups tend to evaluate themselves positively and biases often concern perceptions of the self as morally better (i.e., trustworthy, honest, virtuous) than the outgroup. Additionally, high levels of competition usually lead to more ethnocentric views.

It is problematic when people use stereotypical views to help them understand another's behaviour in a conflict. When an individual is viewed as a category member rather than an individual they become "deindividuated." Such perceptions make it easier to be aggressive toward another person (Rubin et al., 1994). Another reason why ethnocentrism contributes to destructive conflict is because intergroup diversity contributes to perceptions of social incompatibility (Boardman & Horowitz, 1994). Although similarity and attraction promote constructive conflict, perceived differences do not. Thus, ethnocentrism promotes conflict and creates several barriers to constructive resolution (Deutsch, 1991; Olczak, 1991).

Cross-cultural disputes were very common in these multi-cultural cities, and early in the data collection (Interview #2) I was faced with extremely violent, hostile and shocking racist attitudes, highlighting the fact that I could not ignore this topic. Initially, I was concerned that respondents would not feel comfortable verbalizing their prejudices because it is not socially desirable to do so. I was also concerned that if people did not label their biases I would not be able to identify prejudice in our conversations. Contrary to my concerns, prejudice was relatively easy to identify (see Appendix 7.9 for the processes used to identify "prejudice"). Table 7.14 provides examples of attributions grounded in prejudice<sup>22</sup>.

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<sup>22</sup> Although there are many types of prejudices (i.e., racism, classism, sexism, homophobia, ageism, etc.), in this context "prejudice" is considered a global construct and is examined for its impact, in general, on the conflict and resolution processes. While some researchers investigate how ethnocentrism, in general, may influence a dispute (e.g., Deutsch, 1991), others recommend against grouping diverse types of prejudice (Gadlin, 1994).

Table 7.14

**Illustrations of Prejudice****Racist Comments**

I only got one word, ignorant. They're ignorant. . . They're immigrants, they're Germans. You just don't act like that to people. . . The world is bad enough without that. Let's say everybody on the street was like them Germans. I couldn't have stayed there. (yes—Jacques Neuvelle)

I'm not against the Italians. My Grandmother is part Italian. . . But sometimes the [Sicilian] people that come here [to Canada] they try to intimidate Canadians because they all say that Canadians are stupid. It's true, and they [Sicilian immigrants] want to intimidate the Canadians. . . The landlord is Sicilian. I have nothing against them. Sicily is beautiful. (yes—Joan Dubrow)

He has a big loud powerful bomb of a car, all "souped-up" and "dressed-up". We call it a Greek-mobile. It is incredibly long, it gives off lots of exhaust and to his mind this is his power. (no—Jon & Hillary Mitchell)

**Classist Comments**

We assume this fellow was participating in welfare fraud. . . It is pretty easy to get welfare I guess if you are a weasel enough. They were on welfare for a long, long time, if not right up until now. The thing is, she is not a straight shooter. And I'm too old; I can't accept that too readily. You see she is like a peasant, like a hundred years behind times. She has very little education and very little job training otherwise she wouldn't be a cleaning woman in a hospital. Let's face it. (no—Jon & Hillary Mitchell)

I heard from the neighbours she stole from the people across the street. I don't have any proof. I just heard about it. . . She was collecting welfare and doing all kinds of jobs like baby sitting, cleaning jobs, stuff like that, and still on welfare. It was a nuisance. (no—Kumar Southasa)

**Ageist Comments**

Today's generation they hold no respect. So you see where I'm coming from. It's a matter of where your beliefs are, how old you are, whether you've had any maturity or whether you have any experience. Are you talking about something you don't know anything about? . . . You need to be more experienced in the ways of life, in the ways of business, in the ways of a given situation. Now I know that is a direct knock to you as a youthful person, but I think that's where all the problems come into form. (no—Irene Storey)

On the surface, ethnocentric disputants did not appear to decline mediation more often than other disputants (i.e., some ethnocentric disputants agreed to mediate while others refused [Appendix 7.10]). It was only with further investigation of these biases that their impact on the context of the dispute became evident.

To understand how racism had a pervasive impact on the conflict, it was instructive to compare and contrast racist individuals who agreed versus declined mediation. That is, prejudice (1) initiated, (2) polarized and (3) escalated the dispute; (4) increased blaming, and (5) was used as a reason to refuse mediation. Once again, it was perceived intent that appeared to distinguish the ethnocentric disputants who agreed to mediate from those who declined.

**(1) Initiated the Conflict.** Cultural biases seemed to influence respondents' *expectations* because they interpreted the first party's behaviour in accordance with their prejudices. For example, Joan Dubrow expected her Sicilian landlord to intimidate her, and she attributed intimidating behaviours to his Sicilian background (Table 7.14). Irene Storey expressed her ageist biases when she argued that young people, who are all disrespectful, caused the conflict (Table 7.14). Jon and Hillary Mitchell argued that people from a lower socioeconomic class who require welfare, "weasel" or steal money (Table 7.14). The Mitchells also combined their prejudices, emphasizing that people who are Greek and/or "poor" (i.e., less wealthy than the Mitchell family) were simply not morally good or "upstanding" (to use their words) people.

Such culturally biased expectations often initiated conflicts. For example, comments from one respondent illustrate how his neighbours' classist attributions initiated the conflict.

The old lady next door says, "How many people living in that house?" That's the first question, not, "how do you do?" So I looked at her and I said "four." Then she said, "A rooming house, eh?". . . She even said it in front of the family. *Well that started it all.* . . . I felt so cheap. (yes-- Jacques Neuvelle)

Jacques Neuvelle is a working-class man, and he believed his neighbours were discriminating against him because of his social class (i.e., "I felt so cheap"). He argued that their prejudice initiated the conflict (i.e., "started it all").

**(2) Polarized the Parties.** Deutsch's (1991) crude law of social relations suggests that cooperation is induced by and induces perceived similarity. This theory suggests that perceptions of common interests foster a cooperative approach. Likewise, the respondents in this study who recognized they had similar interests as the first party, were more likely to mediate (Appendix 7.10). Recognizing that they had nothing in common, however, did not preclude mediation. Nevertheless, attributions based on prejudice polarized perceived differences between the disputants. For example, some respondents stated that they had nothing in common, nor did they *want* to have anything in common with the first party. For example, Jackie Chan's racist beliefs led him to perceive his neighbour as completely opposite from him. When referring to his Jamaican neighbour, Jackie said, "We are not equal by culture, by education or by whatever. . . They are not your kind." Moreover, when I asked whether Jackie had anything in common with his neighbour he responded that they are both human—"We breathing the same air, drinking



the same water, and he's a human being and I'm a human being (laughing).” Jackie did not wish to be considered similar in any other way. Because he believes that *all* Jamaican people cause problems, this produced a climate that was ripe for conflict. When I asked other racist respondents, Jon and Hillary Mitchell, about perceived similarities with their neighbour, they responded, “Please God, no.”, praying that they had nothing in common with their neighbour.

**(3) Escalated the Conflict.** Third, it was evident that attributions and biases contributed to conflict escalation in some situations. For example, Niki Tatopolous told me that her brother escalated the conflict with their Chinese neighbours by yelling racial slurs at them.

He went over there [to the neighbours] and he starts calling her 'chink' and 'you stupid chink' and this and that. My brother, he's a real freak. He's yelling 'you chink' and 'I'm going to kill you.' And it's not good. What a scene! (no--Niki Tatopolous)

Such biased comments were particularly hurtful, and were often followed by violent interactions.

For some respondents, violence was a part of their racist schema. For example,

She is inclined to be very explosive. She is very vicious. *These people* are dreadful. . . That is the type she is. . . . It's a good thing she didn't have grand children or the mother would have killed them like she abused her children. . . . I know that beating a child senselessly and kicking her at the same time is not right. Maybe this is how they govern their children in Greece but it certainly is not how in our society. (no—Hillary & Jon Mitchell)

You look at the newspaper, and they [Jamaicans] are always making trouble. You know, killing people, shooting. They are very, very aggressive pushy people. (no—Jackie Chan)

The Mitchells and Jackie were telling me that people who are Greek and Jamaican (respectively) are hostile people. Perhaps *expectancy confirmation processes* (described earlier) were operating, whereby these respondents found “evidence” to support their initial beliefs that the first party was hostile (cf., Snyder & Swamm, 1978). Like past research suggests, both of these conflicts were particularly violent, escalated to assault, and remained unresolved.

**(4) Increased Blaming.** Prejudice was also used as a reason to blame the other party for the conflict. Some ethnocentric disputants attempted to convince me that the first party was not just harming them, but also harming all society (and therefore me) by their actions. For example,

She is rather partial to money, doesn't pay her taxes, and commits welfare fraud. . . . She *steals and takes advantage of people in this society*. . . . We must pay our taxes and we must pay our dues to society to remain in society, but by God she doesn't. Not at all. (no--Jon & Hillary Mitchell)

In this example, the Mitchells were doing more than simply reporting “welfare fraud.” They were labeling the other party as morally “bad” because she *intentionally* harmed all of society by “stealing” money from “the people.” These comments heighten the perceived injury because of the extensive number of people harmed by their neighbour. Since I am the social audience for the Mitchells, perhaps they said this as a way to “get me on their side,” by informing me that their neighbour also harmed me (since I am part of the society being harmed). They may also be arguing that it is morally wrong to attempt to resolve this conflict because that would be absolving their neighbour of the harm she committed.

When analyzing attributions of blame, perceived intent was the factor that clearly distinguished those ethnocentric disputants who agreed to mediate from those who declined. For example, Jackie Chan (Table 7.15) made racist comments that clearly blamed the other party for the conflict. In fact, he even said "it is a racial problem—their culture is the problem." He also made internal-stable attributions when he argued the other party was a "noisy, aggressive, chaotic" person. Jackie also perceived the harm was intentional. This was evident with comments such as: "making trouble," "they said it is their right to make noise," and "he just wants to do what he likes."

Meera Wing, a Chinese landlord, voiced racist beliefs about her Canadian tenant, but she perceived the harm was unintentional (see Table 7.15). Meera had lived in Japan for many years and when she compared Western and Eastern cultures she argued that Canadians, in general, are more selfish. Thus, her tenant's Canadian (selfish) heritage was blamed for the conflict—an internal-stable attribution. Meera believed the harm was unintentional, blaming socialization (the culture) for her tenant's selfishness. Moreover, she expressed empathy toward her tenant's situation when she said, "it isn't their [her tenant and other Canadians'] fault. That is the way they were socialized." Attributions that indicated the perceived harm was unintentional seemed to be related to accepting mediation.

Table 7.15

**Perceived Intent and Culturally Biased Attributions**

Intentional Harm	Unintentional Harm
<p>The problem is I have met a lot of those people. It is also a racial problem--their culture is the problem. He (the neighbour) is from Jamaica. the guy was not well educated. . . . We view them as disgusting people. big nuisance people. always making trouble. very aggressive. These are chaotic people. . . They are making unreasonable noise all the time. . . .sometime in the summer you go to a park those people they have a group. . . . they will be sitting together making noise. . . . Any person if they get a primary education or they are brought up in Canada and they get education here. they will not do this kind of a thing. . . . <i>They say it is their right to make noise.</i> You don't have the right. it is a privilege. (no—Jackie Chan)</p>	<p>MW: Japanese people understand each other and help each other out. . . Even though they can hear people living in the upstairs. they still keep very quiet and they understand. . . . In Canada people are not like that. They do not understand and are not as considerate. . . She [the first party] wants to get whatever she wants and never thinks about anybody else. only herself. . . .</p> <p>TJ: So you're saying there is a difference between the Japanese and Canadians. where in Canada people don't seem to be as considerate of others? And there is a big difference between Canadian and Japanese cultures?</p> <p>MW: Yes. that's right. I learn a lot from the people in Japan but after I come to Canada I see really different things. Even my kids too. they are starting to use the Canadian way of talking to each other. They say. "how about me" all the time. You know. if everyone is always saying "how about me" then there will be no one left to give. . . . They [first party] are always complaining and making noise <i>because they are from a selfish Western culture. it isn't their [her tenant's] fault. That is the way they were socialized.</i> (yes--Meera Wing)</p>

**(5) Used as a Reason to Refuse Mediation.** Prejudice also decreased the perceived likelihood of resolution. For example, disputants used their racist beliefs as reasons for not mediating.

I think mediation is good but not with these kind of people [Jamaicans]. . . . They are not that good of people. They are too stubborn. I will like to have mediation. I would, if they were not so stubborn. If they were in a better cultural background I would try mediation. (no--Jackie Chan)

In another example, Irene Storey's perception that all young people are disrespectful and have nothing important to teach her, contributed to her decision not to mediate.

Age is a huge barrier. Like I'm going to sit and listen to a young teenager? I don't think so. . . . You know, this is my belief, and no reflection on anyone, but these were younger women that I was dealing with and I figured that I should just leave them alone.

By "leave them alone," Irene meant not go to mediation, not resolve the conflict, not discuss the issues. Irene's biases toward young people were similarly directed at the mediator. "How do I meet with a mediator who is not as experienced as I am? I know that sounds terrible." In other words, Irene's biases prevented mediation. Thus, when the disputants' perceptions of the first party were coloured by prejudice, this had an overarching influence on the climate of the conflict, from initiating the dispute to the perception of options for resolution.

### **Violence**

The final dispositional attributions I will consider are those related to violence. The literature suggests that the amount of perceived violence or hostility can influence the outcome of a dispute (e.g., Keashly, Fisher & Grant, 1993). For example, individuals are who are perceived as threatening or violent are more likely to be involved in

conflictual relationships. Threats are considered violent and are counterproductive to resolving disputes because they often lead to counter-threats that escalate the conflict (Rubin et al., 1994; Worchel & Lundgren, 1991). Additionally, hostility tends to decrease the likelihood that problem solving tactics (like mediation) will be used (Keashly et al., 1993; Peterson, 1983), while increasing the amount of competitive, rigid and contentious behaviour (Zubek et al., 1992).

Contrary to past research, one of the surprising findings of the archival analysis (*Chapter 6*), was that violent conflicts were among those mediated most often. Examining disputant comments regarding violent conflicts and their attributions of intent, help explain this finding. First, disputants distinguished between the fear of violence and actual violence. Those who were *frightened* that the conflict may become violent were more likely to mediate; while those who had experienced *actual* violence in their disputes were more likely to decline mediation (see Appendix 7.10).

Like the other dispositional attributions (i.e., “crazy” and culturally biased attributions), perceived unintentional harm seemed to produce a receptive context for mediation. For example, Lyn Gilbert (see Table 7.16) told me that her neighbour, who lived in the same house, was a “violent person” (internal) and, as a result, they were “always” (stable attribution) worried. Moreover, she suggested that his violence was intentional because he would retaliate in order to “get his own way.”

The illustration in the right-hand column of Table 7.16 depicts Liz Cunningham making similar internal-stable attributions of violence (i.e., “she’s an angry woman”). Liz, on the other hand, attributed her coworker’s angry, hateful, violent personality to

“bad life experiences.” In other words, Liz was excusing the violence, suggesting it was not intentional. This attribution also reflected Liz’s sympathy for her colleague. It appeared that framing violent behaviour as unintentional was adaptive for conflict resolution.

**Table 7.16**

**Attributions of Violence**

Intentional Harm	Unintentional Harm
<p>He was worse because he would chase people with hammers. He chased the guy upstairs [the other tenant in the house] with a hammer and chased him back up on to the front porch because he wanted them to turn his music down. . . He also came to our door one time with a hammer and she came to the door with a two-by-four and we did absolutely nothing to these people. . . He was a violent person. We always worried about making too much noise so the retaliation wouldn't be too deadly. (no--Lyn Gilbert)</p>	<p>I sensed she was, there was an anger in her, and a rage and hatred I picked up right away. . . I have never seen anything like it before. That really worried me. She's a very angry, angry woman and I know she's had some bad experiences. (yes--Liz Cunningham)</p>

**SUMMARY**

The type of conflict and attributions of responsibility appeared to be related to the decision to mediate. Disputants were more likely to mediate when the conflict was regarding money, was short (less than one year), when it was perceived as a misunderstanding and they were afraid of potential violence. Disputants who perceived they had similar interests as the first party and perceived the harm was unintentional and caused by situational factors, were also more likely to mediate. Those who were more

likely to decline mediation had been involved in conflict for a moderate length (1 to 5 years) of time, spoke of the conflict using “war” metaphors, were involved in noise disputes, perceived the harm as intentional, labelled the conflict as “no problem,” and had experienced actual incidents of violence (see also Appendix 7.10).

In this section, attribution theory was particularly helpful for understanding the blaming process in the transformation of a dispute. While the majority of disputants (approximately 77%) overestimated the role of dispositional causes of behaviour (i.e., the *fundamental attribution error*), external attributions (blaming the situation) seemed conducive to constructive conflict. The perception of *intentional* versus *unintentional* harm was the common theme underlying the dispositional attributions (e.g., “crazy,” culturally biased and violent) and it was beneficial to conflict resolution when the harm was perceived as unintentional.

### THIRD PARTY INVOLVEMENT

In this section I consider the influence of third parties, other than mediators, on the dispute. One of the mediation-centre coordinators (Interview #2) thought that misunderstandings regarding mediation would make disputants more susceptible to influence from a third party. S/he believed that how others described mediation would influence their decision to proceed. Research also suggests that when third parties become involved in a dispute they can influence the outcome (Boardman & Horowitz, 1994; Matz, 1987; Richan, 1988). For example, a study by Pearson et al. (1982) found that the main reason why divorcing couples agreed to mediate was because of encouragement from their lawyers. Richan (1988) similarly found that cases that were



referred by the court were more likely to continue to mediation. An individual who is referred to mediation by the court may feel they had been “. . .sent under threat, actual or implied” (Richan, 1988, p. 84). Pearson et al. (1982) used “innovation-diffusion” research to explain this finding. This theory suggests that when community leaders recommend a new procedure, citizens will be more likely to use it. On the other hand, Matz (1987) suggests that one of the reasons why few cases are mediated is because judges and lawyers act as “gatekeepers” to divert cases away from mediation.

Data from the current study suggested that third parties were involved in almost every dispute (see Appendix 7.10). For example, disputants involved such third parties as: a supervisor, board of directors, human resources, landlord-tenant affairs, landlords, lawyers, the court, the “city,” and/or the police. Both the first and second parties were equally likely to have involved a third party. The first party more often involved the police, whereas the second party usually involved some other third party. Such disputes appeared relatively less likely to be mediated. To understand why this pattern exists, the following section explores some of the consequences of involving third parties in these disputes.

There were several drawbacks of involving third parties in the dispute. In general, involving a third party tended to complicate the disputes because: (1) disputants became dependent upon the third party; (2) communication “errors” occurred; (3) the third party was not able, or did not want to become involved; (4) the third party increased perceived competition by “taking sides;” and (5) disputants were influenced by perceptions of social desirability.

Involving a third party in a dispute was problematic when the disputants became *dependent* on the third party. Disputants commented that giving up control was not empowering and it tended to leave them at the mercy of the third party. Moreover, using the resources of a third party did not guarantee a satisfactory resolution. For example,

If the HR (human resources) person would have just handled this correctly, none of this would have happened. (yes/no--Jen Mint)

A second problem of including a third party in the conflict related to *communication*. Conflicts involving third parties often became complicated when information was relayed or interpreted incorrectly.

I'm worried the City was given the wrong facts. . . If the City would have checked the facts in the first place it [the conflict] might have been resolved long ago. (yes--Ben Dunne)

There is an expectation that a third party, especially the police, will take action when they are asked to respond to a dispute, even a dispute that is inappropriate for police involvement (Dowling, Macdonald & Protter, 1983). Sometimes officers do not have the ability or authority to deal with the situation. When *third parties were not able or willing to get involved* in the dispute, the respondents became very frustrated and angry:

And sometimes I call the police and they come and they cannot give him a ticket. I get very, very angry. . . Even the police sometime they are not co-operating because sometime they think I'm a troublemaker. . . They think I'm nervous or whatever. . . The case was thrown out too. (no--Jackie Chan)

Well the police came here so many times and they never straightened it out. It ended up that they (the police) figured we should go to mediation and try to straighten it out that way. . . I phoned the landlord-tenant association and they couldn't do nothing for me either. (no--Lyn Gilbert)

And the City never really took any action either they wanted to keep like a hands-off policy between neighbours and that sort of thing, which is understandable . . . but it might have been resolved long before this if they got involved. (yes--Ben Dunne)

I had *complained* to the head of human resources at [company name]. She didn't take it seriously, so what happened was three more complaints later--two more to the same person and then to the vice-president directly. (yes/no--Jen Mint)

Fourth, when *third parties appeared to "take sides"* it was not conducive to conflict resolution. For example, when the police appeared to ignore requests for assistance, some disputants believed it indicated they had sided with the other party.

The police were going to charge them but changed their mind because they felt sorry for them [the neighbours]. (yes/no--Patty Andrews)

The thing that bothered me more than anything was that every time the police came, except for two young guys that came here, they sided with them [first party]. . . . And I said, 'you don't understand what's happening here as much as we do'. . .but it would just go in one ear and out the other. (no--Lyn Gilbert)

Even though the respondents did not perceive it was a problem when a third party "took their side," it was still *not* necessarily conducive to conflict resolution.

Now, the city by-law officers feel sorry for us and the police feel sorry for us too. (yes/no--Patty Andrews)

The police really helped us. We have a lot of regard for them. He (the police officer) handcuffed him (the son) twice and took him over. (?) After that, the mother came over and began yelling at us. (no--Jon & Hillary Mitchell)

Perhaps one reason why it was detrimental when third parties took sides was because "group support can make people more confident of the legitimacy of their aspirations, enhancing the likelihood of conflict" (Rubin, Pruitt & Kim, 1994, p. 16). In other words,

when disputants believed someone else (especially the police or the courts) thought they had a "strong case." this reinforced their beliefs that they must be "right" and should, therefore, fight even harder to "win." In other words, the third parties were encouraging a competitive approach to the conflict.

### **Social Desirability**

The fifth influence of third parties (in this example both mediators and other third parties), was that many disputants (approximately 64% of those who were willing to mediate) suggested they were induced to mediate because it would make them appear socially attractive to others. This was the one main example that illustrated how involving other third parties was beneficial to conflict resolution. This influence was occasionally so strong that the respondents felt they had no other choice but to agree to mediate (i.e., implicit coercion).

Disputants were trying to gain approval from diverse social audiences including the court, city, mediators, neighbours, and the other disputant. For example,

My lawyer recommended that I try mediation and keep a copy of the agreement as proof that I tried to work it out. (yes--Jacques Neuvelle)

The City will see that I have honestly tried to resolve this problem and my neighbour hasn't, you know, and that's the fact. It should be very clear to everyone as this conflict goes . . . The mediators will also be witnesses that I tried to resolve this. (yes--Ben Dunne)

I just don't want any of the neighbours mad so I'd just rather agree to talk about it. (yes--Joy Mashita)

There were several reasons why participating in mediation was more socially desirable than refusing. For example,

I always, in this whole issue. I felt I handled it fine so I had no worries about going. (yes--Ben Dunne)

There was no worry about dirty laundry or anything like that which one might expect. so mediation was ok in that regard. (yes--Alice Runner)

If I say 'yes' to mediation people would understand what I'm doing and when people see that I'm going to mediation that will show everyone that I'm right. If I talk to [my tenant] and I talk to the community it means that I'm not lying and I can show everyone that I'm very fair. . . .It will show everyone that *I didn't do anything wrong*. (yes--Meera Wing)

In other words, some respondents believed that if they agreed to participate in mediation that would demonstrate they were innocent. Similarly, refusing mediation reflected guilt or that they had "something to hide." In other words, some respondents were motivated to mediate to present themselves favourably to others and demonstrate their innocence in the conflict.

Social desirability also came into play if disputants felt they had been *implicitly coerced* by a more powerful third party. The coercion was implicit because mediation is a voluntary process, and although the respondents were not "ordered" to participate, some felt they had no choice. In other words, such disputants were willing to mediate to "impress" the third party. For example,

Was I willing to go to mediation? On one level "no." [I thought] what are you mad? This is what I got to do with my spare time? Excuse me! I have a busy life. Sitting in some office [---] with my anxiety level "ping". . . .But I felt it was necessary. And to be honest with you, a big part of the reason why I agreed to do it is because I thought if the Board [of directors where she worked] has gone to this much trouble and they're taking this much of an interest, it's the least I can do out of respect for them. Because I knew things would be the same. I figured it would be a waste of time. (yes--Liz Cunningham)

On one hand, Liz perceived the costs of mediation were high, believing it was a waste of time. On the other hand, the social desirability of saying "yes" to mediation--to gain the approval of the board of directors--weighed more heavily than the cost of her time, so she decided to mediate. Further evidence of implicit coercion was provided later in our discussion:

TJ: How did you decide to use this service?

LC: I didn't. It was decided for me. . . The Board said it wasn't an option, we had to go to mediation.

Other disputants responded in a similar manner when a person in a respected organization--the city, the court, police or mediators--recommended mediation. For example, one disputant felt "coerced" by the city--"I thought I had no other recourse [but to go to mediation]. I was sort of forced into it from the City Appeals Committee" (yes--Ben Dunne). Another disputant was afraid that if she did not participate in mediation her children might have to face serious consequences from the police. "Well I didn't really have a choice. They [the mediators] just phoned me and told me there was a problem and I said I would agree to talk" (yes--Joy Mashita). Finally, one respondent felt coerced to participate in mediation because she mistakenly believed that she had been summoned to court and, therefore, thought she had no choice.

TJ: What made you think you were going to court?

JG: It was the name of it [mediation]. She [the first party] also told me that she was going to take me to court so when I got the letter that the meeting was going to be held I said, "Oh my God, this is what they're going to talk about." So when I was talking to them [the mediators] they said, "No, no, no. Don't worry. This is not going to be taken to court. . ."

TJ: Ok, so you went to mediation because you thought it was court?

JG: Yeah, yeah. (yes--June Green).

A further contextual point of this conflict was that June's landlord "recommended" mediation, which probably added another "coercive" force.

### **SUMMARY**

Third parties can influence the outcome of a dispute. Both the first and second parties were very likely to involve a third party in the dispute. The findings seemed to suggest that involving a third party was less conducive to mediation. Perhaps because third parties appeared to complicate or escalate the dispute. The main exception was that some disputants appeared to be motivated to mediate when they wanted to appear socially acceptable or felt they had no choice, particularly when a more powerful person/group recommended mediation.

It is important to note that when third parties are involved in a dispute it may be perceived as a competing tactic (e.g., ask a more powerful third party to use their power to enforce some conditions), an avoidance tactic (e.g., use a lawyer to deal with conflict), or a problem solving method (e.g., choose a mediator or co-worker to help resolve problem). It was not always easy to discern what type of tactic the disputants were describing when a third party was involved. This limitation should be considered when examining the results of this study. Since the data suggest that involving a third party does not always promote constructive conflict, future research should also investigate what conditions (e.g., the techniques and skills of the third parties) promote resolution.

### **PERCEPTION OF ALTERNATIVES**

One mediation-centre coordinator presupposed that before determining their course of action disputants weigh their options. Sometimes, she felt, the only reason

disputants try mediation is because “they don’t have any other alternatives” (Coordinator Interview #2). Past research similarly suggests that before an individual decides how to respond to the conflict they may also consider the costs and benefits of certain alternatives. Those who have carefully thought about their BATNA (**B**est **A**lternative **T**o a **N**egotiated **A**greement) have considered how their interests can be satisfied, and what they will do if they do not resolve the conflict (Fisher & Ury, 1991). The knowledge and perceptions they have of their options (e.g., mediation and the court) are influential.

### **Attitudes Toward the Legal System**

In a number of contexts (e.g., research, theory, the public), mediation is often compared to the legal system. For example, mediation has been viewed as providing an alternative to the formal justice system. Past research has found that when disputants are invested in the legal process (Pearson et al., 1982) or perceive they will have a favorable outcome in court (Thoennes & Pearson, 1985), they will likely reject mediation. Others have critiqued mediation for providing a “second-class” system of justice for people who are unable to afford the costs of the formal justice system (cf., Bush & Folger, 1994, who describe the “Oppression Story” of the mediation movement).

In the current study, there were only two (22% of those who declined mediation) disputants who, when asked why they declined mediation, specifically stated that they were invested in the legal process (Table 7.4). Respondents were also asked to explain what options they had to respond to the conflict, and their perception of the most effective options (see Appendix 7.1, Questions 16 to 18). Analyzing these responses suggested that at least seven (78% of those who declined mediation) disputants might



have refused because of their preference for the court (see Appendix 7.10). The following are examples of comments that suggested respondents were invested in the formal legal system:

We have to keep phoning the police. . . .Once we called the police 15 times in one night. . . .We've been to court about six times. . . .Lots of court cases over the years. (no—Hillary & Jon Mitchell)

The only thing that I can do is to bring court proceedings. (no—Jason So)

I went to see my lawyer . . .and she wrote their lawyer a letter. (yes—Jacques Neuvelles)

Respondents also mentioned that court was beneficial because someone (e.g., a judge or the police) determined the outcome by judging who was “right” and who was “wrong,” and the outcome could be enforced. Disputants also thought court was beneficial because it provided protection against “cheaters,” because individuals were required to follow rules or “play fair.” For example, Jon and Hillary Mitchell (no) argued, “If it [the dispute] goes to mediation the chances of survival are even less because *the courts and lawyers will protect us.*”

### **Attitudes Toward Mediation**

#### **Justice Issues**

Past research suggests that individuals weigh justice issues (i.e., distributive, procedural and retributive) when determining how to respond to conflict (e.g., Pearson et al., 1982; Peachey, 1989; Thoennes & Pearson, 1985; Tyler, 1987). Such cognitive processes may be influenced by a lack of knowledge or incorrect knowledge of mediation, and a fear of the process (Matz, 1987; Volpe & Bahn, 1987). One party, for

example, may not want a complete stranger to intervene or they may fear they will be forced into a settlement that is not satisfactory (Potapchuk & Carlson, 1987). How the disputants perceive the mediator also influences their perception of the process. Mediator characteristics that may be important to consider include: perceived neutrality, personality characteristics, status, expertise, credibility and trustworthiness (Olczak, 1991). The following sections examine disputants' perceptions of mediation with respect to its perceived ability to meet the individual's needs for justice (i.e., distributive, procedural and retributive).

### **Distributive Justice**

*Distributive justice*, is a social psychological concept that focuses on perceptions of the outcome. Outcome fairness can be determined by assessing whether the resources are distributed *equally* (obtaining the same or equal outcome as the other party), *equitably* (receiving outcomes based on input), *based on need* (Peachey, 1989), precedent, perceived rights, etc. (Lissak & Sheppard, 1983). People may also perceive distributive justice has been achieved when one party "wins" at the others' expense (Folger, Poole & Stutman, 1997).

One coordinator suggested that concerns about distributive justice influence the decision to mediate:

Frequently, the second party in the dispute is the one who is most likely to lose something if there is a negotiation. So how are you going to engineer a mediation so that it is truly a win-win situation? If the first party has complained because they feel that the second party has the edge (with the nice big shady tree, or the fence that they want the other party to pay half for), you have to convince the second party that they are not going to lose anything, and that is the challenge. (Coordinator Interview #3)

Likewise, past research suggests that disputants who negatively frame possible outcomes as losses, will be less concerned about working with the other party (Rubin et al., 1994). Similarly, parties may be less likely to endorse a cooperative procedure if they believe they have a strong case (Schuller & Hastings, 1996). Other research on the impact of perceived outcomes found that for divorce disputes, men were more likely to mediate when they believed they would not “win” in court (i.e., when they felt court would not provide justice) (Pearson et al., 1982). These researchers found that women also weighed issues of distributive justice in their decision to mediate their divorce issues. They found that women preferred mediation because they felt that court would not provide a fair outcome for their partner (i.e., distributive justice).

The findings of the current study suggested that disputants seemed to consider distributive justice issues in their decision to mediate. When disputants believed that mediation would not allow them to achieve a fair outcome, they were less willing to participate (see Appendix 7.10). That is, if respondents perceived there was (1) no possibility of resolving the dispute (a fair outcome was “hopeless”), (2) if the other party would have more to gain (or would “win”), or (3) if they feared that enforcing a resolution would be problematic, then they refused to participate (Table 7.17).

Some disputants perceived the dispute would never be resolved, no matter what conflict resolution method was used (see *I. Resolution is Hopeless*, Table 7.17). Some disputants felt mediation was hopeless because the other party was unwilling or unable to change (stable-dispositional attributions). A resolution appeared hopeless because the first-party's behaviour was seen as immutable. Some felt the outcome was hopeless

because the harm or injury was "too great." and no amount of restitution was sufficient to compensate for the damages. Suzanne Gold's comments in Table 7.17 provide a particularly good illustration of this perception. She interpreted her dispute as specifically about the fence/property line. Moreover, she did not recognize any benefits of mediation (i.e., the other party would have more to gain), arguing that because her neighbours' fence had been built in concrete, nothing could improve the situation. Hopelessness prevented her from gaining any emotional or practical benefits such as a reduction in stress that may come from improving the relationship with her neighbour, or reaching agreement about the height of the fence dividing their property lines.

Past research has similarly found that attributions of hopelessness are detrimental to conflict resolution a number of ways. First, hopelessness is extremely problematic because it reinforces cognitive psychological barriers that make a resolution less likely (Ross & Ward, 1992). Second, such attributions may act as a self-fulfilling prophecy. For example, a respondent may behave in a more hostile way or reject mediation simply because they believe a resolution is hopeless. This attribution may also be an excuse to avoid the conflict. Finally, one must also consider that respondents disclosed such attributions as a type of *self-serving bias* to protect their self-esteem. Failure to resolve a conflict (or to even try to resolve it) may be damaging to one's self-esteem, but attributing the failure to the situation (i.e., it's a hopeless conflict) relieves the disputant of responsibility for the failure.

The second issue in Table 7.17, (*II. Other party would "win"*) demonstrates how some respondents framed possible outcomes as zero-sum, where there is a distinct winner

and a loser; or as noncorrespondent, where disputants perceive their interests are strongly opposed. A laboratory study (Thibaut & Walker, 1975) that examined the influence of noncorrespondent outcomes on conflict resolution found that participants in a condition with a severely noncorrespondent outcome were unable to resolve their dispute using mediation, and required intrusive third party intervention. Similarly, in this study, such perceptions were detrimental to finding a resolution because respondents seemed to refuse mediation to protect themselves from “losing” more, or because they perceived the damage was so great that nothing could be achieved by mediating.

The third issue in Table 7.17, “enforcing the agreement,” illustrates how some disputants perceived mediation outcomes were problematic because they could not be enforced. This issue raises a paradox of mediation. One goal of mediation is to empower disputants to produce a satisfactory outcome for both parties. The logic is that such a process will encourage disputants to adhere to the agreement. Unfortunately, this advantage of mediation becomes a disadvantage when disputants are concerned that the other party may not uphold the agreement.

Those disputants who agreed to mediate were clearly more likely to conclude that mediation would provide just outcomes (see Appendix 7.10). These respondents believed that mediation would: resolve the conflict, prevent escalation, allow them to obtain their needs, or would provide a neutral or at least not harmful resolution (see Table 7.18).

Table 7.17

**Disadvantages of Mediation from a Distributive Justice Perspective*****I. Resolution is Hopeless***

We wouldn't have a favourable outcome if we tried mediation. (yes/no--Patty Andrews)

You *can't do anything with her*. You know, if the other Greeks can't do anything with her, how can we?. . . She's got a head like a butcher block. You *can't change her*. . . I don't foresee an end to this conflict or for the conflict to be resolved. (no--Hillary & Jon Mitchell)

I mean if I had something to gain. . . then I think we would have mediated then. . . There was *nothing I could do to make the situation better*, they had already made it as bad as it could be. . . There was going to be no happy solution for anybody. . . The *damage was already done* and they were not going to change it. . . *It's too late*. . . There was no reason for me to mediate with that, because the fence had been built. . . They have their fence, they have it where they want it. (no--Suzanne Gold)

We're not even going to try to work it out. Sometimes people go *too far past the point of being able to work it out*. (no--Niki Tatopolous)

***II. Other party would "win"***

Mediation would *only work to her advantage*. (no--Jon & Hillary Mitchell)

We are not going to give in this time [by going to mediation again]. (yes/no--Patty Andrews)

I'm the type who thought 'oh my God it's [mediation] going to *be used against me*'. (no--Niki Tatopolous)

***III. Enforcing the Agreement***

I would say the mediation centre is not recognized. So unless you get recognition who's going to listen to you? (no--Irene Storey)

If we did go to mediation we might not achieve anything because she would not follow through with an agreement. (no--Jason So)

One reason why some respondents were motivated to resolve the dispute was because they felt the conflict was aversive, stressful and had a detrimental impact on their health. Consequently, they were hopeful that mediation would allow them to resolve the conflict (see *I. Conflict Resolution*, Table 7.18).

Conflict was especially aversive when respondents feared escalation or violence. Thus, some disputants were hopeful that the outcome of mediation would prevent further escalation (see *II. Prevent Conflict Escalation*, Table 7.18). Others perceived the outcome of mediation would favour them or allow them to achieve a particular agenda. For example, Joy Mashita (Table 7.18) went to mediation to prevent her neighbour from calling the police, because that would have had potentially serious consequences for her children. "I was glad that the police weren't involved, that we could just talk about the problem. . . . I don't want any future problems and I don't want to bring in the police" (yes--Joy Mashita). Finally, although some disputants did not think they would necessarily gain anything by trying mediation, conflicts were often so aversive that mediation was perceived as better than doing nothing (see *IV. Nothing to Lose*, Table 7.18). Some even felt "stuck" or unable to resolve the conflict on their own. They had exhausted other options, so mediation was their last hope.

Table 7.18

**Distributive Justice Incentives to Mediate*****I. Conflict Resolution***

I want to go to mediation to try to solve the problem. (yes--Meera Wing)

Mediation allows you to be innovative in your solution. . . . It was important to solve this. (yes--Brian Levinson)

***II. Prevent Conflict Escalation***

Well I really wanted it to be resolved because I thought something, anything could have happened. Like somebody could have got hurt very badly...because one day she told me when you're walking down the street you better keep watching your back. (yes--June Green).

The conflict takes on a life of its own and I didn't want to proceed in that. (yes--Brian Levinson)

I was worried that he [first party-landlord] would come and slug her [second party-Joan's daughter] or something. You know, I was worried because she is a slim girl and he is a big guy. (yes--Joan Dubrow)

***III. Something to Gain/Particular Agenda***

I wanted her to get a clear message that you cannot behave like that and get away with that. I want her to know I won't tolerate this kind of disrespect from anybody. . . . I was at least hoping there might be a middle ground that we could come to. Maybe a little bit more acknowledgement. Perhaps a little bit more respect. (yes--Liz Cunningham)

Let him [first party, tenant] see more clearly that indeed I have done everything I could. . . . And I was asking for recognition of that. (yes--Alice Runner)

I just wanted my tenant to leave. (yes--Stevan Gumersall)

***IV. Nothing to Lose***

I'm not getting a resolution right now so at least with mediation we're trying something, which is better than doing nothing. (yes--Ben Dunne)

I couldn't lose by going to mediation. If you don't go then you're a loser. (yes--Dan Palomino)

In my case I had very little to lose. I had everything to gain . . . . At this moment nothing is happening. What can it hurt if I go to mediation? If I lose at the mediation I'm still not losing, and what I'm doing right now is certainly not gaining. (yes--Brian Levinson)



### **Procedural Justice**

*Procedural justice* refers to fair conflict resolution procedures. Determining procedural justice involves consideration of a wide range of issues. Thibaut and Walker (1975) suggest that personal control in the dispute resolution procedure is an important determinant of procedural justice. Tyler (1987) identified four issues that are common in disputant assessments of fair procedural processes: (1) representation, (2) ethical appropriateness, (3) honesty, and (4) consistency. Representation refers to the degree of influence an individual has over the final decision, or the amount of influence they have over a third party who decides the outcome. People are more satisfied with outcomes determined by a third party when they feel their views are taken seriously (Tyler, 1987). A second category of procedural fairness, ethical appropriateness, refers to the degree to which the third parties' behaviour is considered ethical. Is the third party rude or respectful? Third, procedurally speaking, disputants are more satisfied when they feel the third party is honest. Fourth, disputants will also consider whether their treatment was consistent with others in similar situations.

This second justice issue, may be even more important to consider than distributive justice because past research suggests that people will generally be more satisfied when a procedure is fair, regardless of whether the outcome favours them or not (Lind & Tyler, 1988; Tyler, 1987; Thibaut & Walker, 1975). Past research has discovered that women weighed issues of procedural justice in their decision to mediate their divorce issues (Pearson et al., 1982). That is, women tended to prefer mediation because it was perceived as less impersonal and more cooperative than court (i.e., procedural justice).

Lissak and Sheppard (1983) have criticized past research on procedural justice on several grounds. One criticism is that researchers usually determine procedural justice criteria and disputants rarely have the opportunity to provide their own criteria. Additionally, there are many variables that potentially influence perceived procedural justice, but researchers too often focus only on the “fairness” of procedures. Issues such as speed of resolution, accuracy, perceived control, the ability to achieve a resolution, and satisfaction with the procedure, for example, are rarely considered. This section attempts to address these criticisms by examining diverse criteria of procedural justice (i.e., not only “fairness”) raised by disputants.

Respondents identified both procedural *advantages* and *disadvantages* of mediation, and such assessments were clearly related to the decision to mediate (see Appendix 7.10). Procedural benefits suggested by respondents included perceptions that mediation would be fair and non-judgmental; fast and cost-effective; and facilitate non-adversarial communication (Table 7.19). Additionally, although mediators tell disputants that they will not side with one party, some respondents believed that mediators would *favour* them (i.e., issue *IV*: *Mediator is on my side*, Table 7.19). Such disputants considered this a procedural advantage of mediation.

Table 7.19

**Procedural Justice Incentives to Mediate*****I. Mediators are fair and non-judgemental***

I felt like well if somebody comes and they know what's going on, and they will be fair, why not? (yes--Joan Dubrow)

The mediator wasn't intimidating...She was a person with a smiling face who had a very open genuine attitude right from the start...There was no perception of judgement towards either one of us. (yes--Alice Runner)

***II. Fast and cost effective***

My lawyer said it was in my best interest to get something done fast and mediation was the fastest and most cost effective too. (yes--Ben Dunne)

***III. Facilitates Non-adversarial Communication***

One of the problems that we have with conversation is we would always take it way off track and then it would get off on so many tangents and the tangents would be irrelevant to really what we were trying to do, or solve, or whatever. And that's when the discrepancies would come in place. They'd get blown up and then they would turn into bigger situations and it would just spiral from that. So it would become very frustrating to do any sort of talking at all...It [mediation] gave me an opportunity to present my point of view. (yes--Ben Dunne)

Lookit, I wanted to be heard by somebody. (yes--Brian Levinson)

In the past I have had a lot of problems with my kids and neighbours. Most neighbours go call the Police or they'll come screaming, and they're not listening to me at all...So I thought that the mediators could help out with that...I thought mediation was great because I can go down and I can say my side and say what I thought. There are rules that you couldn't talk when the other guy was talking. (yes--Joy Mashita)

Sometimes if you work at a problem so long either you can become stuck in a rut . . . And there's times where it's just good to let yourself take a breath and let someone else do the mediation for you, even though you might be entirely capable of doing it yourself. It's sometimes very much a relief to go, "OK, we'll let someone else do this—do the focusing for us—and I'll just answer my questions"...So I think it's [mediation] definitely a benefit to us. (yes--Alice Runner)

***IV. Mediator is on my side***

The mediators would understand how ridiculous the neighbours' views are, and help the neighbour understand my concerns. (yes--Ben Dunne)

Procedural concerns appeared to be related to rejecting the mediation offer (see Table 7.20). As mentioned earlier, Tyler's (1987) research on procedural justice indicates that disputants favour a process where the third party takes them seriously (termed representation). Some respondents were concerned that the mediators would be biased because they would be "conned" by the untrustworthy first party (see *I. Biased Mediators*, Table 7.20). Disputants rely on mediators to be guardians of the process, and they believed if a mediator favoured the other party, the process would not be fair.

A second procedural concern was that some disputants felt mediators were inappropriately invading their privacy (see *II. Stranger Intruding*, Table 7.20). Third, although one benefit of mediation is that it empowers disputants to resolve their own conflicts (and it is empowering relative to the court), not every disputant would agree. In fact, one disputant, Irene Storey, thought it was demeaning and insulting to be asked to participate in mediation because it implied she was unable to resolve her own disputes (see *III. Demeaning*, Table 7.20). Additionally, some disputants felt the mediation process was not sophisticated enough to deal with very complex issues (see *IV. Not Sophisticated Enough*, Table 7.20).

Table 7.20

**Disadvantages of Mediation from a Procedural Justice Perspective*****I. Biased Mediators***

I knew she [first party] would play dirty. And there's a flip side to her, and I knew she would be a totally different person in the mediation. . . . And I thought the thing is there is an element of dishonesty and that was disturbing to me because *the mediators weren't getting the real picture*. . . Trust was a biggie and there was no trust. (yes—Liz Cunningham)

She has the ability to cry, we call her the "town cryer". . . . She can shed some tears and *the mediators will be on her side*. . . . She's a born actress. . . . She's a con artist, a liar and a cheat and she can't go any lower. . . . I won't trust her within eyesight or ear-sight. . . . What she lacks in education she would more than make up in ability to scheme and lie. I find her a very devious woman, very devious. (no—Hillary & Jon Mitchell).

***II. Stranger Intruding***

It felt like an infringement on my privacy. . . . To me it was like butting in on my private business. I didn't ask you [mediators] to come in here. I didn't ask you to contact me. (no—Helen Pashkau)

***III. Demeaning***

At my age I don't think I need mediation. . . . I can resolve my own problems. I am not a child and nobody is going to treat me as a child. Not at my age and not with what I've gone through in my life. If I create the problem, I'll resolve it. (no—Irene Storey)

***IV. Not Sophisticated Enough***

It was *too big of a conflict* for someone like her [mediator] because how do I explain 22 years of doing my work and hope she's going to understand in the meeting. I don't think so. . . . You can listen to me and listen to the other party, but unless you know the political part of it you don't know what's going on. So a mediator would really have to be involved in the politics for you to be able to mediate. . . . You have to walk a mile in my shoes to be able to understand this. (no—Irene Storey)

This is an extreme case that has been going on for 3 years. . . . This type of conflict is long and ongoing which makes it even more difficult to sit and listen to all the lies and all the problems during mediation. (yes/no—Party Andrews)

### **Retributive Justice—Revenge**

The final type of justice I will examine is retributive justice. Historically, one of the primary methods of obtaining justice was through revenge. Revenge has been defined as "the attempt to inflict harm in return for harm" (Kim & Smith, 1993, p. 38). Certain aspects of a conflict may lead to escalation and the desire for revenge. For example, unfair treatment often provokes very strong emotions because "justice is a deep concern for most people" (Kim & Smith, 1993, p. 38). Conflicts can also escalate if one party perceives the act of revenge as out of proportion to the initial injury (Kim & Smith, 1993). Revenge can make both parties feel victimized, which "often provokes a powerful sense of injustice, and thus, each party can feel outraged, and each can vow for revenge" (Kim & Smith, 1993, p. 41). Feeling victimized also allows both parties to justify their contentious actions and deny their own responsibility for the conflict. The desire for revenge, according to some researchers, makes mediation inappropriate because agreements are constructed by both parties and people rarely elect to harm themselves (Peachey, 1989; Ross & Stillinger, 1991). According to Peachey (1989),

Retribution entails pain of one type or another, and suffering is rarely undertaken voluntarily. Thus, because mediated settlements are agreed to by the participants rather than imposed upon them, such agreements rarely include provisions for retributive sanctions. (p. 306)

This study suggests that those who wanted revenge generally declined mediation (see Appendix 7.10). Given the fact that it is not socially desirable to report vengeful feelings, it was surprising that these were so freely admitted (see Table 7.21). For example, Jackie Chan (Table 7.21) perceived the formal justice system was a more viable

option to obtain revenge because he believed the court would "punish" his neighbour (i.e., put him in jail or penalize him in some way), thus restoring justice.

Second, some respondents refused mediation as an act of revenge (e.g., *II. Refuse Mediation as a Means to Revenge*, Table 7.21). One disputant, Suzanne Gold, felt like her neighbours had been really mean to her family by "stealing" their land and she did not want to "give in" or "give up" by going to mediation. She clearly articulated her reason for saying "no" to mediation was to give her neighbours "a little taste of their own medicine" and "just a little retribution." Some of the disputants realized that saying 'no' escalated the conflict, which often occurs when acts of revenge are committed. For example, Helen Pashkau observed that declining mediation "aggravated the situation."

Those who agreed to mediation were also influenced by revenge motives, but this occurred relatively infrequently (see Appendix 7.10). Thus, this finding will only be considered briefly. One second-party disputant, in particular, agreed to mediate to obtain revenge.

He didn't see that he had a choice [about mediation], so reluctantly he went. . . I was thrilled [about the mediation] but he wasn't, he was very antsy during the first session. . . I know he is shattered by this. I'm positive he is because the fact that someone would go this far to stand up to him. . . He was obviously very unsettled about the procedure, and I was quite relaxed about it. (yes/no--Jen Mint)

Jen believed that the first party was uncomfortable with mediation, so she agreed in order to increase his discomfort. She felt that by participating in the mediation she obtained revenge. Given that the first party requested mediation, it seems unusual that respondents

Table 7.21

**Refusing Mediation: Illustrations of Revenge*****I. Want revenge so mediation is considered inappropriate***

I told him in the court that I fight him until I die. . . .If I say I'm not going to charge him [his neighbour] then he will get free. . . .And so that is why I prefer to go to the court first and let the law handle it. (no--Jackie Chan)

***II. Refuse mediation as a means to revenge***

Why should I come [to mediation]? . . .My mother was so mad because of everything else that *she just wanted to spite her*. . . .Yeah *my mother was doing it [saying 'no' to mediation] to spite her*. (no--Niki Tatopolous)

There was no reason for me to mediate with that. . . .I wasn't going to be so nice and so considerate because they weren't nice to us. So really that was the end of it. I was using that [saying 'no' to mediation] as a means of getting back at them. That's all . . . They had a little taste of their own medicine. It's just a little retribution. (no--Suzanne Gold)

I said [to the first party], "You want to be a bitch, so can I". . . .I said, "tell her I don't want to speak to her." And that proceeded from there. I guess I aggravated the situation because I wasn't going to go along [to mediation] with her. (no--Helen Pashkau)

perceived their agreement as a method to inflict harm. This was a very unusual finding, but it does raise a question regarding disputants' motives for mediation, and suggests that perhaps some have malevolent intentions. Future research may benefit from investigating the impact of diverse motives on the outcome of the conflict.

By contrast, another disputant who agreed to mediate, Alice Runner, was willing to mediate because she did not want to appear as if she were punishing the first party.

It's really important to me and important to the organization and we stress this a lot--that the tenant should never feel that if they've made a



complaint, be it a bona fied complaint or not, that there's opportunity for reprisal. . . . We want tenants to feel that not only do we provide housing but we provide support for them too. (yes--Alice Runner)

### **Summary**

So what can we learn about justice issues and mediation from these respondents?

Disputants seemed to be motivated by justice issues, and considered whether mediation matched their needs for distributive, procedural and retributive justice. Respondents who were willing to mediate believed that mediation would provide them with a fair outcome (i.e., resolve the conflict, prevent escalation, help them achieve a particular agenda, or believed they had nothing to lose). When disputants recognized the procedural advantages of mediation—fair, fast, cost-effective, facilitates non-adversarial communication, and operate in their favour—they were also more likely to participate. Those who were willing to mediate were also more likely to perceive the formal justice system negatively and/or felt they were unable to afford a lawyer.

Those who were unwilling to mediate, however, believed the process would not provide distributive or procedural justice, and declined as a method of obtaining revenge. In particular, these individuals were more likely to believe that a resolution was hopeless, that the other party would “win,” and that it was impossible to enforce the agreement. The theory of *perceived control* helps to explain why disputants may have rejected offers of mediation when they believed that finding a satisfactory outcome was hopeless. This theory suggests that “when people feel they have little control, they become helpless, depressed, and inactive” (Coates & Penrod, 1980-81, p. 659). The respondents in this study may have also assessed criteria of procedural fairness in their decision to mediate.

Support for this statement is based on the fact that those who felt the procedure was: biased, an invasion of privacy, demeaning, or not sophisticated enough to respond to complex conflicts, were less likely to accept the offer of mediation.

Revenge was generally evident in the comments of those who declined mediation. However, several surprising findings were related to this topic. Since admitting to vengeful feelings is not socially desirable, I did not expect to find so many disputants freely admitting to their desire for revenge. Second, I did not anticipate that the acts of saying “yes” *and* saying “no” to mediation could both be perceived as vengeful. These findings also serve as a reminder that people who agree to mediation appear to have diverse motives—including the desire for revenge.

### SUMMARY

One of the main challenges of voluntary mediation is its infrequent use, but we know very little about incentives to mediate (Carnevale & Pruitt, 1992; Pearson et al., 1982). By discussing actual conflicts with diverse disputants, and specifically focusing on community mediation, this study attempted to address the limitations of past research that were outlined in *Chapter 2*. As a result, a diverse number of factors have been identified as being potentially related to the decision to mediate. Nevertheless, the interpretations made in the current study are speculative given the exploratory nature of the data.

Mediation seemed to be more attractive to those who described themselves as having a cooperative “personality,” and were more likely to have used accommodating, compromising and/or problem solving techniques at some point when they responded to the conflict in the past. Although perceiving the request for mediation as harmful did not

preclude mediation. when it was not considered “harmful” (i.e., the first party wants to resolve the conflict and/or was coerced by a third party) disputants were more willing to mediate. Conflicts that were perceived as a misunderstanding, were relatively short (less than one year), and were regarding money issues, were perceived as amenable to resolution. Additionally, conflicts between landlords and their tenants, strangers, and those within interdependent relationships seemed conducive to mediation. Willingness to mediate also seemed to be associated with perceiving the other party as trustworthy, having similar interests, wanting a future relationship, fearing *potential* violence, and/or perceiving the harm caused by the conflict was *unintentional*. With respect to issues of power, feeling powerful combined with a self-schema of equality seemed to encourage mediation. Some mentioned that they would appear more socially attractive to others if they accepted the offer of mediation. This need to gain approval was sometimes so strong that disputants felt implicitly coerced (had no other choice) to mediate. Finally, those who perceived mediation would provide distributive and procedural justice and believed the legal system was not a viable option (i.e., not appropriate and/or were unable to afford the financial cost) were more willing to mediate.

Unlike the findings for those who agreed to mediation, all of those who declined mediation showed the same pattern of responding for some of the issues. That is, they had all avoided conflict, mistrusted the first party, interpreted the request for mediation as harmful (i.e., selfish, intimidating, intrusion), did not want a future relationship, and believed that mediation would not provide a just outcome (i.e., distributive justice).

Mediation also seemed less attractive to some disputants when the past relationship was perceived as independent and when a third party (other than a mediator) had been involved. Those who were more likely to decline mediation had been involved in conflict for a moderate length of time (1 to 5 years), explicitly state there was "no problem," spoke of the conflict very competitively (sometimes using "war" metaphors), were involved in noise disputes, and had experienced incidents of violence. Those who wanted revenge and believed that mediation would not provide distributive and/or procedural justice were also more likely to decline. The interested reader may turn to Appendix 7.11 where I have provided an alternative way of summarizing the salient themes regarding those who agreed versus declined mediation (i.e., conflict vignettes or constructs of conflicts).

Now that I have considered how these groups of respondents differed, it is also interesting to consider how they were similar. Avoiding and competing were the most common responses to conflict by all respondents. There was evidence that both groups of respondents used contradictory discourses to describe the conflict. For example, they explicitly told me that there was no conflict, while implicitly describing how they felt injured by the other party. There were also similar numbers of neighbour conflicts and disputes about relationships and property in both groups. In general, the second parties also tended to: mistrust the first party, make dispositional attributions (internal-stable), be influenced by cultural biases, involve another third party (other than mediators), and perceive the request for mediation as harmful. Disputants who agreed and declined

mediation also seemed equally likely to be involved in very long conflicts (more than 5 years).

Several practical implications are suggested by these findings. In the following discussion, I will focus on socioeconomic status, conflict resolution tactics, violence issues, attributions of blame, implicit coercion, and relationship issues. Suggestions pertinent to mediators, researchers and disputants will be provided.

## **GENERAL DISCUSSION**

### **Implications of the Findings**

Previous findings regarding the relationship between socioeconomic status and the decision to mediate have been mixed. Although the findings seem to suggest that there is no apparent relationship between socioeconomic status and mediation, several disputants (18%) did suggest that that financial costs of using the formal justice system was one factor contributing to their willingness to mediate. This suggests that this group of lower-socioeconomic individuals may have used mediation because they felt they had no other options. This type of finding is problematic because it may support opposition to the mediation movement--that mediation may become a type of "second-class" justice for those who are less affluent (cf., Bush & Folger, 1994; Dukes, 1990; Folberg & Taylor, 1984; Picard, 1998; Roehl & Cook, 1985). Since income was not measured directly in the current study, it would be useful for future research to continue to examine this relationship.

Avoiding and competing conflict tactics were reported as being the most frequently used by the respondents in this study. There was some evidence that these

tactics contributed to destructive conflict. Other tactics such as accommodating, compromising and problem solving were rarely reported as being spontaneously used by the disputants. This has important practical implications. It suggests that there may be some practical benefits to training the general public about the benefits of alternative responses to conflict and in teaching the skills necessary to implement these approaches. Deutsch (1994) similarly argues that "participants in a conflict need skills and orientations similar to those of a skilled mediator if they are to develop a constructive solution to their conflict" (p. 24). One goal of the mediation centres was to train community members to use these skills, and the findings suggest this is a beneficial process to continue.

### **Violence**

The finding that disputants who feared potential violence were more likely to mediate, while those who had actually experienced violence were less likely to mediate, has some interesting implications. This finding suggests that when researchers examine the relationship between violence and the outcome of a dispute it is important to distinguish between fear and actual violence. This finding also implies that it is probably beneficial for mediators and other dispute resolvers to respond to conflict early, before it escalates. As several disputants mentioned, once a dispute escalated to a "war," the harm was perceived as too great and the conflict was perceived as impossible to resolve. Thus, preventing the escalation of a conflict seems very important.

### **Attributions of the Request for Mediation**

Respondents who interpreted the request for mediation as an invasion of their privacy or as “back-stabbing.” were also judging the request as inappropriate, suggesting that the first party broke some unwritten “rule” of conflict resolution. These respondents suggested that the first party should have approached them *directly* before formally including a third party in the conflict. One unfortunate consequence of breaching this “rule” was that it tended to promote destructive conflict. This implies that in some situations it may be beneficial for mediators to encourage first parties to approach the second party directly *before* the mediators request mediation.

### **Attributions of the Conflict**

Several researchers suggest that identifying an event as injurious (naming) is the first transformation in the disputing process (Felstiner, Abel & Sarat, 1980-81; Paquin, 1992). The findings from this study suggest that the “naming” process may not be as simple as determining whether an event has been cognitively identified as harmful or not. A contradiction was evident among some respondents whereby an explicit discourse of “no problem” suggested that they had not perceived an injury, while their implicit discourse suggested they felt injured. These contradictions in the perception of injury suggest the importance of deeper investigations regarding how an event becomes identified as injurious. What are the implications of this contradiction in the “naming” process? How can researchers and mediators deal with contradictions in the identification of injury? Future research using discourse analysis to investigate the naming process would likely be very revealing. Discourse analysts examine accounts or constructions of

reality to understand their function (cf., Steinberg, 1996). For example, a discourse analyst might ask, “Does the explicit discourse of ‘no problem’ serve a purpose (e.g., coping, reframing, justification, excuse)?” Such information would contribute to our understanding of productive and nonproductive conflict.

There are several implications of the findings regarding attributions of blame. While the majority of disputants overestimated the role of dispositional causes of behaviour (i.e., the *fundamental attribution error*): external attributions (blaming the situation) seemed conducive to conflict resolution. Correspondent inferences are often made when disputants lack information about the causes of the other party’s behaviours. Therefore, perhaps one way to reduce this bias is to provide disputants with more information regarding their opponent and other potential causes of the conflictual behaviour; or to encourage disputants (e.g., with questions) to consider the possibility of other causes.

The main attributional pattern relevant to the decision to mediate appeared to be regarding perceptions of *intentional* versus *unintentional* harm. Those who perceived the harm was unintentional seemed more willing to mediate, and the conflict was more constructive; while perceptions of intentional harm were destructive. This finding suggests that it may be beneficial to develop ways of encouraging disputants to reframe attributions of intent. For example, compare the two disputants Dan Palomino and Suzanne Gold. Although the conflicts were very similar—both were neighbour disputes over property lines—their attributions were very different. Suzanne viewed her neighbour as maliciously stealing property from her, while Dan viewed similar actions from his



neighbour as protecting her estate for the sake of her children. Perhaps these attributions were what partially caused Dan's conflict to be constructive, while Suzanne's was destructive.

If disputants do not spontaneously do this kind of positive reframing, then perhaps mediators can do more to assist them. Cobb (1993) suggests that mediators can enhance the participation of disputants by using guidelines of "empowering practice." The main idea is to guide disputants to construct positive attributions of intent for the actions of the other party. "Providing positive positions for all disputants reduces, if not eliminates, adversarial conversational patterns by altering the stories in which adversarial account sequences are enacted" (Cobb, 1993, p. 254).

### **Implicit Coercion**

Since community mediation is a voluntary process I was surprised by the findings regarding "implicit coercion." One finding related to coercion was evident after examining the respondents' attributions regarding the first party's request for mediation. When second parties believed that the first party requested mediation because they were coerced by a more powerful third party, this appeared to be conducive to mediation. This finding may be explained by the idea that attributions of harm normally directed at the first party are re-directed at the third party.

Additionally, some disputants suggested that for a number of reasons they felt coerced to participate in mediation. One reason for feeling compelled to participate was because a more powerful individual *recommended* mediation. For example, respondents felt coerced because a relatively more powerful third party in their workplace (i.e., who

had authority to hire and fire workers) recommended mediation. Other respondents felt compelled because the police or the City recommended mediation. Finally, one landlord felt obligated because she feared negative repercussions from her live-in tenant if she refused. In these cases, *perceived* coercion seemed to encourage mediation.

Other researchers (i.e., McEwen & Milburn, 1993) would probably argue that findings regarding implicit coercion are to be expected because

somewhere between the idealized poles of “voluntary” and “coerced” fall the actual patterns of entry into mediation: as mediators intrude on parties; parties choose mediation under strong social pressure; or one party opts for mediation and mobilizes pressures to involve the other party; or courts require mediation of the parties to lawsuits in order for them to proceed to the next stage in litigation. (p. 25)

What are the implications of coercion on the mediation process? *Should* disputants be coerced into mediation? Proponents of mandatory mediation argue that some coercion is essential because mediation works very well and is very satisfying for disputants, but many psychological barriers prevent people from attempting it (e.g., McEwen & Milburn, 1993; Roehl & Cook, 1985; Ross & Ward, 1995). “. . . Even those parties *required* to participate generally find the process fair and satisfying, and would recommend it to others” (McEwen & Milburn, 1993, p. 23). Another argument in favor of mandatory mediation is the beneficial impact it has on communities who can use mediation as a peaceful option to resolve conflict (McEwen & Milburn, 1993). Thus, the proponents of “coercion” further argue that, in a context where the community’s need for peace and justice outweighs individual needs, mandatory mediation is appropriate.

Opponents of mandatory mediation programmes suggest it detracts from one of

the grassroots goals of mediation as a process where neighbours help neighbours. If mediation becomes a process controlled by the courts, one fear is that the primary mediators would be lawyers and judges, who reflect only a small segment of the community. Additionally, lawyers and judges are trained in an adversarial process that is very different from mediation. Another argument against mandatory mediation is that "mediation jeopardizes social justice by exposing weaker parties to intimidation and pressured settlement from stronger opponents or the third party and individualizes conflict rather than encouraging parties with similar grievances to join together to change the existing social order" (McEwen & Milburn, 1993, p. 32).

How did implicit coercion influence the disputants in this study? In general, coercion seemed beneficial because it encouraged mediation and appeared to have satisfactory consequences. Moreover, in some cases, attributions of harm for requesting mediation appeared to be re-directed at the third party who had been perceived as "coercing" the first party to mediate.

Two cases in this study, however, suggested that coercion might have been problematic. First, Meera Wing agreed to mediate because she was concerned that her tenant would destroy her house. The second example was Jen Mint's sexual harassment case, where her supervisor requested mediation. Neither case would be considered "successful" according to several measures of success. First, a mediation may be considered "successful" if the relationship between the parties improves, and in these cases, neither relationship improved. Second, "success" can be determined by assessing the disputants' satisfaction; and neither one of these second-parties was completely

satisfied with the agreement. Third, in Jen's case, no agreement was reached, and written agreements are often considered a measure of "success."

Since "coercion" is not always easy to identify, developing methods to detect and appropriately respond to coercion would be useful for mediators. Moreover, future research investigating how coercion may jeopardize the mediation process would benefit both the voluntary and mandatory processes. In these cases, coercion may have influenced the process several ways. For example, it may have been Meera's fear that her tenant would destroy her house that led her to mediate and make several concessions that she later regretted. In Jen's case, neither the first or second party seemed motivated to resolve the dispute. Jen wanted vindication, and she felt that her supervisor's motive for mediation was to fire her, which is an abuse of the mediation process.

Cases that may involve coercion require caution from mediators. Mediators need to be aware that even when mediation is voluntary, parties may feel compelled to participate. Caucusing is another technique that probably would have benefited the Meera Wing case. If mediators would have met with her privately before the final agreement was signed, this may have provided her with a safe place to voice her concerns about the number of concessions she made. Additionally, since Meera told me her concerns about the mediation agreement several months later, this stresses the importance of incorporating a follow-up process to evaluate agreements and their implementation.

Although there are obviously several potential drawbacks of "coercive" approaches, I agree with Roehl and Cook (1985) that "mandatory" mediation is acceptable as long as disputants are informed about the process, about other options for

resolution, and have the opportunity to withdraw at any stage. This seems appropriate until mediation becomes a more accepted conflict resolution method, and until we understand more about the differences between voluntary and “coerced” mediation.

Investigating how the mediation experience differs for those who feel coerced versus those who freely choose the process would be interesting. Future research could also investigate community mediation and the impact of *perceived* coercion on the disputants’ satisfaction, relationship and the mediation outcome. Additionally, different styles of mediation that vary in the amount of “coercion” (e.g., “mandatory” versus voluntary) could be compared on the same dimensions. Mandatory, court-ordered mediation, has been recently instituted in Ontario and applies to the Superior Court civil cases (formally the Ontario Court, General Division), and has, therefore, become a part of the justice system (Furlong & Margles, 1998). This type of situation provides a perfect opportunity for a field experiment comparing settlement-based, mandatory mediation, with voluntary, interest- and relationship-focussed mediation.

### **Relationship Issues**

There were several interesting findings relevant to the relationship between the disputants. First, although some researchers suggest that a past relationship is important to encourage mediation, disputants who were complete strangers nevertheless agreed to mediate. Second, those who wanted a future relationship seemed more willing to mediate and all those who declined mediation did not want a future relationship. The key unique finding was that many respondents who agreed to mediate suggested that they had no interest in a future relationship (approximately 73%). Such individuals seemed to

perceive the goal of mediation as simply to address the “problem” and not to influence the relationship. One implication of this finding is that although mediators are generally known for resolving interpersonal issues and repairing relationships, perhaps some disputants would prefer a more solution-focussed orientation.

An alternative consideration of these relationship issues is to focus on interdependence. The respondents in this study who perceived the relationship as interdependent were more likely to mediate. This finding concurs with a suggestion made by Cobb (1993) that creating interdependence between the parties, and in their stories of the conflict is beneficial for conflict resolution. One way that Cobb suggests mediators could create interdependence is by encouraging the use of “circularizing” stories. This is a jointly constructed story describing the conflict, which contains the perspectives of both disputants. Such stories are developed by asking circular questions. “Circular questions create descriptions of responsibility without blame. . .” (Cobb, 1993, p. 256). Mediators are not currently trained how to do this so it is not a process that is commonly used in mediation. However, since it is consistent with the goal of empowering disputants, there may be several benefits of implementing it in the mediation process. Moreover, since interdependence seems to be a key relationship theme, future research that investigates how to foster interdependence during pre-mediation stages may benefit the process of mediation.

### **Evaluating the Findings**

Some researchers argue it is inappropriate to evaluate qualitative findings by traditional quantitative criteria such as reliability, validity and generalizability (e.g.,

Burman, 1997). Nevertheless, “the reader does not have to take the conclusions of this kind of analysis on trust” (Potter & Wetherell, 1987, p. 169), and several researchers have argued for other methods of evaluating the findings. For example, others suggest it is more appropriate to evaluate qualitative findings using criteria such as: trustworthiness, integrity, authenticity, credibility, transferability (Adler & Adler, 1994; Fonow & Cook, 1991; Lincoln & Guba, 1985; Rhyne, 1996). In the following section I use these criteria to evaluate the findings of this phase of the research.

### **Reliability**

Reliability in traditional psychological research refers to the researchers' ability to consistently obtain the same results under similar conditions (Crocker & Algina, 1986). Analysis of interview data could be compared with observational studies where two raters are used and inter-rater reliability is computed. A positivist would argue that if two researchers identified the same codes or themes in a qualitative analysis, then the findings must be more reliable or more “objective” (cf., Steinberg, 1996), and hence some qualitative researchers use multiple raters or interpretive teams. Thus, a positivist may suggest that one limitation of this study is that two raters did not evaluate the data and inter-rater reliability was not calculated. However, even if two raters agreed on an interpretation or a rating, it does not guarantee that the finding is “objective” or reliable. In fact, many qualitative textbooks suggest that reliability is an inappropriate criteria for qualitative research and did not recommend using multiple coders (e.g., Janesick, 1994; Kirby & McKenna, 1989; Morse, 1994; Wolcott, 1994).

Since researchers' experiences and knowledge influence the findings, it is unrealistic to expect that two different researchers would produce equivalent *insights* from the same data (Morse, 1994). Morse likens the qualitative research process to synthesizing literature on a topic and argues that researchers do not double-check their interpretation of every original source in a literature review. Moreover, even the same researcher will likely draw different conclusions when the same data is re-analyzed at different times because

. . .the application of additional theoretical perspectives to even decades old data can yield fresh insights and meanings. . . . with each retelling of the research the story changes. Different ideas receive different emphases, and different interpretations take on new importance in the light of changing times and policy concerns. (Thornton, 1993, p. 78-79)

### **Validity**

Although there are many types of validity in traditional psychological research, it is typically defined as "the property of any measuring instrument, device or test that it measures what it purports to measure" (Reber, 1985, p. 808). In qualitative research, "the researcher is the instrument" (Patton, 1990, p. 14). Thus, validity depends on the researcher and "has to do with description and explanation, and whether or not a given explanation fits a given description" (Janesick, 1994, p. 216).

Several considerations regarding the validity of the findings should be discussed. First, there are some disadvantages to the use of retrospective accounts, like the ones used to describe the conflict in this study. For example, when considering those who participated in mediation, it is difficult to determine whether their attributions *initially* differed from those who refused mediation, or whether the mediation influenced the



observed differences. Like past researchers investigating this issue, I agree that “it is possible that causation went in the other direction, with hostile and contentious disputants mentioning, or even inventing, serious incidents to discredit the other party” (Zubek et al., 1992, p. 568). Although this type of reporting may have occurred, the findings that there were similarities between those who agreed versus declined mediation suggest that this might not have been a major concern. I could have addressed this issue by interviewing disputants *before* they participated in mediation. However, this process would have had its own set of ethical and methodological problems because such questions may have influenced the decision to mediate and the future conflict. Weighing the pros and cons of such issues led to the decision to interview disputants after they had made their decision regarding mediation and after the mediation had occurred (i.e., for those who agreed to mediate).

Retrospective accounts may also raise questions regarding how “well” the respondents remembered the conflicts (i.e., in this case some of them occurred up to two years ago). According to Duck and Miell (1986), qualitative researchers are often told that retrospective accounts are biased “. . .without *anyone* having the data to support such a view” (p. 142). Underlying a criticism of retrospective data is the assumption that reports of the present somehow represent an indisputable “truth.” In fact, all three perspectives (past, present and future) probably reflect different dynamics, but are not “better” or “worse” than the other. Since retrospective accounts represent significant psychological processes that influence current and future behaviours, they are important

to study (Duck & Miell, 1986). Investigating how all three perspectives influence conflict processes would be a useful focus for future research.

Disputants may not make rational choices at each stage of the conflict, and may sometimes appear to react automatically because their cognitions are beyond their awareness. Thus, if respondents are unable to articulate their perceptions or they are beyond awareness, these are obviously very difficult to research and would also impact the validity of the findings.

A third consideration with respect to validity is that although respondents who declined mediation were also interviewed, at the conclusion of this study I felt as though I may have learned more about those who agreed to mediate. For example, I wondered whether more details and patterns were presented regarding this group, as compared with those who declined mediation. Perhaps this is a result of the types of questions I asked during the discussion. Considerably more information seems to be presented in the literature about constructive as opposed to destructive conflict. Since the discussion questions were influenced by past research, perhaps these findings are, to some degree, a reflection of this trend in the literature. Although I remained open to discussing issues raised by the disputants I might have raised more issues that were relevant to those who agreed to mediate. Thus, I believe more research should investigate why people decline mediation. Furthermore, continuing to enhance our understanding of factors that promote destructive conflict is also important.

### **Considering Alternative Methods of Presenting the Findings**

In qualitative research "there are no 'right' answers, only more or less convincing analyses" (Sherrard, 1997, p. 76); or as Patton (1990) suggests "findings constitute a perspective rather than truth" (p. 482). The data could have been described in several alternative ways and it is important to keep this in mind when considering the findings. Thus, a fourth consideration of validity examines alternative methods of presenting the results.

There may be limitations to the findings as a result of the categories that were selected and the way they were presented. The choice to present the themes in the data, and focusing on the main research question (i.e., the factors related to the decision to mediate) may have caused me to lose sight of some of the interconnections between the category themes. This type of presentation is also not as dynamic as the actual conflicts. Describing the conflict process as a cycle or circle, for example, might be a more dynamic way to represent conflict. A cycle allows conflicts to be dynamic and have momentum, resulting in a behavioural cycle of "initiation-response-counterresponse" (Folger et al., 1993, p. 10). This approach allows past disputes to have an influence on current and future conflicts. Similarly, the *conflict spiral model* described by Rubin et al. (1994) suggests that "... escalation results from a vicious circle of action and reaction. Party's contentious tactics encourage a contentious reaction from Other, which provokes further contentious behaviour from Party, completing the circle and starting it on its next iteration" (p. 74).

Alternatively, I could have also examined how these category descriptors were interconnected and their contribution to the "climate" of the dispute. "Climate represents the prevailing temper, attitudes, and outlook of a dyad, group, or organization. As the meteorological name implies, climate is just as diffuse, but just as pervasive, as the weather" (Folger et al., 1997, p. 153). The climate can be defined as including: general themes that have an overarching influence on the conflict; and a relatively enduring construct that may also be influenced by conflict interactions (Folger, Poole, & Stutman, 1997). Thus, the climate may influence the conflict, and vice versa. Individual characteristics (personalities, beliefs and attitudes) and/or interactions between individuals (relationship characteristics) may also influence perceptions of the climate (c.f., Janz & Pyke, 2000 for an example of 'climate' as an individual perception).

I faced some difficulties when trying to determine how to describe certain patterns in the data. For example, although I described cultural biases in relation to perceptions of blame for the conflict, there was evidence that it had initiated some conflicts, polarized the parties, escalated the conflict, increased perceptions of blame and were used as a reason to refuse mediation. Thus, ethnocentrism appeared to have a pervasive impact on some disputes and a better approach might have been to describe it as a climate construct. Since culture provides the system of meaning through which individuals understand conflict and conflict resolution processes (e.g., LeBaron, 1997), it is not surprising that this factor appeared to influence several aspects of the conflict.

Since I also had difficulty categorizing perceptions of hopelessness, I wondered whether it could similarly be perceived as contributing to the "climate." Although

hopelessness was described as an issue that was relevant to distributive justice (i.e., finding a fair outcome was perceived as hopeless), it also seemed to influence other aspects of the conflict. For example, those who described feeling hopeless also seemed to feel hopeless about the outcome and about the ability of the other party to change (internal-stable attributions). Moreover, when a resolution was considered hopeless it may have also reinforced cognitive barriers that made a resolution less likely (Ross & Ward, 1992). For example, respondents may have been describing the conflict as “hopeless” as a self-serving bias to protect their self-esteem, and/or as an excuse to avoid conflict. Since there are many ways to present the findings it is important to consider the above issues when evaluating the results. Moreover, since some category themes appeared to be relevant to several aspects of the conflict, it is important for future research to continue to investigate such interconnections.

### **Credibility and Trustworthiness**

Some qualitative researchers argue that “. . . validity does not seem a useful criterion for guiding or assessing qualitative research” (Wolcott, 1994, p. 337); and others argue that determinations of validity should be replaced with questions of *credibility* or *trustworthiness* (e.g., Denzin & Lincoln, 1994; Janesick, 1994).

Patton (1990) suggests that addressing certain questions will help illuminate the credibility of a study:

1. What techniques and methods were used to ensure the integrity of the findings?
2. What does the researcher bring to the study in terms of experience, qualifications and perspective?
3. What are the assumptions underlying the study? (p. 461)

Using these three criteria I will evaluate the findings, and then discuss issues of generalizability/transferability.

### **1. Techniques and Methods**

“Striving to be faithful to another’s viewpoint is striving to be ethical” (Ely, Anzul, Friedman, Garner, & Steinmetz, 1991, p. 218). Since this was of utmost importance, one way I ensured the integrity of the analysis was by providing many illustrations and direct quotations from respondents. Adler and Adler (1994) suggest this strengthens the conclusions by making them transparent, and allows the reader to assess the validity of the findings for themselves.

A second way to deal with the “effects of the researcher” and increase *trustworthiness* is a technique many use called the “audit trail” (e.g., Denzin & Lincoln, 1994; Janesick, 1994; Lofland & Lofland, 1984; Morse, 1994). This refers to documentation of all aspects of the research. For example, I documented six types of information that Morse (1994) suggests are important: “raw data, data reduction and analysis products, data reconstruction and synthesis products, process notes, materials relating to intentions and dispositions, and instrument development information” (p. 230). I also wrote analytic and process memos. For example, I completed a Comment Sheet (Appendix 7.3) after every interview. This encouraged me to document the emotional tone of the interview and any difficulties I faced. Memo writing was a very reflexive process and also encouraged me to document extensively the procedure and my insights on the research topic and findings.

Findings are also more credible when researchers look for competing themes or “negative examples” that do not “fit” the data. I analyzed and compared and contrasted several respondents who differed from the general trend. This provided challenges, but deepened my understanding of the conflict process. Fourth, when gathering the qualitative data, I audiotaped the interviews and used verbatim transcripts to analyze the data, which makes the findings more valid (Whyte, 1984).

Although some researchers suggest verifying the findings with the informants, I did not do this for several reasons. The main reason was because I expected the respondents and I would have very different interpretations of the findings. For example, I theorized that racism contributed to the conflict and resolution processes, but had I explored this with the respondents I doubt they would have agreed with my interpretation. In the future, I plan to discuss and verify the findings with the coordinators and mediators.

Finally, credibility can also be assessed by examining the participants’ reactions to the researcher (c.f., Patton, 1990). Credibility is enhanced when the researcher can demonstrate s/he has established rapport with the respondents. This enhances “validity” because it indicates that respondents feel comfortable talking honestly and openly about the issues.

I used several techniques to establish rapport. First, I encouraged the respondents to select the location and time of the interview, and allowed for flexibility during the interview process. I also used active listening techniques and did not judge their responses. The respondents felt safe to share sensitive and socially undesirable

information, such as their prejudicial attitudes and desire for revenge. Evidence that respondents felt comfortable with me is provided by several comments.

We feel that we have unloaded all of our problems upon you. . . . You are cool, calm and collected, I do rather think. And you catch on to things very quickly. Yes, the fact is that you have a splendid attitude, a good approach, diction, and vocabulary, easy to understand, and you are appreciative of our points of view. (no--Jon & Hillary Mitchell)

A nice, pleasant lady like you--you have patience and listen to people. And have good judgement. (yes--Stevan Gumersall)

I think you're good because you seem non-judgemental and impartial. (no--Niki Tatopolous)

More than anything you recognized the flexibility that's necessary to do this. I've really enjoyed this discussion even though I'm so busy. . . . I think you've been very thorough. I don't think you've missed anything. (yes--Alice Runner)

I'm really venting now. This is how I would talk with my friends (laughter). (yes--Liz Cunningham)

These comments from the respondents suggested they felt comfortable, which allows for more open and honest (credible) dialogue. Additional evidence of their comfort is provided by the fact that they appeared to openly discuss socially undesirable (e.g., prejudice, violence, unresolved conflict), emotional, and arguably irrational behaviours (e.g., making internal-stable attributions for the other parties' behaviours). According to Lissak and Sheppard (1983), these types of responses suggest one of the advantages of discussing real conflict with disputants. They argue that studies like these provide an antidote to the numerous simulated-conflict studies where participants tend to provide unemotional and rational responses to conflict. Thus, they suggest that more research on actual conflicts would advance our understanding of this topic.



## **2. The Researcher**

Second, Patton (1990) suggests that researcher credibility is very important. One way to evaluate credibility is to consider the amount of experience and knowledge a researcher brings to a setting. Similarly, researchers like Kressel and Pruitt (1989) have argued that there is a strong need for "scholar-practitioners" in mediation research:

We are coming to believe that research on mediation will be enriched in direct proportion to the degree to which those who study the process have direct experience as mediators. Such a scholar-practitioner model has proved valuable in clinical psychology and all branches of medicine. . . . Or, to paraphrase Kurt Lewin. . . if there is nothing so practical as a good theory, there may be nothing so theoretical as good practice. (p. 431)

Thus, my personal experience as a mediator, was an advantage in several ways. For example, it helped me understand the "local theories" that guide the mediators (Whyte, 1984). This was beneficial during the research design stage because my background facilitated communication, and I was better able to understand the suggestions made by the mediators. I also believe the coordinators felt more comfortable providing me with open and honest responses because they trusted me.

My experiences as a mediator and training others in mediation and conflict resolution were beneficial to this phase of the research in several ways. The experiential knowledge I have regarding mediation, provided a context for the responses from the disputants and for understanding the data. Additionally, the active listening skills I used facilitated conversation with the respondents, and were useful for developing rapport and for clarifying their responses.

### **3. Assumptions Underlying the Study**

Patton's (1990) third important consideration regarding credibility concerns the paradigm or assumptions underlying the study. This criterion encourages researchers to make their influences and suspicions regarding the findings obvious, and suggests the importance of appreciating the benefits of qualitative methods of inquiry. One way I addressed this issue was by providing information regarding the factors that influenced me and were relevant to this study. I also articulated my prior expectations (or what Kirby & McKenna [1989] call "conceptual baggage") in a self-interview before I began gathering the data, and included them throughout my dissertation.

#### **Generalizability: Extrapolation/Transferability**

Another type of validity within the positivist framework is external validity or generalizability. Conditions for generalizability are met by gathering random, representative samples of a population. Qualitative researchers generally work with small samples which makes it impossible to generalize the findings (Patton, 1990). It is important to emphasize that this study used a small sample and was not attempting to generalize the findings.

Some argue that generalizability is inappropriate for evaluating qualitative research (e.g., Cronbach, 1975; Janesick, 1994; Patton, 1990). Moreover, some suggest that generalizability is less of an issue in the postmodern framework (Adler & Adler, 1994), and instead of focussing on "representativeness" of qualitative data in statistical terms, we should consider extrapolation (Patton, 1990), or *transferability* (Denzin, 1994).

Patton (1990) explains Cronbach's concept of *extrapolation* as the researcher's ability to apply (or transfer) the findings to other situations.

Morse (1994) argues that instead of random sampling, a qualitative sample should be evaluated for its "adequacy and appropriateness." Thus, sampling should be purposeful rather than random. Qualitative researchers usually continue gathering data until repetition or saturation has been reached. Moreover, seeking negative cases also helps to ensure the appropriateness of a sample. In this study, I chose to investigate conflict from the second parties' perspective because of their high rate of refusing mediation. Since "conflict is, by nature, interactive. It is never wholly under one person's control" (Folger et al., 1993, p. 10), understanding conflict from the perspective of one party is certainly biased. Had I analyzed the conflict from the perspective of both the first and second parties, or considered just the first party, the findings probably would have differed. Nevertheless, it was the biases of the second party that were the central concern because I wanted to know more about their decision process. I sampled *all* available cases of second-party disputants over a one-year period, including negative examples. This was done so that my own selection biases would not interfere with the sample and helped ensure the diversity of the cases.

## **SUMMARY**

In sum, although there were some limitations to these findings, discussing actual conflicts with disputants allowed me to isolate some of the salient characteristics that distinguished those who agreed from those who declined the mediation offer. This was an exploratory study so many themes were identified as potentially contributing to the

decision to mediate. The main findings that clearly distinguished between these groups were regarding the perceived interdependence of the relationship and justice issues (i.e., distributive, procedural and retributive). That is, disputants who had used accommodating, compromising or problem solving tactics in response to past conflicts with the first party also appeared more amenable to mediation. Additionally, interdependent relationships seemed more likely to be mediated; and the same pattern was observed for those who perceived that mediation could meet their needs for procedural and distributive justice. On the other hand, those who wanted revenge tended to decline mediation. Moreover, when a third party (other than a mediator) had been involved in the dispute (by either the first or second party) the conflict was less likely to be mediated.

Additional characteristics were also important but did not distinguish between the groups of respondents as clearly. For example, trust and the desire for a future relationship appeared to be related to agreeing to mediate, but mistrust and not wanting a future relationship did not preclude mediation. Similarly, perceiving the first party's motives for mediation as harmful seemed to foster mediation, but some mediations still occurred even when harmful attributions were made. Surprisingly, these groups of individuals shared some other similar characteristics. That is, avoiding and competing were the most common conflict tactics respondents used to deal with past conflict. In general, the respondents also tended to be influenced by an ethnocentric perspective and make dispositional attributions (internal-stable) of the first party's actions.

Practical implications of the findings regarding socioeconomic status, conflict resolution tactics, attributions of blame, implicit coercion, and relationship issues were also considered. The findings were also evaluated using criteria of reliability, validity/trustworthiness, integrity, authenticity, credibility, and transferability. Since I only considered the interconnections between the category themes in a very limited way, suggestions were made for alternative methods of understanding the findings. For example, other researchers suggest conflict should be viewed in a more dynamic way such as a cycle or spiral. Additionally, some of the constructs I examined seemed to have a pervasive impact on the conflict and may have been better described as contributing to the "climate." Thus, future research would benefit from investigating these issues further and from considering how these categories may interconnect in their contribution to destructive and constructive (e.g., mediation) approaches to conflict.

In the next chapter I consider the answer to the main research question regarding the decision to mediate by examining the places where the findings from all four phases of my dissertation diverged and converged. I also consider the implications of some of the other main findings. Since this study was influenced by some of the principles of participatory action research, I will also discuss how changes were implemented in the mediation centres and consider recommendations for further action. Finally, I will look beyond the data to considerations of future research.

## **CHAPTER 8**

### **DRAWING CONCLUSIONS AND LOOKING AHEAD**

In this chapter, I explore several issues that allow me to reflect on the research findings and process, and I also consider the future. First, I examine how the goals of participation and action were realized in the current study. Reflecting on this process reveals that some of the participants were not full collaborators in the same way that the participatory action research (PAR) literature instructs. Evaluating the processes that precluded collective inquiry was done to advance our understanding of PAR approaches, and to provide suggestions for responding to some of its challenges.

How the data were used or put into action during each of the research phases is also considered. In addition to these action results, other learning occurred as a result of this study. New knowledge was gained through the process of triangulating the findings from all of the research phases. Using this process, I revisit the main research question regarding the factors that may nurture mediation. Specifically, I consider relationship issues, third party involvement, and the conflict.

Other patterns also emerged from the findings regarding the serious nature of community disputes and cultural issues. Examining the research process also allowed me to identify a pattern regarding the challenges of gathering data for each of the research phases. The process of triangulation also contributed to the idea for the title of this project. It is finally at this point of my dissertation where the title can be meaningfully explained. I conclude this chapter by looking ahead to ideas for future research and ideas to promote more widespread acceptance of mediation at the individual, community and

societal levels.

### **THE INFLUENCE OF PARTICIPATION AND ACTION**

The application of feminist and PAR principles (see *Chapter 3*) to the study of mediation was one contribution of this research. Before I began this project, I realized that researching the topic of mediation in this particular social setting would be difficult or impossible using a traditional psychological approach to research (cf., Janz, 1994). Thus, I looked to feminist and participatory action research for guidance. When I explained the goals and research principles of this study (see *Chapter 3*) to the coordinators, mediators and Metro Mediators, I received favorable feedback. The validation of this research approach can be summarized best with the words of the coordinators:

I think it is a good method, a very good method. I think that it is great that you are talking to key people like us. The reason I think it is very good is that you allow us to bring out things that are of concern or interest to us or will help us. We may know what concerns us but you bring it out and allow us to voice it. I think, too, if we're involved it means that what I get out of it will ultimately benefit the service, benefit the people.  
(Coordinator, Interview #1)

Well I think it's great that we are involved because what you're asking us is what would be useful to us and how we would like to fit in with it [the research], and the answers you find will affect us. If you didn't ask us [these questions] that would be obnoxious. (Coordinator, Interview #2)

Yes, I think it is good. It is one way to keep things relevant. (Coordinator, Interview #3)

The coordinators felt that this project would be mutually beneficial and that I

would not be taking advantage of their resources simply for my own gain. They respected and appreciated being considered co-researchers in this process. Had I not adhered to the goals of this study, I likely would have faced several barriers that would have prevented its completion. Nevertheless, a close examination of the amount of participation and action-related results identify some of the advantages of this approach, and the limitations that precluded completely mutual inquiry.

### **Reflections on the Research Process**

According to Hall (1975), "*research methods have ideological implications*" (p. 28), or a "hidden curriculum." For example, when people investigate questions of interest to them it can be empowering (Brown & Tandon, 1983; Maguire, 1987). When Elden and Taylor (1983) analyzed several types of participatory research, they concluded that "... varieties of participatory research should be more systematically explored and evaluated. In this way we can begin to identify the conditions under which the potentials of participation in all their methodological varieties can be realized in practice" (p. 7). Brydon-Miller (1997) similarly recommends that in order to integrate PAR into the discipline of psychology it is important to reflect on the process. Thus, the following analysis of the processes that fostered and constrained mutuality in this study may advance our understanding of PAR processes and suggest how future researchers might respond to the challenges of this approach (cf., Chataway, 1997).

The type of mutual inquiry that actually occurred in this study did not emerge as it is recommended in the PAR literature. For example, some researchers suggest that for a PAR project to be truly mutual, all groups of participants should be co-researchers (e.g.,



Hall, 1981). Ideally, the entire process is collaborative—from determining the research questions to determining what to do with the results (Fals-Borda, 1991a; Greenwood, Whyte & Harkavy, 1993). In reality, the amount of participation in PAR projects tends to vary on a continuum depending on the research questions, the situation, the roles of the researcher and those involved in the process (Chisholm & Elden, 1993; Elden & Taylor, 1983; Maguire, 1987).

In the current study, the Metro Mediators guided the research process and decided to collaborate in several areas. Together, we determined the research problem, research design, participants that should be included (i.e., police and community disputants), instrument design, and the implementation of the findings (see *Chapter 3* and Table 3.1 for details regarding the amount of participation). The Metro Mediators were involved relatively less during data analysis procedures except to provide feedback when I presented the findings.

Although some police officers in *Phase 2* were involved in the research and instrument design, data collection and in the implementation of the findings, most were simply respondents to the survey. Moreover, the community disputants in *Phase 4* were not involved as co-researchers in any of the research steps. Since the police and community disputants did not participate in the same manner as the Metro Mediators, they may be more appropriately viewed as “consultants” (rather than co-researchers) or as research participants who had valuable knowledge to contribute.

### **Participation—Constraints on Mutual Inquiry**

Several circumstances inhibited the type of mutual inquiry suggested by the PAR

literature (cf., Chataway, 1997 who also examined the “constraints on mutual inquiry” in a PAR project). One major constraint was that by collaborating primarily with the mediators, other research participants were less involved. Additionally, the nature of the research questions and the Metro Mediators’ goals for research influenced the way the police and community disputants were included in this study. That is, the research project was continually altered to meet the requests and needs of the Metro Mediators. Furthermore, it probably would have been difficult to design one study with all of the participants (mediators, police, and community members) given that they have different priorities and different levels of investment in mediation. Participatory approaches are also difficult with large groups (Maguire, 1987).

### **Limited Resources**

“In its totality, participatory research imposes a heavy agenda on both researcher and participants” (Maguire, 1987, p. 47). It requires “that people have the will and resources to participate” (Elden, 1981, p. 266). Although the mediators are not a traditionally oppressed group, their limited resources created pressures that prevented their full involvement as researchers. For example, limited funding sometimes made for a tenuous existence, and understandably restricted the Metro Mediator’s focus to providing the service rather than conducting research. The mediators also faced several challenges because they do not have “professional” status, they felt like they had to “compete” with lawyers for recognition of their contributions to dispute resolution processes, and they had few or no full-time staff to administrate the service. Thus, it was not surprising that one of the methodological issues raised by the coordinators (*Chapter 4*) concerned the

amount of time this process would require from them and their already overworked volunteers and staff. As a result, I was sensitive to the mediators' concerns regarding time requirements because I did not want to overburden them with this work.

Time is a critical resource for incorporating participation in research and for developing methods to promote long-term change (Elden, 1981; Maguire, 1987). I found that establishing relationships and including diverse perspectives in the research process was very time consuming. This project took five years to complete and one unfortunate consequence of the length of this study was that there was not enough time to consider the impact of the changes that had been implemented.

One limitation of the lack of full mutual inquiry was that although the police and community respondents seemed to benefit indirectly from these findings, these participants did not experience the same direct benefits as the mediators. Not only did the mediators benefit from the findings and the changes that were implemented, but their involvement as co-investigators seemed to provide benefits of empowerment that can come from doing research (c.f., Elden & Chisholm, 1993; Kirby & McKenna, 1989; Maguire, 1987). The ideas for change, the types of changes that were implemented, and potential benefits to the mediators will be discussed in the following section.

### **Action—Implementing Change in the Mediation Centres**

One of the research objectives of this study was to investigate obstacles or challenges mediators face in providing their services. An implicit goal of this approach is to provide practical knowledge that may be useful for promoting change (Hall, 1975). According to Brydon-Miller (1997), one of the most important aspects of participatory

action research is that participants “own the results of the research and can determine how the information is to be used in addressing the concerns they have articulated” (p. 661). Since control for implementing change was given to the Metro Mediators, I expected that they may or may not use the information to promote change. Thus, any action-related consequences were expected to be an emergent aspect of this research.

It would be naïve to believe that the mediators’ ideas for action were only the result of this study because there was a strong climate that fostered participation and change. Several factors may have contributed to an empowering climate, which is conducive to change: the research questions originated in the community, the process was collaborative, and I conducted some informal training and education sessions regarding social science research ideas (e.g., operational definitions, cross-tabulations) (cf., Maguire, 1987). Other circumstances were also conducive to change and promoting ideas for change. That is, this group contained empowered individuals with diverse skills, including some volunteer mediators with research skills. Additionally, the mediators were highly motivated to use research knowledge to improve the services they provide and to support their existence.

In the following section I consider the type of action results that occurred during this study—the ways the data were used or put into action. Such changes may have been fostered by this research approach, but this description is not meant to imply that they were the direct consequence of this study.

### **Phase 1: Research Design**

During *Phase 1*, the research design phase, I collaborated with mediators.

coordinators and the Metro Mediators to identify specific needs within this mediation community. This raised our awareness of the practical problems they faced. Consequently, we were able to design a study to address their needs (see Table 8.1 for a summary of action-related findings). Another major change that occurred was the development of a city-wide network connecting the three mediation centres. Prior to the beginning of this study, the three mediation centres operated as three distinct services that rarely communicated and only occasionally shared resources (i.e., one centre was primarily responsible for providing mediation training). During the Metro Mediator meetings, ideas to develop a "network" were discussed (cf., Chisholm & Elden, 1993 for a description of the importance of "networks" and how they can develop as a part of action research processes). The purpose of the network was to enable the centres to share resources, thus strengthening the services they provide. The mediation centres were able to share resources such as: bilingual mediators; training and professional development sessions and information; funding sources and application information; descriptive statistics; and referral lists. Additionally, forming a network improved communication between the services through regular meetings.

At the suggestion of the Metro Mediators, two of the coordinators and I co-presented a paper at The National Conference on Peacemaking and Conflict Resolution. The presentation was based on this research process, benefits and drawbacks of the network that was developed, and some of the initial findings. Such action demonstrates that the Metro Mediators experienced ownership and control of the results. Their presentation also suggests that they felt empowered to be constructors of knowledge.

Maguire (1987) recognizes that such action is also beneficial because it can be empowering when people understand the problems facing them and they develop ways to respond.

**Table 8.1**

**Summary of Action Findings**

<b>Research Phase</b>	<b>Action Results (Problem-solving)</b>
<i>Phase 1:</i> Research Design	<ul style="list-style-type: none"> <li>•gain more knowledge about the services and the problems they face</li> <li>•design a practical study</li> <li>•collaborate with other mediation centres to share resources (developed a city-wide network)</li> <li>• co-presentation of findings at a conference</li> </ul>
<i>Phase 2:</i> Police	<ul style="list-style-type: none"> <li>•improve relationships with the police and other important referral sources</li> <li>•develop new relationships with referral sources using outreach/information programmes</li> </ul>
<i>Phase 3:</i> Archival Case Study	<ul style="list-style-type: none"> <li>•improve record-keeping by clarifying definitions and standardizing process (developed new intake and research forms)</li> <li>•information used in public education and funding applications and political activism</li> <li>•educational workshops to address cross-cultural issues</li> <li>•self-sufficient local researchers emerged</li> </ul>
<i>Phase 4:</i> Qualitative Analysis of Community Conflict	<ul style="list-style-type: none"> <li>• organize educational workshops to address some of these issues (e.g.. responding to second-party reluctance to mediate)</li> <li>• ideas for change--recommendations provided for mediators</li> <li>• plan to work with mediators in the future to consider other ideas for change</li> </ul>

### **Phase 2: Community Mediation and the Police**

Action-related outcomes that may be related to the police study are explained only briefly here because the details are provided in *Chapter 5* (also see Table 8.1). During *Phase 2*, the Metro Mediators suggested it was beneficial to learn more about pre-mediation issues such as the referral process. One outcome of this research was the development of ideas to improve the police-mediator relationship. Evidence that this relationship improved was provided by the fact that the mediators (at the centre involved in this study) were recognized formally and informally for the services they provide. Second, the Metro Mediators developed methods for applying the findings from this research phase to other social services that make referrals to mediation. During a brainstorming session regarding the findings, mediators also decided to develop leaflets and brochures to reach referral sources and individuals in other communities whose first language was not English.

### **Phase 3: Archival Analysis of Mediation Case Files**

Information from the archival study was also used to promote change (see Table 8.1). Since these issues are described in detail in *Chapter 6*, they will be outlined briefly here. One issue that arose after presenting the findings from this study concerned record keeping. Subsequently, the Metro Mediators developed new intake forms and clarified and standardized the definitions of several conflict-related variables (see Appendix 6.5). They also developed forms and procedures for gathering their own data for research purposes. Data from this study were also used in funding applications, public education

and political activism. After *Phase 3* was completed, the mediators continued to gather data from the case files to use for their own research.

#### **Phase 4: Qualitative Analysis of Community Conflict**

There were several constraints to action during the final research phase—*Phase 4*. The biggest constraint was the amount of time it took me to gather and analyze the findings. Additionally, toward the end of this research phase, all of the coordinators with whom I originally began this project were no longer at the centres, and several mediators had also moved on. Probably the biggest constraint to further action was the lack of formal Metro Mediator meetings. These circumstances were detrimental to the momentum of the collaborative research process and to further change.

Nevertheless, I presented preliminary findings from this study to the Metro Mediators. One suggestion that was implemented was to offer several educational workshops for the mediators of all three services (see Table 8.1). For example, one workshop that was directly relevant to the main research question investigated reasons for the high rate of second-party refusals and techniques mediators could use to respond appropriately to reluctant second parties (i.e., focussed on case development).

Action ideas grounded in the findings from *Phase 4* are in their infancy. Thus, in the future, I plan to consider additional ideas for change with the mediators. Based on the findings from this research phase, it seems beneficial to consider the benefits of: training community members to use certain conflict resolution skills, responding to conflict quickly before it escalates, fostering perceived interdependence between disputants, guiding or encouraging disputants to construct positive attributions of intent and to



consider situational causes of the conflict.

Will the processes of change and action continue at these centres? Continued change requires many resources (i.e., time, money, and institutional support).

Unfortunately, mediation-centre funding that supported a climate for change at the beginning of this study no longer exists. Additionally, these centres are highly dependent on volunteers and there is a relatively high turnover rate. Since the beginning of this project the coordinators of all the centres have also moved on. Certainly the lack of continuity does not seem positive for continued change, particularly if the volunteers and coordinators do not transfer their learning and knowledge on to the new mediators. Whether change continues will remain to be seen.

### SUMMARY

To summarize, the coordinators and mediators were appreciative of this approach to research. Without it this project probably would not have been completed, and with it, the mediators received (1) answers to research questions that we designed collaboratively, (2) practical information that was used to implement change and (3) feelings of empowerment to continue doing research for themselves.

Although this study was influenced by PAR principles, it was difficult to achieve these ideals in practice (cf., Chataway, 1997; McGuire, 1987). Analyzing whether the goals of this project were met, revealed that the police and community disputants did not participate as fully as the Metro Mediators. There were several constraints on full participation including the nature of the research questions, the Metro Mediators' goals for research, the diversity and number of possible collaborators (i.e., different interests in

mediation), and limited resources both in terms of time and money.

Even with these constraints on participation, the data were used or put into action in several ways. Of course, the main consequence was the development of this study. The data were also used by the Metro Mediators to: develop a city-wide network, present the findings at a conference, improve and develop relationships with referral sources, institute techniques for gathering their own data, and organize educational workshops for the mediators. Initially, there was a strong climate for research that fostered the implementation of this project, which may have also promoted change. One implication of this type of study was that the power imbalance that exists in the traditional researcher-researched relationship was altered. There was some evidence that the Metro Mediators were empowered by this process because they continued to do research, they used the data, and implemented change. Like Maguire (1987), I hope that “on a very small scale, this project demonstrated that our research practices, like all our work, have implications for the redistribution or consolidation of power in society” (p. 198).

### **TRIANGULATION: WHERE THE FINDINGS DIVERGED AND CONVERGED**

In addition to the action-related results of this study, other learning also occurred that resulted in new knowledge. At this point it is helpful to revisit the main research question regarding the decision to mediate to explore whether there were any patterns in the findings across the four research phases. It is also important to consider other patterns in the findings relevant to mediation.

With a few important exceptions (e.g., Fine, 1991; Tolman & Szalacha), there is a pervasive resistance to integrating qualitative and quantitative methods in published research in anything but the most primitive and patronizing ways, as when quantitative researchers spice up their numbers with a few quotes, or qualitative researchers add qualifiers like 'many' or 'most.' (Rabinowitz & Weseen, 1997, p. 615)

Part of the resistance to methodological pluralism in psychology (what some call *triangulation*<sup>23</sup>, convergent validation or a multimethod approach [e.g., Jick, 1983]), can be explained by (1) the view that qualitative and quantitative approaches are fundamentally inconsistent ways of thinking and exploring meaning (e.g., Guba & Lincoln, 1994; Marshall, 1986; Palys, 1992; Rennie, 1995; Sidell, 1993), (2) the difficulty researchers have in receiving training and support to use both methods proficiently, and (3) social ideologies that value quantitative approaches (Rabinowitz & Weseen, 1997). Triangulation may also be avoided because it is not appropriate for all research questions, replication of the findings is very difficult, and it is very costly with respect to the amount of time required by researchers (Jick, 1983).

Another critique has been directed at the appropriateness of the navigational metaphor "triangulation." For example, Richardson (1994) suggests that methods using triangulation assume

. . .that there is a "fixed point" or "object" that can be triangulated. But in postmodernist mixed-genre texts, we do not triangulate; we *crystallize*. We

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<sup>23</sup> *Triangulation* is metaphor taken from land surveyors or navigators who use the intersection of three points to locate an object (cf., Janesick, 1994; Jick, 1983). In research it generally means using a combination of methods or perspectives in a study. For example, researchers can explore the same phenomenon using multiple measures of the variable(s); multiple researchers and/or theories (Huberman & Miles, 1994); multiple methods and/or disciplinary approaches (Janesick, 1994).

recognize that there are far more than 'three sides' from which to approach the world (p. 522).

I would agree with this critique and emphasize that the benefit of triangulation is not to point at one "truth," but rather to provide a deeper or more "holistic" understanding of a phenomenon (cf., Jick, 1983). I would add an additional limitation of triangulation is how difficult it was in the present study to find patterns in the data from four diverse projects. The large amount of data probably prevented me from seeing some of the areas where the findings converged.

Although there are critics of triangulation, several researchers recommend its use because of its advantages relative to other approaches (e.g., Janesick, 1994; Jick, 1983; Patton, 1990). For example, using both qualitative and quantitative methods may improve the quality of the findings by taking advantage of the strengths of both approaches (Patton, 1990). If the findings converge when different methods and sources are used, researchers may also be more confident of the findings. Third, if the same phenomenon is observed over a variety of conditions, especially different times and locations, and by different researchers, this will increase the *transferability* of the findings (Adler & Adler, 1994). Although including different groups (e.g., mediators, co-ordinators, police officers, community disputants) in the research process had its challenges, it was beneficial because it allowed for the introduction of ". . . a wider range of resources, information, and perspectives. . ." (Brown, 1993, p. 251).

Arguably then, one contribution of this study was the use of triangulation. Both the processes of *data triangulation* and *methodological triangulation* were used

(Janesick, 1994). That is, I gathered different kinds of data—qualitative interview data and quantitative archival data; from different sources—mediators, police and disputants; using different methods—focus groups, in-depth interviews and surveys. Additionally, I was influenced by several approaches when I analyzed the qualitative data (e.g., comparative thematic analysis, interpretational analysis, discourse analysis, and attributional analysis).

To benefit from triangulation, the following discussion examines where the findings converged and/or diverged. By presenting these issues I am not implying that these findings are more important than other findings, or that there were not other key findings. In some areas, no parallels in the findings were possible because, for example, the studies were investigating mutually exclusive topics. First, I will consider the main research question regarding the decision to mediate, by exploring patterns in the findings regarding the relationship, third party involvement and the conflict. Other important themes in the findings concerned the serious nature of community conflict and cultural issues. The challenge of gathering the data in all of the research phases is a pattern regarding the research process that will also be discussed.

### **Factors Relevant to the Decision to Mediate**

#### **Relationship Issues**

The findings from all of the studies seemed to indicate that the relationship between the disputants was related to the decision to mediate. Mediations seemed more likely when the relationship was between co-habitants, friends (*Phase 3*), family members and co-workers (*Phases 3 and 4*). Findings from the qualitative study provide some

answers regarding *why* these relationships may nurture mediation. First, people involved in such relationships are usually close in terms of proximity and/or emotional attachment and they probably know each other relatively well. That is, they have an interdependent relationship, which means they are likely to have correspondent (shared) outcomes in conflict. Both past research and findings from the current study suggest that interdependent relationships seem to promote constructive conflict.

Second, such individuals probably want to maintain their relationship (e.g., family members) or are obligated to continue contact for some period of time (e.g., co-habitants and co-workers). Findings from the qualitative study suggested that the desire to have a future relationship with the disputant was another characteristic that was salient relevant to mediation. The co-workers described in *Phase 4* also suggested they felt *implicitly coerced* to mediate by third parties such as: supervisors, managers, a board of directors, and human resources personnel (see *Chapter 7*).

Patterns in the findings regarding the landlord-tenant relationship were more complex. Mediations sometimes seemed more likely between landlords and their tenants (*Phases 2 and 4*), but seemed less likely according to the findings from *Phase 3*. One explanation is that according to the *Phase 4* findings, a key relationship variable that seemed to promote mediation was interdependence. Perhaps there were more interdependent landlord-tenant relationships in the qualitative sample as compared with the archival sample. This seems plausible since those involved in landlord-tenant relationships in the qualitative study who agreed to mediate described their relationships as interdependent (e.g., they shared living quarters, landlords relied on their tenant for

money, and tenants relied on the landlord for a home). Nevertheless, there were not enough details regarding the characteristics of relationships in the archival study (*Phase 3*) that would allow me to address this discrepancy with certainty. Thus, future research is necessary to identify which landlord-tenant relationship characteristics may be important predictors of mediation.

### **Third Party Involvement**

All four phases of my dissertation underscored the importance of the referral source on the community mediation process. The police were identified as the most important referral source for these community mediation centres (*Phases 1, 2, and 3*). Additionally, findings from the archival study identified a statistically significant relationship between the referral source and outcome of the conflict. That is, cases referred by housing and other social services, the formal justice system (e.g., lawyers, or judges), other mediation centres and schools, were frequently resolved (*Chapter 6*). On the other hand, disputants who had been referred by the “city” (e.g., staff at city hall and members of parliament) were most often not resolved. Moreover, both *Phase 3* and *Phase 4* data suggested that when the police were involved, the dispute was less likely to be mediated. This finding has important implications given that the police provide the most referrals to the centres. It is helpful to look to the other research phases to understand *why* the referral source may influence mediation outcomes.

Taken together, the findings from the qualitative and quantitative projects also suggested that when third parties become involved it was important for them to respond quickly and make appropriate recommendations regarding the disputant’s course of

action. The archival data suggested that about 12% ( $n = 120$ ) of the time, mediators have to refer parties to another agency. In other words, this indicates that other third parties may be making inappropriate referrals to mediation. The qualitative data suggested this scenario was problematic because disputants found it unsatisfactory to be referred to mediation only to find that mediators were unable to provide direct assistance. Disputants described how their frustration built with further delays to the resolution of their stressful and urgent situation.

Data from *Phase 4* indicated that other third parties were also asked (by both first- and second-party disputants) to intervene in almost all of the conflicts before mediators were involved (e.g., supervisor, board of directors, human resources staff, landlord-tenant affairs, landlords, lawyers, the court, and/or staff from city hall). Surprisingly, according to *Phase 4* data, when third parties (other than mediators) were involved in the conflicts they were less likely to proceed to mediation. Deutsch (1991) suggests that to intervene effectively in disputes third parties must be able to: (1) establish effective working relationships with disputants, (2) foster a cooperative problem-solving approach among disputants, (3) use creative thinking skills and (4) understand and apply knowledge of issues regarding conflict. Perhaps some of the third parties who were involved in disputes in this study did not have these skills. This may explain why some of the conflicts were not resolved. It also suggests there may be potential benefits of training those who tend to become involved in others' conflicts to develop these skills.

The interview data provide other possible explanations for why third party involvement was not always beneficial to the outcome. First, perhaps rather than



attempting to resolve the conflict by involving a third party, disputants may be “using” third parties as a way to avoid dealing with the conflict directly or as a way to compete (i.e., to have the third party impose their will on the other party). Another explanation is that when third parties were involved in the conflict some disputants interpreted it as a deception or a betrayal because they felt the other party went “behind their back.” These types of responses seemed to escalate the conflict. Third party involvement also tended to be detrimental to the dispute because: (1) disputants became dependent upon the third party; (2) miscommunication occurred; (3) the third party did not become involved when asked; and (4) it increased perceived competition. Since third party involvement can be detrimental, future research on diverse third-party intervention processes would enhance our understanding of other approaches to conflict resolution, and increase our knowledge of pre-mediation incidents that may influence the mediation.

### **Conflict**

Patterns in the findings also suggested that the relationship between the conflict and the decision to mediate was also important. For example, the findings from both *Phases 3* and *4* suggested that a strongly competitive approach did not seem conducive to successful resolution of the conflict. For example, the review of the archives revealed that *none* of the cases were mediated when one party wanted to fire an employee or evict a tenant. The interview with Jen Mint (*Phase 4*) highlights the dangers of using mediation when one disputant wants to impose his/her own agenda on another (i.e., strong concern for self, a competitive orientation). In Jen’s case, her supervisor had a hidden agenda to “use” mediation to fire her. This resulted in an extremely unsatisfactory process that

further escalated the conflict. After the first mediation when Jen perceived this was the agenda, she did not continue with the process.

Other issues, specifically violence and noise disputes, also raised some interesting questions. Considering disputes involving “violence,” the archival data suggested these were more likely to be mediated, while the qualitative data suggested that they were less likely to be mediated. However, when respondents reported they were concerned or afraid of the possibility of violence, the dispute was more likely to be mediated (*Phase 4*). The categorical data in the archival study were not sensitive enough to distinguish between fear of violence and actual violence. So it is difficult to determine why violent disputes described in the case file data were more likely to be mediated. It is possible that when disputants feared violence the mediators recorded these as “violent” disputes in the case file records. If that is what occurred, then this is not a contradictory finding. Perhaps these findings suggest that the key variable relevant to mediation is the desire to prevent the escalation of the conflict—that fear may be a motivator to attempt to address the issue. Future research is clearly needed to answer these questions.

Although noise disputes were among the most common at the three centres (*Phase 3*), they were the least likely to be mediated (*Phases 3 and 4*). Past research and the qualitative data provide some explanations for this finding. Conflicts can have many layers. For example, the manifest issues may concern noise, while the latent issues may be more diverse and difficult to resolve. Interview comments (*Phase 4*) from Jackie Chan (no) provide some ideas regarding the hidden layers of noise disputes.

These [neighbour] are *chaotic people*. We try to sleep next to him, next to

the house, when boom, boom, boom, boom. They are making so much noise. . . . When we complain and ask them to stop they ignore us and say *it is their right to make noise*. So I take them to court. . . . you know *you don't have the right* to make noise in the middle of the night, right. That is only a privilege. . . . Also at the same time my wife was pregnant so it was terrible. . . . I am afraid for us.

Jackie's comments indicate that this noise issue may have become *central* to their feelings of security and well being. Central issues tend to be the most difficult to resolve (Deutsch, 1991). Similarly, when disputants focus on personality traits, and their rights or principles, rather than the specific details of the issue, it tends to escalate the conflict. Finally, Hiltrop (1989) suggests that it is difficult to resolve disputes where compromise is not considered possible. Once Jackie framed this as a conflict about his right to have "peace and quiet" when he wanted it, this was probably perceived as a dispute without a compromise. This finding suggests that when research only focuses on manifest issues and their relationship to conflict outcomes, it may be missing relevant variables that contribute to the end result. Thus, conflict research would benefit from additional qualitative studies that focus on latent issues and how they contribute to productive and nonproductive conflict.

### Summary

Although issues regarding the decision to mediate were addressed throughout this project, the process of triangulating the findings identified three main themes that were evident across all research phases. The relationship between the disputants appeared to be one key theme. Those who perceived the relationship as interdependent and wanted to maintain future contact were more likely to mediate. Findings regarding the likelihood of

mediation between landlords and their tenants were mixed, suggesting that future research is necessary to understand the salient aspects of this relationship relevant to mediation.

The second theme in the findings emphasized the relevance of understanding third party involvement in the disputes. An analysis of the archival data revealed a statistically significant relationship between the referral source and the outcome of the conflict. The *Phase 4* data suggested that third party involvement tended to be detrimental to constructive conflict (including mediation). There were a number of ways that third party involvement was detrimental to the outcome. For example, for some disputants the inclusion of a third party was a way to avoid or compete with the other party.

The third main theme was that the conflict seemed to be related to the decision to mediate. A competitive orientation to the conflict was detrimental. While actual violence seemed to preclude mediation, fear of possible violence appeared to foster mediation. Noise disputes were less likely to be mediated (*Phases 3 and 4*), and to understand *why* it was important to consider the latent conflict issues (e.g., central issues, personality traits and rights or principles).

### **Other Patterns in the Findings**

#### **Community Conflict is Serious**

The findings outlined above considered how the results converged and diverged on the main research question (i.e., “What factors may be related to the decision to mediate?”). In this section I consider other patterns including: the serious nature of community conflict, cultural issues, and challenges in gathering the data.

First, it seems dangerous to disregard the serious nature of community conflicts. For example, respondents in the qualitative study (*Phase 4*) described the negative impact that disputes had on their quality of life. They experienced stress, health problems, emotional distress, loss or restrictions in their daily life, and fear, as a result of conflict (see Table 8.2). Several respondents described their conflicts as very serious, involving incidents of assault and death threats. Moreover, the *war*, *explosion* and *battle* metaphors they used to describe the situations provide additional evidence of the serious nature of community conflicts.

The findings were incongruent, however, when considering perceptions of the harmful nature of community conflict. Although there was evidence from all the research phases that community conflicts were harmful, some community members and the police discounted the serious nature of such conflicts. For example, one respondent, Jacques Neuvelles, and a police officer used the same cartoon metaphor--“Mickey Mouse”--to characterize neighbour disputes. Of course, describing the conflicts in relation to a cartoon character suggests they do not take them seriously.

Other respondents similarly felt that the police did not take their conflicts seriously. For example,

part of the problem is we get a different police officer every time and each one thinks this isolated neighbour incident isn't serious. . . . The police are always backing away when they hear it is a neighbour incident. (yes/no--Patty Andrews).

Perpetuating this “Mickey Mouse” metaphor could potentially have many detrimental consequences. One problem is that disputants and service providers (e.g., the police,

Table 8.2

**Illustrations of the Negative Impact of Conflict*****Stressful***

It was too stressful. I was so upset you know. (yes--June Green)

When we were working together it was horrible. . . It was stressful. . . It creates tension. (yes—Liz Cunningham)

***Health Problems***

I had an ulcer from it [the conflict]. . . And I've had a really hard time with my stomach lately. (no--Lyn Gilbert)

I have some serious health issues that are, without a doubt, complicated by this [conflict]. (yes/no--Jen Mint)

***Emotional Distress***

And this [conflict] is incredibly demeaning to go through. (yes/no—Jen Mint)

It was hurtful for me, like as far as this conflict thing. (no—Irene Storey)

It [the conflict] made my life really miserable. (no—Lyn Gilbert)

***Loss or Restrictions***

We had looked forward to retirement, as most people do. We have been deprived of this by our neighbours. . . We are now deprived of our few remaining years of pleasure. (no—Jon & Hillary Mitchell)

For us, we [are] kind of nervous every single minute. . . 24 hours we have to make sure we have to be very, very quiet otherwise she [bangs on the ceiling and complains]. (yes--Meera Wing)

I couldn't do nothing. If I played my music or did anything, the security guards would come knocking on my door. (yes--June Green)

***Fear***

I'm very afraid of him. (no--Jackie Chan)

We are very frightened and now we have a dead bolt on our door and gate. We have bars on the windows and have built a large fence for safety. (yes/no—Patty Andrews)

The furnace had been tampered with so many times that it becomes dangerous after awhile with it being gas. We were worried about an explosion. (no—Lyn Gilbert)

federal, provincial and city government, lawyers, etc.) may believe community conflicts are less serious and are not worth the energy and resources to resolve. Leaving such conflicts unresolved has detrimental repercussions for the quality of life of the community members (Table 8.2), and the conflicts may potentially escalate (cf., Folger et al., [1993] who suggest that avoiding conflict can lead to escalation). For example, the Jackie Chan case should provide a clear warning of the necessity of responding appropriately to community conflict. As described earlier, he felt the police and others did not take him seriously. Consequently, he felt powerless and described hostile and drastic measures he used to respond to the conflict. Jackie hid lawn equipment, which he called weapons, in his yard that made him feel more powerful if he had to use them in a “battle” or “war.” This obviously created a volatile and potentially very dangerous situation.

It is finally at this point of my dissertation that the title of this project, *Preventing “Wars” in our Neighbourhoods with Community Mediation*, can meaningfully be explained. Not only was the title chosen to reflect all four research phases, but it was also intended to achieve several other goals. It uses hyperbole to bring attention to the serious nature of community conflict. It is also intended to reflect one of the findings from all of the research phases—that community conflict can have serious consequences. Some of the conflicts involved extreme physical and verbal violence (e.g., death threats), and the qualitative findings suggested that at some point the conflicts had a detrimental impact on almost every disputant’s quality of life. Moreover, the title also directly uses the words of some of the respondents who described their “battles” by using war metaphors (*Phase 4*).

The respondents' comments also indicated that when community conflicts were disregarded by others as being insignificant, they often escalated severely. Thus, the title was also intended to raise awareness that community conflicts are significant, and preventing conflict escalation by using methods like mediation is very important. Finally, the "prevention" aspect of the title suggests that mediators may contribute to peace in the community in the various ways they assist people to use conflict to promote positive change. Additionally, the police officers in this study suggested they believed preventing violence was one of their main responsibilities and considered the possibility that working with mediators may help them achieve this goal. Findings from the qualitative study additionally suggested the benefits of addressing conflict early before it developed into issues that were irreconcilable.

### **Culture**

Although cultural biases did not appear to be directly related to the decision to mediate, the findings from several of the research phases suggested the importance of cross-cultural issues. From the outset of this study (i.e., *Phase 1: Research Design*), the mediation-centre coordinators noted the importance of understanding the role of culture in the conflict, the decision to mediate, and the actual mediation process. Consequently, I investigated culture in two main ways. When I analyzed the archival data (*Chapter 6*) I found that community members who sought mediation were very diverse, representing approximately 72 different "cultures." Social characteristics such as: culture, race, ethnicity, first language, skin colour, sexual orientation, religion and geographical location were recorded in the case files. Although cultural information was generally



under-recorded, it was still identified as important to the escalation of the conflict for 268 (33%) of the cases.

Since the archival data did not provide answers regarding *why* so many disputes occurred between people of different cultures, I looked to the interview data from *Phase 4* for answers. The findings suggested that cultural biases potentially influenced the conflict in several ways, from initiating the dispute, to polarizing perceptions of the other party, escalating the conflict, increasing perceptions of blame, and used as an excuse to decline mediation. Prejudice did not preclude mediation in all cases, however. It appeared that those who expressed cultural biases but still agreed to mediate perceived that the harm caused by the first party was unintentional.

According to LeBaron (1997), "conflict resolution centers have not accrued a laudable record in addressing intercultural conflict" (LeBaron, 1997, p. 318). Findings from past research and the current study provide some guidance for responding to such disputes. *Phase 4* data indicated that it was productive for conflict when those involved in a cross-cultural dispute were aware of their relatively powerful social status (i.e., in this study being "white" and middle class) and seemed to have a self-schema of equality. Such individuals were sensitive to issues of discrimination and oppression, and were aware that the other party was often subjected to discrimination. It seemed important to their self-identity to treat all people with respect and dignity. Such beliefs may have contributed to mediation because they did not want to discriminate or be perceived as discriminating against the other party, and they believed mediation would help minimize the power imbalance between themselves and the other party.

One implication of this finding regarding the self-schema of equality is that there may be several benefits of providing community members with cultural sensitivity training. A great deal of social psychological research has been done on changing prejudices, stereotypes and discrimination that would be interesting to apply to community disputants. For example, research has shown that if people have contact with individuals who belong to the stereotyped group, it can have a beneficial impact on changing their biases. "Contacts are more likely to have positive effects if they are of equal status, extended over time, occur in diverse situations, permit individuation of group members, have high acquaintance potential, and have positive contexts and outcomes" (Deutsch, 1994, p. 22). Thus, future research on the productivity of teaching information and skills necessary for responding to cross-cultural disputes may be of use in this area.

There is an underlying assumption that by assigning mediators to cases by "matching" the culture of the disputants this will benefit the outcome. When possible this was done by the mediation-centre coordinators (*Phase 1* data). Similarly, other studies have shown that, as often as possible, mediators try to match demographics such as age, gender, race, language, etc. with the disputants (Olczak, Grosch & Duffy, 1991). Some respondents in the qualitative study (*Phase 4*) also perceived it was important for mediators to reflect the cultures of the disputants. Irene Storey, for example, suggested the importance of matching the age and sex of the disputants and mediators.

You're not going to have a female mediator if you have two males fighting.  
 . . If there are older men, older women, you need to have an older mediator. You have to look at the conflict. . . .Now if you have, for

example, a young person of 20 mediate this case with me. "Is it going to work? No." (no—Irene Storey)

Liz Cunningham (a White woman), who was in conflict with her co-worker (a Black woman), provides another example. She believed that mediators should especially strive to represent the culture of disputants from less socially powerful groups. In this case, her co-worker, Liz believed this so strongly that, had they not, she would have refused to participate in mediation. She further argued that this practise of cultural "matching" helps disputants cope with inevitable bias.

It's also important for the different cultures to be represented by the mediators. Absolutely. I felt she [her co-worker] should have someone there so she didn't feel. "I'm having a conflict with a white woman [Liz] and the mediators are all white". That's not right. That's not fair. The same thing would go if I had a conflict with a man. I wouldn't want all the mediators to be men. There's going to be bias even if you try hard to avoid it. This ['cultural' matching] is one way to help deal with the bias. It was important for me that she [first party] had somebody there who she felt could help represent her side and support it. And that was important to me. I don't think I would have participated if it was all white women. I wouldn't feel comfortable with that.

In addition to "matching" cultures, Liz also recommended that mediators should be selected for their cultural sensitivity or should be trained to be sensitive to cultural issues.

Good mediators are in the minority. They should be people who are as unbiased as you can be, and are aware of their biases and have a strong sense of fairness. . . .and that's hard. We're humans and we have to work at it. . . .It's important, I think, as mediators, and you may already do this, to take into account, certainly not just gender differences but also differences in ethnicity and that sort of thing.

These patterns suggest it would be beneficial for future research to consider the impact of cultural “matching” and cultural sensitivity training on the outcome of a dispute.

LeBaron (1997) further recommends that “to truly respond to a multicultural community, we must move away from assuming there is only one viable dispute resolution system. This involves challenging the orthodoxy of particular approaches” (p. 326). For example, dispute resolvers may need to learn more about the approaches used to respond to conflict in diverse cultures. Perhaps mediation could become a more flexible approach, whereby the disputants have input into how the process will work. This would allow the disputants’ own views of conflict and resolution to be incorporated into the process. Furthermore, instead of ignoring culture in a dispute, or responding simply by matching mediator and disputant cultures, it may be preferable to include discussions of cultural influences on the conflict.

### **Adventures in Data Collection**

A common pattern in the research process was that the Metro Mediators and I faced major challenges to gathering the data during every research phase. Our adventures in data collection taught me important lessons that may be particularly useful for other researchers.

At times, safety and personal comfort were concerns. For example, while gathering the police survey data (*Chapter 5*) our comfort level was initially low because the environment was unreceptive and very intimidating. By implementing a process where at least two mediators gathered the data, some of our initial discomfort was alleviated. I was sometimes concerned about my safety while gathering the interview data

(*Phase 4*), especially while interviewing respondents in their homes and they asked me whether I was concerned about my safety. One respondent, for example, told me how he, as a diplomat, was relatively immune from most criminal acts, including murder. This was somewhat disconcerting. Nevertheless, it highlights the fact that researchers should at least consider safety issues. One procedure I used was to inform several people regarding the time and location of each interview, and report to them when I returned.

Adaptability and flexibility were also essential when interviewing in locations selected by the respondents because interruptions from neighbours, children, the telephone, other family members and co-workers, frequently occurred. Such interruptions obviously disrupted the flow of the interview. One way to deal with interruptions was to pay careful attention to what question had been asked, and the gist of what had been said prior to the interruption, and to prompt the respondent after the interruption was over. Another interview was completed by telephone because the respondents would only discuss the conflict in this manner. There was an interview in a coffee shop, in a shelter that was under quarantine because of the chicken pox, and with a "psychic," which all had their own challenges. Interviewing such respondents was very interesting but also required flexibility and patience (and immunity to the chicken pox also helped).

Some challenges with the archival methodology involved the way the data were recorded and issues regarding missing data (*Phase 3*). Flexibility was also necessary here because some of the data at one centre had already been destroyed and I only had access to summary sheets of the original data. This was problematic only when information was missing because I was unable to return to the original case files for clarification. The

survival of comprehensive data on mediation is a major concern since such information is regularly destroyed to protect the confidentiality of the disputants.

Based on the challenges I faced, another important recommendation for researchers when gathering data in the “real world” is the importance of what Fonow and Cook (1991) call *using the situation-at-hand*. This approach “emphas[es] creativity, spontaneity, and improvisation in the selection for both topic and method. This includes the tendency to use already-given situations both as the focus of investigation and as a means of collecting data” (Fonow & Cook, 1991, p. 11).

### Summary

Although the main focus of this dissertation was on the factors relevant to the decision to mediate, other patterns in the findings emerged that seemed relevant to constructive and destructive conflict. Of particular importance were issues regarding the severity of community conflict and the impact of ethnocentrism. There was evidence that conflict had a detrimental impact on most of the disputants’ lives (*Phase 4*). Moreover, when an individual perceived the situation was serious but felt others were discounting its severity, this seemed to produce a climate for escalation.

The difficulty of researching culture and its relevance to disputes should not deter investigators from this topic. In fact, some argue that “. . . conflict cannot meaningfully be addressed absent considerations of culture” (LeBaron, 1997, p. 318). Although culture and cultural biases did not seem directly related to the likelihood of mediation, several findings suggested it was vital to understanding the disputes. For example, cross-cultural issues were identified as central to many of the cases investigated in the archival study.

The *Phase 4* data similarly indicated that the climate of the conflict was influenced by cultural biases in several ways, from initiating the dispute to decreasing the perception of options for resolution. Responses to intercultural conflict may benefit from providing disputants and mediators with cultural sensitivity training, assigning mediators to cases by "matching" the culture of the disputants, and by considering alternative and more flexible conflict resolution processes that incorporate the opponents' understanding of conflict and conflict resolution. A final pattern regarding the research process were the difficulties of gathering data for real conflict issues. These difficulties required a flexible and adaptive approach to data collection.

### **LOOKING AHEAD**

Next, I will consider ideas for future research and social change. Although I have mentioned important topics for future research throughout this dissertation, in this section I will specifically focus on: volunteer issues, power imbalances in conflict and issues regarding satisfaction and transformation in mediation. For a "real" shift to occur that would nurture the acceptance and use of mediation, change beyond the level of the individual must be considered. Thus, this section also focuses on ideas for social change at the level of the individual, community and society.

### **Future Research**

#### **Volunteer Mediation Issues**

There were several research issues suggested by the mediators and co-ordinators (outlined in *Chapter 4*) that, due to time restrictions, were not investigated in this study. For example, both the mediators and other researchers (Olczak, Grosch, & Duffy, 1991)

have suggested the importance of investigating issues relevant to volunteer mediators. Researchers have also documented some of the difficulties mediation programmes face with the recruitment, retention and efficiency of utilizing volunteer services (Husk, 1997). There were three other volunteer-related questions of importance to coordinators: what motivates volunteers, how can coordinators identify and provide credentials for volunteers, and what is the optimal number of volunteers necessary to operate a community mediation service effectively. Volunteers are important to the provision of community mediation and deserve attention in future studies.

### **Power Imbalances in Conflict**

Another area that deserves more attention in future research concerns issues of power imbalances in disputes. Several issues regarding power arose during the qualitative study. Of particular importance is the impact of perceived social power (i.e., power ascribed to an individual by society) on conflicts. Although power was analyzed as an interpersonal variable in this study, it may also be considered an individual difference variable in that a disputant may feel more or less empowered to resolve the conflict. Investigating the impact of this perception on conflict would also be fruitful.

The complexity of the power construct highlights the difficulty of investigating its impact on conflict. Since the relationship between power and conflict is very important, I have turned to Griscom (1992) for directions for future research. Griscom problematizes researchers' tendency to study individuals apart from their social context. She criticizes a dualistic focus and argues that the individual and society are not discrete entities and should be considered integrally related and interdependent. Often, when the individual



and society are considered separately. researchers are admitting the importance of society but "... leave it as an unanalyzed homogeneous entity" (Griscom. 1992. p. 390). Thus, she recommends that researchers move beyond such an interactionist approach.

Griscom (1992) provides an example of a researcher who has gone beyond a dualistic focus--Brinton Lykes. Griscom argues that Lykes has developed a concept of *social individuality*, whereby the self is considered integrally connected with society, and social relations are characterized by power imbalances. "Such a model is applicable for marginalized as well as majority groups because all are grounded in a totality of social relations along differing dimensions of power" (Griscom. 1992. p. 403).

Griscom (1992) further suggests that if psychology is to have a better understanding of power, it should be recognized as more complex than simply coercion or dominance. Secondly, our understanding of power should move beyond person/society dualism even though this is difficult to do in the English language because it "... splits things and actions into nouns and verbs, thus reflecting our dualistic culture, and we do not have a language with which to express reality as intertwining, contradictory, and changing processes" (p. 405-406). Finally, Griscom suggests that to avoid a dualistic approach, power must be understood in relation to both macro- and microstructural influences and as a process that occurs over time.

### **Satisfaction and Transformation in Mediation**

Since some of the *Phase 4* data were not analyzed, one final idea for research involves further analysis of the qualitative interview data. Considering that the main thesis of my dissertation focussed on pre-mediation issues, I chose not to analyze

respondents' comments regarding the actual mediation. For example, future investigations could compare issues relevant to the *Satisfaction* versus *Transformation* approaches to mediation. The Satisfaction (or Settlement-based) Approach emphasizes problem solving, and focuses on resolving the substantive issues of the dispute. The Transformation Approach, however, uses conflict as an opportunity to encourage moral development through empowerment and recognition, thereby transforming the individuals and their relationship (Bush & Folger, 1994). Theoretically, community mediators adhere to the Transformation Approach. However, the recent shift from community-based programmes to mediation as a business is changing some of the fundamental approaches to mediation (Picard, 2000). Additionally, there is debate in the literature regarding what types of mediators (e.g., community or business mediators) use these approaches, and which is more satisfactory and effective. Respondents in the qualitative study raised issues relevant to these topics when they discussed the mediation and their relationships. That is, many respondents agreed to mediate even though they had no interest in a future relationship. Does the mediation experience differ for those who want a future relationship from those who do not? Future research and further analysis of the data regarding the mediation process will provide some insight on these issues.

### **Future Change**

Several findings seemed to indicate that the decision to mediate had little or nothing to do with the mediators or mediation in general. For example, all but one respondent in the qualitative study (95%) suggested they would recommend mediation to others. A common response from those who had declined mediation was that it seemed

like a good approach for others, but it was not appropriate for their conflict. Moreover, analysis of *Phase 4* data suggested that the respondents' perceptions of the conflict, the other party and justice issues, for example, were more relevant to their response decision than considerations of the mediation process. Suggestions for change have been provided throughout this paper that mostly focused on mediator and disputant behaviours. However, to promote more widespread acceptance and use of mediation, it is important to consider several levels of change—individual, community and societal.

When considering the individual level of analysis, research completed in all the phases suggested that the public is not well informed about mediation. During the research design phase (*Phase 1*), mediators expressed concern that community members lack of awareness of mediation which may cause confusion about the process. Additionally, a small minority of police officers was unaware of mediation and had inaccurate perceptions of the services mediators provide (*Phase 2*). The archival data also revealed that since referrals made by a disputant's family, friends or oneself, were most often inappropriate for mediation, perhaps there is some public confusion about the services mediators provide (*Phase 3*). Finally, several respondents in the qualitative study (*Phase 4*) indicated their lack of awareness of mediation. For example, Joan Dubrow said, "I didn't know anything like that [mediation] existed. It's something new and I never even thought of it." Increasing public awareness regarding the purposes, goals and approach to conflict resolution provided by mediators, could have several benefits for increasing its use. Furthermore, educating the public about mediation means that the referral sources (e.g., police, lawyers, judges, social services agencies, etc.) will also be more

knowledgeable. Since referral sources often provide the first contact with mediation, their knowledge is very important. Probably the most important benefit of increasing public awareness of mediation is to raise awareness of the number of perceived options for conflict resolution. Ideas for change directed at the individual/interpersonal level could also include training individuals in conflict resolution skills, such as active listening and problem solving. Research, especially research in psychology, usually focuses on the individual and ideas for change are directed at individuals.

Going beyond the individual to the community level, it seems important to make community mediation centres more widely available (i.e., in more communities) and to consider coordinating the efforts of diverse dispute resolution providers (see police study, *Phase 2*). Perhaps continuing to promote the coordination of efforts of local mediation centres through the development of networks (see *Phase 1*) would also advance changes at the community level.

Pearson et al. (1982) note that "...the future of the movement will heavily depend on the support of those practicing in adversarial dispute resolution institutions" (p. 32). Thus, they suggest that since community members often turn to groups such as lawyers and judges for approval of the process, it is very important to convince them of the benefits of mediation. Change at the community level that may also nurture the acceptance of mediation is the continued implementation and development of: peer mediation programmes in schools, university courses and centres that teach peace and conflict studies.

Further change at the societal level could also foster the use of mediation. For

example. Chetkow-Yanoov (1997) provides several ideas for social change, including the suggestion that citizens should lobby to reduce government spending for military and armaments so that additional funding could be directed at social programmes. Such an approach would emphasize national priorities that are peaceful. Furthermore, Peachey (1989) suggests that since the prevailing attitudes toward justice focus on retribution, a shift in attitudes that are more accepting of restorative justice may encourage more acceptance of mediation. He also argues that if we are to get more disputes to "the table," we must educate people about justice. "until people are willing to acknowledge and examine their basic attitudes on justice, they are not likely to significantly alter their conflict resolution behaviour" (p. 317). Thus, Peachey suggests that through education, we can foster an environment that legitimizes restorative rather than retributive justice. These are only a few ideas: the possibilities for change are endless.

Whether conflict resolution empowers disputants, transforms relationships or resolves conflicts, such constructive approaches promote positive change. Since conflict is an inevitable part of life, future research and social change are necessary if we are to benefit from these constructive processes.

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### **Appendix 3.1**

#### **Personal Reasons for Selecting a Participatory Action Research (PAR) Approach**

The reasons why I chose a PAR approach for my dissertation were personal in nature in that they resulted from dissatisfaction with more traditional research methods I had used in the past, to investigate another community service--women's shelters (Janz, 1994). The original plan for this project was to interview women and children who resided at shelters for abused women. I had approached the staff of several shelters to see if they would permit such a study. At first I found it very difficult to gain entry into the shelters. Then, once I was able to get in, the staff suggested that I modify my original research ideas. Staff-members were understandably wary of a stranger researching the women and children in their shelters because their primary goal was to protect the residents. As a result, I changed the focus of my MA research and, instead, interviewed the staff and coordinators of the shelters. With the benefit of hindsight, I believe that the research method I used for this study was one of the causes of the difficulties I initially faced.

Since I also wanted to investigate a community service for my dissertation, I realized it would be important to reflect on the problems I faced in the past, and make necessary changes so my dissertation research would be more "successful." As I reflected on the difficulties I had with my Master's research, I realized that other researchers (e.g., Hoff, 1990) have also faced challenges when attempting to research shelters. For example, Hoff found that traditional methods were inappropriate for research at shelters for abused women because there was an "anti-academic" bias. Perhaps one cause of the

anti-academic bias is that some researchers who use a traditional approach do not appear to value participants in the same way as participatory action researchers.

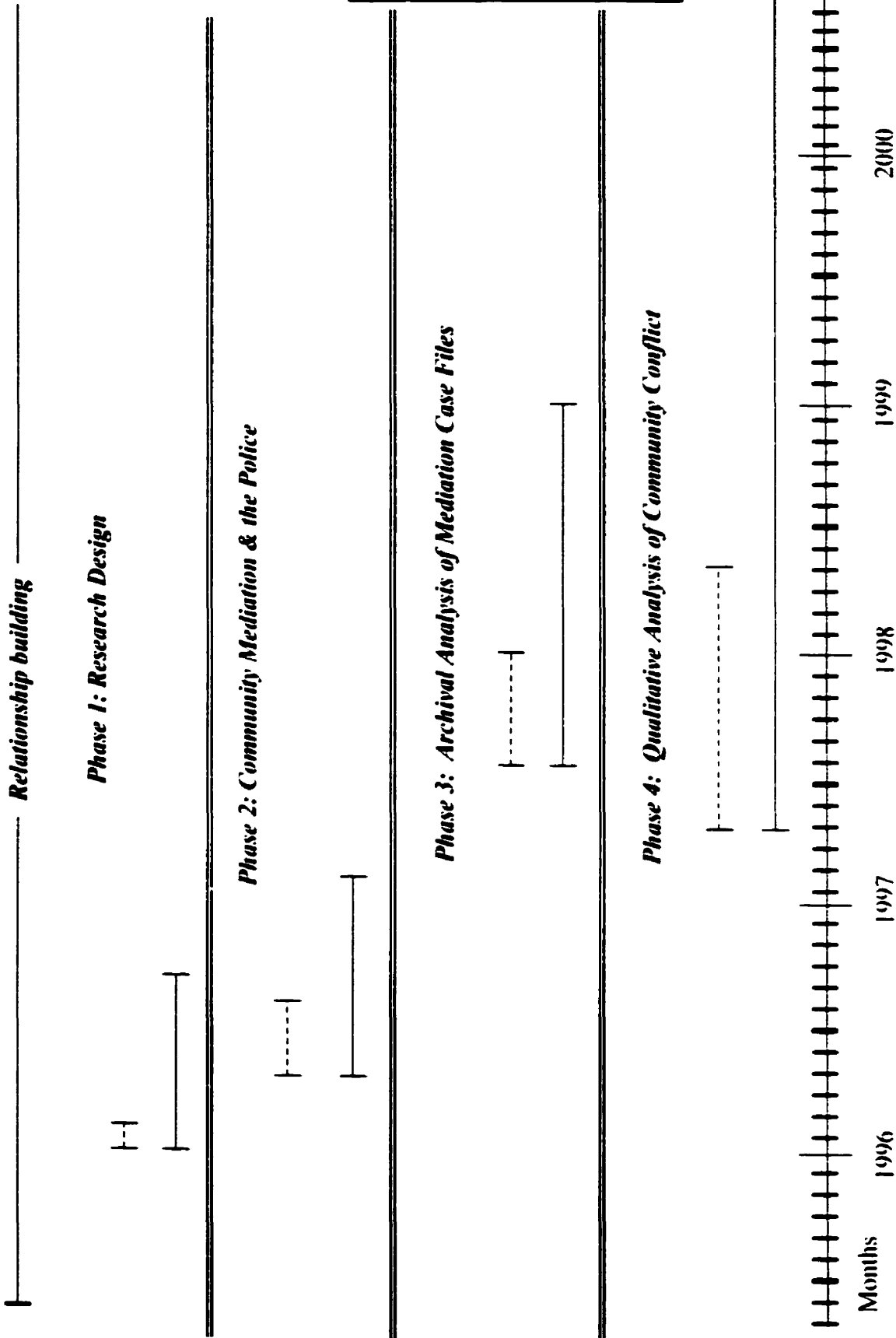
Another factor that may contribute to an anti-academic bias is the fact that many community agencies face funding problems. Reflecting on my past research (Janz, 1994), I found that difficulties obtaining funding influenced shelter staff-members' decisions to participate in research. The community mediation centre where I volunteered similarly faced funding difficulties. One consequence of a lack of funding is that the staff are overworked. In fact, when asked about their difficulties, one coordinator commented, "the biggest problem we face providing this service. . . of course, what comes to mind is all sorts of things that have nothing to do with research, like money" (Coordinator Interview #2).

I also realized that funding was an issue after volunteering at a mediation centre for several months. I was concerned that this lack of funding might impact on the coordinators' decisions to participate in research. Thus when I was planning my dissertation I anticipated the fact that mediators would probably not have time to participate, especially if the research was solely for the benefit of someone else. I figured that a participatory approach that respects the participants and gives them something in return would be more likely to encourage participation. A second problem researching under-funded agencies is that the staff may be concerned that the money being used for (unnecessary or useless) research would be better spent on services that would directly benefit the community. I think another funding-related factor that may hinder participation includes concerns regarding the researcher's motives and how the findings

will be used. For example, research that could be used to prevent access to funding would obviously be perceived as extremely damaging to community services.

My dissatisfaction with past attempts using a more traditional method to investigate the experiences of women and children at shelters, led me to explore other research methods. I became excited about participatory action research after learning about work that Cynthia Chataway (1994) did with the Mohawk community of Kahnawake. Knowing how difficult it would be for an outsider to gain entry into the Kahnawake community, I immediately began to see the advantages of applying this approach to my own research on community organizations. As a result of this introduction to PAR, I read more about this method and recognized that in addition to personal reasons for selecting PAR, there were also academic reasons. The academic reasons are provided in the body of my dissertation.

**Time Line of Research Phases**



**Key**

- Gathering data
- Analyzing data

### Appendix 3.3

#### Initial Research Ideas

Presented: January 15, 1996

The following research ideas were designed keeping in mind these two objectives:

#### Community Mediation Centre (Metro-Mediators) Objectives:

**Objective 1:** *To evaluate our mediation process at every step and improve the effectiveness of service.*

**Objective 2:** *To promote community-based conflict resolution services among officers of the Metropolitan Toronto Police Department. (S. Clunis, personal communication, December 9, 1995)*

#### Step 1: Obtain Input from Mediators & Coordinators

##### I. Obtain Input Regarding Research Ideas

I would like to obtain suggestions from mediators and the coordinators regarding their ideas for research. Additionally, I would like to obtain input on the following research ideas:

##### Suggested Ideas for Research with Disputants:

What processes/factors encourage second party disputants to proceed with mediation? After case development, approach all disputing parties to determine what factors influenced their decision to mediate. Compare those who proceeded to mediation with those who did not.

##### Questions for Mediators & Coordinators

- i) Is it important to find out why many second parties do not go to mediation?
- ii) Why do the mediators think second parties say "no" to mediation?
- iii) What are important questions to ask disputing parties?

##### II. Obtain Input Regarding Research Methods

Questions for coordinators:

- i) Can I obtain access to case file data?
  - ii) How much are the coordinators and the staff able and/or willing to be involved in gathering the data, analyzing results, providing feedback, etc.?
  - iii) Can I interview people who have been in touch with the mediation centre?
- What approach can I use to contacting previous disputants?

**Step 2: Obtain Input from the Police**

Obtain input from the police regarding research methods and ideas. Two research ideas:

**I. Field-Experiment Examining the Police-Referral Process**

Perhaps one reason why many first party individuals agree to mediation is because they are referred by an authority figure, the police. Thus it would be beneficial if the police could:

- i) for one group of disputing parties--refer only the first party to mediation.
- ii) for another group--visit BOTH the first party and the second party and recommend that both call the mediation service.

Then I could compare these two different referral processes to see if they had a differential impact on disputants' decisions to mediate.

**OR II. A Survey of Police Attitudes**

- i) Survey police regarding their attitudes toward mediation and the referral process.

**Step 3: Develop Research Method**

Steps 1 and 2 are very important because the issues raised will influence the research questions and method. This step will be a process of combining the officers' and mediators' ideas to develop the 'final' research method.

**Step 4: Obtain Feedback**

Obtain feedback on the research ideas and questionnaires from the mediators and the police.

**Step 5: Research**

Complete the research.

**Step 6: Reporting the Research**

Share the research findings with the three mediation services, the police, the Municipality of Metropolitan Toronto, and participants who were interested in the findings.



## Appendix 4.1

### **Informed Consent for Coordinators: *Version 1***

My name is Teresa Janz and I am a graduate student in psychology at York University. I am also a volunteer mediator at SCRS. I am requesting information from you regarding your research ideas and the extent you wish your service to be involved in this research. I believe your experience as a mediator will allow you to provide me with valuable insight into research problems and possible solutions of important issues in this area. In return I will offer you my time, energy, commitment to this project, skills in the area of research design, and a summary of the results upon completion of this study. Since we both have certain skills to offer, I hope you will join me in this co-learner approach.

I am also requesting your permission to tape-record this session. This will be done so that I will be able to review our discussion again at a later time. I assure you that I will take several precautions to protect your identity. I will remove any names that may be mentioned during the discussion, and all names will be removed in the transcripts. The tapes and transcripts will be kept in a locked container when not in use. I would also like to obtain permission to quote what is said in this meeting, however, I assure you that no names will be attached to any quote(s).

I wish to assure you that your participation is entirely voluntary. If you decide to participate you may refuse to answer any specific questions and you may decide to discontinue participating at any time. Please feel free to ask me any questions. I would also like to thank you in advance for your participation.

Please circle 'yes' or 'no' in response to the following statements:

1. I will allow you to quote information from this conversation as long as my name is not used. Yes No
2. I would like my name to remain confidential. Yes No
3. I would like my identity to remain confidential ( i.e., I do not want any possible identifying information to be presented with the results, e.g., the coordinator of 'CRS' said. . . ). Yes No
4. I would like the name of the service to remain confidential. Yes No
5. The information discussed in our conversation may be presented in written form in future publications as long as no identifying information is attached to the report. Yes No

Your responses to these questions will be respected and I will comply with your requests. I voluntarily agree to participate in this research project.

\_\_\_\_\_  
NAME

\_\_\_\_\_  
DATE

## **Appendix 4.2**

### **Informed Consent for Coordinators: Version 2**

My name is Teresa Janz and I am a graduate student in psychology at York University. I am also a volunteer mediator at SCRS. I am requesting information from you regarding your research ideas and the extent you wish your service to be involved in this research.

I believe your experience as a mediator will allow you to provide me with valuable insight into research problems and possible solutions of important issues in this area. In return I will offer you my time, energy, commitment to this project, skills in the area of research design, and a summary of the results upon completion of this study. Since we both have certain skills to offer, I hope you will join me in this co-learner approach.

I am also requesting your permission to tape record this session. This will be done so that I will be able to review our discussion again at a later time. I assure you that I will take several precautions to protect your identity. I will remove any names that may be mentioned during the discussion, and all names will be removed in transcripts. The tapes and transcripts will be kept in a locked container when not in use. I would also like to obtain permission to quote what is said in this meeting, however, I assure you that no names will be attached to any quote(s).

I wish to assure you that your participation is entirely voluntary. If you decide to participate you may refuse to answer any specific questions and you may decide to discontinue participating at any time.

Please feel free to ask me any questions. Thank you very much for considering my request. I would like to thank you in advance for your participation.

You will be provided with the results to ensure the information is accurate and to determine whether you would like your name and/or the name of the service to remain confidential. You may also provide any other suggestions at this time.

I voluntarily agree to participate in this research project.

\_\_\_\_\_  
NAME

\_\_\_\_\_  
DATE

### **Appendix 4.3**

#### **Discussion Guide for Coordinators**

1. Do you face any problems providing this service?
2. Are these important issues for research? If not, what are important research questions?
3. What do you think are some of the possible answers to this/these question(s) you posed?
4. What do you think is the best method of finding the answer to this/these question(s)?
5. How do you feel about your involvement in the research process? What do you think about this research method? (e.g., do you have any concerns: do you appreciate being involved: are you worried about your involvement because you do not have time, etc.).
6. To what *extent* are you willing to participate in this research? (i.e., how much time would you like to spend: how would you like to be involved: how much time would you like your staff to spend: etc.).
7. This question concerns the issue of confidentiality of the disputing parties. Will I be able to:
  - i) contact the disputing parties directly?
 OR
  - ii) would you prefer if someone from the service contacted the parties directly to obtain permission to give me their names?
 OR
  - iii) would you prefer some other method?

#### **Other possible topics:**

What is the main goal/objective of the service? (mission statement from brochure)

Are certain types of conflicts not appropriate for mediation, or can any conflict be mediated?

Is it important for mediation to be voluntary? Why?

How do you define "success"?

#### **Appendix 4.4**

#### **Invitation for Mediators to Attend Focus Group Session** **(written by one of the coordinators)**

**St. Stephen's Conflict Resolution Service Presents:**

### **CASE DEVELOPMENT WORKSHOP FOR CONFLICT RESOLUTION VOLUNTEERS**

***February 29, 1996, 6-9:30 p.m.***

#### ***Friends House***

*We will be holding this workshop at Friends House, on February 29, 1996. Please bring your dinner. Beverages will be provided. Between 6 and 7 p.m. there will be a brainstorming session with Teresa Janz who is conducting research on mediation. The workshop will follow from 7 to 9:30 p.m. This is our first workshop in a series of six workshops to be offered in conjunction with Downsview Conflict Resolution Service. Other topics will include: Parent teen mediation, multicultural mediation and managing phase two. Downsview, Scarborough and St. Stephen's volunteers are encouraged to participate in these workshops. We hope you will attend.*

**Please RSVP to \_\_\_\_\_ at \_\_\_\_\_. Friends House is located at 60 Lowther Av. Exit St. George subway at the Bedford exit, walk North one and a half blocks to Lowther Ave. There is bike and car parking available at Friends House. The parking lot entrance is North of Lowther Ave. on the left-hand side of Bedford.**

## **Appendix 4.5**

### **Informed Consent for Mediators**

My name is Teresa Janz and I am a volunteer mediator at Scarborough Conflict Resolution Services (SCRS). I am also a graduate student in psychology at York University. I am interested in conducting research regarding community mediation. The purpose of this study is to provide you and the coordinators with useful information regarding mediation. Since you are a mediator working in one of these centres, I am requesting your participation in this informal group discussion. I would like to hear your ideas regarding research that would be helpful to you in carrying out your duties in the centre or any suggestions you may have, in general, about the way the service works.

I am also requesting your permission to tape-record this session. This will be done so that I will be able to review our discussion again at a later time. I assure you that I will take several precautions to protect your identity. I will remove any names that may be mentioned during the discussion, and all names will be removed in any transcripts that are written. The tapes and transcripts will be kept in a locked container when not in use. I would also like to obtain permission to quote what is said in this meeting, however, I assure you that no names will be attached to any quotes.

After I have completed this study, I will share a summary of my findings with you and with the coordinators of the mediation services.

I hope you will be willing to participate in this project. Your responses are valuable because you are familiar with providing this service. However, your participation is entirely voluntary. If you decide to participate you may determine the extent of your participation and you may decide to discontinue participating at any time. Please feel free to ask me any questions.

Thank you very much for considering my request.

I voluntarily agree to participate.

\_\_\_\_\_  
NAME

\_\_\_\_\_  
DATE

**Appendix 4.6****Demographic Questionnaire for Mediators**

1. Which mediation centre do you primarily volunteer for:
  - 1) Conflict Mediation Services of Downsview
  - 2) Scarborough Conflict Resolution Services
  - 3) St. Stephen's Community House Conflict Resolution Service
2. For approximately how many years have you been mediating? \_\_\_\_\_ years
3. Age? \_\_\_\_\_ years
4. Sex? Male Female
5. What is your primary occupation? \_\_\_\_\_

## **Appendix 4.7**

### **Summary of Flip-Chart Notes from Focus Group with Mediators**

1. How do you tell if cases should go to court or mediation?
2. What cases are appropriate/inappropriate for mediation? (e.g., should we mediate cases of wife abuse where the woman may be harmed more than helped?)
3. Why do so many second party disputants say "no" to mediation? What should mediators do when second parties say "no"? How much should mediators "sell" mediation (i.e., encourage disputants to try mediation)?
4. How much do mediators influence the mediation process and how much should mediators influence the process? (e.g., Do mediators influence the conflict by deciding who they will meet during case development? What role should mediators play influencing the decision to try mediation?)
5. How do we address community members' misunderstandings of mediation?
6. Where does mediation "fit" in the justice system? Is/should mediation be an alternative to court, or a step in the process of going to court?
7. How long should the "time lag" be between when a disputant contacts the centre and when the mediation occurs? Is there an "optimal" time to encourage conflict resolution? For example, should the time lag be longer to allow the parties to "cool off" or heal, or is it better to expedite the process?
8. How can community mediation be improved and what can community mediators learn from: other mediation models, other fields (e.g., psychology, social work, law, etc.), and therapy (e.g., solution focused therapy)?
9. What are important issues/difficulties community mediators face because of using co-mediation? (e.g., How do mediators with different styles work together effectively?).
10. What impact does mediation have on the conflict? (e.g., Follow-up should occur to determine: how long do resolutions last and whether disputants learn how to resolve conflict because of participation in mediation).
11. What issues are there with encouraging youth to use mediation? (e.g., How do we encourage more youth to participate in mediation?)
12. What are important issues regarding power imbalances that need to be considered?

## **Appendix 4.8**

### **Summary of Suggested Research Topics**

#### **1. The Decision to Mediate**

- a) <sup>C&M</sup> What factors influence the decision to mediate? (e.g., Why do so many second-party disputants decline participation?)
- b) <sup>C&M</sup> What is the impact of the mediator and perceptions of mediation on the decision to participate (e.g., What is the community's perception of mediation? Does a mediator's appearance/clothing matter? Should mediators approach the second party in person, write a letter, or telephone?)?
- c) <sup>C</sup> What role does the referral source, especially the police, play in encouraging mediation (e.g., What services make referrals? What information does the referral source provide? Do referral sources implicitly coerce disputants to mediate?)?
- d) <sup>C</sup> What impact does the type of conflict and the relationship between the disputants have on the decision to mediate?

#### **2. Mediation**

- a) <sup>C&M</sup> How does mediation fit (in theory and practice) with the justice system?
- b) <sup>C</sup> What are the different approaches to mediation and how do they compare?
- c) <sup>C&M</sup> Does mediation "transform" disputants and their relationships?
- d) <sup>C</sup> Does mediation influence a disputant's perception of the process?
- e) <sup>M</sup> What cases are appropriate/inappropriate for mediation?
- f) <sup>M</sup> Is mediation voluntary? Should mediation be voluntary?
- g) <sup>M</sup> What is an optimal "time lag" between when a disputant first contacts the centre until the mediation occurs in order to encourage conflict resolution?
- h) <sup>M</sup> How can mediation be improved? For example, what can mediators learn from other mediation models, other fields (e.g., psychology, social work, law, etc.), and modes of therapy (e.g., solution focused therapy)?
- i) <sup>M</sup> What are important issues to consider when using a co-mediation model (e.g., how do people with different mediation styles work effectively together?)?
- j) <sup>C&M</sup> How can mediators evaluate mediation? (e.g., What would make it more effective and efficient?)



### **Other Suggested Research Issues**

#### **3. The Police**

- a) <sup>C</sup> How can mediators improve the police-mediator relationship? (especially in order to decrease conflict in the community and promote mediation)
- b) <sup>C</sup> What are police officers' perceptions of mediation?
- c) The referral process:
  - i) <sup>C</sup> How do police get rewarded for making referrals to mediation?
  - ii) <sup>C</sup> What would an effective police-referral process be like (i.e.. How should police refer disputants and how should mediators provide feedback for the police regarding the case? Should police refer disputants or should mediators examine cases and contact disputants themselves?)?
  - iii) <sup>C</sup> What do the police tell disputants about mediation?
  - iv) <sup>C</sup> What are the outcomes of conflicts referred by the police?

#### **4. Volunteer Issues**

- a) <sup>C</sup> What factors encourage and motivate volunteers to be mediators?
- b) <sup>C</sup> What characteristics identify "good" volunteer mediators and should they receive "credentials" of some sort?
- c) <sup>C</sup> What is the optimal number of volunteers a service should have in order to operate effectively (i.e.. What should the ratio of volunteers to cases be?)?

#### **5. Power Imbalances**

- a) <sup>C&M</sup> How should mediators deal with conflicts involving power imbalances (e.g.. parent-teen. spousal abuse. human rights issues. landlord-tenant. and workplace conflict)?

#### **6. Culture**

- a) <sup>C</sup> What are effective ways of providing conflict resolution services for people of diverse cultures?

#### **7. Mental Health**

- a) <sup>C</sup> How should mediators deal with issues regarding mental health and conflict?

<sup>C</sup> Research ideas suggested by the coordinators (during the interviews)

<sup>M</sup> Research ideas suggested by the mediators (during the focus group)

<sup>C&M</sup> Research ideas suggested by both the coordinators and mediators

**Appendix 5.1****Police Questionnaire: Version 1**

1. What training have you had in mediation/conflict resolution?
2. In what kind of work situations do you act as a mediator?
3. What obstacles/difficulties have you faced when called into a crisis situation?
4. Have you ever referred disputants to an outside agency? ..... yes no  
4a. If yes, what happened to the case(s) you referred?
5. What advantages AND disadvantages do you see in referring disputes to mediation?
6. Not every dispute is suitable for mediation. What kinds of disputes do you think are NOT appropriate for mediation?
7. How do you see the services of mediators fitting in with the strategies you currently use to settle disputes when called into a situation?
8. What types of disputes do you feel result in the most call backs (repeat calls to same address)?
9. In what situations/what kinds of disputes would you consider referring a case for mediation?
10. How do you prefer to make referrals? (check all that apply)  
☐ provide disputants with a phone number for the service  
☐ provide information about the service  
☐ hand individuals a brochure  
☐ hand individuals a business card  
☐ other: \_\_\_\_\_
11. Would you want to call us directly once you have made a referral?  
☐ yes, it would be important to speak with someone at the service  
☐ no, it would not be necessary  
☐ other: \_\_\_\_\_

12. Do police officers want feedback or a report regarding what is happening with cases that are referred to mediation?

- ☐ yes ☐ no  
☐ it would be useful to give the information to one person (e.g., a community relations officer)  
☐ other: \_\_\_\_\_

13. If mediators were to report back regarding cases, which method of communicating case information would be most useful for you? (check all that apply):

- ☐ does not apply/not necessary to report  
☐ reporting back by street name  
☐ weekly reports ☐ monthly reports  
☐ reporting back by last name of disputants  
☐ other: \_\_\_\_\_

14. Would you be willing to approach BOTH disputants to refer them for mediation?..... yes no  
 17a. Why or why not?

15. Would you like more information about conflict resolution/mediation? ..... yes no  
 15.a. If yes, what would you like to know more about?

16. Will you refer cases to mediation?

- |                |       |          |              |                |
|----------------|-------|----------|--------------|----------------|
| 1              | 2     | 3        | 4            | 5              |
| definitely yes | maybe | not sure | probably not | definitely not |

**Background Information:** Sex: Male Female Age: \_\_\_\_\_ years

How long have you been a police officer? \_\_\_\_\_ years

**Any other comments: Please use reverse for additional comments.**

## Appendix 5.2

### **Police Questionnaire: Revision Process**

Since the initial police questionnaire (Appendix 5.1) was too long, it was revised by deleting and changing some of the questions. *Question 1* (regarding training) was initially included in order to examine the officers' knowledge of mediation. However, since *Question 1*, as well as questions numbered 2, 3, 4, 8 and 15 did not provide information that was directly relevant to the main research issues regarding the impact of the police on disputants' decisions to mediate, they were deleted.

*Question 5*, which addressed the advantages and disadvantages of referring disputants to mediation, was changed to focus on officers' perceptions of the disadvantages of mediation. This question was altered because it was double-barreled and I thought respondents might not answer both aspects of the question. Second, asking about the advantages of mediation seemed redundant because *Questions 7* and *9* accomplished this by asking officers how mediation complements their work (*Question 7*), and when mediation is useful (*Question 9*). *Question 5* became *Question 3* on the revised questionnaire. Next, I deleted *Question 6* regarding the kinds of disputes that are inappropriate for mediation. This question was deleted because there was a question asking officers to describe appropriate cases, which seemed more relevant for the purposes of this study. *Question 7* was modified slightly so it still expressed the same meaning but was shorter, and it became *Question 2* on the revised questionnaire, asking how mediation complements the work of the police. The remaining questions were presented in a similar format on the revised questionnaire.



## **Appendix 5.4**

### **Mediation Presentation to Police Officers**

The presentation to the officers began with a description of the history of the mediation centre, and an explanation that there were three community mediation centres in the Toronto area. We explained that the geographic location of a conflict would determine where the officers would refer disputants to mediation. The next part of the presentation involved a description of mediation. For example, we explained that mediators focus on resolving conflicts between members of the community, such as neighbours, family members, co-workers and landlords and their tenants. The types of conflicts often involve noise, harassment, vandalism and parking. We stressed the voluntary nature of the process, emphasizing that mediators cannot coerce any person to participate. In addition, we explained that mediators treat the disputants impartially and do not act as judges. Mediators also do not resolve disputes, rather, they facilitate communication and encourage disputants to work together to resolve their dispute.

We also explained that the mediators of the Toronto centres generally believe that certain types of cases are inappropriate for referral. Such cases include, but are not limited to: cases of extreme violence where one individual fears for her/his life or safety; cases that involve long, ongoing disputes where counselling may be more effective; and/or where there is a major power imbalance between the parties. We mentioned that one centre, however, does mediate victim-offender cases and cases involving wife abuse. Generally speaking, disputants who are addicted to drugs or alcohol do not participate in mediation, especially if it is questionable whether the individual is able to uphold the

agreement while under the influence of a drug. People who are unable to discuss their issues or have been diagnosed with a major psychiatric disorder are generally not good candidates for mediation. Moreover, if people require advocacy rather than mediation they should be referred elsewhere. The police were also told that mediators would provide referrals for cases that were not appropriate for mediation.

The officers were then told that the service is free to people in the community and that the volunteers are a very diverse group, representing a variety of ethnic, social, linguistic and cultural groups. Although the mediators also have diverse professional backgrounds, they are all trained to use the same mediation model. Next, the process of contacting the parties and the actual mediation process were explained. We also mentioned that mediators make every effort to respond to the disputants as quickly as possible. The presentation concluded with an explanation regarding the process that the officers could use to make referrals to the mediation services.

## Appendix 6.1

### Variables Coded from Case Files

<b>Variables</b>	<b>Values</b>	<b>Variables</b>	<b>Values</b>
1. Case Number		6. Main Dispute	See Appendix 6.4
2. Mediation Centre	SCRS CMS-D CMS	7. Secondary and tertiary conflicts	See Appendix 6.4
3. Date of Intake	Month & Year	8. Referral Source	-Police -Social Services -Legal services (lawyers, judges, etc.) -City -Media -Housing -Mediation Centre -Friends/Family -Self -School/University
4. Date of Outcome	Month & Year	9. Relationship	See Appendix 6.3
5. <u>Demographics of Parties</u>  Sex # Clients Age <sup>a</sup>  Culture	   Child (CMS 0-12) Youth (CMS 13-24) Adult (CMS 25-54) Senior (CMS 55+)  See Appendix 6.2	10. Outcome	-Mediation & agreement -Partial mediation agreement -Mediation & no agreement -Resolved independently -Referral -Staff/volunteer decide case is inappropriate -1 <sup>st</sup> party decline -2 <sup>nd</sup> party decline

<sup>a</sup>CMS was the only centre that recorded age using numerical categories as identified above. The other centres recorded age nominally.

***Other variables that were recorded when available:***

- whether violence was an issue
- whether the case was proceeding to court
- racism/homophobia/classism/ageism issues
- instances of "mental illness"
- whether children were influenced by the dispute



## Appendix 6.2

### “Cultural” Variable

<b>Cultural Labels From The Case Files</b>	<b>Cultural Labels Used in This Study</b>
Africa, Egypt, Ethiopia, Somalia	African
Argentina, Bolivia, Brazil, Chile, Ecuador, El Salvador, Guyana, Honduras, Latino, Uruguay	South & Central American
Asia, China, Korea, Japan, Vietnam	East Asian
Armenia, Bangladesh, Bengali, Cambodia, India, Pakistan, Philippines, Sri Lanka	South Asian
Barbados, Bajan, Haiti, Jamaica, Trinidad	Caribbean
Bulgaria, Croatia, Czechoslovakian Republic, Estonia, Greece, Hungary, Macedonia, Poland, Romania, Russia, Serbia, Slovakia, Ukraine, Former Yugoslavia	Eastern European
England, Germany, Ireland, Italy, Malta, Netherlands, Portugal, Spain	Western European
Iran, Lebanon, Middle East, Palestine, Saudi Arabia	Middle Eastern
Jewish, Muslim	Religion Mentioned

### Appendix 6.3

#### Relationship Variable

Relationships Categories From the Case Files	Relationships Categories Used in the Logistic Regression
1. Neighbours 2. Landlord-Tenant 3. Family 4. Co-workers 5. Parent-Teen 6. Spousal 7. Siblings 8. Victim-Offender* 9. Neighbours living in the same house 10. Room-mates 11. Friends 12. School Relationship 13. Nonprofit Organization 14. Volunteer co-workers	1. Family 2. Landlord-Tenant 3. Co-workers 4. Co-habitants/Friends 5. Neighbours

**\*Note:** This variable was deleted from the logistic regression analysis (see *Chapter 5. Results and Discussion* section).

#### Where:

1. **Family** = (3) Family. (5) Parent-Teen. (6) Spousal. and (7) Siblings

2. **Landlord-Tenant** = (2) Landlord-Tenant

3. **Co-workers** = (4) Co-Workers. (13) Nonprofit Organization. (12) School Relationship. and (14) Volunteer Co-workers

4. **Co-habitants** = (11) Friends. (10) Room-Mates. and (9) Neighbours living in the same house

5. **Neighbours** = (1) Neighbours

### Appendix 6.4

#### Conflict Variable

Conflict Categories Identified in the Case Files		Conflict Categories Used in Logistic Regression
1. Harassment 2. Landlord-Tenant* 3. Money 4. Noise 5. Parking 6. Property 7. Pet* 8. Racism 9. Workplace* 10. Children were the cause* 11. Relationship Issues 12. Physical Violence/Threats 13. Illegal activity	14. Vandalism 15. Fence 16. Leaves/Trees 17. Firing an Employee 18. Drugs 19. Heterosexism 20. Privacy 21. Garbage 22. Sexual Harassment 23. Odors (i.e., smoking and cooking)* 24. Evicting a tenant 25. Car Accident 26. Safety Concerns	1. Noise 2. Parking 3. Illegal Activity 4. Eviction & Being Fired 5. Relationship 6. Concerns about Violence 7. Property 8. Harassment 9. Money

**\*Note:** These variables were re-categorized and/or deleted for the regression analysis (see *Chapter 5. Results and Discussion* section).

#### Where:

1. **Noise** = (4) Noise.
2. **Parking** = (5) Parking.
3. **Illegal Activity** = (13) Illegal activity, (18) Drugs.
4. **Eviction or Being Fired** = (17) Firing an Employee, and (24) Evicting a Tenant.
5. **Relationship** = (8) Racism, (11) Interpersonal/Relationship Issues, (19) Heterosexism, (20) Privacy, and (22) Sexual Harassment.
6. **Concerns about Violence** = (12) Physical Violence/Threats, and (26) Safety Concerns.
7. **Property** = (6) Property, (14) Vandalism, (15) Fence, (16) Leaves/Trees, (21) Garbage, and (25) Car Accident.
8. **Harassment** = (1) Harassment
9. **Money** = (3) Money.

## **Appendix 6.5**

### **Meeting Minutes Pertaining to Record-Keeping**

The following are minutes taken from meetings of the Metro Mediators (a core group of coordinators and mediators who periodically met to inform the research and who had the ability to institute change at the centres) on May 13, 1997 and July 8, 1997. After I presented some of the findings from the archival study, this group brainstormed several suggestions for change regarding record-keeping. The following are verbatim passages from the minutes (recorded by one of the coordinators) that are related to record-keeping. Some headings have been added to summarize the proposed action.

#### **Meeting: May 13, 1997**

##### **1. Standardize record-keeping for all three Mediation centres**

Using the same definitions and record-keeping systems will allow us to combine data across our services. This is useful for the purposes of funding applications, defining community mediation's profile in the wider mediation community, exchanging volunteers and supporting the move to some sort of certification of volunteers. We agreed that we should try to standardize our record-keeping as much as is practical and to make a proposal for the next meeting to that end.

##### **2. Standardize Paperwork and Data Entry Procedures**

We agreed it should be possible to standardize both the intake form and spread sheet that summarizes the cases. This will be a task for our next meeting. There may be one significant difference in how we use the forms, in the collection of information about culture and age. We also talked about computerizing these records and agreed that it should be possible to derive forms that are equally useful on paper, on a wordprocessor or in a database format. The important thing is that the form is the same in each format and each service can use the one that suites them.

We all try to track our volunteers' hours and experience, but we didn't see immediate grounds for standardization here.

### 3. How to Define the services we provide

#### a. What is a Case?

We discussed the way we all define a "case."

We agreed to propose adopting the following system across all four services:

- i. a call, letter or visit about a dispute is called an "inquiry" or (Intake?)
- ii. some inquiries become referrals and go no further
- iii. inquiries assessed as appropriate and where the person inquiring agrees to our involvement become a "short service," and are given a unique, sequential number
- iv. where the second party (or parties) to the dispute agree to our involvement the short service becomes a "case" with the same number

We all agreed that the five actions we perform in cases are called:

- |                       |                    |
|-----------------------|--------------------|
| (1) assessment.       | (4) follow-up, and |
| (2) case development. | (5) referral       |
| (3) mediation.        |                    |

We discussed the categories we use to describe the *types of cases* we do (for example, noise, parking, dismissal, arrears, harassment), and the *relationship* between the parties (for example, victim-offender, family, landlord-tenant). We agreed that the best way to proceed here is to send each other lists of the categories we use, so that at our next meeting we can see if one common list can be derived.

#### **Next Meeting**

We agreed to meet again and our agenda is to try to come up with standard forms and lists of case categories. So we need to bring whatever forms and lists will make that possible.

---

#### **Meeting: July 8, 1997**

Goal is to come up with some standards for codes describing cases.

-we started by breaking the codes into "case status", "relationship of parties," and "type of dispute"

#### **I. Case Status**

-we broke this down again into "case status" and "outcome"

##### 1. Case Status

-we seemed to agree on the following for most cases:

<i>intake</i>	<i>MS</i> (mediation scheduled)
<i>assess</i>	<i>FU</i> (follow-up needed)
<i>assign</i>	<i>HOLD</i>
<i>CD</i> (case development happening)	<i>CL</i> (closed. see Outcome)

**-Victim-offender treated differently as:**

<i>pre-charge</i>	<i>post-plea</i>
<i>post-charge</i> (diversion. pre-plea)	<i>post-sentence</i>

**2. Outcome**

-more discussion is needed. but we started with:

*MA* (mediation agreement reached. SCRS tracks written or verbal as well)

*MC* (continuing at more mediation sessions)

*MP* (partial agreement reached)

*MN* (no agreement reached)

*PRW* (parties chose to resolve another way but we helped)

*PRO* (chose to resolve another way substantially without our help)

*1R* (1<sup>st</sup> party withdrew)

*2R* (second party refused mediation)

*REF* (referred somewhere else)

**II. Relationship of Parties**

-at CMSD a system pending board approval would see two major categories. victim offender and community. and further breakdown after that: there is some cross over. so they are starting to do double classifications. giving each case two if necessary

-it was agreed that double categories are often necessary

-otherwise what we came up with was:

<i>Ne</i> (neighbours)	<i>LT</i> (landlord-tenant)
------------------------	-----------------------------

<i>Hsmt</i> (housemates or roommates)	<i>fam</i> (family except parent teen)
---------------------------------------	--

*PT* (parent-teen)

*wkpl* (workplace. meaning labour-management relations mostly)

*CV* (consumer/vender. changed from *comm* for commercial)

*Other* (specify)

-is there a need to demarcate cases that are one-on-one from those that are multiple parties?

**III. Type of Dispute**

-we found we really needed dual categories here. to cover cases with multiple issues or issues that cross over

-I'm not entirely sure about this. but I think the list we ended up with included:

*IP-sp* (interpersonal spouses)  
*IP-har* (interpersonal harassment)  
*IP-par* (interpersonal parenting)

*Ne-fen* (neighbourhood fence)  
*Ne-pkg* (parking)  
*Ne-noise* (noise)

*VO-assault* (victim offender assault)  
*VO-TF* (theft or fraud)  
*VO-threats* (threats)  
*VO-B&E* (break and enter)  
*VO-mis* (mischief)  
*VO-PSP* (possession of stolen property)

*LT-a* (landlord tenant arrears/late payment)  
*LT-noise* (noise)  
*LT-term* (termination of tenancy)  
*LT-rep* (repairs & maintenance)  
*LT-other* (other. specify)

*Serv* (services provided. For example. commercial transaction. medical treatment. and consulting)

*Other* (other. specify)

### **Next Meeting**

Continue discussing record-keeping and continue discussing implementing these changes.

## Appendix 7.1

### Discussion Guide

**Please Note:** The wording of the following questions differed slightly for the group of respondents who did not participate in mediation.

#### **1. Perceptions of Mediation**

1. How did you first hear about mediation?  
     From **WHO**?  
     How was it described?  
     What did the \_\_\_\_\_ tell you about mediation?  
     What did you learn about mediation?
  
2. What did you **think** about mediation when you first heard about it? (What does mediation mean to you?) Do you think mediation is:  
     -**formal** or informal?  
     -**FAIR**? Why/Why not?  
     -**CAN it WORK** to resolve conflict? Why/Why not?  
     -**USEFUL**? When, for what cases?  
     -Do you think the outcome would be **FAVORABLE** for you if you used mediation?
  
3. How were you approached (e.g., by telephone, by letter, in person)?  
     Which of these methods (phone, letter, in person) would you prefer?
  
4. How did you react when you were approached by the mediation service?  
     (surprised, confused, glad, etc?)
  
5. What did you think of your first discussion with the volunteer mediator? Why?
  
6. Did the volunteers listen to you and understand your point of view?
  
7. Did they seem impartial (did not take anyone's side)?
  
8. Is there anything the mediators could have done differently to make you feel more comfortable?
  
9. What do you think makes a good mediator?
  
10. How would you describe an **IDEAL** mediation process for resolving conflict?
  
11. Why did/didn't you decide to use the services provided by mediators?



12. What influenced your decision to proceed with mediation? Why?
13. Did anyone **ENCOURAGE** you to use the service? Who (such as friends, neighbours, family professionals-lawyers, police, judges, etc.)? What did they say? **Did anyone else encourage you?**
14. Did anyone **DISCOURAGE** you from using the services of the centre? Who (such as friends, neighbours, family, professionals-lawyers, police, judges etc.)? Why? What did they say? **Did anyone else discourage you?**
15. Mediation is not perfect, what are the **drawbacks of mediation?**
16. What other options were available to you to resolve this conflict?
17. Of the options you mentioned (\_\_\_\_,\_\_\_\_, \_\_\_\_), which do you feel was **the most effective** in helping you to resolve the conflict?
18. Why did you feel \_\_\_\_\_ was the most effective option?
19. Would you **use this service** in the future? (Were you satisfied with the services that were provided?)
20. Would you **recommend it to others** in the future? Why?

**For those who said "no" to mediation:**

21. I know you haven't been through mediation but what would you **expect it to be like?**
  - Who do you think would be involved in the actual mediation?
  - Should anyone else be involved?
  - What do you expect the mediators to do?
  - Who determines **the resolution?**
22. What would **make you more willing** to try mediation?  
**Is there anything that the mediators could do/say to convince more people to go to mediation?**
23. If you were to select mediation in the future what would you **hope to achieve** by going to mediation?
24. Why do you think it would work for others and not you?

**2. The Disagreement**

25. So the disagreement was with \_\_\_\_\_.
26. The disagreement was about \_\_\_\_\_. Is that correct?

27. How **long** has it been occurring?
28. Were you aware that there was a problem before the service contacted you?
29. What methods have you used to **try to resolve this problem in the past** when you were annoyed with your {neighbour}?
30. Was this **difficulty resolved**? OR
31. Is there **any chance** that this difficulty will be resolved? **How** (through mediation. without mediation): Why/why not?
32. **If not resolved**--What do you think would have been necessary for you or your {neighbour} to do in order to resolve this disagreement?
33. Is/Was the problem worth solving (was it important that you solve the problem)?
34. Has or did the conflict affect your daily life (or routine)? How?
35. How do/did you **cope** with the conflict? What do you do when your {neighbour} does something that annoys you?
36. Do you think the problem could be handled better by the courts or some other service? Why/ why not?

### **3. Perceptions of the Other Party**

37. Do you think your {neighbour} wanted to work this out? Why/Why not?
38. What do you think your neighbour thinks about you?
39. Does your {neighbour} understand your point of view or do you feel you may have been misunderstood? Why?
40. Do you feel you have anything in **common** with your {neighbour}? Do you think you and your neighbour have **similar concerns**?
41. What is your {neighbour} like as a person? **How would you describe your {neighbour} to someone else?** What descriptive phrases come to mind?
- issues of TRUST
  - FEAR/Violence
  - mentally competent other?

#### **4. Relationship Issues**

42. What was your **previous** relationship like with your {neighbour}?
43. What is your **current** relationship like?  
Are you SATISFIED with the relationship as it exists OR do you hope it will change in some way?
44. Is your **future** relationship important? Why/why not?
45. Do you feel **powerful or powerless** in this conflict with your neighbour?  
**Why** do you feel powerful/powerless?  
**If powerless**--What **could be done** to make you feel equal?  
What **could mediators do** to make you feel equal?

#### **5. Community Involvement**

**(NOTE:** These questions were added after interview #3)

46. Had you heard about this community centre before? What have you heard?  
Do you think that influenced your decision to proceed with mediation?
47. Are you involved in the community?

**(NOTE:** The following questions were only discussed with those who had participated in mediation)

#### **6. The Mediation**

48. Did mediation encourage you to change what/how you think about your {neighbour}?
49. Did you change how you act toward your {neighbour} after mediation?
50. What was your relationship like after the mediation?
51. Was the mediation successful?
52. Do you feel the mediation agreement was fair for you? Are both of you still adhering to the mediation agreement?
53. Were you satisfied with the mediation?
54. Do you have any recommendations for mediators in order make mediation better?

55. Did the mediation meet your **expectations**? Why/Why not?

- Who do you think should be involved in the mediation?
- What did you expect the mediators to do?
- Who did you expect would resolve the conflict?

56. What did you **hope to achieve** by going to mediation?

(Please describe an IDEAL mediation process for resolving conflict)

**Last Question:** Any other comments, suggestions or recommendations?

## Appendix 7.2

### **Development of Discussion Guide Questions**

#### **1. Perceptions of Mediation**

*Questions 1 to 20* in the Discussion Guide (Appendix 7.1) address disputant perceptions of mediation. *Questions 1 and 2* focus on how community members heard about mediation, who described it, and their perceptions of the process and the service. *Questions 3 to 10* investigated whether their experience with mediators influenced their decision to mediate. Specifically, *Question 3* probed disputant preferences for mediator contact (i.e., phone, letter or in person). The idea for this question came from one of the coordinators:

another thing is the pros and cons of face-to-face case development versus phone and letter. We have strong feelings about it, but it would be interesting to look at systematically. (Coordinator Interview #2).

She further indicated that mediators prefer to approach disputants in person but wondered whether it encouraged mediation.

If we found out that it really didn't get us any further, sending people to someone's door, then we would stop doing it because it's a huge administrative pain. We think it makes a big difference in people's satisfaction, but it probably doesn't get more people to go to mediation. We don't really know about that. (Coordinator Interview #2).

Since the type of approach (e.g., telephone, in person, by letter) was important to the coordinators, *Question 4* explored this topic.

*Questions 5 to 9* explored perceptions of the mediators because the coordinators believed that disputants who had an unfavorable impression of the mediators (e.g., felt they were partial to the other party) would be less likely to mediate. Other individuals who may be indirectly involved in the conflict may encourage or discourage mediation and *Questions 12 to 14* examined this possibility.

Respondents were also asked about the options that they perceived they had to resolve the conflict (*Questions: 16, 17 and 18*; i.e., Perception of Alternatives in Figure 1.1). One coordinator presupposed that the only reason disputants try mediation is because "sometimes they don't have any other alternatives" (Coordinator Interview #2). Other questions in this section (*Questions 11, 15, 19, and 20*) further probed the disputants' perceptions of mediation and explored whether disputants had considered their BATNA--**Best Alternative To A Negotiated Agreement**, or, in other words, their best alternative to the conflict (Fisher & Ury, 1991). Only respondents who declined a request for mediation were also asked *Questions 21 to 24*.

## **2. The Disagreement**

The second main section of the Discussion Guide focussed on *The Disagreement* (*Questions 25 to 36 in Section 2*) because past research has shown that characteristics of the conflict are also related to the outcome (e.g., McEwen & Milburn, 1993; Thoennes & Pearson, 1985).

### **3. Perceptions of the Other Party**

The conflict resolution literature (e.g., Levinger & Rubin, 1994; Ross & Stillinger, 1991), and the mediation centre coordinators (Appendix 4.9), suggested the importance of investigating perceptions of the other party (i.e., *Questions 37-41*).

### **4. Relationship**

The questions in the fourth section of the Discussion Guide (Appendix 7.1) examined the nature of the relationship between the disputants. Literature on relationships suggests that considerations of the past, present and future relationships (Potapchuk & Carlson, 1987; see *Questions 42, 43, and 44*) impact the decision to mediate.

Both the mediators (Appendix 4.9) and the conflict literature suggest that another relationship issue of importance is interpersonal power (Levinger & Rubin, 1994; Potapchuk & Carlson, 1987; see *Question 45*).

### **5. Community Involvement**

The fifth section of the Discussion Guide, Community Involvement, was added after the third interview was completed. The reason for this addition was because one respondent, Joy Mashita, discussed her involvement in the community and mentioned that her knowledge of the centre was one of the reasons she felt safe to go to mediation.

Well I have dealt with here [the community centre] a lot.... I used to go to Church here and I've been a craft teacher for the nursery school, and Baby's Best Start.... So I trust them here. (yes--Joy Mashita)

After the interview with Joy, I wondered whether involvement in the community and awareness of the centre may be related to the decision to mediate. Adding two questions about community involvement (*Question 46* and *47*) were the only changes I made to the Discussion Guide throughout the interview process.

## **6. The Mediation**

The final section of the Discussion Guide was designed for those respondents who had participated in mediation. The questions (*Question 48* to *56*) focused on the impact of the mediation and the respondents' satisfaction with the process. Since this research project is action oriented, I wanted to gather evaluative feedback regarding the mediation for the staff and volunteers at the centres. Additionally, all three coordinators stated they wanted to improve their services, and one coordinator wanted to learn more about post-mediation processes.



### **Appendix 7.3**

#### **Comment Sheet**

**Please Note:** I completed a comment sheet following each interview. It is a process recommended by Lofland and Lofland (1984).

1. What was the emotional tone of the interview?
2. What was the respondent's reaction to these questions?
3. What is my reaction?
4. What difficulties did I face?
5. How do I feel after this interview?
6. What were my insights and reflections regarding the research topic?

**Appendix 7.4****Letter of Support from Mediation Service**

{Name of Service}  
{Address}

{Date}

Dear {Name of Potential Respondent}

Recently we were in touch with you regarding the possibility of participating in mediation. We are contacting you at this time to see if you are willing to provide information for a study on why people choose to, or choose not to, participate in mediation.

The study is being conducted by Teresa Janz, a student at York University, and her enclosed letter explains more about this study.

This is a totally voluntary programme which could provide valuable information and feedback to us regarding the effectiveness of our service. All your answers will be confidential, and Teresa is in a position to provide a small payment in appreciation for taking the time to answer the questions.

Please feel free to call us if you have any questions or concerns.

Sincerely,

{Name}  
Coordinator

## **Appendix 7.5**

### **Letter to Community Members Requesting Participation**

{Address and Phone Number of Potential Respondent}

Dear {Name of Potential Respondent}

My name is Teresa Janz and I am a graduate student in Psychology at York University and a volunteer mediator.

Since you have been in contact with volunteers from {Name of Conflict Resolution Service}, I believe you have valuable information to share. I am writing to let you know that I will be calling you in a few weeks to ask you if you would be willing to have a short discussion (approximately 1 hour) with me regarding your experience with this service. *You will also be paid \$20.00 for your participation.*

The purpose of the discussion is to obtain feedback from you that will allow the organization to provide better service for the entire community. I wish to assure you that your responses will be kept confidential. I will only share a summary of recommendations made by community members, in general, and no names will be attached to the recommendations. Of course, your participation is completely voluntary and *I am willing to meet at a time and location that is convenient for you.*

If you have any questions or would like to contact me to arrange a time to meet, you may leave a message for me at Scarborough Conflict Resolution Services {phone number}. Additionally, if the telephone number I have to contact you (listed above) is incorrect, would you please call and let me know.

Thank you in advance for your assistance.

Best Regards,

Teresa Janz

## Appendix 7.6

### **Informed Consent for Community Members**

My name is Teresa Janz and I am a graduate student in Psychology at York University and a volunteer at Scarborough Conflict Resolution Services (SCRS).

Your participation in this evaluation of {Name of Service} requires a short discussion regarding your experiences with this service. The main question I will be trying to answer is what factors influenced your decision to use this mediation service. I believe that by sharing your experiences of this service with me you can help to improve the provision of this service for the entire community. You will also be paid for your participation.

I would also like to tape record our discussion so that I do not forget any of the important information you provide. I assure you that I will take several precautions to protect your identity. The tapes will be used only for my study and no names will be identified in the written report. I will keep the tapes in a locked container when they are not in use. I will be interviewing approximately 30 members of the community and writing a summary of your recommendations, in general.

I wish to assure you that your participation is completely voluntary. You may decide what you would like to discuss. If you decide to participate you may refuse to answer any specific questions and you may discontinue participating at any time. Please feel free to ask for clarification, interrupt or criticize the questions.

If you have any questions or would like to contact me in the future you may leave a message for me at SCRS {phone number}.

Thank you in advance for your participation.

I voluntarily agree to participate.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Date

I would like to receive a summary of the findings. Yes    No

## Appendix 7.7

### Demographic Questionnaire

**The following information is useful to describe the community served by the conflict resolution services. Please answer the questions you feel comfortable answering.**

1. What is your **age** (please circle one letter)?
  - a. 0 to 19
  - b. 20 to 29
  - c. 30 to 39
  - d. 40 to 49
  - e. 50 to 59
  - f. 60 to 65
  - g. 65 or older
2. What is your current **occupation**? \_\_\_\_\_
3. What is your **ethnic identity**? \_\_\_\_\_
4. What is your **first language**? \_\_\_\_\_
5. What is the highest level of **education** you have completed (please circle ONLY one):
  - a. some high school education
  - b. completed high school
  - c. completed some university or college
  - d. college degree
  - e. university degree
  - f. post graduate education (e.g., MA, Ph.D., C.A., etc.)

## Appendix 7.8

### Code Labels and Definitions Initially<sup>15</sup> Used to Analyze the Qualitative Data

*Approach*<sup>a</sup>—discussion regarding how the respondent was approached by the mediation service (e.g., by telephone, in person), including reactions to the service (e.g., surprised, angry, inappropriate or “behind my back”), and preferences for being approached

*Community*<sup>b</sup>—the participants’ involvement in the community and/or knowledge of the community centre affiliated with the mediation service

*Conflict*<sup>a</sup>—characteristics of the conflict--these statements also included discussions of: *impact*<sup>b</sup> of the conflict on the respondent’s life (e.g., stress, emotions, fears, worries); and

*consequences*<sup>a</sup>—the outcome or end-result of the conflict (e.g., resolved, not resolved, escalated), including what was perceived as necessary for resolution and how hopeful they were about a resolution

*Convince Me*<sup>b</sup>—statements to convince me of the merits of their “case,” or to justify conflictual attitudes, behaviours, or conflict tactics

*Culture*<sup>b</sup>—issues related to “culture,” for example, the cultural “match” between the disputants and/or the disputants and mediators; also included *Prejudice*<sup>b</sup> which referred to biases/prejudices that influenced the conflict such as racism, sexism, classism and heterosexism (See Appendix 7.9 “Identifying Prejudice in the Transcripts”).

*Evaluating Mediation*<sup>a</sup>—comments from respondents who had participated in the process, including perceptions of “success” and/or “transformations” of the relationship between the disputants

*Fault*<sup>b</sup>—attributions of who was to blame for the conflict. Does respondent accept responsibility? Was the harm caused by the other party *Intentional*<sup>b</sup> or *Unintentional*<sup>b</sup>?

*Perceptions of Mediation*<sup>a</sup>—statements regarding the respondents’ expectations, perceptions (e.g., fair, formal, useful, favorable outcome) and knowledge of mediation and the mediators (e.g., did the mediators understand their perspective)

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<sup>15</sup> The final codes and results are presented in the Results and Discussion section of Chapter 6.

*Perceptions of Options*<sup>a</sup>—considerations of options to resolve the conflict, including the perceived suitability of other options (e.g., the court, and police)

*Perceptions of Other Party*<sup>a</sup>—the respondents' perceptions of the other disputant. Including *Internal-stable*<sup>b</sup> (dispositional) versus *External-unstable*<sup>b</sup> (situational) attributions of the other party's behaviour.  
Also included: *Others' Motives for Mediation*<sup>b</sup>—perceptions of the other party's request for mediation.

*Police*<sup>b</sup>—any mention of the police

*Power*<sup>a</sup>—respondents' feelings of power/powerlessness with respect to the other party and the resolution of the conflict

*Reasons for Agreeing to Mediate*<sup>a</sup>— reasons for agreeing to mediate, including what respondents wanted to achieve, and examples of situations or people who encouraged mediation

*Reasons for Declining Mediation*<sup>a</sup>— reasons for declining mediation, including examples of situations or people who discouraged mediation

*Recommendations*<sup>a</sup>—recommendations regarding mediation and the service, or perceptions of an ideal mediation process

*Relationship*<sup>a</sup>—comments regarding the relationship between the parties

*Respond*<sup>a</sup>—either party's response to the conflict. Different methods of responding included involving a *third party*<sup>b</sup> (third party may intervene or be asked for assistance), *accommodation*<sup>b</sup> (respondent did anything to solve the problem, or "gave in"), *avoid*<sup>b</sup> (respondent did not directly deal with the conflict, for example, gossiped or ignored other party), *confront*<sup>b</sup> (respondents reacted with hostility or defiance, made threats, or tried to get their own way), *problem solving*<sup>b</sup> (attempts at resolution that involved, for example, discussion, cooperation and compromise with the goal of satisfying both parties).

*Self*<sup>b</sup>—comments regarding oneself

*Violence*<sup>b</sup>—comments describing violent interactions

<sup>a</sup> Code labels derived from the Discussion Guide.

<sup>b</sup> Code labels that emerged from the data.

## Appendix 7.9

### Identifying Prejudice in the Transcripts

There were five main methods I used to identify prejudice. First, I identified *category-based expectancies*. According to Ross and Fletcher (1985) *category-based expectancies* are beliefs that people who belong to certain groups behave in certain ways. For example, "Greeks moved in over there and they fight all the time too" is an example of Jon and Hillary Mitchells' expectancy that people who are Greek fight all the time. The respondents in this study made category-based comments based on race, class and/or age.

Second I identified prejudicial comments when respondents made *correspondent inferences*, arguing that a particular race, class or age group was associated with a particular disposition. For example, "they [Jamaicans] are very aggressive, pushy people" (no--Jackie Chan). Since I believe such inferences also overestimate the role of dispositional causes of behaviour these respondents provide examples of a particular kind of biased thinking--the *fundamental attribution error*.

Third, when respondents made category-based comments or correspondent inferences without identifying the group, but used particular semantics such as *those people* (often with emotion and/or a particular tone in their voice). I also coded the comment as "prejudice."

I have no use for *those kinds of people*. *Those kind of people* have a way that they will never have to participate in a crime like vandalizing a car themselves but for \$10.00 they can hire someone to do it. . . . *These kinds of people* are different and we don't want any relationship with them at all. Absolutely from the outset we would wish no communication with *those people*. We have nothing in common with them. We don't want them here. We just want to be left alone. (no--Jon Mitchell)



Additionally, sometimes it was *how* they made certain comments. For example, the Mitchells were relating a story to me about how their neighbour's daughter married a man when she was 19 years old and after being married 2 years they told me the woman said "I no like this man he no make baby." Then both of the Mitchell's laughed. They were mocking how they thought the woman spoke--with poor grammar and in a baby-like voice. They went on to say that she only married him because she thought he had money.

Fourth, after some prejudiced comment, I attempted to clarify by using active listening techniques to determine whether the attributions were directed toward an entire group of people or just the other party. The responses determined whether I coded the comments as "prejudice."

Example 1:

TJ: So do you think the Greek culture is very different?

JM: Oh yes, very different from ours. No doubt about it. (no—Jon Mitchell).

Example 2:

JC: We are not equal by culture, by education, by whatever. But we view them as disgusting people, big nuisance people, always making trouble. They never say thank-you. They never smile. They just want to do what they like.

TJ: You don't feel it is just that family?

JC: There are so many criminals deported back to their country [Jamaica]. You look at the Macleans, that report, and they say they deport 500 Jamaicans back there each year. . . . There is also a big problem between Blacks and the police in Canada. You look at the criminals and most of the heavy crimes are from that community. (no—Jackie Chan).

As you can see from the above examples, what usually happened when I asked clarifying questions was that the respondents provided more "evidence" to support their initial biases. For example, when I tried to clarify whether Jackie's statements were regarding his neighbours or all Jamaican people, he provided more "evidence" from Maclean's magazine that the particular culture was the root of the conflict.

It is important to note, however, that sometimes active listening identified some inconsistencies in the respondents' "cultural" biases. For example, when I asked the Mitchells whether all the Greek people in their neighbourhood have given them problems, they responded:

No way. Just that one across the street and the other neighbour who couldn't communicate. The other Greeks are fine. (no--Jon Mitchell)

Racist attitudes were not always verbalized in a consistent manner. In some cases questioning the respondents led them to project their prejudice onto the other party. For example, Jackie Chan said "I don't know if they are discriminating against me or I'm discriminating against them." The Mitchells similarly commented that

HM: She told us that she hates the Irish and she doesn't care for the English too much either.

TJ: So she told you that she hates Irish and English people?

HM: Oh yes.

JM: If you are an Anglo-Saxon, look out.

TJ: Is she racist against you?

JM: No question about that. (no--Jon & Hillary Mitchell)

Fifth, in some cases I did not have to look very hard to identify prejudicial comments. For example, I interviewed Niki Tatopolous, who did not make any racist comments herself, but described her family as racist.

My dad he's from the old Greek background so he tends to be a bit prejudice. But he's the kind of prejudice it's not from his heart. So obviously my father has worn off a bit on my brother. . . . If I could describe my brother in one word it would be 'hick'. He's from up North. It's not that he's not intelligent or anything, it's just that he doesn't look beyond his box. (no--Niki Tatopolous)

## Appendix 7.10

### Exploring Connections: Tabulated Qualitative Results<sup>16</sup>

#### I. PERSONAL CHARACTERISTICS

Themes	Willing to Mediate?			
	Yes	No	Yes then No	Total
<b>a. Socioeconomic status</b>				
Lower and low-middle class	36% (4)	56% (5)		41% (9)
Middle class	27% (3)	33% (3)	50% (1)	32% (7)
Middle-upper class	9% (1)	11% (1)		9% (2)
Unable to determine income	9% (1)	18% (2)	50% (1)	18% (4)
<b>b. 2<sup>nd</sup> Party Responses to Conflict (Conflict Tactics)</b>				
Avoid	82% (9)	100% (9)	100% (2)	91% (20)
Confront/Compete	55% (6)	78% (7)	100% (2)	68% (15)
Accommodate	45% (5)	11% (1)	100% (2)	36% (8)
Compromise	9% (1)	.	.	5% (1)
Problem Solve	27% (3)	.	.	14% (3)

■ Denotes unique findings.

(Appendix 7.10 continues)

<sup>16</sup> The provision of frequencies in this Appendix requires some explanation. Although the frequencies represent the number of respondents per comparison category, it is important to note that coding was primarily done for the purposes of organizing the data for further analysis (i.e., not for providing frequencies). The total frequencies per category do not always equal 22. This is because some respondents defied categorical classification, and some represented more than one category (e.g., when the disputants responded to conflict using diverse tactics, or when they seemed to contradict themselves). The category headings presented here follow the same order as the "results" section.

Most of the qualitative researchers I referred to for guidance did not recommend reporting frequencies (e.g., Wolcott, 1994), and some even suggested that providing thick description (like I did in the results section) and counting (such as above) are fundamentally inconsistent ways of thinking and exploring meaning (e.g., Guba & Lincoln, 1994; Marshall, 1986; Palys, 1992; Rennie, 1995; Sidell, 1993). However, others suggested that frequencies can be used to explore connections in the data (e.g., Tesch, 1990), and that qualitative and quantitative information can supplement each other (Glaser & Strauss, 1967). Thus, although the counts are provided, they must be interpreted cautiously. First, the numbers do not reflect the centrality or lack of centrality of themes. Moreover, since the sample is relatively small, judgments of proportional differences between the groups do not necessarily represent strong or weak connections. Another caution is that the numbers strip away the context and, therefore, do not represent the findings. Thus, to understand conclusions that were made regarding connections between the concepts, the primary focus should be on the qualitative "results" section.

**Appendix 7.10 (continued)**  
**Exploring Connections: Tabulated Qualitative Results**

**II. PERCEPTIONS OF OTHER PARTY**

Themes	Willing to Mediate?			
	Yes	No	Yes then No	Total
<b>a. Trust</b>				
Trust 1 <sup>st</sup> Party	45% (5)	.	50% (1)	27%(6)
Do not trust 1 <sup>st</sup> Party	45% (5)	100% (9)	50% (1)	68%(15)
<b>b. 1<sup>st</sup> Party's Motives for Mediation</b>				
<i>i. Not Harmful (n)</i>	<b>55% (6)</b>	<b>11% (1)</b>	<b>50% (1)</b>	<b>36% (8)</b>
Wants to resolve conflict	27% (3)	11% (1)	.	18% (4)
Coerced by a 3 <sup>rd</sup> Party	45% (5)	.	50% (1)	27%(6)
<i>ii. Harmful (n)</i>	<b>45% (5)</b>	<b>100% (9)</b>	<b>100% (2)</b>	<b>73%(16)</b>
a. Insincere/selfish request	36% (4)	100% (9)	50% (1)	64%(14)
b. Intimidation	18% (2)	33% (3)	50% (1)	27%(6)
c. Intrusion/Betrayal	.	33% (3)	.	14% (3)
d. To blame me for conflict	27% (3)	.	.	14% (3)
<i>iii. Unsure of 1st Party's Motive</i>	27% (3)	.	.	14% (3)

■ Denotes unique findings.

(Appendix 7.10 continues)

## Appendix 7.10 (continued)

**Exploring Connections: Tabulated Qualitative Results****III. RELATIONSHIP**

Themes	Willing to Mediate?			
	Yes	No	Yes then No	Total
<b>A. Type of Relationship</b>				
Neighbours	45% (5)	78% (7)	50% (1)	59%(13)
Landlord-tenant	45% (5)	11% (1)	.	27%(6)
Paid co-workers	9% (1)	.	50% (1)	9%(2)
Volunteer co-workers	.	11% (1)	.	5%(1)
<b>B. Relationship Characteristics</b>				
<i>i. Strangers</i>	18% (2)	.	.	9%(2)
<i>ii. Past/Present Relationship?</i>				
Positive ("Supportive")	82% (9)	78% (7)	50% (1)	77%(17)
Negative (not "Supportive")	.	22% (2)	.	9%(2)
<i>a. Interdependence</i>				
Yes	91% (10)	.	50% (1)	50%(11)
No	9% (1)	78% (7)	50% (1)	41%(9)
<i>b. Power</i>				
Powerful	36% (4)	22% (2)	.	27%(6)
Powerless	45% (5)	33% (3)	.	36%(8)
Other	18% (2)	44% (4)	100% (2)	36%(8)
<i>iii. Future Relationship?</i>				
Yes	55% (6)	.	.	27%(6)
No	73% (8)	100% (9)	100% (2)	86%(19)

■ Denotes unique findings.

(Appendix 7.10 continues)

## Appendix 7.10 (continued)

**Exploring Connections: Tabulated Qualitative Results****IV. THE "CONFLICT"**

Themes	Willing to Mediate?			Total
	Yes	No	Yes then No	
<b>a. <u>Dispute Issues</u></b>				
Relationship	36% (4)	56% (5)	100% (2)	50% (11)
Property	36% (4)	56% (5)	50% (1)	45% (10)
"No Problem"	18% (2)	56% (5)	.	32% (7)
Noise	18% (2)	44% (4)	50% (1)	32% (7)
Money	36% (4)	22% (2)	.	27% (6)
Children	9% (1)	.	.	5% (1)
<b>b. <u>Length of Conflict</u></b>				
Less than 1 year	45% (5)	22% (2)	.	32% (7)
1 to 5 years	27% (3)	56% (5)	100% (2)	45% (10)
More than 5 years	18% (2)	22% (2)	.	18% (4)
<b>d. <u>Who is responsible for the Conflict?</u></b>				
<i>i. Self-Blame</i>				
2 <sup>nd</sup> Party--accepts responsibility	27% (3)	22% (2)	.	23% (5)
2 <sup>nd</sup> Party--no responsibility	36% (4)	56% (5)	100% (2)	50% (11)
<i>ii. Other Party--Attributions of 1<sup>st</sup> party's behaviour</i>				
Internal-stable (Disposition)	73% (8)	73% (8)	50% (1)	77% (17)
Situational attribution	18% (2)	11% (1)	50% (1)	18% (4)
Intentional Harm	45% (5)	78% (7)	50% (1)	59% (13)
Unintentional Harm	55% (6)	22% (2)	50% (1)	41% (9)
<i>A. Dispositional Attributions</i>				
<b>a. "Crazy"</b>	36% (4)	44% (4)	100% (2)	45% (10)
<b>b. Culturally Biased</b>	36% (4)	56% (5)	50% (1)	45% (10)
<b><u>Common Interests?</u></b>				
Share interests	55% (6)	33% (3)	100% (2)	50% (11)
Nothing in common	45% (5)	67% (6)	.	50% (11)
<b>c. <u>Violent</u></b>				
Fear potential violence	36% (4)	22% (2)	50% (1)	32% (7)
Violence was an issue	18% (2)	44% (4)	50% (1)	32% (7)
No Violence	55% (6)	56% (5)	50% (1)	55% (12)

■ Denotes unique findings.

(Appendix 7.10 continues)

## Appendix 7.10 (continued)

**Exploring Connections: Tabulated Qualitative Results****V. THIRD PARTY INVOLVEMENT (Other than Mediators)**

Themes	Willing to Mediate?			
	Yes	No	Yes then No	Total
<b>a. 2<sup>nd</sup> Party Involves 3<sup>rd</sup> Party</b>				
Police	9% (1)	33% (3)	50% (1)	23%(5)
Other	55% (6)	67% (6)	100% (2)	64%(14)
<b>b. 1<sup>st</sup> Party Involves 3<sup>rd</sup> Party</b>				
Police	36% (4)	67% (6)	.	45%(10)
Other	36% (4)	56% (5)	.	41%(9)
<b>c. Encouraged to mediate?</b>				
i. No (no one encouraged mediation)	55% (6)	67% (6)	100% (2)	64%(14)
ii. Yes:	45% (5)	44% (4)	50% (1)	45%(10)
Family/friend	18% (2)	22% (2)	50% (1)	23%(5)
Lawyer	18% (2)	11% (1)	.	14% (3)
Police	.	11% (1)	.	5% (1)
Supervisor	9% (1)	.	.	5% (1)
<b>d. Discouraged from mediation?</b>				
i. No (no one discouraged mediation)	82% (9)	78% (7)	50% (1)	77%(17)
ii. Yes:	18% (2)	22% (2)	50% (1)	23%(5)
Friends/family	18% (2)	11% (1)	.	14%(3)
Police	.	11% (1)	.	5% (1)
Lawyer	.	.	50% (1)	5% (1)

■ Denotes unique findings.

(Appendix 7.10 continues)



## Appendix 7.10 (continued)

**Exploring Connections: Tabulated Qualitative Results****VI. JUSTICE**

Themes	Willing to Mediate?			
	Yes	No	Yes then No	Total
<b><i>I. Legal System</i></b>				
Invested in legal process	9% (1)	44% (4)	100% (2)	32% (7)
Wants to avoid legal system	55% (6)	.	.	27% (6)
Unable to afford a lawyer	36% (4)	.	.	18% (4)
<b><i>II. Mediation</i></b>				
<b>b. Distributive Justice</b>				
Mediation provides distributive justice	91% (10)	.	50% (1)	50% (11)
Mediation does NOT provide distributive justice	27% (3)	100% (9)	50% (1)	59% (13)
<b>c. Procedural Justice</b>				
Mediation provides procedural justice	82% (9)	.	.	41% (9)
Mediation does NOT provide procedural justice	9% (1)	56% (5)	50% (1)	32% (7)
<b>d. Retributive Justice (Revenge)</b>				
Refused mediation to get revenge	.	56% (5)	.	23% (5)
Agreed to mediation to get revenge	.	.	50% (1)	5% (1)
Agreed to mediation so would not appear vengeful	9% (1)	.	.	5% (1)

■ Denotes unique findings.

## **Appendix 7.11**

### **Conflict Vignettes**

The conclusion of the qualitative chapter provided summaries of the characteristics of both those who tended to find mediation more attractive and those who found it less appealing. After reading these summaries, I was concerned that summarizing the themes may have decontextualized the findings, and the fact that they occurred within a conflict may have been lost. Consequently, I wanted to provide an alternative way of examining the results that recontextualized the findings.

Wolcott (1994) suggests that many social scientists have adopted the name “Rashoman Effect” to describe the fact that there are many ways to interpret qualitative data. This effect is named after a Japanese film director who directed a movie of a violent encounter as told by four different witnesses, reminding viewers that different interpretations of any event can be equally compelling. Thus, several researchers suggest it is valuable to explore alternative formats of presenting qualitative findings (e.g., Van Maanen, 1988; Wolcott, 1994).

Ely et al. (1991) suggested that one way to capture qualitative results is to develop vignettes to present the “essence” of what the researcher has found. They also provide a method of re-contextualizing the findings. Vignettes can not stand alone to explain the data, but “they are devices that are established through analysis and offered to provide meaning, cohesion, and color to the presentation” (Ely et al., 1991, p. 155). They are also a “text in which the person or persons you have learned about come to life” (p. 167).

For the interested reader, I have provided two conflict vignettes about the same issue, but the specific characteristics that seem to be related to *mediated* versus *non-mediated* disputes are varied. These stories are grounded in the data and represent the salient themes or patterns that emerged. Before reading the vignettes, I caution the reader that these conflicts are fictional, and do not represent any one of the actual disputes from the study. Moreover, the actual conflicts rarely contained all of these elements. Some of the actual disputes, for example, may have only contained a few elements that influenced the decision. Additionally, this summary of the data cannot stand alone, and is provided as an addition (not an alternative) to the results section. The vignettes are written as if the disputants were describing the conflict to me.

First, let me introduce you to Joe Knot. Joe is married and has two children. He and his family moved into their duplex two years ago and have seen their neighbours a few times. Joe *declined* mediation. This is how he described his situation:

Well, they were the ones who asked for mediation, and I don't see why. There is *no problem*--the kids were just being kids. I guess our neighbour has been tormenting us for *about 3 years* now. You see, our children play basketball in the driveway and I guess it is a bit *noisy*, but the kids have to play. They're good kids and they stay out of trouble. One time the ball went into their yard [pointing to the neighbours] and bounced on their flowers, but it didn't damage them very much. *I didn't do anything about it*. The flowers grew back again quickly. No big deal. But the old guy, he came running at the kids and screamed at them. I think he did it just to scare them. He must have some kind of *split personality* because normally he *never says "hello"* or anything. He went *crazy*, yelling at the children.

I yelled back and *took a swing at him* and missed on purpose. I wanted him to see that he should pick on someone his own size. I yelled that he should be quiet because he is always making *noise* too. Anyway, he called the police but they couldn't do anything to me because I wasn't really trying to hurt him, just scare him a bit. So now this means *war*.

You see, it isn't just us making noise. We share a wall and their kitchen is right beside the kids' bedroom. They're always cooking and chopping food, making lots of noise. Just because they are old and they can't sleep doesn't mean they can *purposely* start making noise at the children's bedtime.

You know what else is very strange is we have always been very good neighbours with everyone else. *It's just them*. When I speak to anyone in the neighbourhood they all agree that these people aren't neighbourly—they just keep to themselves. So it would be *useless to talk to them* because they only want mediation to prevent our children from playing basketball, and I won't ask them to stop. The children shouldn't be penalized just because *all* old folks are too sensitive to noise. Besides, we are right in this, and we *don't want to listen to them* because their opinions don't mean a thing.

Even if we did agree to mediate, the *mediators would feel sorry for them* and be conned by their stories because they are older. Agreeing to mediate would give them exactly what they want so I guess saying "no" to them was a little bit of *retribution*. There is just *no chance we could find common ground*. All old cronies think they own this country. *I don't trust them* at all. I think they just want to *use mediation to take away our children's childhood*. Well *I'm not going to let them do that*. Besides, if they wanted the kids to stop, they should speak with us like adults instead of going behind our back to some agency. It is really insulting. *I don't ever want to have anything to do with them, no relationship, no contact, nothing*.

Next, meet Jane Hyes. She, her husband, and two children, live next door to their elderly neighbours who requested mediation. Jane *agreed* to mediate. This is how she described the situation:

You know Mr. and Mrs. Bay, our neighbours, asked us to go to mediation with them. We were quite surprised but thought, "If they have a problem, we certainly don't want to be causing them harm." We try to be really good neighbours *by helping them out with their lawn and by shovelling the snow*, and we *completely trust them because they have helped us by babysitting when we were in a bind*.

Since the *beginning of this summer* it seems that something must be wrong because they aren't as friendly to us as they usually are. I know they were a bit annoyed with the kids playing basketball in the driveway, so that might be it. Also, one day the ball hit their flowers, and Mr. Bay yelled at the kids. He came and spoke with me about the noise and damaged flowers and was, understandably, very angry. *He didn't mean to scare the kids*, it was just the heat of the moment. Anyone would have reacted that way. I thought everything was settled, because we reached a *compromise* about the cost of the

flowers and when the kids could play. But perhaps there is still some *misunderstanding* over the flowers. maybe we owe some more money.

I *don't blame them* for telling the mediators there is a problem. In fact, we feel *sorry for them*. We do *accept responsibility for our role* in this because sometimes the kids play outside without our supervision and they can tend to cause problems. Our neighbours probably just *want to find some way to work this out*.

Since they are older they might not feel safe talking to us on their own and *may want help from mediators to communicate their ideas*. I know sometimes people simply dismiss the elderly just because they are older, and I don't want to be one of those people. I'm also the type of person who strongly believes in equality and peaceful relationships and I don't want to offend them by saying "no." I also *don't want to get the courts involved* because that would just put a strain on our relationship.

We have done nothing wrong so we really have *nothing to lose* by trying mediation. We want our good *neighbourly relationship to continue and I'm sure they do too*. I am *hopeful* that the mediators can help us resolve this so the children can play without annoying our neighbours.