Running head: Analysis of QWL and Motivation for CSOs

An Analysis of the Relationship Between Quality of Work Life and Motivation for Correctional Services Officers in the Montreal Area

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Table of Contents

Page

Table of Contents ii

List of Tables..... v

Abstract..... xiii

Résumé..... ix

Acknowledgements..... x

Prefatory Note xi

Chapter 1 Introduction..... 1

Chapter 2 Review of the Literature..... 4

Quality of Work Life..... 4

History of Occupational Stress..... 4

Occupational Stress and Health Concerns..... 7

Sources of Occupational Stress..... 8

Consequences of Occupational Stress..... 12

Burnout..... 13

Recent Developments in Occupational Stress..... 15

Health and Well-being in the Workplace..... 17

Towards a Quality of Work Life..... 20

Developments in Motivation Research:..... 22

Motives and Needs..... 24

Motivation Theories in Organizations..... 24

Expectancy Theory..... 25

Cognitive Evaluation Theory..... 26

Self-Determination Theory..... 29

Amotivation..... 32

Different Levels of Motivation..... 33

Gender Role Differences in the Workplace..... 38

Relationships at Work and Home..... 41

Chapter 3 Importance of Study....43
Rationale of the Research....43
Stress and Correctional Officers.... 44
Contribution to Knowledge.... 48
Research Questions.... 51
Chapter 4 Method....52
Participants.... 52
Materials.... 54
Participant Inclusion/Exclusion....54
Participant Instructions.... 54
Participant Consent Form.... 54
Demographic Questionnaire....54
Blais Work Motivation Inventory (BWMI-F).... 55
Quality of Work Life Survey (QWL-F).... 57
Research Variables.... 60
Procedure and Data Collection.... 60
Statistical Analysis.... 61
Justification for the use of multiple regression.... 61
Justification for the use of canonical correlations....64
Statistical Procedure.... 65
Chapter 5 Results.... 67
Treatment of the Data.... 67
Descriptive Statistics....68
Research Question 1....74
Research Question 2....86
Research Question 3....94

Chapter 6 Summary and Discussion of Findings..... 106
General Implications of Findings..... 107
Research Implications..... 124
Applied Implications..... 128
General Limitations of the Study..... 134
Directions for Future Research..... 135
References..... 139
Glossary..... 160
Appendixes..... 168

List of Tables

Page

Table 1. Demographic Variables for CSOs in the Montreal Area..... 69
Table 2. Overview of Sample Means, Standard Deviation and Range of Scores for Demographics..... 73
Table 3. Overview of Sample Means, Standard Deviation and Range of Scores for QWL-F..... 73
Table 4. Overview of Sample Means, Standard Deviation and Range of Scores for BWMI-F..... 74
Table 5. Overview of Substantive Pearson Correlations for Work Motivation of CSOs..... 75
Table 6. Overview of Substantive Pearson Correlations for the Quality of Work Life of CSOs..... 76
Table 7. Overview of Substantive Pearson Correlations for QWL-F and BWMI-F of CSOs..... 77
Table 8. Canonical Correlations Hypothesis Testing..... 79
Table 9. Emerging Canonical Correlations for QWL-F and BWMI-F (Items Combined)..... 79
Table 10. Eigen values for Canonical Correlations Sets of QWL-F and BWMI-F... 79
Table 11. Canonical Correlation for Averaged QWL-F Items Correlations and Coefficients..... 84
Table 12. Multiple Regression Comparing QWL-F and BWMI-F with Age..... 87
Table 13. Multiple Regression Comparing QWL-F and BWMI-F with Age by Gender and Work Status..... 89
Table 14. Multiple Regression Comparing QWL-F and BWMI-F Variables and Time..... 90
Table 15. Multiple Regression Comparing QWL-F and BWMI-F Variables with Time by Gender and Work Status..... 92
Table 16. Multiple Regression Comparing Motivation Variables With QWL-F.... 95

Table 17. Multiple Regression Comparing Motivation Variables with Work Satisfaction..... 96
Table 18. Multiple Regression Comparing Motivation Variables with Work Stress.. 97
Table 19. Multiple Regression Comparing Motivation Variables with QWL-F by Gender and Work Status..... 99
Table 20. Multiple Regression Comparing Motivation Variables with Work Stress by Gender and Work Status.....101
Table 21. Multiple Regression Comparing Motivation Variables with Work Satisfaction by Gender and Work Status..... 103

List of Appendixes

Appendix A: Research Authorizations and Participation Letters.....168
Appendix B: Research Presentation..... 172
Appendix C: Participant Consent..... 174
Appendix D: Participant Questionnaires.....176
Appendix E : Supplementary Tables on Demographic Data and Other Elementary Statistics
Table E1. Population vs. Sample at Montreal Detention Establishment..... 194
Table E2 . Population vs. Sample at the Montreal Women's Prison..... 195
Table E3. Population vs. Sample at the St-Jérome Detention Establishment..... 196
Table E4. Population vs. Sample at the Rivière-des-Prairies Detention Centre 197
Table E5. Code Listing for French-translated Quality of Work Life Inventory 198
Table E6. Code Listing for French-translated Blais Work Motivation Inventory 199
Table E7. Summary of Code Listing for Averaged QWL-F and BWMI-F..... 200
Appendix F: Supplementary Tables on Statistical Correlations and Regression Analyses
Table F1. Significant Pearson Correlations for QWL-F and BWMI-F..... 202
Table F2. Canonical Correlation Analysis for QWL-F and BWMI-F (Combined items)..... 202
Table F3. Null Hypothesis Test for Canonical Correlations Between QWL-F and BWMI-F..... 202
Table F4. Multivariate Statistics and F Approximations..... 203

Table F5. Overview of Multiple Regression for Age and Length of Service for CSOs..... 203

Table F6. Overview of Multiple Regression Analyses for Age and Length of Service for CSOs with BWMI-F and the QWL-F Survey by Work Status and Gender..... 204

Table F7. Overview of Multiple Regression Analyses for QWL-F, Work Satisfaction, and Stress for CSOs..... 205

Table F8. Overview of Multiple Regression Analyses for Quality of Work Life, Work Satisfaction, and Work Stress for CSOs by Gender and Work Status..... 206

Table F9. Internal Consistency for Averaged Items and the QWL-F Inventory Alpha Correlations..... 207

Table F10. Overview of Internal Consistency for Averaged Items of the BWMI-F Inventory..... 208

Table F11. Cronbach Alphas for Averaged Items of the QWL-F Survey and the BWMI-F (combined)..... 209

Table F12. Pearson Correlation Analysis for Demographic, QWL-F, and the BWMI-F Items (combined) 210

Appendix G: Supplementary Figures on Statistical Correlations and Regression Analyses

Figure G1. Cronbach Alphas for QWL-F and BWMI-F..... 217

Figure G2. Significant Pearson Correlations..... 218

Figure G3. Canonical Correlation Analysis Set Results..... 219

Figure G4. Age, Length of Service, QWL-F, Stress, and Satisfaction as Dependent..... 220 Variables through a Multiple Regression Analysis (R-square results)

Abstract

The purpose of this investigation was to examine the relationship between quality of work life and motivation of French-speaking Correctional Services Officers (CSOs) working in the Montreal area. Three hundred and forty-seven male and female CSOs (ranging from 19 to 58 years of age) working in four different provincial correctional establishments were assessed. Each participant completed an introductory questionnaire, Pelsma, Richard, Harrington, and Burry's (1989) French-translated 8-item Quality of Work Life Survey (QWL-F) and Blais, Brière, Lachance, Riddle, and Vallerand's (1993) French-translated 8-item Work Motivation Inventory (BWMI-F). Assessment of quality of work life and motivation for CSOs were analyzed with an emphasis on differences in gender and work status. Using different correlational analyses as well as multiple regressions, the findings from this inquiry indicated that motivation and quality of work life were positively correlated. Male and female CSOs reported to be more intrinsically motivated as they started their careers and became amotivated and in need of greater extrinsic rewards as they became older with greater work experience. Hence, younger and less experienced male and female CSOs would eventually become influenced by their older workmates. Female CSOs appeared to be more stressed and reported greater levels of amotivation than their male colleagues. However, female CSOs reported a greater ease in communicating their concerns and in consulting with internal and external resources. Research implications as well as study limitations are also discussed.

Résumé

Cette étude vise à mesurer et à comprendre les différentes interrelations entre le stress à l'emploi, la satisfaction au travail (qualité de vie au travail) et la motivation (intrinsèque, extrinsèque, et amotivation). L'échantillon de recherche était composé de 347 Agents des Services Correctionnels (ASC) travaillant dans quatre établissements correctionnels différents dans la région de Montréal. Les participants ASC ont été échantillonnés en considérant leurs niveaux de motivation ainsi que par les différentes sources et conséquences du stress occupationnel et/ou la satisfaction à l'emploi en utilisant le Quality of Work Life Survey (QWL-F) et le Blais Work Motivation Inventory (BWMI-F).

Les fondements de cette recherche sont basés sur les théories de la détermination (Deci et Ryan, 1985, 1991), les théories de la motivation (Blais, Brière, Lachance, Riddle, et Vallerand, 1993), ainsi que les théories sur la qualité de vie au travail (Pelsma, Richard, Harrington et Burry, 1989). D'autres études sur le stress, le stress occupationnel, la motivation, le bien-être au travail et le rôle des hommes et des femmes qui travaillent en première ligne d'intervention en milieu fermé (tel que l'environnement carcéral) ont été considérées.

Cette étude ne s'est pas uniquement concentré sur les théories du burnout et du coping, mais plutôt sur les interrelations entre la qualité de vie au travail, ainsi que la motivation intrinsèque et extrinsèque au travail. Différentes analyses corrélationnelles ainsi que des régressions multiples ont été utilisées pour déterminer les relations existantes et non-éxistantes. Les résultats ainsi que les conclusions sur les différentes questions de recherche ont déterminé que la motivation ainsi que la qualité de vie au travail sont positivement associés. Les ASC qui étaient plus vieux et avec une plus longue expérience de travail et de gendre différent ont montré des résultats significativement différents que les ASC plus jeunes et moins expérimentés. Plusieurs autres implications et recommandations sont discutées.

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Prefatory Note - Contribution to Knowledge

Through quantitative interpretation, this research explored different relationships between quality of work life and motivation. A correlational research design was utilized to assess within-group differences as well as the relationships between different dependent and independent variables. Relationships between these dependent and independent variables and their relative order were determined using various statistical analyses including canonical correlations and multiple regressions.

This investigation was focused on understanding how Correctional Services Officers (CSOs) working in urban institutions were motivated or amotivated by the sources and consequences of occupational stress as well as employee work satisfaction. The goal of this investigation was to analyse how motivational and psychological factors relate to quality of work life (which is composed of both occupational stress and work satisfaction) for French-speaking male and female, part-time and full-time, Correctional Services Officers (CSOs). Furthermore, this research investigated the relationship between gender and work-related stress, motivation, and work satisfaction experienced by this CSO population.

This research study contributes to the fields of occupational stress, occupational wellness, career counselling, and motivation by presenting an interesting comparison of the influence of quality of work life with motivation for a specific French-speaking correctional officer population. It was believed that quality of work life (occupational stress and job satisfaction) as a dependent variable will be experienced differently with regard to different predictor variables such as different levels of motivation, age, work experience, and gender for CSOs in the Montreal area.

CHAPTER 1

Introduction

This study examined the relationship between quality of work life (Daley & Parfitt, 1996; Daniels & Guppy, 1994; Daniels, Brough, Guppy, Peters-Bean & Weatherstone, 1997; Mendlowwicz & Stein, 2000; Pelsma, Richard, Harrington & Burry, 1989; Spector, 1997) and work motivation (see Baron, 1991; Blais, Riddle & Baron, 1998; Blais, Vallerand, Pelletier & Briere, 1993; Bordin, 1994; Deci & Ryan, 1980, 1985, 1991; Frey, 1997; Kanfer & Heggestad, 1997; Kohn, 1993; Kuhnert & Palmer, 1991; Pinder, 1998; Vallières & Latulippe, 1993; Vroom, 1964; Vroom & Deci, 1970). The research discussed in this thesis indicates the interaction between different levels of motivation and quality of work life. However, the theoretical underpinnings of this investigation stem from Deci and Ryan's (1980, 1985 and 1991) theory of self-determination and motivation.

The existence of occupational stress within institutional settings has been well documented (Ameringen & Arseneault, 1990; Bhagat, Allie & Ford, 1995; Blix, Cruise, Mitchell, & Blix, 1995; Blais & Lachance, 1992(a), 1992(b); Cooper, 1998; Crandall & Perrewé, 1995; Jex, 1998; Kahn & Byosiere, 1992). Research regarding correctional personnel and their institutional work has also been well documented (see Bolduc, 1996; Dhaher, 1996; Farmer, 1977; Hobbs & Dear, 2000; Jex, 1998; Lemire, 1991; Léveillé, 2000; Miller, 1998; Pogrebin, 1978, 1987; Robinson & Porporino, 1992; Summers, DeCotis & DeNisi, 1994; Valliere & Latulippe, 1993; Webb & Morris, 1978; Williamson, 1990). However, literature focusing on shock, trauma, and stress for correctional personnel and how these systematically affect their careers remains scarce (see Blau, 1986; Cullen, Link, Wolfe & Frank, 1985; Dignam & Fagan, 1996; Dollard & Winefield, 1998; Finn, 1998; Inwald, 1982; Poole & Regoli, 1980; Pogrebin, 1978, 1987; Rosine, 1992; Schaufeli & Peeters, 2000; Stinchcomb, 1986). When examining factors such as gender and work status for correctional officers and their impact to occupational stress, the number of references become even more sparse (Gross, Larson, Urban & Zupan, 1994; Grossi & Berg, 1991; Hurst & Hurst, 1998; Lasky, Gordon, Srebalus, 1986; Walters, 1993).

This investigation is unique because it considers gender and status differences for Correctional Services Officers (CSOs) in the Montreal area. Most of the early reseach findings on work- related stress and satisfaction has been based on coping models of research.

Furthermore, this research did not look at burnout as the ultimate result of occupational stress but rather at how work stress and satisfaction are combined, as well as how they interact together, and separately with motivation and amotivation variables for male and female CSOs in the Montreal area.

The findings of this study also support the existing literature on correctional rehabilitation personnel and their exposure to stress and fear of working with a resident prison population. Although there is a body of knowledge addressing motivation and burnout in Canadian prisons as well as in some correctional settings in the United States and Europe to date, no studies have addressed the interaction of motivation and quality of work life as well as gender differences for CSOs, specifically French-speaking ones, within Quebec provincial detention facilities in the Montreal area as examined in this investigation. Different sources of occupational stress and job satisfaction for different individuals within a correctional facility will either motivate or amotivate these individuals to pursue their career as CSOs.

Chapter 2 presents an analysis and an interpretation of the relevant research literature on quality of work life (including occupational stress and work satisfaction). The different perspectives of quality of work life are explored regarding the history of occupational stress, its related health concerns, the sources and consequences of occupational stress, the recent developments in occupational stress research, as well as various health and well-being concerns in the workplace. Motivation research, with a particular focus on work-based motivation theory in organizations, is then examined through this section. An understanding of the various motives and needs of workers is emphasized. Motivation and self-determination theory in organizations, expectancy theory, cognitive evaluation theory, and self-determination theory were related to the realm of motivation research. As well, a focus on the different use of related measurement instruments on motivation and quality of work life is determined. Finally, a focus on different gender roles and work status is explored in relation to quality of work life and motivation pertaining to correctional workers.

In Chapter 3, conclusions from the review of literature are drawn and a theoretical basis for the importance of this study is presented. The rationale of this research and the contribution of this investigation to the body of knowledge are also explored. Various conclusions are drawn and three research questions are presented.

In Chapter 4, the research methodology is discussed. Detailed information on the

participants, the materials used, the procedure and data collection, the research design, and the statistical analysis are presented. An explanation of the different inventories (the QWL-F and the BWMI-F) are also explained in this section. The various statistical analyses (correlations, basic statistics, and regressions) that were utilized in this study and an explanation of these are presented.

In Chapter 5, the results of the research questions are addressed through quantitative analysis. A review of the demographics, the research questions as well as the general results regarding the various statistical analyses are presented. An in-depth analysis of the results, the findings that connect the three research questions, as well as brief interpretations of the statistical results are considered.

Chapter 6 focusses on a discussion of the research findings. Within this section, considerations of how this research has contributed to the field of career counselling research are explored and presented. Research and applied implications are explained. In light of the research results, this discussion explores the limitations of the current study with respect with the existing literature. Where conclusions of the research are not supported, the literature is reviewed and other directions for future research are outlined. Additional considerations, a summary and different conclusions are presented. Theoretical and practical considerations, study limitations, as well as directions for future research are also determined.

CHAPTER 2
Review of the Literature

Quality of Work Life (Occupational Stress and Work Satisfaction)

History of Occupational Stress

In their literature review of work-stress related articles Ganster and Schaubroeck (1991) identified over 300 articles published in the last 10 years which have appeared in a wide array of fields including psychology, sociology, engineering, public health, epidemiology, management, criminal justice, and law. In addition to these articles, there has been mainstream focus on work stress by the popular press and media. Historically, however, the study of occupational stress is a relatively new phenomenon. Although the bulk of the research started in the 1960s, the origins of associating stress and work go back to the early 20th century after the Industrial Revolution (Crandall & Perewé, 1995; Jex & Beehr, 1991; Jex & Gudanowski, 1992; Jex, 1998). Occupational stress was also shown to be related to dangerous work settings, personality factors and types of workplace environments, and the influence of work stress on workers' health and well-being.

Stress, now a widely used term, has held different meanings over the last 100 years. Some of the earliest definitions of job stress date from Cannon's (1914) research on the relationship between emotional and physiological responses to stress. Further investigations focusing on stress through the 1930s to the 1950s were carried out by the "Father of Stress" Hans Selye. Today, household dictionaries, such as the Webster New World Dictionary (1999), define stress in two ways. In the literary sense, stress is used to define special emphasis exerted on words and ideas, while in the physical sense it is defined as any external force directed at some object. The result of this latter force is called strain. Strain will usually cause a permanent or a temporary change in the structure of an object (Selye, 1956; 1973; 1976).

During the 1960s a focus of research in the area of job and work stress began at the University of Michigan's Institute for Social Research. This research program produced many publications in the area of occupational stress (see Caplan, Cobb, French, Harrison & Pinneau, 1975; Kahn, Wolfe, Quinn, Snoek & Rosenthal, 1964; Vroom, 1964). Vroom's (1964) article on the nature of the relationship between motivation and performance focused on the implications of stress and work. The author stipulated that satisfaction at work and motivation were positively

related. However, Vroom (1964) acknowledged that increased motivation and performance desirability may also bring about a narrowing of performance in the cognitive field. Hence, high levels of motivation in one area may lead to less attention that is not focused on other areas. Secondly, high levels of motivation to attain a goal may be associated with anxiety or some other strong emotional state which, in turn, might impair performance (see Vroom, 1964; Vroom & Deci, 1970).

Through the early 1970s, research on occupational stress was gaining momentum in the organizational sciences. During this period, Selye (1973) defined stress as being: "a non-specific response of the body to any demand made upon it" (p. 343). Selye (1973) assumed that some optimal level of bodily functioning existed and that stressors, such as stimuli or situations creating stress for an individual, caused movement away from a desired productive optimal level. He argued that stress, as a response, was an adaptive mechanism attempting to return the body to a balanced normal state. Selye (1973) further stated that when arousal levels within an organization were high, individuals were considered to be stressed. Some individuals can cope with stress, while others can both cope with stress and be motivated by it.

Stress was also considered to be of a systemic nature (that it effects the individual as a whole and is not confined to a particular event or perspective), psychological (relating to mind, body, behaviors, and personality as a whole), distressing (invoking anxiety, strain, and exhaustion), or having a positive nature (work promotion or advancement). At that time Sele's research showed that physiological and psychological stress influenced behavior, motivation, and job satisfaction. A few years later, Selye (1976) reported that stress was essentially the rate of "wear and tear" on the body. Moreover, according to Selye, it was impossible to live without experiencing some amount of stress at times. Very simple activities and problems, as well as the most complex ones, can and will eventually cause a stress response. These stress responses simply vary in degree. For example, stress can be experienced when crossing a busy intersection, being exposed to a wind draft, or even when feeling sheer joy. These examples are all significant enough to activate the body's stress mechanism. Selye (1976) defined stress as not necessarily being something wrong, nor was it necessarily something good. It was simply something that could not be avoided. Furthermore, Selye (1976) explained that the same stress that makes one person ill can create a pleasurable experience for another. Stress is a biological phenomenon that is experienced by all persons regardless of their socio-economic status, occupation, or age.

While there is no universal agreement on the meaning of stress, a few articles attempt to define stress in a generic sense. McGrath (1976) and Schuler (1980) defined stress as a dynamic condition, in which an individual is confronted with an opportunity, constraint, or demand on being, having, and/or doing what he or she desires. During the later 1970s, Beehr and Newman (1978) defined job stress as a type of "person-environment fit" encompassing both individual and workplace stressors. The realm of occupational stress and the connection to personal and career concerns had been shown to be convergent, determining a link between vocational and personal concerns. Information on stress-related research also accumulated from studies focussing on various front-line intervention occupational groups such as police officers, teachers, social workers, and various health care workers. These studies indicated that in high-risk work environments individuals were stimulated by stress elements within their jobs as opposed to feeling distressed by their occupations. This perspective was also understood as being related to an individual who goes to work for the sheer rush and excitement of it. For example, some front-line workers enjoyed the excitement of having to deal with high stress and risk in their work as a source of motivation. Locke (1976) argued that job satisfaction was attained when the fulfillment of one's needs and values did not clash, leading to a sense of self-satisfaction and motivation. The contrary would contribute to the experience of stress.

Hence, the definition and explanation of occupational stress still remained a confused notion with many different interpretations. With the use of different approaches, models, and concepts such as fatigue, job stress, work strain, and occupational stress, it was difficult to group together all ideas into the same body of literature. Different organizational factors and designs were influenced by differing perceptions of job, work, and occupational stress. For instance, leadership and management research influenced the perception of stress at work very differently than research with front-line intervention workers. Hence, the perceptions of occupational stress were interpreted using different occupations as well as the different ranks within these occupations. It was only in 1978, with the publication of the Journal of Personnel Psychology, that the theme of occupational stress was initiated in research. Journal publications of all sorts resulted from this.

Occupational Stress and Health Concerns

In the 1980s and the 1990s, the urgency of health concerns associated with occupational stress began to materialize and were highlighted in various studies (see Blix, Cruise, Mitchel & Blix, 1995; Boles, Johnston & Hair, 1997; Cohen & Wills, 1985; Millar, 1992; Sauter, Murphy & Hurrell, 1990; Sauter, 1992). Occupational stress was beginning to be clearly associated with certain chronic or acute physical and psychological conditions. Working in occupations that has a high stress component, such as front-line intervention, created a high susceptibility to these health concerns. Although certain research (Agervold, 1994; McClelland, 1985; Conrad, 1988a, 1988b; Cooper, 1985; Cooper, Kirkaldy & Brown, 1994; Elkin & Rosch, 1990) revealed that stress could motivate creativity, stress could also encourage physiological concerns such as infectious diseases, cardiovascular problems, and/or psychological distress, namely work dissatisfaction, strain, depression, and burnout as determined by Schnall, Deveraux, Pickering, and Schwartz (1992). Associated stressors such as not performing an expected task, instruction, or directive, or performing it with difficulty were also shown by Fox, Dwyer, and Ganster (1993), Kuhnert and Palmer (1991), Levi (1990), Quick, Horn, and Quick (1986), and Riddle and Blais (1996) as contributing to loss in work motivation.

In recent years, the focus on environmental stressors consisting of intra-organizational (to the internal organizational) and extra-organizational (outside the organization) factors as determined by Riddle, Blais, Bourbonnais, and Saintonge (1995) have also been shown to be linked to an individual's sense of occupational well-being within an organization or institution. Rosine (1992) acknowledged that workers in front-line occupations, such as correctional personnel or police officers, were more likely to be exposed to extremely unusual and unpredictable stressful events as part of work related tasks. Examples of these extreme stressful events are suicide attempts, auto-mutilation, inmate distress, anger, physical violence, and substance abuse. Dignam and Fagan (1996) and Rosine (1992) also determined that exposure to these extreme occupational events was considered to be outside the spectrum of "usual human experiences" and could become excessively distressing for the individual experiencing it as an observer, participant, or intervener. These occupational situations were labeled as being in the realm of "critical incident" in nature, which resulted in lowered motivation and satisfaction, and heightened perception of stress leading to both physiological and psychological concerns.

Further studies have shown existent links between work stress, mental health, and negative life habits such as acute and chronic alcoholism and substance abuse and present a health-based perspective to a reconstruction of a work life (see Karasek & Theorell, 1990). On the other hand, a lowered motivation to work and inability to cope with stress often leads to occupational hazards and heightened accidents, absenteeism, personnel turnover, and vandalism. Furthermore, compensation and insurance claims for psychologically and physiologically linked occupational stress disorders have drastically increased and surpassed any other type of work- related illnesses over the last few years.

Stress is clearly recognized as being an important component yet a major problem of everyday life threatening individual, organizational, and societal health. In the last ten years, there has been an exponential increase in stress-related disability claims. King, Miles and Day (1993), King and Miles (1994), King (1995) reported that occupational stress compensation claims, as a result of work distress and burnout, was at an all-time high. It is clear that stress is the result of a complex set of phenomena and is not just a consequence of a single external event acting on a person (Karasek & Theorell, 1990). Koeske, Kirk, and Koeske (1993) present a coping-based perspective to their findings and explored the various strategies and implications of coping by understanding workers' degree of stress, strain, and the negative consequences of worker stress.

The interactionist approach which was initially depicted by Crandall and Perewé (1995), and then through an occupational stress perspective by Cooper and Cartwright (1994), proposed that the experience of stress results from a perceived imbalance between internal and external demand and the ability of the individual to meet this demand through a coping perspective. Within an occupational perspective, stress is depicted as being the consequence of the lack of fit between individual needs and demands with those of the environment. As a result of this, a number of studies investigating work-related stress have found links between stress and the incidence of coronary heart disease, mental breakdown, poor health behaviors, job dissatisfaction, accidents, absenteeism, lost productivity, family problems, and certain forms of cancer (also see Cooper, 1985; Cooper, Kirkaldy, & Brown, 1994).

Sources of Occupational Stress

Typical research models examining occupational stress focus on both the sources and consequences of job stress (Cooper, 1998; Jex, 1998). The main sources of occupational stress

include various organizational stressors (such as supervision and workload), personal characteristics (such as character and personality), and individual stress responses (coping and/or motivating). The sources of occupational stress depend on an individual's level of adaptation within a specific work environment which will result in differing coping and adaptive responses whether exposed to acute or chronic stressors. These sources of acute or chronic stressors may be physiological (see Christenden & Jensen, 1994; Fox, Dwyer & Ganster, 1993), psychological and/or behavioral (see Cordes & Dougherty, 1993), or social (Epstein, 1976).

Although the traditional outlook toward work stress has focused on environmental factors, in recent years there has been a greater need to explore individual variables within the workplace, the results of excessive stress exposure, organizational concerns as well as the relationship of all these variables (Lazarus, 1995). Traditionally, personality variables along with the antecedents and consequences of work stress were understood within the environmental context. However, recent focus has been directed at understanding individual variables within a specific work context, through an understanding of the effect of psychosocial factors as sources of occupational stress. In addition to examining individual variables within the specific work content, Kalia (1995) and Riddle, Blais, Bourbonnais, and Saintonge (1995) have expressed that certain extra-organizational and personalized characteristics of the individual may also be sources of stress; for example, various stressors associated with family and extra-curricular activities from work.

Cooper (1998) and Jex (1998) have also both indicated that general research models examining the sources of occupational stress through personal, structural, and procedural organizational characteristics have shown that different role characteristics are associated with different occupational or work stresses that are felt. A so-called felt work stress can undoubtedly lead to attitudinal and behavioral consequences both at work and home. Attitudinal consequences, as determined by Quick and Quick (1984), may be seen as either being of intrinsic or extrinsic nature in relation to organizational commitment, motivation, and career intentions (i.e., to remain in or depart from an existent work environment). This understanding of stress by Quick and Quick (1984) has also been linked to situations of job satisfaction and dissatisfaction. Behavioral consequences are understood as being a result of organizational stressors on a worker's personality and its effect on a worker's sense of occupational development.

Along the lines of intrinsic and extrinsic sources of occupational stress, Ameringen and Arseneault (1990), Blais and Lachance (1992a), (1992b), Blais, Lachance, Riddle, Vallerand (1993), Blais, Vallerand, Pelletier, Briere (1993), and Blais, Deci and Ryan (1985, 1991), Riddle, and Baron (1998), and Riddle, Blais, Bourbonnais, and Saintonge (1995) have investigated the relationship between intrinsic, extrinsic and motivational factors with regard to organizational concerns and occupational stress. In front-line work, all associated behaviors that may be associated with physical strain, job dissatisfaction, lowered work motivation, tension, and lowered self-esteem may be linked to either intrinsic or extrinsic factors of occupational stress (see Kalia, 1995; Riddle, Blais, Bourbonnais, and Saintonge, 1995). Sources of stress associated with an individual's perception of task (intrinsic stress) are strongly related to an individual's perception of satisfaction and performance. Sources of stress associated with an individual's fear of not receiving a reward (extrinsic stress), on the other hand are ultimately seen as a deteriorator of motivation and work performance. It has also been related to absenteeism and symptoms of psychological and psychosomatic distress.

In this light, occupational stress research models have determined that sources of occupational stress in the workplace are related to such factors as role ambiguity, environmental concerns, an individual's concerns, motivational issues, and organizational variables. Past research models on occupational stress have focused on organizational variables through personal and organizational characteristics, which are considered to be of systemic influence (such as gender, number of dependents, company, and job tenure). Work role characteristics, such as job conflict, role ambiguity, leadership task, and job status, have also been considered as research variables and sources of job or occupational stress (Beehr,1995; Ivancevich and Mattison, 1980; Jex and Beehr, 1991; Jex, 1998; and Kahn & Byosière, 1992).

Hendrix, Steel, and Schultz (1987) as well as Quick and Quick (1984) have determined that certain factors leading to job stress are linked to personal characteristics, procedural organizational characteristics, and structural organizational characteristics. As previously discussed, personal characteristics affecting the perception of occupational stress include gender, tenure of present job, number of dependents, motivation, and social relationships. Procedural organizational characteristics refer to institutional issues affecting quality of training, decision making, supervision, and work hours. Structural characteristics imply concerns regarding organizational characteristics such as merging, streamlining, and centralization. These structural

issues, especially regarding the numerous downsizing waves in recent years, have greatly contributed to organizational and personal perception of occupational stress.

The interaction of different psychological and social factors as sources of occupational stress will usually contribute to the development of occupational (dis) satisfaction, and (a)motivation (Kalia 1995; Jex, 1998). This demonstrates that there is not one unique factor or variable that can be pinpointed as a singular cause or effect of stress. Hence, different stressors may either increase one's level of efficiency at work or may encourage discontent. Stress may be caused by either "too much" or "too little" work, time pressures and deadlines, having to make too many decisions, fatigue from physical strains, having to cope with diverse individual and institutional changes, and making wrong decisions.

Blankertz and Robinson (1996), Kalia (1995), Dignam and Fagan (1996), and Rosine (1992) argued that the experience of chronic or acute stress in front-line work will usually translate into physiological or psychological problems. Psychological problems can be of a single or combined emotive, behavioral, or cognitive nature. It is therefore understood that stress-producing situations in front-line work can result in similar and dissimilar patterns of physiological responses. Hence, the experience of different stressors will elicit different effects for different people in different occupations.

Blankertz and Robinson (1996) determined, in their study of psychosocial rehabilitation personnel inside institutions, that these workers were moderately satisfied with the functions of their "high stress" occupation. Despite the so-called appeal of working in a front-line occupation, a long-term analysis of these occupations revealed a reduced level of job satisfaction and a reported higher stress level as a result of the demands of this occupation with all levels of employment. Psychosocial rehabilitation workers were reported to have had a higher than average burnout rate. It was also reported that although few workers wished to leave the field within their first few years of employment, long-term workers were either maintaining their occupation in an "auto-pilot" mode or were reported to have left because of burnout. Intrinsic rewards were considered most important for new employees. However, with increased length of service there were higher correlations with job dissatisfaction, extrinsic rewards, and intentions to leave the field. This typically occurred after five years of service when intrinsic rewards had become increasingly less important.

Cooper and Marshall (1978) developed a comprehensive model which conceptualizes factors uniquely intrinsic to work as the sources of occupational stress. A variety of intrinsic job factors that are potentially stressful might include work overload or underload, shift work, long work hours, extensive work-related travel, risk and danger, new technology, and the poor quality of the physical working environment (as discussed in dangerous work settings). Glowinkowski and Cooper (1986) noted that work overload or underload can eventually lower self-esteem and increase smoking and various physical and psychological problems. Smith, Kaminstein, and Makadok (1995) found that jobs high on demand but low in decision latitude were also sources of stress, as are some jobs that do have high decision-making latitude but deal with a multitude of variables simultaneously (such as police, correctional personnel, air traffic controllers, and nurses). Bell and Tellman (1980) found that rotating shift-work was implicated in increased accident proneness among male factory workers, with increases in collisions with objects/people, quarrels, loss of balance, and product damage.

Quick, Horn, and Quick (1986) noted that occupational stress can cause behavioral, medical, and psychological problems. Behavioral changes tend to be the earliest and most overt signs of stress, and could include greater alcohol and drug abuse, increased cigarette smoking, accident proneness, and violence. Medical problems might include coronary heart dysfunctions, gastro-intestinal problems, sleep disturbances, cardio-respiratory problems, skin problems, and sexual dysfunction. Psychological problems might include family problems, burnout, and depression.

Consequences of Occupational Stress

Crandall and Perrewé (1995) as well as Jex (1998) have shown that individuals dealing with occupational stress have been labeled with diverse psychological and physiological diagnoses. Consequences of occupational stress have been associated, at all organizational levels, with lowered performance, increased and rapid turnover, increased absenteeism, reduced civility, physical ailments, sleep dysfunction, fewer human interactions, having too much or too little to do with too little or too much time, or the administrative changes within an organization. (Fox, Dwyer, & Ganster, 1993; Hendrix, Steel, & Schultz, 1987; Schnall, Deveraux, Pickering, & Schwartz, 1992).

In the growing interest of occupational stress, both researchers and practitioners continue to show divided or overlapping standpoints on the content, causes, and consequences of stress

within the workplace. McDonald and Kobrabik (1991) have addressed the field of occupational stress in broad terms, referring to extended consequences. Crandall and Perrewé (1995) addressed occupational stress in narrow terms, referring to specific consequences. Festinger (1957), Folkman and Lazarus (1980), (1984), and (1988), Havlovic and Keenan, (1995), and Steffy and Laker (1991) have addressed occupational stress through a "coping" perspective. Quick and Quick (1984) have investigated occupational stress as being a normative response of the individual to his or her working environment. Caplan, Cobb, French, Harrison and Pinneau (1975) and Gibson, Ivancevich and Donnely (1985) have addressed occupational stress as being a person-environment interaction that results from the connection of an individual in a specific working environment.

Not surprising, research outlining the consequences of occupational stress has been understood as being a universal concern throughout a diversity of work settings. Through the ever-present shared viewpoint that there is no clear consensus and agreement on a universalized concept and process for occupational stress, it is obvious that various psychological and physiological consequences have been associated with occupations and their respective stresses. Jex (1998) best summarizes that through the difficulties in understanding the antecedents and consequences of occupational, work, or job stress, an understanding of how to prevent associated distress is needed. Jex (1998) also determines the importance of understanding how individuals cope, and can be inversely motivated by stress within the realm of their occupation as was also determined by Koeske, Kirk, and Koeske (1993).

Burnout

Occupational stress has been linked to burnout, emotional exhaustion, strain, distress, and depression. Millar (1992) and Sauter (1992) show that excess exposure to stress either within or outside institutional barriers leads to burnout. Cahill, Landsbergis, and Schnall (1995) define burnout as a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment. Jex (1998) determined that stress in both chronic (daily work hassles) and acute (extreme specific stress form) will usually invite distress and burnout as an outcome. Burnout is a response to the chronic and/or acute emotional strain of dealing with self and others who are in trouble. In effect, burnout is considered to be the ultimate type of job stress. Increased sense of job satisfaction and work motivation is key in preventing the development of burnout. Burnout can be caused by the negative social interactions that may exist between front-line workers (such

as police officers, correctional officers, paramedics, nurses, etc.) with each other as well as while working with a difficult and demanding clientele population (such as inmates, hospital population, etc.) within and/or outside an institution. The evident symptoms that lead front-line workers to burnout have been identified as being emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment.

Cahill, Landsbergis, and Schnall (1995) explain that the causes of burnout can be linked to both organizational and individual factors. The organizational factors that may contribute to burnout are excessive high caseloads, excessive continuous direct contact with difficult and resistant clients, inadequate training and support, and lack of positive feedback in the work environment, lack of trust, openness, autonomy, and clarity. Individual factors could include the inability to be effective in their work, limited sense of accomplishment, lack of appreciation, a generalized sense of anxiety, fatigue, guilt, hopelessness and dread. As a result, the behaviours associated with burnout are irritability, psychosomatic complaints, deterioration in performance, increasing rejection of clients, psychological distancing, apathy, absenteeism, and chronic and acute substance abuse which eventually can lead to physical illness such as coronary heart problems and digestive and respiratory disorders. With a lowered sense of quality of work life as well as a lowered sense of motivation, workers may begin to feel the symptoms of burnout.

Occupational stress, indigenous to an organization, will usually imply short-term and long-term consequences which may result in either distress or despair from front-line workers such as correctional personnel. Dignam and Fagan (1996) and Rosine (1992) showed that associated cognitive and emotive dissonance, trauma, and psycho-somatic symptoms may result from strenuous occupational stress as a result of front-line intervention in institutions such as mental health centers, hospitals, clinics, schools, or correctional facilities. Similar symptoms have also been associated with personnel who work with specific institutionalized populations such as delinquent offenders and the mentally challenged. The understanding of stress within institutional settings has been given increasing importance since both physical and psychological consequences have been shown to result from positive and/or disruptive environmental concerns towards the workers and how they are managed by the employers.

Maslach (1986, 1999) and Maslach and Jackson (1992) determined, over the last 20 years of research, that burnout is a serious problem in the workplace. Companies, industries, and civil services in governments have been downsizing, outsourcing, and restructuring. These processes

have left workers at all levels feeling stressed, insecure, misunderstood, undervalued, and alienated. The bulk of the research by these authors has indicated that the cost of unhappy workers is high for both employees and organizations. The results, in most cases, are employees who do the bare minimum instead of their very best as a result of their unhappiness in the workplace as well as their lowered sense of job dissatisfaction and lowered intrinsic motivation.

Aspects of burnout include negative feelings, cynical attitudes, and negative self-perception. Variables associated with work stress and burnout have been shown to be linked to affective disturbances such as anxiety, depression, maladaptive life-style patterns, and abusive behavior. Although there are many studies published on the topic of burnout related to occupational stress (Beehr, 1995; Belcastro, Gold & Grant, 1982; Blais, Richer, Lachance & Dulude, 1991d; Cordes & Dougherty, 1993; Cranswick, 1997; DeRijk, Leblanc, Shaufeli & deJonge, 1998; Gerstein, Topp & Correll, 1987; Hendrix & Steel, 1988; Kahill, 1988; Leiter, 1991; Léveillé, Blais & Hess, 2000; Lindquist & Whitehead, 1986; Maslach, 1986, 1999; Schaufeli & Peters, 2000; Singh, Mishra & Kim, 1998), the understanding of burnout and stress remains vast and at times unfocussed. It is readily acknowledged that the complexity of stress in the workplace and the result of burnout have definite methodological limitations and investigative flaws that have been connected to the research in this area (Beehr, 1995; Jex, 1998; Jex & Beehr, 1991; Spector, 1997).

Recent Developments in Occupational Stress

More recent developments in occupational stress by authors such as Cahill, Landsbergis, and Schnall, (1995), Crandall and Perrewé (1995), Jex (1998), and Sumers, DeCotiis, and DeNisi (1994) have acknowledged that the conventional concept of work stress or occupational stress might be defined from different perspectives. One of these definitions associates occupational stress with a process of uncomfortable feelings that an individual might experience when required to deviate from a norm or a desired pattern of functioning within an occupation. Occupational stress, through this perspective, might also be understood as a worker's personal sense or process of deviating from a political correctness of an organizational force in a specific institutional setting. Through this definition, it may be assumed that this awareness of perceived feelings and thoughts of doing, being, feeling and thinking differently for any reason (deviating from pattern or routine) from the organizational norm could invoke a felt perception of stress or distress by the individual experiencing it. It is therefore believed, from this perspective, that there

is no stress unless an individual in a work setting is aware of it (which is possibly more evident in a fixed and rigid work setting such as a correctional institution).

Occupational stress has also been seen through a less bleak perspective. The consequences of controlling work stress as defined by Matteson and Ivancevich (1987), or transforming an "unhealthy" perspective of stress into "healthy" stress within an occupation, can also bring about positive outcome; not all work-related stress is bad stress. Through this perspective, as presented by Bruhn (1989), Levi (1990), Dorn (1992), and Sowa (1992), on occupational wellness, stress in small amounts is seen as being conducive to motivation, productivity, and creativity. The state of occupational wellness is considered to be a positive and a productive basis to one's own sense of self and career development. This literature determines that positive stress may be conducive to a global sense of work satisfaction.

Sauter, Murphy, and Hurrell (1990) and Sauter (1992) initiated a focus on well-being and occupational wellness which reported how well individuals responded to stressful events within their respective occupational settings. An understanding of available resources to improve negative situations, encourage worker motivation, and understand how certain workers will perceive and experience work-related stress differently was also considered. Behavior linked to a positive sense of self, occupational self, and motivation was shown to help improve a sense of one's self within non-rigid open-minded organizations permitting a worker's personal and professional development. The employee participation rate in various intra- and extra-organizational factors also promoted a sense of belonging for employees within an organizational community. Employee involvement, within these organizations, with social support and the encouragement of dialogue and group process was also shown to contribute to a sense of well-being of workers within organizations. Such factors were determined as being beneficial to counteract the complexities of occupational stress in any type of institution.

Furthermore, Sauter, Murphy, and Hurrell (1990) and Sauter (1992) have determined that with the development of an occupational wellness prevention strategy, individual factors and environmental factors contributing to occupational stress should be taken into account through a preventative wellness perspective. Such perspective opposes the detection and labeling of negative symptoms and outcome for workers affected by occupational stress. Instead, stressful life events should be considered through the uniqueness of events and of the individual experiencing them. Personal, cultural, physical, and psychological traits should also be

considered and assessed on an individual basis as opposed to a group or common collective interpretation. Both the Sauter, Murphy, and Hurrell (1990) and the Sauter (1992) studies acknowledged that occupational stress health programs should take into account the stressful social structures and processes in the workplaces. An understanding of positive staff dialogue and process through a health and wellness-oriented perspective should be encouraged as opposed to focusing on illness as a result of occupational exhaustion and associated burnout as a label.

Hendrix, Steel, and Schultz (1987) indicated that the way in which occupational stress is experienced by an individual along with the individual's combination of intra-personal and extra-personal concerns has a major effect on that individual's career identity. The unique and particular characteristics of stress will usually manifest themselves if a person is aware of his/her personal concerns, occupational issues, vocational deviation from an expected organizational norm, fixed rule, and organizational directive. Through a felt-stress perspective, it is therefore assumed that a stressful occupational situation may be individually and differently perceived and felt from one person to another. Differentially, viewpoints espoused by these and other authors (Bhagat, Allie & Ford, 1995; Blix, Cruise, Mitchell & Blix, 1995; Brenner, Sorbom & Wallius, 1985; Boles, Johnston & Hair, 1997; Boyd, 1997; Brener, Sorbom & Wallius, 1985; Cooper, 1998; Cooper, Kirkaldy & Brown, 1994; Crandall & Perrewé, 1995; Dalbokova, 1995) continue to perceive stress as exceeding normal and adaptive responses to a situational concern within the work environment. Within an occupational context, this can also be understood as the ever-changing administrative and organizational demands that employees will have to adapt and cope in addressing their perception of occupational stress within an organization or institution.

Work Satisfaction: Health and Well-Being in the Workplace

Health and well-being in the workplace, as well as the physiological implications thereof, have become common topics in mainstream media and pop culture (Coleman, 1997), in practitioner-oriented magazines and journals (King, 1995) and, increasingly, in scholarly research journals (Briner, 1994; Cooper & Cartwright, 1994; Smith, Kaminstein, & Makadok, 1995; Warr, 1990). Similar to the literature on occupational stress, there also exists a vast but surprisingly unfocused body of literature across diverse fields that relates directly or indirectly to health and well-being in different workplaces.

Health hazards, safety hazards, and other perils obviously create dangerous work settings, which, in turn, negatively impact health and well-being among workers in their respective

environments. In a related but distinct way, occupational stress will also have a direct impact on health and well-being. First, it can be understood that health and well-being can either refer to the actual physical health of workers, as defined by physical symptomatology and epidemiological rates of physical illnesses and diseases. The second is that health and well-being can refer to the mental, psychological, or emotional aspects of workers as indicated by emotional states and epidemiological rates of mental illnesses and diseases (Briner, 1994; Cooper & Cartwright, 1994; Smith, Kaminstein, & Makadok, 1995; Warr, 1990). This second definition referring to the mental/psychological/emotional health is the focal point of this study.

An individual's physical, emotional, mental, and social interactions at work and at home will obviously interplay while a person is either in the workplace, at home, or both. The effect of a so-called "spill-over stress" into non-work domains must also be considered. Workers spend at least one-third of the day at work, and do not necessarily leave the job behind when they leave the work site (Conrad, 1988a). Indeed, the overlap between work and non-work has become an increasingly popular research area. There is a recognition that a person's work and personal life are not separate entities but, instead, interrelated and intertwined domains having reciprocal effects on each other (Caudron, 1997; Zedeck & Mosier, 1990). As a result, work-related stress combined with the stress from everyday life can lead to detrimental physical and emotional outcomes because of the excess physical and mental demands placed on the human body and mind (Cooper & Cartwright, 1994).

Concerns for the health and well-being of workers has been an increasingly important focus over the last few years. Corporations and diverse organizations have long been involved in understanding health issues in terms of occupational health and safety, providing disability and insurance packages and employee assistance programs (EAP) (Conrad, 1988a & 1988b). These interventions to improve employee wellness appear to be advantageous within the work environment. In an ever growing health conscious society, individuals in the workplace are increasingly taking part in these wellness programs and are making important lifestyle changes, such as the consumption of healthier diets, exercising, losing weight, stopping smoking, and learning stress reduction techniques. The overall benefits of such EAPs have included improving employee health and fitness, decreasing medical and disability costs, reducing absenteeism and turnover, improving employee mental alertness, morale and job satisfaction, increasing production, and even enhancing the image of the organization (Conrad, 1988a & 1988b).

Additionally, employees who used a corporate health and fitness club reported better psychological mood states and physical well-being than employees who did not use these facilities, took fewer sickdays, and reported more satisfaction with their jobs (Daley & Parfitt, 1996). Cancer screening programs, combined with educational sessions, have also proven useful in the work setting by early detection and prevention of this potentially devastating disease. Finally, post-traumatic stress disorder (PTSD), the most commonly diagnosed psychiatric disorder made after workers sustain work-related injuries or over extended occupational stress, is also addressed through employee intervention programs and is clearly associated with a severe form of occupational stress. PTSD, as a result of physical and psychological strain, is best addressed with various forms of behavioral and psychoanalytic psychotherapy. Behavioral therapy offers the best short-term efficacy, since it focuses on coping strategies and symptom reduction, thus facilitating the worker's return to work in the setting where the physical or psychological injury occurred (Anderson & Grunert, 1997).

Alleviating workplace stressors is another tactic that is understood to improve employee well-being. Organizational directed strategies to prevent or limit stress are often measurably successful (Cooper & Cartwright, 1994). Eliminating or reducing stressors that are intrinsic to the job may involve ergonomic solutions, task/workplace re-design, and alleviation of work overload/underload by recruitment, skills training, appropriate selection decisions, and more diverse delegation. Clearly defining and negotiating work roles can help reduce occupational stress. Improvements in personal relationships and office communication can also be achieved through interpersonal skills training and rearrangement of physical office layout. Career development-related stressors can be alleviated by regular appraisals, retraining opportunities, sabbaticals, and career counseling. Outplacement facilities have also become increasingly important as job loss has become common within some organizations. Home/work transition difficulties may be alleviated by diverse services such as counseling, occupational development, and the introduction of flexible working arrangements for the employee.

Some organizations have also recently involved themselves in less traditional aspects of their workers' lives. Some health promotion programs have included sexual health education (Weyman, 1997), providing spiritual type of support in the realm of pastoral counseling (Bruer, 1997b), and helping the terminally ill employee adjust to the realization of impending death (Bruer, 1997a). Mental health professionals within and outside institutions agree that allowing

workers to remain employed and to be productive is seen as an emotionally important factor for a retired or a sick employee. Even seeking pastoral services has been found to have beneficial effects on employees' health (Bruer, 1997b).

Towards Quality of Work Life: Work Satisfaction as a Deterrent to Occupational Stress

Awad (2000) determined that over the past twenty years, the concept of quality of life has come to be interpreted as a new facet or image in the culture of modern psychology. Quality of life has come to be viewed from a psychosocial perspective. Although there is no clear agreement, it is believed that the general quality of work life concept originated in the post-World War II period. In the late 1940s and throughout the 1950s, the post-war economic prosperity had advanced and enhanced standards of living and led to various life expectations such as satisfaction, well-being, and psychological fulfillment.

Quality of life, a concept developed in the social sciences, refers to the complex aspects of life to an individual's subjective perception of the quality of his or her own life (Gill & Feinstein, 1994). Objective conditions of life such as education and income are only marginally related to the subjective experience of a higher quality of life. Given the difficulties in assessing the impact of an individual's complex experiences that determines one's perception of quality of life, quality of life is better approached as a multidimensional construct, covering a certain number of conventionally defined domains (Palmore & Luikart, 1972). Patrick and Erickson (1988) define quality of life as being related to "a value assigned to the duration of life as modified by the social opportunities, perceptions, functional states, and impairments that are influenced by treatments and policies that could result in stress and satisfaction" (p.6).

On the other hand, with this collective sense of enhanced satisfaction and well-being came a development in the notion of life stress and illness. These broad notions were adopted by social scientists such as Karasek and Theorell (1990), who advanced population-based quality of life research and attempted to understand the different significant social indicators which contributed significantly to an understanding of the different concepts of quality of life with working life. Warr (1990) also expressed that well-being can be measured with the use of adequate scaling instruments. With the study of these different indicators came an understanding of the importance of the role of an individual's relationship with his or her occupation. Industrial psychologists and occupational therapists concluded that these institutional social indicators were also related to a sense of quality of life in the world of work. In understanding the balance

between quality of life and work life, social scientists developed the term quality of work life (Awad, 2000).

Cahill, Landsbergis, and Schnall (1995) acknowledged that reducing occupational stress by increasing job satisfaction is key. However, there have been many concerns on how this was accomplished. In 1966, Herzberg's motivation-hygiene theory defined work satisfaction and dissatisfaction. Herzberg argued that job satisfaction ultimately depends on motivation factors. Motivation factors relate to the work, career, achievement, recognition, responsibility, and advancement within the occupation itself. Hygiene factors relate to the work context, the pay, working conditions, security and interpersonal relations. Herzberg (1966) determined that improved hygiene conditions will reduce the level of dissatisfaction and will not necessarily promote satisfaction and increase motivation to greater productivity. Hence, better working conditions, work security, better pay will not bring about changes in the experience of work, except an employee's own sense of occupational enlargement and enrichment. Herzberg (1967) and (1982) determined that factors such as a personal sense of achievement, recognition of the administration for accomplishment, challenging work, increased responsibility, and general sense of growth and development were seen as the ultimate factors that contributed to job satisfaction. Locke (1976) identified the most important factors relating to work satisfaction as being mentally challenging work, personal interest in the work itself, rewards for performance which relate to individual aspirations, working conditions which allow healthy job satisfaction, and high self-esteem.

Factors such as job security, social interaction and autonomy are key principles in understanding work settings as well as professional development. The goal of understanding these factors has been understood to create more humanistic work settings. Through this perspective, Pelsma, Richard, Harrington and Burry (1989) determined that in the work climate of an occupation, quality of work life can be assessed by combining the amount and degree of stress and the degree of satisfaction experienced by the individual within his/her occupational role. Stress might be perceived as being intrinsic to the individual or extrinsic regarding the organization. The degree of satisfaction is experienced by an individual internal sense of satisfaction that he or she will receive from oneself or others in accomplishing a personal or occupational task.

Moharaji-Nelson (1998) confirmed in her research that prior studies on the different stress levels and work satisfaction indicated a strong negative correlation between stress levels and occupational satisfaction. The author emphasized that in modern living, stress management can be an effective tool for enhancement of an individual's personal life. However, stress can also lead to many illnesses as has been historically shown. Although many factors, such as pay rate, occupational security, and benefits, have been correlated with different levels of work satisfaction, many researchers have demonstrated that an increase in levels of occupational stress is associated with a decrease in work satisfaction (see Spector, 1997). Moharaji-Nelson (1998) determined that decreased stress levels would yield an increase in work satisfaction. Furthermore, different relaxation techniques and psychotherapy (such as stress management) will usually reduce stress levels which in turn increase occupational satisfaction. However, even the most effective relaxation methods required a long period of time in order to provide noticeable results. The results of this, though not statistically significant, did support a directional change in stress level: stress levels were reduced with the application of different stress management and psychology techniques. For employees with a lower stress level, a decrease in stress level was also seen, was an increase in their work satisfaction.

Former research in this area has always attempted to imply that a stressful situation, as opposed to the individual, has always had the most significant influence on stress level. Therefore, Maharaji-Nelson's research determines that in addition to stressful situations, job satisfaction, quality of work life, and occupational stress are also contributing components that involve many factors. Daniels and Guppy (1994), Daniels, Brough, Guppy, Peters-Bean, and Weatherstone (1997), Latack and Havlovic (1992), and Quick, Murphy, Hurrell, and Orman (1992) determined that improved health and personal well-being can increase an individual's ability to cope with stress. As previously indicated, pay rate, occupational security, benefits, type of work, and other factors play an enormous extrinsic role regarding work satisfaction. These above mentioned intrinsic and extrinsic factors that are components of motivation and self-determination theory will be discussed in the following section.

Developments in Motivation Research

Pinder (1998) described work motivation as the set of internal and external forces that initiate work-related behavior, and determine its form, direction, intensity, and duration. Work motivation is a "gray" concept that deals with events and phenomena that are related to specific

people in a specific work context. The definition of motivation recognizes the influence of both environmental forces (such as organizational reward systems, the nature of the work being performed) and forces inherent in the person (such as individual needs and motives) on work-related behavior. Baron (1991) posits that investigating motivation in the workplace is one of the most important concerns of modern organizational research.

Historically, work motivation research has been considered as an invisible, internal, hypothetical practice and construct (Pinder, 1998). In this light, work motivation is seen as being vague and is difficult to quantify. However, motivation theory and research are based on various established theories. For some theories (equity theory), work motivation is expected to manifest itself in both attitudinal (satisfaction) and behavioral (performance) measures, whereas for other theories (goal-setting) the primary manifestation of work motivation is behavioral (enhanced performance when ability is held constant).

Motivation research has a long history of considering employee motives and needs (Alderfer, 1969; Maslow, 1943, 1954, 1970; McClelland, 1961, 1985; & McClelland & Franz, 1992; Petri, 1991; Smith, 1992). Interest in motivation research peaked in the 1970s and early 1980s. In the last fifteen years, there has been a reduction in theoretical research directly linked to motivation. Hence, there has been a reduction in the production of direct motivation research. This lower interest in motivation research has been explained by the belief that motivation theories have matured. As a result of this maturation, research continues to refine the different models of motivation, and to suggest moderators and boundary conditions, but the basic tenets of the different primary motivation theories such as goal-setting theory, equity theory, and expectancy theory remain unchallenged to this day.

Although some more recent motivational theories were introduced during the mid to late 1990s (Agervold, 1994; Blais, Riddle, & Baron, 1998; Blais, Vallerand, Pelletier, & Briere, 1993; Bordin, 1994; Frey, 1997; Kanfer, & Heggestad, 1997; Klein & Mulvey, 1995; Kohn, 1993; Kristjansson, 1993; Léveillé, Blais, & Hess, 2000; Pinder, 1998; Spitzer, 1995; Vallerand, Gagné, Sénecal, & Pelletier, 1994; Vallieres, & Latulippe, 1993), these theories have not yet been empirically validated and remain "loose" concepts of motivation theory as a result of this. In the late 1990s, organizational behavior research largely abandoned the concept of motivation and replaced this broad concept with more specific measures of "employee behavior" (such as task performance, organizational citizenship behaviors, etc.). The study of employee

performance in work teams, or the study of discretionary behaviors in employees was of greater interest than a general all-encompassing term such as motivation (Klein & Mulvey, 1995).

Motives and Needs

Emmert and Taher (1992) examined the effect of intrinsic and extrinsic job factors on the satisfaction, work involvement, and work motivation of professional public sector employees. They found public sector professionals' social relations on the job and the fulfillment of intrinsic needs were the best predictors of attitudes. Gabris and Simo (1995) also assessed whether public sector employees were motivated by different needs (a higher need to serve the public and lower need for monetary rewards) than private sector employees and found no significant differences in any specific motivational needs.

Employees of non-profit organizations responded similarly to both groups, reporting only a lower need to compete, a lower need for autonomy, and a higher need for serving the community, which is an intrinsic need. Additionally, Vinokur-Kaplan, Jayaratne, and Chess (1994) examined the impact of workplace conditions and motivators on the job satisfaction and retention of social workers in public agencies, non-profit agencies, and private agencies. They found opportunities for promotion and job challenge were the most important intrinsic factors in influencing the job satisfaction of individuals in non-profit and public agencies.

Recent research on needs in the workplace has focused primarily on the need for achievement, which is an intrinsic trait. The various relationships between the intrinsic need for achievement and extrinsic rewards (i.e., such as pay and benefits) was investigated in relation to work behavior. These investigations demonstrated that "achievement striving" was best related to the intrinsic desire to do well (Bluen, Barling, & Barns, 1990) and work role behaviour development (Lee, 1995). In association to this, Wright, Kacmar, McMahan, and Deleeuw (1995) demonstrated that cognitive ability moderates the relationship between the intrinsic need for achievement and performance. These authors determined that intrinsic need was more rewarding than external extrinsic reward. Intrinsic motivation is the key to happiness within the workplace and extrinsic reward does not permit satisfaction in long-term development.

Motivation Theories in Organizations

Although research has analyzed job stress, job satisfaction, and quality of work life, limited research has focused on motivation and various occupational groups or combining motivation with quality of work life. Maslow (1943) defined motivation as the major factor that

addresses a person's willingness to perform an act or to do anything. Motivation is an individual cognitive persistence, a drive, a tendency or a desire to undertake or complete a task, to expend effort or to excel at a task. The workplace is a prime example where individual motivation can be observed. Individuals, in any occupational group, are unmotivated as they will not have, or show, any interest in learning or applying skills or their natural ability. There are different stimuli that motivate people to learn and to perform. For certain adults it is the self-satisfaction of a job well done which is related to an intrinsic desire for success and competence. For others, it is praise and/or tangible rewards such as money, benefits, and job security which are extrinsic motivators or outside stimuli.

Through a historical context, motivation theory originated with Freud's psychoanalytic drive theory based on sexuality and aggression (see Strachey, 1940). Hull's (1943) empirical perspective described how human beings were driven by hunger, thirst, sex, and avoidance of pain. For several decades, researchers in all realms of psychology worked to develop more precise models regarding human behaviour, drive theories and motivation from a psychodynamic and other empirical perspectives. In psychodynamic theory, a motivational force is called an independent ego energy. Freud perceived that ego energy was therefore seen as a portion of the personality structure which is responsible for response, rational processes, exploration, and play (Strachey, 1940). On the other hand, through the empirical tradition, psychologists refer to non-drive based motivation as intrinsic motivation, suggesting that the energy is intrinsic to the nature of the organism.

Theorists such as Bandura (1977,1982) and Vroom (1964) have also implied interest in the field of motivation and have directed focus towards the concept of choice for the individual. These authors based their research on the work done by Maslow (1943) on his theory of motivation and personality, which explored the basic human needs (such as physiological safety, love, esteem, and self-actualization). Maslow (1943) noted that human gratification had an important role in motivation theory and that as soon as needs were gratified, these would play a less important role. A more descriptive elaboration of the different motivation theories and their applicability to this study will follow with a description of Expectancy, Cognitive Evaluation, and Self-Determination theories of motivation.

Expectancy theory . Vroom (1964) suggested that motivation is a multiplicative function of two constructs: expectancy and valence. In a meta-analysis of expectancy theory research,

Van Eerde and Thierry (1996) reported that seventy-four empirical studies testing expectancy theory predictions were conducted prior to 1990. Again, this decrease in research on expectancy theory likely reflects the theory's maturity. Expectancy theory generated substantial interest following its introduction in the 1960s by Vroom. Over thirty years later, most of the basic questions about the theory have been examined.

Vroom (1964), in relation to the application of motivation theory to this research, determined that the nature of the relationship between motivation and performance in the realm of work and occupations focused on the different aspects of what motivated individuals to perform within their specific occupations. The author stipulated that the more a worker is motivated to perform effectively, the more productive performance will be. However, the author acknowledged that increased motivation and performance desirability may also bring about a narrowing of performance in the cognitive field. Hence, high levels of motivation in an area may lead an individual to not pay less attention to other secondary areas, implying obsessive traits. Secondly, high levels of motivation to attain a goal may be associated with anxiety or some other strong emotional state which in turn might impair performance.

More recently, Mento (1992) found that the amount of valence attached to goals was negatively associated with goal level: people with high goals expected less satisfaction with each possible performance level than people with low goals. However, difficult goals were associated with higher instrumentality, that is, achieving higher goals was more associated with a series of specific outcomes (such as showing competence and developing ability). Stress and motivation factors can be combined by highlighting that drive and stress are related and that they are not a "push" but are a "pull" on individuals to achieve and succeed in society.

Cognitive Evaluation theory. Deci (1971), following Vroom's original expectancy theory of motivation, developed a Cognitive Evaluation Theory (CET). Deci (1971) suggested that there were two motivational subsystems that were applicable to an individual: an extrinsic subsystem and an intrinsic subsystem. Deci (1971) hypothesized that intrinsically motivated persons have an "internal locus of causality". That is, intrinsically motivated individuals attribute the cause of their behavior to internal needs and perform behaviors for intrinsic rewards and satisfaction. However, aspects of the work situation (such as the reward system and the worker feedback system given from colleagues and supervisors) in which the behavior is performed may lead the individual to question the true causes of his or her behavior. If these individuals attribute their

behavior to the situational factors, the shift from internal causes to external causes results in a decrease in intrinsic motivation (Deci & Ryan, 1980, 1985, 1991). Eventually, Vroom and Deci (1977) worked together to further develop the topic of motivation by introducing the concepts of the intrinsic and extrinsic nature in understanding motivation within the occupation realm of the workplace.

CET emphasizes that situational variables are only problematic if they are perceived by the person as "controlling" his or her behavior. Feedback from an external source is expected to lower intrinsic motivation if it is perceived by the individual as being of a "controlling" nature. Following the logic of CET, people should be most intrinsically motivated in work environments that minimize attributions of their behavior to "controlling" external factors. Further, Deci and Ryan (1980, 1985, 1991) emphasize that the shift between motivational subsystems operates in both directions, and that creating situations that encourage people to see themselves as competent (for example by providing praise and positive feedback) will increase intrinsic motivation. CET postulates that intrinsic motivation mediates the effect of external factors on employee behavior. Deci and Ryan (1980) have examined the influence of feedback, surveillance, external influence attempts, monetary rewards, and work/play task signals on intrinsic motivation.

Cognitive Evaluation Theory was the focus of a substantial amount of research during the 1970s and 1980s, and several meta-analyses have examined the effect of extrinsic rewards on intrinsic motivation during this time period (Cameron & Pierce, 1994; Rummel & Feinberg, 1988; Tang & Hall, 1995, Wiersema, 1992). The meta-analyses consistently show that there is a negative effect of rewards on persistence during this period (Burton, Chen, Grover & Stewart, 1993; Cameron & Pierce, 1994; Tang & Hall, 1995; Wiersema, 1992), especially when those rewards are expected and not tied to specific performance standards (Cameron & Pierce, 1994; Tang & Hall, 1995).

Regarding feedback on motivation research, there was less attention paid to the effects of praise and positive feedback on intrinsic motivation, Cameron and Pierce (1994) concluded that subjects rewarded with "verbal praise" or "positive feedback" by supervisors show significantly greater intrinsic motivation than non-rewarded subjects. This finding is consistent with CET because verbal rewards provide informational value to a person about his or her competence on the task. Prior to the CET phase, the theories of motivation were uniquely based on drives and their vicissitudes. It was determined in the psychoanalytic and the empirical traditions that

behavior is reduced to smaller physiological drives. According to CET, all behaviours are motivated either directly or indirectly by a drive. Relying on similar work done by Deci and Ryan (1971), (1980), (1991), and Bordin (1994) mapped occupations and job satisfaction in terms of intrinsic motives. It was shown that the fulfillment of these intrinsic motives (such as nurturance, curiosity, power, aesthetic expression, ethics, and concerns with right and wrong) permitted an individual to fulfill a sense of job satisfaction within an organization.

Bordin (1994) determined that CET permitted occupational researchers to assess the fundamental drives and motivation of individuals at work. Bordin's research focused on understanding an individual's sense of motivation, self-determination, and satisfaction to pursue a career, a job, and/or a vocation. He elaborated that if satisfaction is not achieved, stress and dissatisfaction will often develop, which has also been demonstrated by Maslach and Jackson (1986). However, the investigation and correlations linking occupational stress, job satisfaction, and motivation within the realm of occupations and careers is a relatively new perspective. Apart from a few studies done by Blais, Brière, Lachance, Riddle, and Vallerand (1993) and an article on motivation and burnout written by Vallières and Latulippe (1993) and then an unpublished thesis by Latulippe (1996), it was determined in these studies that this area of research was relatively unexplored.

Future developments in research, during the later 1990s, showed that organizational research addressing various predictions of CET were leveling off. Although there was a slight decline in organizational CET research, there remained a strong pull in organizational literature to highlight the increasing emphasis of strong organizational cultures and employee empowerment. To date, organizational literature has continued to debate the merits of CET and its implications for financial rewards in organizations (see Frey, 1997; Kristjansson, 1993). Hence, CET research has been quoted as being "alive and well" in various areas, such as consumer behavior (Graham, 1994), education (see Vallerand, Gagne, Senecal & Pelletier, 1994), control of addictive behaviors (McBride, Curry, Stephens, Wells, Roffman & Hawkins, 1994), health (Dwyer, 1995), and sport psychology (see Duda, Chi, Newton, Walling & Catley, 1995). Emphasis continues to be directed at understanding different organizational strategies to reduce the amount of "controlling" policies experienced by employees in certain organizations and to increase intrinsic motivation for employees. Unfortunately, there is limited CET research addressing these issues in public and private service.

Self-Determination theory. The concept of self-determination and motivation theory has been increasingly recognized by theorists through the different branches of psychology in the last 25 years. Deci and Ryan (1985), (1991) defined self-determination as a theory of motivation that is understood as being more organizationally oriented (namely, linked to the inner processes of the individual within a particular environment such as work), instead of being purely mechanistic (cause and effect and uniquely environmental concerns). Motivation is therefore understood through one's sense of self-determination within an occupation. More broad motivation theories combine the theoretical underpinnings of internal drives, ego development, and self-determination. Self-determination theory specifically attempts to understand an individual's personal sense of awareness and non-awareness of self. This state may be experienced internally through one's level of awareness or externally through environmental influences within an organization, work environment, or with colleagues within an organization.

Self-determination is a form of human functioning that involves the experience of choice. It is integral to intrinsically motivated behavior and is also evidenced in certain extrinsically motivated behavior. It is understood as the capacity to choose and to have those choices, rather than reinforcement contingencies. A drive or any other force becomes the determinant of one's own pressure exerted on self. Self-determination theory is also understood as being a need and a capacity. Self-determination, in psychodynamic psychology, was understood by Deci and Ryan (1985) as being the study of self-direction. Remaining an integral concept, self-determination was hypothesized by early psychoanalysts as being similar to self-direction, which was understood as being a type of psychological flexibility structure which allowed one's attitudes to direct action toward the effective achievements of one's aims. The authors further demonstrated that human beings have the ability to be self-determining, which undoubtedly leads individuals to adopt new behaviors, to develop competencies, and to accommodate in different ways with the social environment. Hence, self- determination and motivation theory is understood by Deci and Ryan (1985) as:

> the flexibility in managing the interaction of oneself and the environment. When self-determined, one acts out of choice rather than obligation or coercion, and those choices are based on an awareness of one's organismic needs and a flexible interpretation of external events. Self-determination often involves controlling one's environment or one's outcomes, but it may also involve choosing to give up control (p. 38).

Deci and Ryan (1985), (1991) showed that although motivation theory was influenced by both empirical and psychodynamic perspectives, it was ultimately a developmental blend of both these perspectives. They believed that the interplay between self-determined and non-self-determined behaviors created different levels of motivation and amotivation for an individual. The link between intrinsic motivation with internal drives and goal establishment was at the basis of this theoretical framework.

Intrinsic motivation refers to an individual's self-perception of accomplishing a task through pleasure and satisfaction. Satisfaction is therefore fundamentally derived by a process of intrinsic motivation that can either be categorized as being based on stimulation, knowledge, or accomplishment. Intrinsic motivation can also be considered as the energy source that is central to the active nature of the organism. Not all behaviors are drive-based, nor are they a function of external controls. Intrinsic motivation theory takes these perspectives into account. Intrinsic motivation is based in the innate need for competence and self-determination. It energizes a wide variety of behaviors and psychological processes for which the primary rewards are the experiences of autonomy. Intrinsic needs differ from primary drives since they need not break into awareness or push to be satisfied. However, intrinsic needs, like drives, are innate to the human organism and function as an important energizer of behavior. Intrinsic motivation may also interact with primary drives to either amplify or reduce drives or effect drive satisfaction (Blais, Brière, Lachance, Riddle, & Vallerand,1993 ;Csikszentmihaly, 1978 ; Deci, 1975; Deci & Ryan, 1985, 1991).

Hence, intrinsic motivation is the stimulation or drive stemming from within oneself. In regards to learning, intrinsic motivation is associated to wanting to learn by the motive to understand originating from one's own curiosity. The basic idea behind intrinsic motivation and intrinsic rewards is that learning, both searching for answers and finding those answers, is reinforcing in itself. Intrinsic rewards are by far the most successful reinforcers because they teach on their own as opposed to the expectancy of external rewards, which does not promote this. One common problem is that many individuals do not recognize their own sources of intrinsic motivation as also defined. Factors that encourage intrinsic motivation can be understood as the way in which a worker or a teacher might control the orientation of the client or student, a worker's understanding of his clients, an intrinsically motivating curriculum, and the creation of an intrinsic learning community.

Deci and Ryan (1991) described extrinsic motivation as an encouragement from an outside force; behavior is performed and conducted on the expectance of an outside reward, such as money or praise. However, extrinsic rewards do not produce permanent changes; extrinsic rewards reduce intrinsic interest. The use of extrinsic rewards by peer figures is related to less generous and less intrinsically motivated behaviors, and extrinsic rewards can be a controlling force. Extrinsic rewards, such as monetary rewards, may have an adverse effect on intrinsic motivation. This has been a point of research focus for many authors in the literature. For example, Erez, Gopher, and Arzi (1990) examined the joint effects of monetary rewards and goals on the performance. Results suggested that the combination of monetary rewards and self-set goals was generally detrimental to performance. Self-set goals led to the highest performance, but only when the goals were either moderately or very difficult.

Intrinsic motivation challenges the behavioral tradition by looking more closely at the human motives in needing to reward self or others. Kohn (1993) determined that rewards have an effect on quantity and quality of work being produced. First, when extrinsically motivated, workers use less sophisticated learning strategies. People become least effective and will choose to do easier tasks for the simple extrinsic reward such as pay. Ultimately, through human conditioning, short- and long-term development, rewards ultimately punish. Senge (1990) notes:

> what will distinguish learning organizations from traditional organizations is the mastery of basic disciples that foster genuine commitment and involvement rather than compliance (p.9).

Second, simple extrinsic rewards rupture internal work relationships through negative dynamics. Greed results through pure extrinsic reward in a work environment. Kohn (1993) notes, "everyone else is a potential obstacle to one's own success and those who believe they don't have a chance of winning are discouraged from making an effort"(p.27). Third, simple monetary rewards ultimately extinguish the need for internal development. Individuals uniquely focus on accomplishing the simple task and will not be motivated to extend beyond what they have been instructed to accomplish. Fourth, rewards ultimately discourage risk taking. If individuals are purely focused on rewards alone, they are not focusing on the skills needed to make knowledge gaps more manageable and increase self-esteem. Fifth, the last and most important reason, is that failure of rewards changes the way people feel about what they do in the context of their work. Context is understood as the effect rewards will have on interest and how it ultimately undermines intrinsic motivation in a worker's development.

Amotivation. Within an occupational context, amotivation will occur when an individual is unable to reach his/her goals and does not perceive the concordance or dissonance between actions and consequences. Non self-determination will occur when a person feels a high level of amotivation. Intrinsic and extrinsic levels will be referred to as intentional regulations of behavior. Deci and Ryan (1985,1991) proposed that amotivation is not related to an intentional regulation; it is rather associated with a non-intentional regulated behavior. Amotivation within a work context will correspond to a person who perceives that there is no purpose in continuing the work and that this perspective will have an impact on an individual's behavior within and outside the work environment. These above-mentioned cognitive and emotive states have also been investigated by Blais, Brière, Lachance, Riddle, and Vallerand (1993) and have been related to different levels of occupational motivation, job satisfaction, and occupational stress (i.e., achieving a sense of satisfaction from one's occupation pertaining to one's level of motivation). These authors also determined that amotivation ought to be considered through both external and internal perspectives as will be defined later in the section on the different levels of motivation (Blais & Lachance, 1992a, 1992b; Blais, Richer, Lachance & Dulude, 1991d; Blais, Riddle & Barron, 1998; Blais, Vallerand, Pelletier & Briere, 1993; Léveillé, Blais & Hess, 2000; Riddle & Blais, 1996; Riddle, Blais, Bourbonnais & Saintonge, 1995; Vallerand, Gagné, Sénecal & Pelletier, 1994; Vallieres & Latulippe, 1993).

Recently, the challenge of an organization has been to change the context of work and create work environments that are conducive to self-motivation (Spitzer, 1995). Through this perspective, employees can experience their work and their work setting in a way that they can individually value. Spitzer (1995) determined that within an organization it was difficult to address the issue of what motivates each individual. The author also stipulates that it is just as possible to understand what motivates as what amotivates or decreases motivation for the worker. Hence, if a motivated individual is introduced into an environment that has unclear expectations and politics, unnecessary rules, unproductive meetings, internal competition, criticism, withholding information and unfairness, a sense of worker amotivation will certainly result. Intrinsic motivation will rarely last and will usually be substituted with extrinsic motivation, which is not as fully satisfying. Ramzay (1996) also notes that to promote change within an organization, employees need a clear vision and an understanding of the direction their organization is taking. This way, employees can maintain a balance between intrinsic and

extrinsic motivation through self-determination. Again Senge (1990) notes on his theme of a learning organization: "the organizations that will truly excel in the future will be the organizations that discover how to tap people's commitment and capacity to learn in all levels in an organization" (p. 42).

Hence, the understanding of motivational styles is important in understanding either intrinsic, extrinsic, and amotive responses. Blix, Cruise, Mitchell, and Blix (1995) acknowledged, in a study of mental health practitioners, outside an institutional setting, that these workers reported an excellent fit between motivational style and extrinsic job rewards. However, workers in this specific type of occupation reported that burnout, stress-related health problems, lowered work productivity, and inability to cope with work stress contributed to a lowered sense of motivation. Heavy workload and lack of work through lowered motivation are considered consequential factors for job change.

Different Levels of Motivation

In the study of self-determination and motivation theory as defined by authors such as Blais, Vallerand, Pelletier and Brière (1993), Baron, (1991) Deci and Ryan (1985, 1991), Kanfer (1990), Kanfer and Heggestad (1997), Valllerand, Pelletier, Blais, Briere, Sénécal, and Valiere (1992), Vroom (1964), Vroom and Deci (1977) and Sumers, DeCotiis and DeNisi (1994), different levels of motivation have been associated with distinct levels of self-determination. These different levels of motivation, through self-determination theory, are understood as being either intentional or internally regulated and have an effect on an individual's behavior. Intentional regulated motivation is related to a choice or a decision being made about a situation (extrinsic motivation). Internally regulated is related to an inner drive to experience (intrinsic motivation).

Following the theory of self-determination and motivation as described by Deci and Ryan (1985) and (1991), the theoretical foundations for an occupational research design were developed by various studies. Regarding occupational stress and global work satisfaction, it was hypothesized by Blais and Lachance (1992b) that the higher motivation and quality of work life, the less the possibility that high stress development will manifest itself and produce a heightened sense of global work satisfaction. Pertaining to the determination of motivation towards work life quality Blais and Lachance (1992b) and Blais, Vallerand, Pelletier, and Brière (1993) further defined that the more the perception of style of supervision at work is positive, the more a

positive sense of motivation and development at work will occur (i.e., less work stress will imply a greater sense of work satisfaction). Hence, links may be established between motivation and work life quality with emotional exhaustion and global work satisfaction.

A Motivational Model of Job Burnout (MMJB) was developed by Blais, Vallerand, Pelletier and Brière (1993). The MMJB, as a battery of instruments, assesses levels of motivation and professional exhaustion in different workplaces. The MMJB also assesses the different relationship styles between a work environment, an individual's personal sense of motivation, and the perception of job strain. The connection of these different levels is understood and interrelated through various statistical designs. Motivation and job strain can be seen, through this perspective, as being predictors of job satisfaction or burnout. The MMJB also specifies that job burnout is associated with psychological and physical health problems and that job satisfaction is ultimately related to life satisfaction. Within the MMJB, there was a work-motivation based inventory, which focuses specifically on intrinsic, extrinsic motivation and amotivation. This inventory was developed by Blais and was called the Blais Work Motivation Inventory (BWMI). A French-translated version later followed (BWMI-F).

Blais and his colleagues (1993) described these different levels of motivation and their categorization as being: amotivation (external and internal), extrinsic motivation (extrinsic through external, introjected, identified, and integrated levels of intentional regulation to a specific task or occupation) and intrinsic motivation (intrinsic by internal stimulation, knowledge, and accomplishment of a goal or task).

Amotivation is recognized as a personality pattern (rather than a recognized clinical entity) consisting of apathy, passivity, loss of drive for achievement, a tendency to drift, low frustration tolerance, and difficulty in concentrating and following routines. Amotivation, within an occupational context, will occur when an individual is unable to reach his/her goals and does not perceive the concordance or dissonance between actions and consequences. Non-self-determination will occur when a person feels a high level of amotivation. Intrinsic and extrinsic levels will be referred to as intentional regulations of behavior. Deci and Ryan (1985,1991) proposed that amotivation is not related to an intentional regulation; it is associated with a non-regulated or a non-intentional behavior. Amotivation within a work context will correspond to a person who perceives and will expect a non-contingency between consequences and behavior. Blais, Vallerand, Pelletier, and Brière (1993) determined that amotivation should be considered

through both external and internal perspectives.

External amotivation will correspond to the pursuit of an activity in resigned fashion, without control, influenced by an external environment. An example of external amotivation is a person working in an occupation without knowing why he/she is doing this and by realizing that his/her superiors have non-realistic expectations of their employees.

Internal amotivation, on the other hand, will correspond to a person's belief that the pursuit of an activity or job in a resigned fashion, without control, is not due to external environmental factors but is the result of self. The worker will believe that he or she does not have the social abilities, is incompetent, or the lacks the ability to work with this difficult clientele within a specific milieu (such as a correctional population).

Extrinsic motivation is defined as the way in which one practices an activity and is motivated by instrumental reasons or the process of doing an activity to reach a result (the means to an end). Deci and Ryan (1985) and (1991) acknowledged that extrinsic motivation is self-determined and self-regulated. Extrinsic motivation can be categorized through different levels of regulation that are external, introjected, and identified.

External regulated extrinsic motivation is associated within an individual who conducts his/her work in the goal of obtaining appreciation as opposed to material or social punishment from his/her environment. Through this perspective of motivation, an individual is dependent on others to regulate the motivation within a work context. It is assumed that this form of motivation can be considered an important source of interpersonal conflict.

Introjected regulated extrinsic motivation is associated with a primary level of self-regulation or self-control. An individual will, at this level, learn to motivate him or herself through a personalized understanding, being more or less aware of his or her level of involvement within a work context. Through this perspective, an individual will attempt to avoid failure and focus energy towards completion and success of a project or goal. An example of this can be when an employee works towards a promotion no matter the cost. This type of worker will not be preoccupied by self-esteem, mental wellness, or physical health in order to attain a work-related goal.

Identified regulated extrinsic motivation corresponds to an individual who has an introjected view and understands through a self-control viewpoint that he or she has the "choice" to either continue or abandon the work he/she is doing. This level of extrinsic motivation is far

more self-motivated and overlaps with an intrinsic perspective as opposed to the introjected and external regulated motivations as mentioned above. At this level, an individual is less focused on the fear of failure, as determined by others and self, and is more aware, through self-control, of other alternatives as possibilities (not feeling that he/she is obliged to accomplish a work task but that one wishes to do so).

Stimulation-based intrinsic motivation corresponds to the individual, within the work context, who performs an activity or many activities that will result in satisfaction. It is the process of such an activity, through sensorial pleasure, that motivates the individual to seek out and perform an activity through an intrinsic standpoint. Stimulation-based intrinsic motivation may be associated with careers that involve high risk taking such as fire fighting, policing, ambulancing, and correctional service. These types of careers that involve peak experiences bring individuals to feel that their creativity and esthetics are considered an important part of their work task and environment (for example, artists, professional athletes, race car drivers, surgeons, etc.). Again, this type of motivation will be most associated with individuals whose careers involve high risk and split-second decision-making (Blais & Lachance, 1992b; Blais, Brière, Lachance, Riddle, & Vallerand 1993).

Knowledge-based intrinsic motivation may be associated with individuals who perform activities with the goal of learning something new. Exploratory behavior, curiosity, and knowledge of new events may best apply to this type of motivation, which will usually depend on a level of intellectualization (such as advanced academic teaching and graduate research).

Accomplishment-based intrinsic motivation corresponds to the accomplishment of personal activities for personal optimal pleasure. An example would be a person who works for the simple pleasure of doing the work and accomplishing a task as originally and efficiently as possible. This type of individual is motivated by the sheer sense of accomplishing a task from an original standpoint. This individual receives intrinsic pleasure in accomplishing the labor and "rises to the challenge". Day to day *carpe diem* accomplishment is the drive.

The eight above-mentioned types of motivation explain the three levels of intrinsic motivation, extrinsic motivation, and amotivation. Blais and Lachance (1992b) and Blais, Brière, Lachance, Riddle and Vallerand (1993) determined that four of the above-mentioned motivations are non-self-determined (e.g., amotivation, external, and regulated motivation), the rest are all self-determined. The different levels of motivations and their subdivided levels, as seen above,

were developed to better understand a worker's perspective of motivation at work. These different levels can be individually determined or can be combined with the specificity of the individual within his/her precise work context. The different nuances and levels of the above-mentioned categorizations help bring precision to the nature of intrinsic and extrinsic perspectives of motivation within the particular work setting for a particular individual.

Deci and Ryan (1985, 1991), Blais, Brière, Lachance, Riddle, & Vallerand (1993), Blais & Lachance, (1992a,1992b), Blais, Vallerand, Pelletier, and Brière (1993) Kanfer (1990), and Kanfer and Heggestad (1997) propose that motivation as well as the innate need for self-determination, competence, and relatedness play a crucial role in the understanding of the antecedents and consequences of psychological stress as well as for well-being and health. These different levels and types of motivation apply to different situations, either through a generalized or work-specific situation or through motivations regarding task specific situations. These authors will agree, however, that at different times, for different situations, and for different individuals intrinsic, extrinsic motivations and amotivations variables will be different and at times are less stable. Moreover, work/vocation/career related motivations were considered to be more stable than task-specific motivations or situational events. However, work-related motivations are nevertheless less stable and more flexible than general personality-oriented motivation variables.

Hence, the studies proposed by Blais and Lachance (1992b) and Blais, Brière, Lachance, Riddle, and Vallerand (1993) focus on the different levels of motivation as well as an understanding of self-determination. In addition to a motivational model of professional exhaustion, these studies have also shown that a motivational stress-wellness model can be optimized through an understanding of these levels. A review of the literature done by Blais and Lachance (1992b) suggested that, ultimately, a healthy mind is important for a healthy body. The authors emphasize that the impact of psychosocial stressors and negative affect, which is determined through the motivation inventory, has a clear and definite impact on mental and physical health. These investigations show that motivation as well as the innate need for self-determination, competence, and relatedness play a crucial role in the understanding of the antecedents and consequences of psychological stress as well as for the well-being and health of individuals at work.

Gender-Role Differences in the Workplace: Implications for Quality of Work Life and Motivation

Although work-related stress and motivation have been the focus of numerous studies over the last decade, research on gender differences in work-related stress has been limited. Also at this time, research to examine gender-role differences in the workplace began in the 1970s. The effects on women's career development and adjustment, particularly to understand their experiences in traditional employment and the implications of lower pay, lower status, and lower prestige, was also initiated in occupations such as correctional workers (Farmer, 1977). In the 1980s, following growing models of motivation, research in gender differences in career patterns and motivations was also initiated. Powell and Butterfield (1981) studied issues regarding gender-role socialization and gender differences in relation to career aspiration for managers. Their findings indicated that both men and women experienced stress in similar fashion in the workplace. However, Jick and Mitz, in their 1985 investigation, indicated that women and men differed in terms of experienced patterns of stressors, responses to stress, and coping strategies for dealing with stress. Gender role differences in patterns of experienced stress may be a function of gender differences in occupations, job assignments and job duties. Research also shows that women and men manifest stress in different manners. Matteson and Ivancevich (1987) reported that:

> women tend to exhibit emotional symptoms more frequently than men; they experience higher rates of depression, mental illness, and general psychological and emotional discomfort. On the other hand, women experience lower mortality rates from stress-related problems than do men and exhibit a lower incidence of such dysfunction as heart disease, cirrhosis, and suicide. On balance, the evidence suggests that men are more likely to experience higher rates of psychological distress (p.82).

In the 1990s, other investigations determined that differences between men and women in the workplace were attributed to stereotypes of biological gender rather than to gender role, in which gender derives its psychological meaning from existing socio-cultural structures (Costos, 1986; Greenglass, 1995). Cartwright and Cooper (1993) reported that job insecurity and career development were also increasingly sources of occupational stress (namely, job dissatisfaction, poor work performance, lowered motivation, etc.) for women in different occupations. Hence, a woman's perception of occupational stress and/or amotivation in an occupation was viewed differently perceived than a male's perception in that same occupation. Women and men in the

same occupation perceived stress and motivation differently. Adelmann (1987) also investigated the facets of paid employment and determined significant perceived differences for men and women while they occupied the same occupations. Significant differences were also determined between male and female perceptions of intrinsic versus extrinsic reward in the workplace (Greenglass, 1995).

In reviewing the literature regarding gender role identity and associated career development, it was shown that personal attributes such as gender stereotyping can indeed influence a woman's perception of work stress and motivation within her work environment (Piltch, Walsh, Mangione, & Jennings, 1994; Pugliesi & Shook, 1998; Spielberger & Reheiser, 1995). While some studies found that overall women experienced greater amounts of work-related stress (Bhatnagar, 1988; Gadzella, Ginther, Tomcala, & Bryant, 1991), other researchers argue that different work factors account for gender-related stress (Piltch, Walsh, Mangione, & Jennings, 1994; Spielberger & Reheiser, 1995). On the other hand, other authors report no gender differences when controlling for occupation, position, and salary (Greenglass, 1995).

Occupational characteristics, such as personal income, complexity, and control are related to psychological well-being at work (for example happiness, self-confidence, and lack of vulnerability to negative experiences). Differences in these occupational characteristics of well-being are also attributable to age, level of education, income, and gender of the individual. Hence, the different perceptions of gender role by the workers as well as the employer within the workplace will have a significant influence on career development and work-related behavior. Gianakos, (1999), Gianakos (1995) and Gianakos and Subich (1988) determined that "feminized women" (women who chose to be more effiminate) would tend to select female-dominant careers which offered lower pay, lower status, and fewer opportunities. However, women occupying "female dominant roles" reported strong percepts of self-efficacy in career decision-making and valued achievement-related tasks in their careers. Moreover, Long (1989), demonstrated that traditional-typed women may receive approval from others and experience less interpersonal strain in the workplace as a result of this. Long (1989) explains this through their role-congruent behaviors; however, this traditional behavior may also undermine professional success as defined by Bhatnagar (1988).

Other studies reported that femininity is not related to measures of overall psychological well-being (Whitley, 1983; Whitley & Grindley, 1993), but is associated with self-esteem

(Orlofsky & O'Heron, 1987). Gianakos (1995) reported that "masculinized women" expressed preferences for careers offering challenging opportunities and strong percepts of efficacy in career decision-making (Gianakos, 1995).

Additionally, Chow (1987), Eichinger, Heifetz, and Ingraham (1991) determined that "masculinized women" (women who choose to be less effiminate) strive to attain an occupational status and greater levels of personal accomplishments in nearly all occupations. In this light it appears that masculinity in women is more socially valued. Studies have shown that masculine traits in both men and women are strongly associated with higher levels of self-esteem and psychological adjustment, and with lower levels of reported depression (Long, 1989; Orlofsky & O'Heron, 1987; Whitley & Grindley, 1993). On the other hand, femininity has been related to greater avoidance of role responsibility and seeking occupational status. Hence, femininity was related to being more support seeking (LaCroix & Haynes, 1987). In addition, femininity was related to lower levels of depersonalization among women (Eichinger, Heifetz, Ingraham, 1991), and lower levels of adaptive coping among different unconventional male occupations such as Krausz, Kedem, Tat, & Amir (1992). Among working females, masculinized female gender roles were related to lower feelings of depersonalization, greater feelings of personal accomplishment (Eichinger et al., 1991), greater problem-solving coping, and lowered levels of anxiety and strain (Long, 1989), while masculinity in males is related to less stress, less perceived isolation, and more adaptive coping in dealing with work-related stress (Bhagat, Allie, & Ford, 1995; Krausz et al., 1992).

Androgynous individuals who share male and female behaviour traits reported high adaptation to workplace stressors (Chow, 1987; Clarey, & Sanford, 1982; Eichinger et al., 1991; Krausz et al., 1992), whereas undifferentiated persons who do not define themselves in either gender identity role concurrently report low job satisfaction and self-esteem with lowered levels of job stress (Chow, 1987; Krausz et al., 1992; Ushasree, Seshu, Reddy, & Vinolya, 1995), and appeared to be more depressed, were anxious, and had trouble with social adjustment. Costos (1986) and Whitley (1983) determined that gender-role identity is contingent on one's self-perception of prior success or failure experiences with gender-role-related behaviors, developing from early socializing experiences. Persons with undifferentiated gender roles experience low self-esteem (Chow, 1987), exhibit little cognitive complexity in evaluating careers (Harren, Kass, Tinsley, & Moreland, 1979), reported lower confidence in their abilities to successfully

complete career decision-making activities, are less involved in career exploration, and assign less value to mastery-related career factors (Gianakos, 1995).

Relationships at Work and Home: Gender-Role Implications

Relationships with superiors, colleagues, and subordinates have also been identified as being potential stressors in the workplace for both men and women. Studies have found that mistrust of co-workers is related to high role ambiguity, poor communication, low job satisfaction, low motivation, and poor psychological well-being (summarized by Cooper & Cartwright, 1994). Strong emotions, such as workplace jealousy and envy amongst employees, have even been blamed for pathological outcomes such as workplace violence and harassment (Alagna, 1982; Boyd, 1997; Vecchio, 1995).

Employee relationships offering support and attachment for men and women alike have been shown to have very positive effects in diverse organizations. Geller and Hobfoll (1994), Gianakos (1995, 1999), Harren, Kass, Tinsley, and Moreland (1979), Jick and Mitz (1985), Krausz, Kedem, Tat, and Amir (1992), Lacroix, and Haines (1987), and Long (1989) investigated potential gender differences of psychological health and problems in different organizations. Long (1989) determined that cognitive appraisal, administrative support, attachment, organizational structure, and climate could also be associated with gender issues and that these were highly correlated. The authors also indicated that some gender differences were noted, although gender did not moderate the relationship between psychological health and its determinants. Sources of stress relating to organizational structure and climate have also been associated with gender differences in the workplace. These sources of stress included the lack of participation and effective consultation, poor communication, politics, and the consequences of downsizing for men and women (such as major restructuring, ambiguous work environments, and individual cultural incongruence). Trocki and Orioli (1994) reported in their findings that as a consequence of gender differences in stress symptoms, men and women ultimately cope differently. Blanchard (1993) and Kuhnert and Palmer (1991) discussed a poor supervisory role, its impact on gender differences and its association with occupational stress. This is enabled when, unpredictably, a supervisor behaves differently with men and women, which, as a result, erodes a workers' sense of self-confidence and self-worth. This type of behavior results in a stressful work environment. Again, the implications of this perceived stress will be experienced differently for men and women.

Managing the link between work and home has increasingly become a potential source of stress, particularly for dual-career couples and those experiencing financial difficulties or life crises (Cooper & Cartwright, 1994). Glowinkowski and Cooper (1985) discussed the interaction between work and the family relationship as a source of "spillover stress". Boles, Johnston, and Hair (1997) determined in their study that role conflict, in a couple, was related to emotional exhaustion. Furthermore, work-family conflict was related to emotional exhaustion and job dissatisfaction.

It is not surprising to note that overwork was found to be related to couple and marital conflicts. Interestingly, and contrary to popular belief that women with families are most pressed from demands at home, one such survey found that men, single and dual earners without children were the most likely to consider changing jobs because of work/life conflicts such as occupational stress as well as other personal concerns (Caudron, 1997). Evidence exists suggesting that the transmission or "spillover stress" is uni-dimensional in marital relationships, with the direction flowing from the man to the woman, especially when men have high strain jobs (high demand-low work support, Jones & Fletcher, 1993). Further findings from Jones and Fletcher (1993) also support that work stress affects the psychological health, physical health, life expectancy, and relationship and marital satisfaction of partners.

CHAPTER 3

Importance of Study

Rationale of the Research

Research in the area of motivation, occupational stress, and job satisfaction gained momentum through the late 1980s. Investigations focused on the relationship between job satisfaction, occupational stress and motivation using educators (see Blais, Riddle, & Baron, 1998; Blais, Vallerand, Pelletier, & Briere, 1993; Vallerand, Gagné, Sénecal, & Pelletier, 1994; Blix, Cruise, Mitchell, 1995; Pelsma et al., 1989; Singh, Mishra, Kim, 1998), rehabilitation workers (see Agervold, 1994; Blankertz & Robinson, 1996; Cranswick, 1997), and correctional workers (see Blau, 1986; Diehl, 1997; Léveillé, Blais, & Hess, 2000; Pogrebin, 1987; Vallieres, & Latulippe, 1993; Walters, 1993). The resulting trend from many of these motivational studies and others on occupational stress and job satisfaction is: individuals enter their field of practice because of the desire or need to help others with social, psychological, and physiological concerns or problems.

Occupational stress remains as unique to the individual as the coping of it within the specific context and environment. This reality and uniqueness of occupational stress is even more evident within the correctional milieu (Brenner, Sorbom, & Wallius, 1985; Blais & Lachance, 1992a, 1992b; Lindquist & Whitehead, 1986).

Cahill, Landsbergis, and Schnall (1995), Kalia (1995), Rosine (1992), and Dignam (1996) elaborated on the various factors that contribute to the promotion of stress within an occupation and, more specifically, are associated with front-line intervention workers (such as police officers, correctional personnel, and social workers). These factors are again linked to personal and organizational characteristics. Personal factors may predispose certain stress conditions within the unique work dynamics of acute intervention that are associated with front-line work. It was also determined that conditions of stress are present in either dormant or non-dormant states. Thus, personal variables may work as a catalytic force in increasing or decreasing the intensity of stress conditions within a specific work setting. In regards to organizational factors and occupational stress, Kalia (1995) further determined that the relationship among these different sources of occupational stress may also significantly influence one's personal perception of stress in front-line work, such as the case of correctional personnel.

The perception of stress in front-line work for correctional personnel can be role ambiguity (which is inadequate information about work role, lack of clarity of work objectives), role conflict (such as conflicting job demands), working with a dangerous clientele, and other role stressors (such as too little responsibility, or lack of participation in decision making). Each of these factors have also been shown to contribute to the sources of occupational stress. Other organizational processes like leadership, various modes of information sharing, and management policies and practices may also influence the perception of stress.

Andrasik, (1989), Hendrix, Steel, and Schultz (1987) as well as Quick and Quick (1984) have determined that personal characteristics, procedural organizational characteristics, and structural organizational characteristics are linked to and can lead to occupational stress. Personal characteristics affecting the perception of occupational stress include gender, tenure of present job, number of dependents, motivation, and social relationships. Procedural organizational characteristics refer to institutional issues affecting quality of training, decision making, supervision, and work hours. Structural characteristics imply concerns regarding organizational characteristics such as merging, streamlining, and centralization. Structural issues, especially downsizing, have greatly contributed to and have increased organizational and personal perceptions of occupational stress.

Stress and Correctional Officers

The first reported empirical study of stress experienced by correctional officers was conducted by Alvarez and Stanley in 1930. Although the researchers initially set out to study inmate stress, they found that blood pressure in inmates was normal and that it was correctional officers who had high blood pressure, not the inmates. Subsequent studies have confirmed that correctional officers suffer from high levels of stress, and experience physical and psychological problems as a result. Studies show that the major reasons for disability leave amongst correctional personnel are stress-related alcoholism, cardiac problems and emotional disorders (see Cheek & Miller, 1983; Freeman, & Johnson, 1982; Fried, Rowland, & Ferris, 1984; The New York Department of Corrections, 1975). Offender rehabilitation personnel and their exposure to stress and fear of working with the resident prison population have been well documented in several research studies (see Belcastro, Gold, & Grant 1982; Cheek & Miller, 1983; Dollard, & Winefield, 1998; Finn, 1998; Grossi, & Berg, 1991; Hendrix, Steel, & Schultz, 1987; Inwald, 1982; Jex, 1998; Kahn, & Byosiere, 1992; Léveillé, 2000; Lindquist & Whitehead,

1986; Matteson, & Ivancevich, 1987; Moharaji-Nelson, 1998; Robinson & Porporino, 1992; Stinchcomb,1986; Summers, DeCotis, & DeNisi, 1994; Valliere & Latulippe, 1993; Webb & Morris, 1978; Williamson, 1990).

However, the literature focusing on the specifics of fear, shock, trauma, and critical incident stress for prison personnel and how these systematically affect their careers remains scarce (see Blau, 1986; Cheek & Miller, 1983; Cullen, Link, Wolfe, & Frank, 1985; Dignam & Fagan, 1996; Dollard, & Winefield, 1998; Finn, 1998; Inwald, 1982; Kauffman, 1981; Latulippe, 1996; Poole & Regoli, 1980; Pogrebin, 1978, 1987; Rosine, 1992; Schaufeli & Peeters, 2000; Stinchcomb, 1986; Vallières & Latulippe, 1993). The research that has been done shows that correctional officers, both male and female, feel vocationally mismatched with their work and are unable to change and/or modify their vocation for various reasons (Vallières & Latulippe, 1993). A study of Canadian federal correctional officers done for Vallières and Latulippe (1993) determined that correctional officers were career dependent on their occupations and that levels of motivation, socioeconomic and financial responsibility may be linked to this dependency. This analysis, conducted in a grouping of different Canadian correctional facilities, showed that although extrinsic rewards (such as salary and benefits) were appreciated, years of work experience and lowered intrinsic motivation resulted in many cases in emotional exhaustion and burnout.

American studies conducted by Blau (1986) and Pogrebin (1987) have investigated the existing lack in faith of correctional officers regarding management as well as other administrative concerns existing within different prison institutions. Several analyses of job dissatisfaction of employees working in both rural and urban prison locations were assessed through these different studies. The results of these investigations suggested that there was a lowered sense of job dissatisfaction and prestige for correctional personnel that had a short work occupation (one to five years) as opposed to longer careers (six to ten years). It was also acknowledged that correctional officers from rural prison locations reported greater job satisfaction, better relationships with supervisors, a sense of leadership, and freedom from undesirable stress than their counterparts in urban prisons. Pogrebin (1987) determined that within larger urban institutions, correctional workers viewed working relations as being negative. Personnel in larger urban prisons were shown to feel unappreciated by their managers and powerless in comparison to ever-growing inmate rights within these institutions. Correctional

personnel expressed external work dissatisfaction, occupational stress, and lack of motivation as a result of fellow correctional workers and management strategies to "buy the peace" with inmates. "Buying the peace" is a practice done by correctional officers and encouraged by management to preserve relationship harmony and working relations within correctional institutions. When "buying the peace" failed and inmates felt stressed institutional revolts or riots would usually result. When there is a tense work environment and dissonant relationships with inmates, correctional officers report higher external work dissatisfaction.

These studies suggest that correctional personnel perceive their work experience as being unfair through existing inequalities in their work and regarding their managerial work demands in the correctional setting versus the demands of inmate rights. Correctional personnel generally report role confusion as well as the feeling of being unsupported by their managers, workmates, and other correctional personnel. Other work role issues such as work overload or underload, unclear work role boundaries (social contact with prisoners, colleagues, and supervisors), and poor social status were also contributors to occupational stress and work dissatisfaction. Hence, negative peer support was found to increase work stress while positive peer support was found to improve work satisfaction. Stress and work dissatisfaction were shown to be associated with work characteristics such as high demands, low control, and low support. Additionally, it was also suggested that burnout was more closely linked to working environment factors with the residing clientele rather than individual characteristics about the staff. This experience was best explained by numerous reports about work role and the correctional staff's relationship between correctional staff and residing inmates. In most studies, it appeared that altering the correctional staff's social networks and self-expectations would maintain work dissatisfaction (see Gerstein, Topp & Correll, 1987; Schaufeli & Peeters, 2000).

Lasky, Gordon, and Srebalus (1986) determined that lack of participation in decision making and years of continual employment were also significantly related to distress. Correctional officers' sense of responsibility for people and role conflict were related to self-esteem. The findings for correctional officers across all prison security levels revealed that although work dissatisfaction and occupational stress prevailed, differences among security levels in various institutions were not significant.

On the other hand, job characteristics such as high demands and high control were associated with positive behavioral outcomes (seeking feedback from others, looking at work as

a challenge). Workers in high-isolation strain jobs with the greatest work exposure showed higher levels of strain than workers with less experience working in the same job. Results suggest that this type of work experience may affect long-term personality evolution. The various findings also revealed that prevention was a better remedial than treatment for occupational stress for correctional officers (see Correll, 1987; Dignam & Fagan, 1996; Dollard & Winefield, 1998; Finn, 1998, Gerstein, Topp & Correll, 1987; Grossi & Berg, 1991; Lasky, 1985; Lindquist & Whitehead, 1986; Rosine, 1992; Schaufeli & Peeters, 2000).

With regard to age and years of service for correctional officers, results indicated that as length of employment and age increased there was a predominant increase in occupational stress. Occupational dissatisfaction and work stress were also related to age and length of employment as well as with environmental factors such as relationships with coworkers, and role ambiguity variables. Zupan (1986), Gross, Larson, Urban, and Zupan (1994) indicated that correctional officers were exposed to a wide range of noxious environmental and work-related conditions, including role conflict, work overload, value conflicts, dangerousness, shift work and odd days off. In addition, most correctional officers work within a rigid bureaucracy that provides few opportunities for self-expression, responsibility and self-determination. Given the presence of so many stress factors, gender is an important factor but not the unique contributor to stress in this environment. Extra-organizational variables, such as lack of support from family and friends, also contributed to lowered work satisfaction for correctional personnel working within these institutions. Correctional officers feel undervalued by society for their work and specific skills and are also sensitive to public opinion regarding their contribution to society.

Regarding further gender differences in occupational stress among correctional officers, Zupan (1986) and Gross and his colleagues (1994) determined that a number of statistically significant relationships were observed between gender and stress. However, the measured differences between the male and female correctional officers in the studies by Zupan (1986) and Gross and his colleagues (1994) were shown to be fairly small in magnitude. Women, particularly black women, appeared to be more stressed than their male counterparts. Women, in general, reported that they were significantly more stressed as a result of external factors such as their single parenthood and other single-parent responsibilities. Female correctional officers were also more likely to have taken sick leaves and were less likely than men to have filed stress or assault-related compensation claims. Also, females had less of a tendency to depersonalise

inmates and would be more likely to report physical distress than their male counterparts.

Hurst and Hurst (1997) also explored gender differences in how correctional officers react to severe occupational stress and addressed differences in coping processes and social support utilization. Results revealed that correctional officers experienced high levels of occupational stress but did not indicate gender differences in emotional exhaustion or depersonalization. Furthermore, female officers more frequently than male officers processed stress by seeking social support, while male officers more frequently than female officers processed stress by strategic problem solving or disassociating. The results suggested that male and female correctional officers follow traditional sex roles in coping with occupational stress but they revealed no differences in how they are affected by occupational stress in terms of emotional exhaustion, depersonalization and personal accomplishment.

Hence, high levels of work dissatisfaction and a sense of being "obliged" to remain in a work environment has been demonstrated by both women and men when working in settings such as correctional institutions. Although different social roles and occupational functions have been reported regarding daily work hassles and daily uplifts of correctional personnel (see Dhaher, 1996; Hepburn, 1985; Inwald, 1982; Lemire, 1990; Marquart, 1986), little has been reported on the actual relationship of occupational stress, job satisfaction and motivation variables and gender differences within the Quebec provincial correctional establishments. Most research in the area of occupational stress, job satisfaction, and motivation has been done in other Canadian institutions and in some correctional settings in the United States and Europe. Furthermore, research relating to motivation, occupational stress, gender differences, and job satisfaction with French-speaking Correctional Services Officers (CSOs) has never been conducted within Quebec provincial detention facilities.

Contribution to Knowledge

Dollard (1998), Finn (1998), Latulippe (1996), Leveillé (2000), Miller (1998), and Shaufeli and Peters (2000) reported that within correctional institutions there were certain specific motivation characteristics that contributed to occupational stress and burnout. For instance, correctional workers have a dual role of providing both a role of security and role of rehabilitation to inmates. For security, there are certain health and safety hazards such as dealing with aggressive behaviour. Correctional workers deal with verbal threats and the possibility of physical attack by the residing inmates as well as the risk of exposure to HIV and hepatitis.

Negative job-related attitudes stem from fellow personnel as well as friends and family. Correctional workers must deal with a daily work routine, instructed operations, and procedures within the correctional work context.

Leveillé (2000) reported high absenteeism among correctional personnel as well as rapid CSO turnover. Inconsistency of team support, absenteeism, and turnover of correctional workers results in occupational stress especially during specific team intervention during a state of crisis within the prsion setting. Correctional workers are trained to work as a team, when one of its members is not present or is aloof, stress and danger concerns result. The inconsistency of teamwork and team members during the application of diverse correctional operations will usually create a lack of motivation. Correctional workers prefer consistency and a clear work procedure when physical intervention is needed. Furthermore, regarding stress and burnout, some of the major risk factors associated with this occupation can be associated to diverse role difficulties, stressful social contact, health and safety risks, lack of autonomy, and work overload (Léveillé, 2000).

Although correctional officers have been the topic of numerous stress-related studies over the last three decades, little attention has been directed to the various appraisal and coping processes to deal with occupational stress as determined by Shine (1997). Correctional officers determined that the therapeutic context of their work was unpleasantly stressful. Correctional workers did not see themselves as therapeutic agents and empathic clinical listeners. This was determined because, within the literature, correctional officers reported that correctional worker's authority and therapeutic influence was undermined by inmates and that their occupation was not supported with positive feedback from family, friends, and society. Correctional workers see themselves as providing a service to the residing inmates, which, in their view, is a thankless task. Furthermore, limited emphasis has been directed at gender differences in experienced occupational stress, work satisfaction and motivation for correctional workers. It is nevertheless assumed that female correctional officers, particularly those deployed in all-male inmate institutions, are exposed to and experience higher levels of stress than men, due to the burden of being women in male-dominated organizations and previous research findings (Cullen, Link, Wolfe, & Frank, 1985; Shine, 1997; Stinchcomb, 1986; & Zupan, 1986).

This research explored, through a quantitative perspective, the different relationships between quality of work life and motivation. A correlational research design was utilized to

assess within-group differences and the relationship between different dependent and independent variables. Relationships between these dependent and independent variables and their relative order were determined using different measures. Different quantitative analyses were considered through canonical correlations and multiple regressions.

The goal of this investigation was to analyze the different relationships and perspectives of motivational and psychosocial factors in understanding the development of quality of work life, which is composed of occupational stress and job satisfaction, for French-speaking male and female, part-time and full-time, Correctional Services Officers (CSOs) in the Montreal area. The theoretical underpinnings of this investigation stem from three primary sources: Deci and Ryan's (1985, 1991) theory of self-determination, the associated Blais, Brière, Lachance, Riddle, and Vallerand's (1993) French-translated research on work motivation, and Pelsma, Richard, Harrington, and Burry's (1989) by Blais and Lachance (1992b) research on quality of work life translated into French.

This investigation also examined the relationship between individuals working within a particular institutional work setting and how they were either motivated or amotivated by sources and consequences of occupational stress and/or job satisfaction while working in a correctional setting. It was hypothesized that different sources of occupational stress and job satisfaction for different individuals within a particular work setting (such as correctional facilities) will either motivate or amotivate these individuals to pursue their career as CSOs.

This research specifically focused on various motivation and quality of work life factors and their relationship specifically with a French-speaking CSO population in four establishments in the Montreal area. Specifically understanding the implications for career counselors working with this type of population and highlighting internal and external resource implications from this work group was the focus as described by Davidson and Gilbert (1993). The purpose of this research was to investigate the relationship between gender and work-related stress, motivation, and work satisfaction experienced by prison correctional officers. Furthermore, this study examined how certain organizational stress or satisfaction factors within the correctional environment relate to different levels of motivation for CSOs. This investigation also examined the relationship between individuals working within a particular institutional work setting and how they might either be motivated or amotivated by sources and consequences of occupational stress and job satisfaction. It is the researcher's belief that different sources of occupational stress

and job satisfaction for different individuals within a particular work setting (such as correctional facilities) will either motivate or amotivate these individuals to pursue their career as Quebec provincial CSOs in the Montreal area.

This investigation was focused on understanding how CSOs working in urban institutions were motivated or amotivated by the sources and consequences of occupational stress as well as employee work satisfaction. Furthermore, this research investigated the relationship between gender and work-related stress, motivation, and work satisfaction experienced by this CSO population.

This research study contributes to the fields of occupational stress, occupational wellness, career counselling, and motivation by presenting an interesting comparison of the influence of quality of work life with motivation for a specific French-speaking correctional officer population. It was believed that quality of work life (occupational stress and job satisfaction) as a dependent variable will be experienced differently with regard to different predictor variables, such as different levels of motivation, age, work experience, and gender for CSOs.

Research Questions

Question 1. Are motivation and quality of work life levels for CSOs in different establishments in the Montreal area positively correlated as measured by the Quality of Work Life survey (QWL-F) and the Blais Work Motivation Inventory (BWMI-F)?

Question 2. Do male and female CSOs, who were older and had longer work experience, differ significantly from younger and less experienced CSOs in terms of amotivation and sense of quality of work life as measured by the Quality of Work Life survey (QWL-F) and the Blais Work Motivation Inventory (BWMI-F)?

Question 3. Are the predictor variables (i.e., various demographic and motivation variables) significantly different from quality of work life between male and female, full-time and part-time CSOs working in the Montreal area as measured by the Quality of Work Life survey (QWL-F) and the Blais Work Motivation Inventory (BWMI-F)?

CHAPTER 4

Method

Design

This study was a cross-sectional, non-experimental, survey design. The purpose of choosing this particular design was to enable a large data collection from a sample in order to make some inferences to the general population about the variables under investigation.

A correlational research design was selected to assess within-group differences. Research questionnaires were sampled throughout four correctional establishments in the Montreal area. Different statistical manipulations were utilized such as Pearson correlations, canonical correlations, and multiple regression analyses. Different predictor variables, of continuous and fixed nature, were selected and investigated in order to understand the different possible relationships of CSOs using two validated French-translated instruments. Variation in scores amongst the questionnaires were accounted for. Relationships between the variables and their relative order were determined. The regression relationships were investigated using a stepwise multiple regression analysis. Both correlational and regression analyses were used in this study to investigate possible relationships between different dependent variables (Quality of Work Life and various demographic variables) with independent or predictor variables (BWMI-F and various demographic variables).

Participants

The sample consisted of 347 French-speaking part-time and full-time male and female Correctional Services Officers (CSOs) working in the Quebec provincial correctional services in four establishments in the Montreal area. These four correctional facilities were the Établissement de Détention de Rivière-des-Prairies, the Établissement de Détention de St-Jérome, the Établissement de Détention de Montréal, and the Établissement de Détention Maison Tanguay (Prison for Women). Data collection and participant recruiting in these correctional establishments were authorized by local and national administrations and provincial union leaders at the time of data collection. On two occasions, the researcher went to the national provincial union office and provided the union leaders and delegates with a general description of the study, a research schedule, and the different objectives of this investigation. The researcher answered questions and solicited support for the study.

CSOs, rather than employees in general, were selected as the specific participant group. French-speaking participants were asked to participate through an invitation made by the researcher stating the purpose and the nature of the study. Within the participation questionnaire, instructions were given in clear statements to inform them that participation in this university-based research was on a voluntary basis (see Appendix B and C). These instructions avoided collective pressure and bias from the administration or the establishment union. It permitted the CSO participants to participate freely in this study.

The researcher also went to all the different establishments and posted a call for participation in the different staff quarters (see Appendix B). Nearly half the CSO population in the different establishments had expressed an interest in participating and were given a package containing the research questionnaires. The information for assessing the CSO population in the Montreal area was collected via a checklist distributed to different union representatives in the different establishments in the Montreal area. Unbiased research assistants in the local establishments, who had no vested interest in the research study or its outcome, distributed and collected the questionnaire packages as well as the consent forms. All male and female participants ranged between 19 and 65 years in age. In total, 600 questionnaire packages were distributed between the four correctional establishments. Each participant was given, during the three different work shifts, a questionnaire package. The participants would fill out the questionnaires during their workshift and would give the questionnaires back to the distributors immediately after being completed. The questionnaire package (see Appendix B, C, and D), contained an invitation to participate in the study, instructions, consent form, information/demographic forms, and the key Quality of Work Life surveys (QWL-F), and the Blais Work Motivation Inventories (BWMI-F). The demographic questionnaire focused on specific socio-demographic factors linked to correctional officers (e.g., gender, education level, positions held, number of years of experience, marital status, number of children, etc.).

Stevens (1996) determined that a participant total of 200 was needed as an adequate sample size for the application of multiple regression analysis. The final sample size consisted of 347 participants and was considered to be adequate and well above the expected number of 200 participants needed for adequate statistical power when accounting for various correlations and multiple regressions analyses in this study. Questionnaires that were returned incomplete were rejected as a result of the failure to meet the basic questionnaire and demographic data entry.

Materials

The following materials were used in explaining the intentions of the study and collecting the data required for the study. Written and verbal permission was obtained from the authors and publishers of the measures and scales used in this study.

Participant inclusion/exclusion screening criteria. A screening process took place prior to the recruiting of participants in this study. Participants needed to be classified as CSOs in the Montreal area for inclusion in this study. Unit Officers, Unit Chiefs, and Correctional Nurses were not included in this study. CSO participants had to be French-speaking and fill out the questionnaires appropriately to be considered for inclusion in the research study. Specifically, the researcher verified whether the participants consistently answered all the demographic Quality of Work Life and Work Motivation questionnaires. Partially completed questionnaires that did not meet the requirements for the statistical analysis were rejected. Questionnaires which did not show consistent answers and a clear focus were also subjected to close verification by the researcher in order to determine inclusion or exclusion.

Participant instructions. The participant instructions (see Appendix B) outlined the purpose of the research, and as well as the nature of the study to the different possible French-speaking CSO participants. A description of the different research inferences and processes were also described in these instructions. Questionnaire answering procedures as well as study outcomes were clearly explained to the correctional personnel. The research questions were clearly outlined, as were the purpose of the study and the purpose of CSO involvement as participants in this research.

Participant consent form. The participant consent form (see Appendix C) informed participants that they were under no obligation to participate in the research, and that they could withdraw at any time. Furthermore, CSO participants were informed that their responses would be kept confidential and that the questionnaires and their contents would belong to the participants of the research in the present and future. The volunteer CSOs who agreed to participate were asked to formalize their participation in the research by signing a consent form which outlined the parameters of their voluntary involvement as participants in this research.

Demographic questionnaire. The demographic questionnaire (see Appendix D) consisted in a series of questions that requested each participant's age, salary, level of formal education, cultural background, years employed as a correctional agent, career history, status and current

habitation. Gender (male or female) and work status such as (part-time or full time) were also determined.

The Blais Work Motivation Inventory (French-translated). As the basis of this investigation focused on self-determination theory, motivation research, occupational stress and job satisfaction, two different measures were considered. Validated French-translated scales needed to reflect the scope of concerns that CSOs encounter in their day-to-day work routine as well as other possible factors which may acutely or chronically influence the work experience of CSOs within the correctional environment. The French-translated Blais Work Motivation Inventory (BWMI-F) is one of the two instruments used in this study (see Appendix D).

As the testing manual indicates, the original English and the French-translated version of the BWMI-F consists of eight scaled items which assess three forms of intrinsic motivation (knowledge, accomplishment, and stimulation-based), three forms of extrinsic motivation (external, introjected, and identified regulation), and two forms of amotivation (internal and external). The BWMI-F measure was developed and used to assess different perspectives of motivation in regards to various occupations. The eight different subscales are highlighted and explained in greater detail in the motivation and Self-Determination theory section of the literature review. The 31-question motivation inventory attempts to ascertain the motivation of an employee to do his or her work. Each statement is rated on one dimension using a seven point Likert scale and is labeled at each point and ranges from a low (1) "not at all" or "pas du tout" to a high (7) "exactly" or "exactement". Thus, a motivation score of (7) for an individual item is the optimal motivation rating for that item. Likewise, a rating of (1) "very dissatisfied" equals a minimum motivation score.

Item construction was created according to the conceptual definitions of three forms of intrinsic motivation (knowledge, stimulation, and accomplishment, see Vallerand & Blais, 1987), three forms of extrinsic motivation (external, introjected, and identified regulation, see Deci & Ryan, 1985), as well as two forms of amotivation (internal and external, see Blais, Vallerand, Pelletier, & Briere, 1991, 1991; Deci and Ryan, 1991). The motivational constructs are based upon Self-Determination Theory (SDT). Hypotheses for construct validation were thus derived from this theory. The different motivations represent various levels of self-determination. Highest levels were amongst intrinsic motivations and identified extrinsic motivation. Lowest levels were among the introjected and external regulations, and most strongly among the

amotivations. In general, it was determined that the greater self-determined forms of motivation will be the more positively related with quality of work life and global quality of life.

The 1993 study by Blais and his colleagues using over 2500 French-speaking employees in various work settings (police departments, telephone company technicians, clothing factory workers, health and law professionals) in the public and private sectors contributed to the construction and validation of the BWMI-F. The results determined satisfactory internal consistency levels of Cronbach alphas over .90 as well as high levels of temporal stability for all the scales (see Appendix F). All of these scales were weakly related to social desirability. LISREL confirmatory factor analyses supported the 8-factor measurement model of the BWMI-F. The construct validity was also supported through a series of correlational analyses with different antecedent and consequent variables. Overall results show support for the validity and reliability of the BWMI-F.

Pertaining to reliability and social desirability, alpha levels for Intrinsic and Extrinsic motivations and amotivation were also significantly high. These ranged between .69 (for Internal Amotivation) to .95 (External Amotivation). Amotivation variables were inverted as a result of their inversed nature to motivation. All variables of the sub-items correlated significantly above the .69 level in this mega study. All correlations were above the .50 level while using a Maximum Likelihood method with a Correlation Matrix. The chi-squared value was at 790.33 with a dl= 393, an AGFI = .90, the RMSR was at .052, with a sample of 590 participants. Correlations among the BWMI-F, while using Pearson correlations, indicated significance ranging from .19 to .80 with p being either < than .05 or .01. The Amotivation scores were negatively correlated of course and ranged from -.11 to -.25.

Blais and his colleagues (1993) determined that the BWMI-F instrument was developed for investigative research purposes. The BWMI-F has 31 items with an average of four items per scale. It can therefore be answered rapidly and is convenient for studies involving multiple variables. The measure was not intended for personnel selection purposes and was not validated in such a context. The results of the different psychometric studies that have been carried out throughout the years have indicated support for its reliability and validity. The authors expressed that more studies are needed to further test the statistical components of each scale.

The Quality of Work Life survey (French-translated). The second measure used in this study was an adaptation of the Quality of Work Life Survey (QWL-F) developed by Pelsma,

Richard, Harrington and Burry (1989). The QWL-F survey deals with different levels of job satisfaction and occupational stress and combines them into a total quality of work life (QWL-F) score. The total QWL-F score takes into account work stress and satisfaction levels through employee Interruption(s), employee Internal Support, employee Rewards, Population being dealt with by employees, employee Work Environment, Administration, employee External Support, and Time Management.

The QWL-F was initially developed for a teacher-based participant population. Blais (1992b) acknowledged that a French-translated QWL-F scale was needed to be adapted to assess job satisfaction, job stress and overall quality of work life for employees in different public and private sectors. The original Quality of Work life Survey from Pelsma and his colleagues (1989) was adapted by Lachance and his colleagues (1992) into the French-translated Quality of Work Life Survey (QWL-F). With regard to this study, the QWL-F was adapted for the CSO population in the Montreal area by this researcher. Face validity for the 49 item QWL-F scale was confirmed by the CIRANO research institute in Montreal.

The original English and the French-translated version of the Quality of Work Life Survey consists of eight items that are used to measure satisfaction and stress and a total quality of work life score value. The eight different subscales are highlighted and explained in greater detail in the quality of work life theory section of the literature review. This instrument assesses perceived quality of working life of an individual in a particular occupation. Using Likert scales each statement is rated on two dimensions: total satisfaction and total stress experienced combined. The satisfaction scale is labeled at each point and ranges from (1) "very dissatisfied" or "tres insatisfait" to (5) "very satisfied" or "très satisfait". The stress scale ranges from (1) "extreme stress" or "stress extreme" to (5) "no stress" or "aucun stress". The rationale for requesting two such ratings involves the assumption as defined by Maslach and Jackson (1986) that stress experience is not simply a synonym for job dissatisfaction. Stress experience may also be perceived as an aspect of job satisfaction. The stress scale is then reversed and the total stress and satisfaction score are combined and added-up to give a total quality of work life score. In combining both ratings (satisfaction and stress), quality as the sum of perceived stress (or lack of stress) plus the perceived dissatisfaction (or satisfaction) with factors inherent in the occupation of CSOs it will be possible to assess perceived quality of work life. Thus a quality score of 10 for an individual item (5) "very satisfied" plus (5) "no stress" is the optimal quality rating for that

item. Likewise, a rating of (1) "very dissatisfied" plus (1) "extreme stress" equals a minimum quality score. A combined QWL score, adding the stress scale and the satisfaction scale, of (10) indicates a perfect quality of work life score. A sum total of zero indicates a minimal QWL score.

Perceptions of the variables "work satisfaction" and "occupational stress" regarding organizational administration, work environment, external work support, internal work support, the job market, work rewards, work evaluation, and time were assessed with French-speaking male and female full-time and part-time CSOs of the Montreal area through the eight (8) subscales of this instrument.

The QWL survey, as initially developed by Pelsma, Richard, Harrington, and Burry (1989) and then adapted by Blais (1993), has been considered for different work populations with combined score ratings for satisfaction and stress. This survey was subjected to various statistical procedures. It was determined that the Quality of Work Life survey could be adapted to different work populations (professors, front-line workers, police officers, firefighters, as well as correctional officers). In regards to the implications for work personnel, the scores may be provided in profile form. Career counselors can use the results of the QWL-F to help a specific employee identify and address particular problem areas in a work setting.

Both Pelsma and his colleagues (1989) as well as Blais (1992b) have determined internal consistency reliability estimates of this survey, while using Cronbach's coefficient alpha, at .91 for the Quality Total Scale. Pearson reliability coefficients among the Quality subscales can be seen in the appendix section of this research. Correlations between subscales, when administered in a student population, were relatively low, ranging from .10 for Time and Internal support to .48 for Students and external supports). Chronbach alphas (on diagonal) ranged from .46 for Evaluation to .83 for Administration items.

Test-retest reliabilities were also calculated on the data received from a school board in the St-Jerome area (N=93) in a one year follow-up study done in 1993 by Blais. Pearson correlation coefficients were moderately stable for the Quality Total Scale .56. Quality subscales test-retest reliability coefficients ranged from .52 for Students to .74 for the Time item.

Pelsma, Richard, Harrington and Burry (1989) as well as Blais (1992b) determined that in the attempt to understand the relationship between satisfaction and stress, the ratings were added separately, resulting in two subtotals satisfaction and stress. Internal reliability coefficients

for these total scores showed alphas ranging from .89 and .92, respectively. The correlation coefficient between satisfaction and stress was .74. Test-retest reliabilities were also calculated for these subtotal scales for both Satisfaction .65 and Stress .43 over the one year period. It was indicated that the respondents (junior high school teachers) indicated that the factors of Time, Extrinsic Rewards, and students represent areas of low quality. These areas then become high priority for intervention and quality of work life programs.

Pertaining to the correlations among the subscales, correlations between the demographic variables and the Quality Subscales were generally low; however, several were found statistically significant at $p<.001$. These included Teaching level with Time .25, Teaching level with Students -.25, and Satisfaction with current position and Administration .24. Regarding convergent validity, the correlation coefficients between the subscales of this instrument was considered to be significant as a whole and between the different subscales.

In general the reliability coefficients for the QWL are high. The reliability coefficients for the satisfaction and stress scales are high and range from alphas of .77 to .87. This can also be seen in the Appendix section of this research. Validity was determined and the data collected supported the validity of the QWL scale as measures of quality of work life, work satisfaction and stress scale. It is understood through this survey that stress might be perceived as being intrinsic to the individual or extrinsic regarding the organization. The degree of satisfaction is experienced by an individual internal sense of satisfaction that he or she will receive from self or others in accomplishing a personal or occupational task. Also this measure was not intended for personnel selection purposes and was not validated in such a context. The results of the different psychometric studies that have been carried out throughout the years have indicated support for their reliability and validity.

The QWL-F is considered to be a complementary scale to the BWMI-F. In Blais's Work Motivation Model, which groups together the different subtests, the correlations between the BWMI-F scales and measures of satisfaction and stress at work have been evaluated at an alpha level of .94 with the stress index and at an alpha of .91 on the facet satisfaction from the Quality of Work Life survey. These figures have been evaluated and are statistically significant within a $p< 0.001$.

Research Variables

This study assumed that different male and female, part-time and full-time CSOs working in different establishments in the Montreal area experience different levels of motivation and quality of work life. The objective was to understand some of those differences. The different variables under the Quality of Work Life Inventory (QWL-F) examined a global quality of work life score which was totaled by reversing the stress scale and adding it to the satisfaction scale. Pertaining to the Blais Work Motivation Inventory (BWMI-F), the variables analyzed consisted in understanding a self-determined and non self-determined perspective of CSO workers in their respective work environments in the Montreal area. A few components of the demographic questionnaire were included as predictor variables and were added with other motivation variables of the BWMI-F. A combination of these specific demographic variables with motivation factors in relation to the French-translated Quality of Work Life Survey was the objective of this study for male and female part-time and full-time correctional officers in the Montreal area.

Procedure and Data Collection

The report of the Ethical Review Board (see Appendix A), provincial correctional administration (see appendix A), and provincial correctional union approval (see appendix A) was requested before questionnaire packages were distributed to the research assistants within the four Quebec provincial prisons in the Montreal area. Approximately 600 questionnaires were distributed between four correctional establishments in the Montreal area. The participants either received a questionnaire by the assigned research assistants in each correctional establishment or by the researcher.

Assigned research assistants explained to volunteers, who were interested in participating in this research, the nature of this study. Volunteers were also given an explanation in the way in which the data would be analyzed. The researcher was made available for consultation to provide CSOs with additional information, instructions, or for consultation by telephone or electronic mail. Participants were informed in a cover letter, within the package, that they were under no obligation to participate in this study nor to return the package. CSOs were able to withdraw from the study at any time. A consent form was signed and clear instructions were determined for CSOs to communicate with the research assistants or the researcher at any time. Participants who agreed to participate in the research signed a consent form outlining the above parameters.

Once the consent form was completed and confidentiality and anonymity was assured, participants were able to complete the questionnaire booklet.

An official questionnaire package (see Appendix B, C, and D) contained a cover letter by the national union president of the Syndicat des Agents et des Agentes des Services Correctionnels, a cover letter by the researcher, a consent form, questionnaire instructions, a demographic questionnaire, a Quality of Work Life survey and the Work Motivation inventory. These were distributed to the individual establishment officials, the provincial union, as well as all French-speaking CSOs in the four selected correctional establishments in the Montreal area. CSOs and union representatives freely decided to participate or not to participate in this study.

Upon completion of the questionnaire booklet, participants were asked if they had any questions, comments, concerns, issues, or problems regarding the nature of the present study. All documents, completed by participants, were placed in a sealed envelope and returned to the investigator via the four assigned CSO research assistants in the four detention centers in the Montreal area. Research assistants were instructed to collect envelopes in a proper and confidential manner. All returned envelopes were sealed and handled in a confidential manner and returned to the researcher within three weeks. Data were compiled entirely by the researcher, who secured data and research confidentiality.

Statistical Analysis

The collected data from the 347 participants in the different establishments were entered onto an Excel worksheet and then imported to SAS (Version 6) software. The data were then analyzed using simple statistics, Pearson correlations, Cronbach Alphas and canonical correlations. Multiple regression analysis using different methods such as stepwise was then considered. The averaged items of the BWMI-F and the QWL-F Survey were determined. Dependent and independent variables were then selected.

Justification for the use of multiple regression. Glass and Hopkins (1996) and Stevens (1996) defined accordingly that regression analyses are a set of statistical techniques which allow one to assess the relationship between one or many dependent variables and several independent variables or predictor variables. Multiple regression analysis is an extension of bi-variate regression in which several independent variables are combined to predict a dependent variable. Multiple regression selects a combined effect of all the variables acting on the dependent variable; for a total net, combined effect. The resulting R-squared value provides an indication of

the goodness-of-fit of the model as well as an indicated value that indicates a regression to the established mean. This is also understood as being the R-squared value.

Glass and Hopkins (1996) and Stevens (1996) determined that although regression analyses revealed relationships between variables, this does not imply that these relationships were causal. Demonstration of causality is not a statistical problem, but rather an experimental and logical problem. The ratio of cases to independent variables must be large (above 100) to avoid a meaningless (or perfect) solution. As with more independent variables than cases, a regression solution may be found which perfectly predicts the dependent variable for each case. It is a rule of thumb that there should be approximately 20 times more cases than independent variables for good results. Yet as a bare minimum, five times more cases than independent variables may be used in an analysis.

Cases with missing values are generally deleted in the calculation by default. Extreme cases (outliers) that have a strong effect on the regression solution are usually dealt with and the model equation is usually adjusted accordingly. Calculation of the regression coefficients requires matrix inversion, which is possible only when the variables are not multi-colinear or singular. The examination of residual plots will assist in the assessment that the results meet the assumptions of normality and linearity between predicted dependent variable scores and possible errors of prediction. The assumptions of the analysis of the regression of the research model are that the residuals (the difference between predicted and obtained scores) are normally distributed, that the residuals have a straight-line relationship with predicted dependent variable scores, and the variance of the residual about the predicted scores is the same for all the predicted scores. (see Stevens, 1996)

Prior to the processing of the data as input to a multiple regression model, the data were screened and the data had face-validity. Stepwise multiple regression analysis has been justified by Stevens (1996) as being a popular form of psychological statistical analysis in the social sciences as well as for this study. Stepwise multiple regression picks out the best predictors that are selected in the first step (Step 1), and a one-predictor regression equation is determined along with the multiple regression, various correlations and other statistics such as standard error of estimate if desired by the researcher. In the second step (Step 2), the independent variable that would contribute the greatest amount of unique relevant variance is selected, and a two-predictor regression equation is produced, and an "R" score is determined. The variance selected in step 2

is the variable that has the highest correlation with the variable when the previously entered independent variable was partialed out. Each successive step progresses in like manner. The next predictor or independent variable is entered into the regression equation that has the greatest partial correlation with the criterion when all variables already included in the previous regression have been partialed out.

The present analysis was based on collected data in four different correctional establishments in the Montreal area. Multiple regression analysis was used. Different predictor or independent variables (the BWMI-F sub-items, various demographic variables and other contained variables such as gender and job status) were associated with a total QWL-F dependent variable score. In addition to an analysis of elementary statistics, the researcher used multiple regression analysis since the interest of this investigation was to predict the influence of different predictor variables on a global QWL-F score. The dependent variable (Y) will be the QWL-F global score combining different levels of perceived occupational stress and job satisfaction. The independent or predictor variables include ten different variables, as mentioned earlier. Various other methods could have been used to define a regression model; however, this one appeared to best reflect the group the best as a whole. The predictor or independent variables that were used in this study were age, years employed as a correctional agent, and different levels of a motivation inventory defined by the French-translated Blais Work Motivation Inventory (BWMI-F) by Blais, Brière, Lachance, Riddle, and Vallerand (1993). A focus on a few closed variables such as gender (such as male or female) and two occupational groups (part-time or full-time work status) were also considered. The dependent variables used in this study were averaged CSO Age, Years of Service, Quality of Work Life scores, Occupational Stress scores, and Work Satisfaction averaged scores.

A stepwise procedure was used to define the adequate continuous and contained variable(s) to be recognized and/or removed from the model with the outliers. This stepwise procedure is conducted in order to augment the power and correlation between our independent variables vis-à-vis the dependent variables. The stepwise procedure starts with the different data correlations between dependent and independent variables. The importance of each predictor is examined and through this, each predictor is continuously re-assessed through the procedure of the analysis of each step. This procedure is done by conducting a constant reassessment of the importance of each "p" value (statistical significance).

In addition to the multiple regression techniques, different techniques were used to investigate the multiple correlations between the quality of work life and the work motivation inventories.

Justification for the use of Pearson correlations and canonical correlation analysis. Simple Pearson correlations and canonical correlation analyses were also used to better understand perceived QWL-F and the BWMI-F constructs for this research. Canonical correlation as described by Darlington, Weinberg, and Walberg (1973) and Stevens (1996) is described as being the better technique to describe the number and nature of mutually independent relationships existing between two sets of variables.

Stevens (1996) further determines that the canonical correlation analysis technique as a linear combination of two Pearson correlations. These two sets are then correlated with one another and the result is the first canonical correlation analysis which is the largest possible correlation between the two. After this is completed, "the procedure searches for a second pair of linear combinations, uncorrelated with the first pair, such that the Pearson correlation between this pair is the next largest possible meaning that the canonical variates *within* each set are uncorrelated and that the canonical variates are uncorrelated *across* sets. The maximum number of possible canonical correlation analyses is equal to the number of variates in the smallest set. A residual test procedure is used in order to determine how many canonical correlations are statistically significant. Once the significance of the first canonical correlation is determined, it is removed and the residual is tested for significance. This continues for all possible sets. Only the significant canonical correlations are considered. Interpreting the results of a canonical correlation analysis is done by examining the standardized coefficients and the canonical variate-variable correlations (parallel to discriminant function-variable correlations) as determined by Stevens (1996).

The pattern of the coefficients with the correlations can also be used to detect the presence of suppressor variables. Suppressor variables are defined as "variables that enhance importance of the other independent variables by virtue of suppression of irrelevant variance in other independent variables or in the dependent variable" (Tabachnick & Fidell, 1989; p.161). Stevens concludes his discussion of the two methods with the following: "use the correlations for substantive interpretation of the discriminant functions, but use the coefficients to determine which of the variables are redundant given that others are in the set" (p.265).

In reference to this study, canonical correlation analysis will be used primarily to determine the structure of the data sets (the construct of the QWL-F and the BWMI-F). A coefficient analysis will be used to identify suppressor variables and to understand how the canonical correlation was calculated.

Sample size for performing a reliable canonical correlation analysis must be carefully considered. This statistical procedure is discussed in detail by Stevens (1996). Furthermore, an exploration of this technique performed by Mendoza, Markos, and Gonter (1978) found that strong canonical correlations (.9, .8 and .7) required a sample size as small as 50 to detect these over 90% of the time, while canonical correlations of about .3 required a sample size of about 200 to be detected about 60% of the time (see Stevens, 1996). Tabachnik and Fidell (1989) determined that a ratio of 10 to 1 is requested for canonical correlations in the social sciences, for variables in the social sciences where reliability is often around the value of .30.

Hence, the measures used in this study (BWMI-F and QWL-F) have good test-retest reliability. However, as this study questions the reliability of such measures, the conservative ratio of 20/1 as suggested by Stevens (1996) best applies to this type of psychological study.

Statistical Procedure

The statistical analysis involved the following steps of manipulation to the data. For each respondent the raw scores, average scores, and relative scores for each of the eight scales are calculated as outlined in the BWMI-F and the QWL scoring keys. These data became the basis for the subsequent analysis. For each variable the mean, standard deviation, and skew across all observations (participant scores) were to be calculated, as were other statistical manipulations. These data were then transformed. Cronbach alphas to verify internal consistency were done. A Pearson correlation matrix was created involving all of the BWMI-F and QWL-F survey items as well as demographics (age, salary, level of formal education, cultural background, years employed as a correctional agent, career history, legal status and current habitation). Canonical correlation was considered. Focus on a few closed variables such as gender (male or female) and two occupational groups (part-time or full time work status) were conducted with proper statistical analysis (such as regression analyses). Colinearities among predictors, DF Betas, means, outliers, and R-square values were also determined.

Regarding research bias, Glass and Hopkins (1996) and Stevens (1996) have determined that in order to reduce bias and increase fairness in a correlational study as much as possible the different perspectives of our sampled population must be examined. First, is the sample representative? We may understand that if we find that there are some high stressors and if suddenly we get twice as many responses in our high stress groups, this might indicate that there might be existent bias in our sample. Hence, it was important to select differentially for participants. The number of respondents per sub-population compared to the number of potential respondents was one of the clearest ways to determine sampling bias. Glass and Hopkins (1996) and Stevens (1996) define that in-bias may also be present but that can be determined as being true of any study. On the other hand, if differential sampling is determined, bias and what it represents had to be addressed. Hence, a sample can be made equivalently representative after the fact through the analysis of various statistical techniques.

CHAPTER 5

Results

The analysis of the data supports the theoretical underpinnings of Deci and Ryan's (1985, 1991) theory of self-determination and motivation. The following results examine the relationship between individuals working within particular institutional work environments, such as correctional settings, and explore the different aspects of demographic and motivation variables and how they impact upon each other as well as upon perceived quality of work life.

Elementary statistics, canonical correlation analyses, and multiple regression analyses were used to develop the relationships between different demographic, quality of work life, (perceived job satisfaction and stress) and motivation (intrinsic, extrinsic and amotivated) variables. CSOs had to complete both measures (BWMI-F and the QWL-F scales) and the demographic questionnaire. The data were compiled and analyzed from the self-report questionnaires by the volunteer participants. The number of retained questionnaire packages was considered to be statistically sufficient for the analyses (alphas ranging from .70 to .95).

In this following section, the descriptive data of the sample population are presented. The results of the analyses are also discussed in the order of the research questions that are presented. Each research question will be explored and answered through the presentation of different statistical procedures and the related research results.

Treatment of the Data

Self-report questionnaires were distributed, filled out, and returned by male and female full-time and part-time CSOs in four establishments in the Montreal area. The researcher scored these questionnaires (The self-reported questionnaire was divided in two parts as can be seen in the appendix section). Two validated and adapted French-translated self-report instruments: the Quality of Work Life Survey (QWL-F) originally conceived by Pelsma, Richard, Harrington and Burry (1989), which assesses occupational stress, job satisfaction and quality of work life, and the Blais, Brière, Lachance, Riddle, and Vallerand's (1993) Work Motivation Inventory (BWMI-F), which assesses motivation, were utilized to study the working conditions of CSOs in four different establishments in the Montreal area.

Descriptive Statistics

During the time of the research sampling, the grand total of the CSO population in the four establishments in the Montreal area was 693. Of the 600 questionnaires distributed amongst four establishments during the pay period of February 1 to 26, 2000, 387 questionnaires were returned. The total population sample that was retained was 347 questionnaires. The percentage of distributed packages returned from the four centers was 57.8%. Responses from fifty percent of the total CSO population in the Montreal area were used. Forty questionnaires were rejected because they were either incomplete or had not been answered properly.

The final sample was composed of 120 female and 227 male CSOs within the four correctional establishments in the Montreal area. From the 347 questionnaires returned, women accounted for 34.6% of the collected sample. Across the whole Montreal area 35% of the CSO population are women. From 347 questionnaires returned, men accounted for 65.4% of the collected sample. Across the whole Montreal area 65% of the CSO population are men which shows a representative number of men and women. The largest sampled group in the study came from the Établissement de Détention de Montreal (n=178) and the smallest sampled group came out from the Maison Tanguay (n=39) (See Appendix E for results and sample description).

The 23-item demographic questionnaire consisted of questions addressing gender, age, cultural ethnicity, years of correctional experience, number of hours worked in a week, work status, work location, salary, level of education, civil status, worker consultation, sick leave, CSO family occupation, psychological support, connected experience, professional development, secondary income, and past personal and family work experiences. Table 1 represents different frequency statistics for the sample that describes the CSO population. Sixty-five percent of the collected CSO sample was male and 50% of these males were full-time workers. Thirty percent of the females sampled worked full-time. Across the four establishments, 93% of the sample population identified themselves as French-Canadian and as 100% French-speaking.

The sample reported in this study indicated that the average CSO in the Montreal area reported having worked an average of 12 years in the Quebec provincial correctional system. Thirty-one percent of the sampled population held a high school diploma, 6% reported having specialized correctional training, 34% had a CEGEP diploma, 7% had an undergraduate Certificate in Social Sciences, 19% of the collected CSO sample reported having a Bachelor's degree in a related social science, less than 2% of the sampled population held a Master's degree,

and less than .5% of the sampled CSOs had a completed Doctorate degree.

CSOs work, on average, a thirty-five hours a week. CSOs work either on a full-time or a part-time permanent basis. Forty-five percent were of a full-time permanent status and 55% were of a part-time permanent status. Sixty-four percent of the population was either married or were involved in relationships. Seventeen percent of the CSO sample was single and lived alone. Thirty-one percent lived with their partners and 40% lived with immediate family. Forty-seven percent of the sampled CSOs did not have children. Forty-one percent of sampled CSO population were single, 42% were married and 16% were divorced. The average sampled CSO age was 39 years old, the range of sampled CSO age is, between 19 and 59 years, and 0.5 and 32 years of experience with an average of 12 years of service. Sixty percent reported having had internal support, 41% reported having had external support, and 71% did not have any related CSO experience prior to employment. Ninety-three percent are not currently receiving any CSO related training. Sixteen percent of the male sample of this study having reported having been on sick leave, while 58% of our female CSO sample reported having taken a sick leave.

Table 1

Demographic Variables for CSOs in the Montreal Area (total from four establishments).

Variables	N*	Frequency	%	Mean	SD
CSO Gender:	347				
Male	227		65		
Female	120		35		
CSO Age:	334			39.43	83.35
Youngest		19.1			
Oldest		58.8			
CSO Service:	337			11.56	61.95
Least		0.6			
Most		31.8			
CSO Work Status:	347			1.34	0.23
Full-time		223	64		
Part-time		124	36		

Variables		N*	Frequency	%	Mean	SD
Establishments:		347			2.15	0.83
Bordeaux	Prison		165	48		
Tanguay	Prison		39	11		
St-Jérome	Prison		60	17		
RDP	Prison		83	24		
CSO Salary:		345			4.56	0.68
Less than $25 000			2	0.1		
$25 000- $30 000			9	2		
$30 000- $35 000			26	7		
$35 000- $40 000			75	22		
$40 000- $45-000			223	64		
More than $55 000			10	3		
CSO Education:		345			2.55	2.80
Completed High School			108	31		
Completed CEGEP			116	34		
Completed Certificate			24	7		
Completed Bachelor's			65	19		
Completed Master's			6	2		
Completed Doctorate			3	1		
Completed CSO training			23	7		
CSO Civil Status:		346			1.77	0.56
Single			143	41		
Married			144	42		
Divorced			56	16		
Widowed			3	1		

Variables		N*	Frequency	%	Mean	SD
CSO Living arrangements:		346			3.27	2.86
Alone			60	17		
With Partner			108	31		
With sig. Other			15	4		
With parents			14	4		
With family			138	40		
Other			11	3		
Internal CSO support:(at work)		344			1.41	0.24
Yes			203	59		
No			141	41		
External CSO support:(outside work)		344			1.40	0.24
Yes			208	60		
No			136	40		
Related CSO Work Experience:		343			1.71	0.21
Yes			100	29		
No			243	71		
Additional CSO training:		344			1.93	0.07
Yes			24	7		
No			320	93		
Taken a sick leave:		347				
Men	Yes		37	16		
	No		190	84		
Women	Yes		70	58		
	No		50	42		
Psychological support (at work):		347				
Men	Yes		40	18		
	No		187	82		
Women	Yes		80	67		
	No		40	35		

Variables		N*	Frequency	%	Mean	SD
Psychological support (outside work):347						
Men	Yes		52	22		
	No		175	77		
Women	Yes		90	75		
	No		30	25		

Note: The N and n values vary as a result of the different number of responses that were given by the participant CSO to each demographic question.

Tables 2, 3, and 4 present an overview of sample means and standard deviations for all the variables under consideration in this study. For this sample, the N values fall between 319 and 347. Most of the standard deviations fall between 0 and 6. The means are located between 1.22 and 39.4. Further statistics are also highlighted, such as the sum of the minimal and maximal values for the entire demographic, the QWL-F survey, and the BWMI-F variables. The minimum score for the BWMI-F Inventory and QWL-F Survey was one. The maximum value was 7 for the BWMI-F and 10 for the QWL-F Scale. The total QWL-F score was considered after adding both the stress and satisfaction scales of 1 to 5 for a total quality scale of 1 to 10. Although these maximum scores were different for each totaled inventory, the standardized scores were considered with the Cronbach Alpha coefficients and the Pearson Correlation Matrix as can be consulted in Appendix F.

Table 2

Overview of Sample Means, Standard Deviations and Range of Scores for Demographics

	N	nF	nM	Mean	St.Dev	Sum	Min	Max
Demographic variables:								
Age	334	114	220	39.4	9.12	13171	19.1	58.80
Ethnicity	330	114	216	1.22	0.9	403	1.00	9.00
Hours Worked	345	119	222	5.28	0.49	1823	4.00	6.00
Work Status	341	116	225	1.34	0.48	457	1.00	3.00
Education	345	120	225	2.55	1.67	881	1.00	7.00
Location	346	120	226	2.15	0.90	746	1.00	4.00
Gender	346	120	226	1.35	0.48	466	1.00	2.00

Table 3

Overview of Sample Means, Standard Deviations and Range of Scores for QWL-F

	N	nF	nM	Mean	St.Dev	Sum	Min	Max
Averaged Items for Quality of Work Life Survey:								
Interruptions	337	114	223	6.12	1.43	2064	2.00	10.00
Internal Support	333	112	221	6.0	1.20	2001	2.10	10.00
Rewards	332	113	219	5.22	1.41	1735	1.60	10.00
Inmates	326	216	110	5.46	1.20	1779	1.33	10.00
Environment	340	117	223	5.19	1.57	1765	1.00	10.00
Administration	319	110	209	4.99	1.41	1593	1.00	10.00
External Support	319	113	206	5.97	1.36	1906	1.00	10.00
Time	321	107	214	5.99	1.33	1925	1.29	10.00

Table 4
Overview of Sample Means, Standard Deviation and Range of Scores for BWMI-F

	N	nF	nM	Mean	St.Dev	Sum	Min	Max
Averaged Items For Work Motivation Inventory:								
Accomplishment	336	115	221	3.23	1.41	1087	1.00	7.00
Knowledge	337	116	221	3.02	1.42	1019	1.00	7.00
Stimulation	337	117	220	2.51	1.16	846.2	1.00	7.00
ID-Based Introjection	337	116	221	3.07	1.39	1037	1.00	7.00
Introjected Regulated	338	118	220	2.91	1.42	999	1.00	7.00
External Regulation	342	117	225	4.29	1.11	1468	1.00	7.00
External Amotivation	340	118	222	2.88	1.39	957	1.00	7.00
Internal Amotivation	335	116	219	1.70	1.04	586	1.00	7.00

Note: The N and n values vary as a result of the different number of responses that were given by the participant CSO to each demographic question.

Research Question 1

The first research question determined whether motivation and quality of work life levels for CSOs in different establishments in the Montreal area were positively correlated (as measured by the QWL-F survey and the BWMI-F survey). In order to answer this research question, simple Pearson correlations were calculated between the various selected demographic variables, the French-translated Quality of Work Life Survey and the Blais Work Motivation Inventory. Pairwise Pearson correlations were used to understand the basic statistical profile of the various instruments as well as the demographic data. The highest and lowest Pearson correlations in regards to different relationships between the scales can be found in Tables 5, 6, and 7.

The BWMI-F results, when considered independently, showed satisfactory internal consistency levels with standardized alphas at the .80 level, as well as high levels of temporal

stability for all the scales (see Appendix). Alpha levels for Intrinsic and Extrinsic motivations and amotivation ranged between .69 and .95. The amotivation variables were inverted as a result of their inversed nature to motivation. All variables of the sub-items correlated significantly above .30. Again, these results support the reliability and validity of this instrument. All correlations among the BWMI-F, while using Pearson correlations indicated that these were all significant, ranging from .30 to .80 with p being either < than .05 or .01. The amotivation scores were negatively correlated with other motivation and satisfaction scores on the QWL-F of course, and ranged from -.11 to -.90. When comparing work motivation Pearson scores with quality of work life scores, positive correlations resulted.

Table 5

Overview of Substantial Pearson Correlations for Work Motivation of CSOs

	Positive Correlations	r	Negative Correlations	r
Components of the BWMI-F	Components of QWL-F and Demographics			
Intrinsic Motivation:				
Accomplishment	Internal support	.32**	External Amot.	-.07**
Knowledge	Internal support	.36**	D4Time	-.15**
Stimulation	Internal support	.29**	D4Time	-.15**
Extrinsic Motivations:				
Id-Regulated	Administration	.24**	D2Age	-.09**
Intro. Regulated	Administration	.17**	D2Age	-.06**
Exter. Regulated	Rewards	.22**	Stress	-.03**
Amotivation:				
Internal Amot.	D2Age	.21**	Inmate	-.19**
External Amot.	Stress	.30**	Inmate	-.40**

Note: Intercorrelations between variables of the same inventory are not considered as these are automatically assumed to be highly correlated and significant. Only between inventory correlations are considered here.

*p< .05 **p< .01

Regarding the QWL-F, when considered independently, all correlations while using Pearson correlations indicated significance with scores ranging from .19 to .80 with p being either < than .05 or .01. Furthermore, the Pearson Correlations indicated in this research showed that there was a strong inverse connection between occupational stress and work satisfaction. The QWL-F correlations were high and the Cronbach alpha coefficient was at .93, as a standardized score, indicating strong internal consistency for this instrument. When comparing quality of work life Pearson scores with motivation scores, positive correlations also resulted.

Table 6

Overview of Substantial Pearson Correlations for the Quality of Work Life of CSOs

	Positive Correlations	r	Negative Correlations	r
Components of QWL-F	Components of BWMI-F and Demographics			
Interruption	Knowledge	.17**	External Amot.	-.25**
Internal support	Knowledge	.36**	External Amot.	-.25**
Rewards	D2Age	.28**	External Amot.	-.25**
Clientele	Stimulation	.28**	External Amot.	-.25**
Environment	Accomplishment	.28**	External Amot.	-.30**
Administration	Knowledge	.35**	External Amot.	-.26**
External support	Knowledge	.27**	External Amot.	-.29**
Time	Accomplishment	.22**	External Amot.	-.33**

Note: Intercorrelations between variables of the same inventory are not considered as these are automatically assumed to be highly correlated and significant. Only between inventory correlations are considered here.

*p< .05 **p< .01

Pertaining to the correlations of the QWL and the BWMI-F, the results of computing Pearson correlation coefficients on the data indicated that well over two-thirds of the correlation coefficients were indeed statistically significant. Furthermore, standardized and raw Cronbach alpha scores of both scales when assessed individually and, when combined, re-confirmed prior

test and re-test data as well as well as reliability and validity of scores on both scales. Hence, these correlational results support that the QWL-F is indeed a complementary scale to the BWMI-F and vice versa.

Correlations among the items for both the QWL-F, the BWMI-F, and the demographic were variant but generally significantly high. The Cronbach alpha coefficients were at .82 as a randomized score. Many Pearson correlations would range above the .50. Pertaining to the correlations among the subscales, correlations between the demographic variables and the Quality Subscales were generally low; however, several were found to be statistically significant at $p<.001$ and $p<.005$. Regarding convergent validity between the QWL-F and the BWMI-F scales, the correlation coefficients between the subscales of these instruments were considered to be significant as a whole and among the different subscales.

The results of this study compare with a study done by Blais (1992b) on school teachers as well as other front line workers where alpha values were at the .94 level when compared with the BWMI-F and the QWL-F. This study yielded similar results as with standardized raw scoring. The standardized alpha values for CSOs were at the .84 level. Pearson correlations indicated significance with scores ranging from .17 to .36 for the BWMI-F, with p being either < than .05 or .01 and also from .17 to .36 for the QWL-F when comparing both inventories. Positive Pearson correlations were noticed for the QWL-F stress scale and the BWMI-F amotivation scale was .30 for the correlation between Stress and External Amotivation and .14 for the correlation between Stress and Internal Amotivation.

Table 7

Overview of Substantial Pearson Correlations for the QWL-F and the BWMI-F for CSOs

Components of QWL-F	Components of BWMI-F	
Quality of Work Life	External Amotivation -.33**	Internal Amotivation -.17**
Occupational Stress	External Amotivation .30**	Internal Amotivation .17**
Work Satisfaction	External Amotivation -.26**	Internal Amotivation .10**

*p< .05 **p< .01

A canonical correlation analysis was also conducted which combined both the QWL-F survey as well as the BWMI-F. The Quality of Work Life Survey consisted of 8 items (Work Interruption(s), Administration, Work Environment, External Work Support, Internal Work Support, Work Rewards, Inmates, and Time) and the Blais Work Motivation Inventory consisted of 8 items as well (Externally regulated, Introjected regulation, Identification-Based, and Introjected extrinsic motivation and Knowledge Based, Stimulation, and Accomplishment Based Intrinsic motivation and Internal and External Amotivation). These two inventories were analysed together and independently.

A combined total of 16 variables were analyzed with a sample size of N=347, which met the recommended ratio discussed by Stevens (1996) of 20 to 1 (twenty subjects for each variable considered). The correlations between the Quality of Work life and Motivation variables were diverse. Correlations varied between -.28 and .80. The coefficient values varied between -1.07 and .95. There were larger within-set correlations for the Motivation variables: -.76 and .76. The coefficient values were between -.92 and 1.22.

Data on the first canonical correlation analysis appear in Tables 8, 9, 10, and 11. Three different sets emerged through this canonical correlation analysis. These three sets can be seen in Table 8 and are summarized as being F (64, 1506.1) = 3.02, p= 0.0001; F (49, 1329.5) = 2.12, p= 0.0001; F (36,1153.3) = 1.79, p= 0.003 in regards to the analysis. This test served to answer a part of the first research question of this study. It was determined that the first three sets clearly showed significance. These three sets of variates tap into the different items of the QWL-F Survey and the BWMI-F Inventory. Therefore, the canonical correlation hypothesis that no relationship between the Quality of Work Life Survey and the Blais Work Motivation Inventory existed was rejected (see HO in Table 8). Hence, a clear relationship for three sets existed between the QWL-F and the BWMI-F variables. As can be seen in Table 8, and due to the exploratory nature of the study, the research questions were tested at the .05 and .01 alpha level. All the effects of the three selected sets of the canonical correlation analysis were shown to be significant.

Table 8

Hypothesis testing to Identify Significant Canonical Correlation Variable Sets

	Ratio	F	DF	Den DF	Pr > F
Set 1	.50	3.02	64	1506.1	**
Set 2	.68	2.11	49	1329.5	**
Set 3	.79	1.78	36	1153.3	**

*p<0.05, **p<0.01

Three different sets were shown to be highly significant as can be seen in Table 8. The remaining components of the canonical correlation analysis were not shown to be significant. The canonical correlation analysis for the QWL-F and the BWMI-F variables revealed that set 1 yielded a value of .52, set 2 yielded a value of .37 and set 3 yielded a value of .32. All three sets exceed the other between-set correlations. A .3 cutoff was considered for the canonical variate analysis, as this appears to be the current social science trend as determined by Stevens (1996).

Table 9

Emerging Canonical correlations for QWL-F and BWMI-F (Items Combined)

	Corr.	Adjusted Corr.	St. Error	Squared
Set 1	.52	.48	.04	.27
Set 2	.37	.29	.05	.13
Set 3	.32	.15	.05	.10

The cumulative eigenvalues also show a near 1.0 score in the third set, which demonstrates that the cumulative statistical set was considered sound at .48, .68, and .83.

Table 10

Eigenvalues for Canonical Correlation for Significant Sets of QWL-F and BWMI-F

	Eigenvalue	Diff.	Prop.	Cumulative
Set 1	.37	.21	.48	.48
Set 2	.15	.04	.20	.68
Set 3	.12	.06	.15	.83

In Table 11, a canonical correlation analysis was conducted and the variates for the Quality of Work Life variables were considered. The weighted difference of averaged variables is as follows: Inmate was .56, Rewards was .26, Internal Support was .24, Environment was .12, External Support was .11, Time was .05, Administration was -.14, and Interruptions was -.007. While the coefficients were useful in showing how the variables were weighted in order to arrive at the canonical correlation and for the identification of the suppressor variables (see methodology section), it was the canonical variate-variable correlations that were used to understand the structure of the variates. Using a .3 cutoff for considering the co-relational relationships, the correlations between Averaged Interruptions was .59, Internal Support was .80, Reward was .75, Inmate was .92, Environment was .80, Administration was .80, External Support was .78, and Time was .78 were all positive.

The first canonical variate for the Work Motivation set also shows a mixture of averaged coefficient signs: Intrinsic Knowledge was .42, Intrinsic Accomplishment was .30, Intrinsic Stimulation was .17, External Regulated Extrinsic Motivation was .60, Introjection Regulated Extrinsic Motivation was -.29, Internal Amotivation was -.06, and Identification Regulated Extrinsic Motivation was -.007. The most positive weight was associated with the averaged variable Knowledge of the QWL scale and the most negative weight was linked to averaged External Amotivation. Using a .3 cutoff for considering the co-relational relationships, the correlations between the averaged variables: Intrinsic Accomplishment was .61, Intrinsic Knowledge was .65, Intrinsic Stimulation was .62, Introjection regulated Extrinsic Motivation was .43, Identification regulated Extrinsic Motivation was .13, and External regulated Extrinsic Motivation was .16. These results were shown to be positive. When averaged, External Amotivation was -.72 and Internal Amotivation was -.39 and these results were shown to be negative.

As the simple correlations and beta weights are in opposite directions for the Averaged Interruptions and Administration variables for Quality of Work Life and averaged Introjection Regulated Extrinsic Motivation and Identification Regulated Extrinsic Motivation for the Work Motivation inventory, this indicates that these are acting as suppressor variables: variables that enhance the importance of the other by virtue of suppression of irrelevant variance in the Quality of Work Life and Blais Work Motivation variables. Thus the significant linkage between the two sets of variables for the Quality of Work Life survey reflects a pattern of high averaged Inmate,

Internal Support, Reward, Environment, External Support, and Time. For the Work Motivation set we notice a high averaged Intrinsic Accomplishment, Intrinsic Knowledge, Intrinsic Stimulation, External regulated Extrinsic Motivation, External Amotivation and Internal Amotivation. Hence, in Table 11 it can be noticed that in the first V1 correlation set all of the QWL-F item variables are picked up. In the W1 set most of the BWMI-F item variables are picked up, except for External regulated motivation and for Introjection regulated motivation. External and Internal Amotivation are inversely picked up and are understandibly highly negative.

The second canonical variate analysis for the Quality of Work Life variables was a weighted difference of the averaged variables: Administration at .95, and Interruptions at .81, these correlations were positive. Averaged Internal support was .24, Rewards was -.35, Inmates was -.25, Time was -1.07, Environment was -.05, External Support was -.07. While the coefficients are useful in showing how the variables were weighted in order to arrive at the canonical correlation and for the identification of the suppressor variables (see methodology section), it is the canonical variate-variable correlations that are used to understand the structure of the variates. Using a .3 cutoff for considering the co-relational relationships, the correlations between the averaged variables: Interruptions was .42, Internal support was .33, Environment was .12, Administration was .35, External Support was .11 and were positive. Time was -.21, Rewards was -.08, Inmate was -.04. These results were shown to be negative.

The second canonical variate analysis for the Work Motivation set also showed a mixture of coefficient signs for the averaged variables: Intrinsic Knowledge at 1.21, Introjection Regulated Extrinsic Motivation was .80, Internal Amotivation was .33 and Identification Regulated Extrinsic Motivation was .11 and these were positive. The averaged variables: Intrinsic Accomplishment was -.92, Intrinsic Stimulation was -.56, External Regulated Extrinsic Motivation was -.12, and External Amotivation was -.15. These results were shown to be negative. The most positive weight was associated with the averaged variables: Intrinsic Knowledge and the most negative weight was linked to Intrinsic Accomplishment. Using a .3 cutoff for considering the co-relational relationships, the correlations between the averaged variables: Introjection Regulated Extrinsic Motivation was .58, Intrinsic Knowledge was .53, Internal Amotivation was .34, Identification Regulated Extrinsic Motivation was .32, Intrinsic Accomplishment was .20, External Amotivation was .14, Intrinsic Stimulation was .12 and these

results were positive. The External Regulated Extrinsic Motivation was -.14 and these results were negative.

As the simple correlations and beta weights are in opposite directions for the Averaged Environment and the Averaged External Support for Quality of work life and Intrinsic Accomplishment, Intrinsic Stimulation, External Amotivation for the Work Motivation inventory, this indicates that these are acting as suppressor variables: variables that enhance the importance of the other by virtue of suppression of irrelevant variance in the Quality of Work Life and the Blais Work Motivation Inventory variables. Thus the significant linkage between the two sets of variables for the Quality of Work Life survey reflected a pattern of high averaged Interruption, Internal Support and Administration There was a negative connection between the averaged variables: Time, Inmate and Reward. For the Work Motivation set we notice positive high-averaged variables Intrinsic Knowledge, Introjection Regulated Extrinsic Motivation and Internal Amotivation. Significant linkage was also associated in the negatives for the averaged extrinsic motivation variable: External Regulated Extrinsic Motivation. Hence, in Table 11 it can be noticed that in the second V2 correlation set, certain QWL-F item variables are more strongly indicated such as Interruptions, Internal Support, and Administration. In the W2 set the BWMI-F item variables Knowledge and External regulated motivation are picked up and can therefore be associated. No significant contribution is indicated by External and Internal Amotivation.

The third canonical variate for the Quality of Work Life variables was a weighted difference of the averaged variables: Rewards was 1.0, Environment was .51, Interruptions was .15, Administration was .02. These results were positive and the averaged variables Time was -.19, Internal Support was -.27, External Support was -.33 and Inmate was -.71. These results were negative.

While the coefficients were useful in showing how the variables were weighted in order to arrive at the canonical correlation and for the identification of the suppressor variables (see p.64 of the methodology section), it is the canonical variate-variable correlations that were used to understand the structure of the variates. Using a .3 cutoff for considering the co-relational relationships, the correlations between the averaged variables are as follows: Rewards was .59, Environment was .21, Administration was .04, Internal Support was .04, Interruptions was .02. These results were positive. As for the averaged variables Time was -.06, External Support was -.21 and Inmate was -.28. These results were considered negative.

The third canonical variate for the Work Motivation set also showed a mixture of coefficient signs for the averaged variables: External Regulated Extrinsic Motivation was .82, Identification Regulated Extrinsic Motivation was .59, Internal Amotivation was .39 and Intrinsic Accomplishment was .32. These results were shown to be positive. Averaged Introjection regulated Extrinsic Motivation was -.16, Intrinsic Knowledge was-.16, External Amotivation was -.17 and Intrinsic Stimulation was -.68 and these results intercorrelated negatively.

The most positive weight was associated with the averaged variable External Regulated Extrinsic Motivation and the most negative weight was linked to the averaged variable Intrinsic Stimulation. Using a .3 cutoff for considering the co-relational relationships, the correlations between the averaged variables: External Regulated Extrinsic Motivation was .76, Identification Regulated Extrinsic Motivation was .26, Internal Amotivation was .23, Introjection Regulated Extrinsic Motivation was .15, Intrinsic Accomplishment was .08, External Amotivation was .01. These results correlated positively. Intrinsic Knowledge was -.12 and Intrinsic Stimulation was -.16. These results were determined as being negative.

As the simple correlations and beta weights were in opposite directions for the averaged variables Internal Support for Quality of work life and Introjection Regulated Extrinsic Motivation and External Amotivation for the Blais Work Motivation Inventory, this indicates that these are acting as suppressor variables: variables that enhance the importance of the other by virtue of suppression of irrelevant variance in the Quality of Work Life and Blais Work Motivation variables. Thus the significant linkage between the two sets of variables for Quality of work life reflected a pattern of high averaged Interruptions, Rewards, Environment and Administration. There was a negative link between the averaged variables Inmate, External Support and Time. For the Work Motivation set we notice a positive high External Regulated Extrinsic Motivation, Identification Regulated Extrinsic Motivation, Intrinsic Accomplishment and Internal Amotivation. Significant linkage was also associated in the negatives for Intrinsic Knowledge and Stimulation. Hence, in Table 11 it can be noticed that in the third V3 correlation set, the QWL-F item variable Rewards is picked up. In the W3 set the BWMI-F item variable Introjection Regulated motivation is picked up. Also, no significant contribution was indicated by External and Internal Amotivation variables.

Table 11

Canonical Correlations for Averaged QWL-F Survey Item Correlations and Coefficients

	Canonical Variates					
	Correlation			Coefficient		
QWL Set						
	V1	V2	V3	V1	V2	V3
CSO Interruptions	.59	.42	.02	-.01	0.81	.15
CSO Internal Support	.80	.33	.04	.24	.24	-.28
CSO Rewards	.75	-.07	.60	.26	-.35	1.03
CSO/ Inmate Relationships	.92	-.04	-.28	.56	-.25	-.72
CSO Environment	.80	.12	.21	.12	-.05	.51
CSO Administration	.80	.35	.04	-.14	.95	.03
CSO External Support	.78	.11	-.21	.11	-.07	-.36
CSO Time	.78	-.21	-.06	.05	-1.07	-.19
BWMI-F Set:						
	W1	W2	W3	W1	W2	W3
CSO Accomplishment	.61	.20	.08	.30	-.92	.32
CSO Knowledge	.65	.53	-.12	.42	1.22	-.16
CSO Stimulation	.62	.12	-.16	.17	-.56	-.68
CSO ID-Based Introjection	.43	.32	.26	-.01	.11	.59
CSO External regulation	.13	.58	.15	-.29	.80	-.16
CSO Introjection Regulated	.16	-.14	.76	.16	-.18	.82
CSO External Amotivation	-.76	.14	.001	-.60	-.15	-.17
CSO Internal Amotivation	-.39	.34	.23	-.06	.33	.39
-Canonical Correlation	52	37	32			
-Percent of Variance	48	20	15			
-Redundancy	.21	.4	.6			

Summary of research question 1. In summary, the results of this section answered the first research question. The research suggests motivation and quality of work life levels for CSOs (in different establishments in the Montreal area) are positively correlated as measured by the QWL-F and the BWMI-F. The use of different correlation analyses such as simple correlations as well as canonical correlations indicated this relationship.

Positive correlations, as a whole, were demonstrated between the different levels of Quality of Work Life variables with different Work Motivation variables. These correlations can be seen through an analysis of the Pearson correlations (see Appendix F). Negative correlations were mostly observed with the amotivation variables of the BWMI-F when compared with other motivation variables from this same inventory and with various items of the Quality of Work Life Survey (see Appendix E).

Through the analysis of three significant canonical variates, it was determined that there were positive correlations (see Tables 8, 9, 10, and 11). The first canonical correlation set, using different Quality of Work life variables (such as Internal Support, Rewards, Inmate, Environment, Administration, External Support, and Time) showed strong positive correlation amongst themselves as well as with the other variables. These variables correlated with Work Motivation variables such as the averaged Intrinsic Accomplishment, Intrinsic Knowledge, Intrinsic Stimulation. Through the second canonical correlation set, Quality of Work Life survey variables, such as Interruption, and Internal Support, were also strongly correlated with other work motivation variables such as Intrinsic Knowledge, Identification Regulated Extrinsic Motivation and Introjection Regulated Extrinsic Motivation. Finally, the third canonical correlate was also indicative of a positive correlation with the Quality of Work Life variable Rewards and the Work Motivation variable External Regulated Extrinsic Motivation. All correlations are shown in Appendix F.

Thus, the general interpretation of the canonical correlation analysis was that in the first set, CSOs with enhanced perception of quality of work life (including all items related to low work stress and heightened job satisfaction) will equally show heightened levels of motivation and low correlation with External Regulation motivation, Introjection Regulated and both External and Internal Amotivation. The opposite can equally be said; CSOs with a lowered perception of quality of work life (including higher job stress and lowered job satisfaction) will equally show lowered motivation and a heightened sense of Amotivation.

In the second set, the same phenomenon occurs; however, only Interuptions, Internal Supports, and Administration of the QWL-F are indicated as being substansively correlated with Knowledge and External Regulated motivation of the BWMI-F. Variables such as Stimulation, Introjection Regulated, External Amotivation and Accomplishment were poorly correlated.

In the third set, most of the correlations fall below the .30 cutoff. The canonical redundancy analysis shows, however, that the different pairs of canonical variables were not necessarily good overall predictors of the opposite set of variables. The proportion of variance is vast and expands between .001 and .76. Rewards and Introjection Regulated motivation were strongly connected.

Research Question 2

The second research question addressed the findings that male and female CSOs, who were older and had longer experience, would differ significantly from younger and less experienced CSOs in terms of amotivation and sense of quality of work life as measured by the QWL-F and BWMI-F.

Tables 12, 13, and 14 show to what extent the levels of Quality of Work Life and Motivation variables of age and years of work experience in present position interact. Multiple regression analysis using stepwise procedures relating age and years of service as a dependent variable with eight Quality of Work and eight Motivation variables were determined. The different sets revealed significant relationships. The assumption of this research question was that Quality of Work life and Motivation variables would continue to be correlated. The interest of this research question and of this research was to determine the various significant relationships resulting from the influence of motivation on quality of work life as a whole and with job stress and motivation. Involvement from specific demographic variables was also considered. Again, due to the exploratory nature of the study, this research question was tested at the .05 and .01 alpha level. All the effects of selected sets of multiple regressions that show up in the various stepwise procedures were shown to be significant.

Through the use of multiple regression analysis, Table 12 highlights the first set which is a significant association (R-square = .29). In this set, various Quality of Work Life and Blais Work Motivation Inventory variables were highlighted, as was the contribution of different demographic variables. The significant relationship revealed that the averaged Rewards, Internal Amotivation, Time, Environment, Identification Regulated Extrinsic Motivation, Intrinsic

Accomplishment, Intrinsic Stimulation, and Introjection Regulated Extrinsic Motivation were all significantly related to age. This suggested that as CSOs get older they express higher levels of needs for Rewards, higher Intrinsic Amotivation, concerns regarding time, concerns regarding the work Environment, Identification Regulated Extrinsic Motivation, Intrinsic Accomplishment, Intrinsic Stimulation, and Introjection Regulated Motivation. The multiple correlation analysis revealed that 29% of the variability of age was related to these eight combined variables. It was interpreted, through an extensive analysis of Table 12, that the Rewards item of the QWL-F and Internal Amotivation item of the BWMI-F are most associated and contribute the most with the variability of Age for CSOs in the Montreal area. Hence, it was determined that there was a significant strong association between quality of work life and motivation with age for CSOs.

Table 12

Multiple Regression Analysis comparing Quality of Work Life and Motivation Variables with Age for CSOs

Variable Entered	Partial R-square	Model R-square	C(p)	F
Rewards	.8**	.8	63.87	24.17
Internal Amotivation	.8**	.16	38.98	23.69
Time	.2*	.18	33.89	6.37
Environment	.2*	.19	29.73	5.64
ID-Based Introjection	.2**	.22	23.58	7.63
Accomplishment	.3**	.25	15.78	9.49
Stimulation	.2**	.27	9.57	8.15
Intojected Regulated	.2*	.29	4.99	6.68
Total R-square = .29				

*p<0.05, **p<0.01

In Table 13, a more precise analysis of predictor variables was explored in comparison to the dependent variable age by gender and work status. Results of this set combination indicated a significant association between average age and various predictor variables.

Table 13 also revealed a significant association. In the first section, for full-time males, the average variable Environment, which accounted for 8% of the variance, was the most contributory and significant of the set. The second significant average variable was Internal Amotivation, which accounted for 3% of the variability. Intrinsic Accomplishment, which was the third variable, that followed, accounted for 3% of the variability. Intrinsic Stimulation and Introjection Regulated Extrinsic Motivation were the last and least significant variables as they both accounted for about 2% of the variance. The full set yielded 19% of the variance between the two sets.

This suggested as full-time CSO males became older, they expressed higher levels of QWL concern regarding their work environment, Internal Amotivation, Intrinsic Accomplishments, Intrinsic Stimulation, and Introjection Regulated Extrinsic Motivation.

For part-time males, the strongest variance was related to the extrinsic motivation variable Introjected Regulated Extrinsic Motivation, which accounted for 24% of the variance. The second QWL average variable that followed was Time, which accounted for 5%, and Administration, which accounted for 13% of the variance. The full set yielded a total of 43% of the variability.

For full-time female CSOs, the strongest variance was related to the QWL average variable Rewards, with 12% of the variability. External Amotivation was second with 9% of the variability, Identification Regulated Extrinsic Motivation was third with 8%, External Regulated Extrinsic Motivation was fourth with 6%, Internal Amotivation was fifth with 4%, Environment was sixth with 4%, Intrinsic Accomplishment was seventh with 5%, and Time was eight with 4%. The full set yielded a total of 53% of the variability.

For part-time female CSOs, the strongest variance with full-time males was related to the Internal Amotivation which accounted for 16% of the variance.

It can therefore be interpreted that full-time female CSOs (R-square =.53), with the item Rewards of the QWL-F, had the greatest variability and showed the strongest significant association when comparing both quality of work life and motivation variables with Age by gender and work status. Part-time male CSOs also showed high variability with a score of 43%. As for the highest variability of an individual item it was, for part-time male CSOs, Introjected Regulated Extrinsic Motivation which accounted for 24% of the variability. Part-Time males scored a total R-square value of 43% of the variability to the mean.

Table 13

Multiple Regression Analysis comparing QWL and BWMI with Age by Gender and Work Status for CSOs

Variable	Partial R-square	Model R-square	C(p)	F
Male CSOs full-time				
Environment	.08**	.08	10.77	12.03
Internal Amotivation	.03*	.12	7.58	5.01
Accomplishment	.03*	.14	5.46	4.08
Stimulation	.02*	.17	3.66	3.83
Introjected Regulated	.03*	.19	1.51	4.30
Total R-square =	.19			
Male CSOs part-time				
Introjected Regulated	.24**	.24	9.46	13.56
Time	.05*	.29	8.17	2.92
Administration	.13**	.43	1.41	9.35
Total R-square =	.43			
Female CSOs full-time				
Rewards	.12*	.12	21.32	6.48
External Amotivation	.09*	.21	16.58	5.17
ID-Based Introjection	.08*	.30	12.41	5.18
External Regulation	.06*	.36	9.90	4.04
Internal Amotivation	.04*	.40	8.80	2.90
Environment	.04*	.44	7.60	3.15
Accomplishment	.06*	.50	5.48	4.38
Time	.04*	.53	4.69	3.14
Total R-square =	.53			
Female CSOs part-time				
Internal Amotivation	.17*	.17	1.52	7.27
Total R-square =	.17			

*p<0.05, **p<0.01

In Table 14, Quality of Work Life and Motivation variables, as a set, varied as a result of how long the CSOs have worked in their occupation. A significant relationship also existed between the length of time CSOs had been working in their present position as well as diverse Quality of Work Life and Motivation variables. This suggested that as CSOs have been employed in their occupation for longer periods of time, they express a heightened desire for more Extrinsic Rewards, which explained 7% of the variance. CSOs also expressed Internal Amotivation and Intrinsic Stimulation that accounted for 5% of the variance. CSOs also self-reported heightened levels of Intrinsic Accomplishment, Intrinsic Knowledge and Time that accounted for about 1% of the variance. A total of 22% of the variability of the length of time CSOs have been employed in their occupation is related to the average QWL and Motivation variables. Finally, this multiple regression analysis correlation for length of service is lower than that of the rapport of CSOs relationship with age as indicated in Table 14. It can therefore be interpreted that the Rewards item of the QWL-F and Internal Amotivation item of the BWMI-F showed the most significant association with length of service for CSOs in the Montreal area.

Table 14

Multiple Regression Analysis comparing Quality of Work Life and Motivation Variables with Length of Service for CSOs

Variable Entered	Partial R-square	Model R-square	C(p)	F
Rewards	.08**	.08	44.45	21.98
Internal Amotivation	.05**	.13	29.66	15.27
Stimulation	.04**	.16	19.58	11.41
Accomplishment	.03**	.19	11.26	10.08
Knowledge	.02*	.21	7.00	6.23
Time	.01*	.22	5.11	3.91
Total R-square =	.22			

*p<0.05, **p<0.01

In Table 15, a more precise analysis of the various averaged predictor variables composed of the QWL-F and the BWMI-F were explored in comparison to the dependent variable time by gender (male or female) and work status (full-time and part-time). Results of this set combination again indicate significant associations between the average length of service of CSOs in have held their occupation in the correctional establishments in the Montreal area.

Thus, Table 15 reveals all significant associations for the different selected variables. In the first section, for full-time males, the average variable of CSO perception of Administration accounted for 5% of the variance. For part-time males, the strongest variance was related to the Introjection Regulated Extrinsic Motivation, which accounted for 15% of the variance. The second variable that was indicated was Internal Amotivation which accounted for 7%, External Regulated Extrinsic Motivation was third with 6 %, External Amotivation was fourth with 4% and Quality of Work Life Internal Support was last and accounted for 6 % of the variability in this set. The full set yielded 39% of the variability.

Full-time female CSOs, the strongest variance set, were related to the QWL-F average variable Environment with 10% of the variability. External Amotivation was second with 11% of the variability. Rewards were third with 8%, External Regulated Extrinsic Motivation was fourth with 6%, Identification Regulated Extrinsic Motivation was fifth with 6%, the QWL variable Internal Support was sixth with 5% and Internal Amotivation was seventh and last and explained 3% of the variability. The full set yielded a total of 48% of the variability.

For part-time female CSOs, the strongest variance was related to the averaged QWL-F variable Internal Support, which accounted for 25% of the variance, and Internal Amotivation, which accounted for 15%. The full set yielded 41% of the variability.

It can therefore be interpreted that full-time female CSOs (R-square = .48) and part-time females (R-square = .41) with the item Environment and External Amotivation of the QWL-F had the greatest variability when comparing quality of work life and motivation with time of service by gender and work status. Part-time females also scored high with 41% of the variability. The highest variability for an individual item was for part-time female CSOs (lack of Internal Support of the QWL-F), with 25% and Internal Amotivation accounted for the higher scores. Part-time males scored a total R square value of 39% in respect to the variability with the mean.

Table 15

Multiple Regression Analysis comparing Quality of Work Life and Motivation Variables with Time by Gender and Work Status for CSOs

Variable Entered	Partial R-square	Model R-square	C(p)	F
Male CSOs full-time				
Administration	.05*	.05	-0.37	6.64
Total R-square =	.05			
Male CSOs part-time				
Introjected Regulated	.15**	.15	1.97	7.34
Internal Amotivation	.07*	.22	0.46	3.74
External Regulated	.06*	.28	-0.61	3.48
External Amotivation	.04*	.33	-0.78	2.54
Internal Support	.06*	.39	-1.70	3.66
Total R-square =	.39			
Female CSOs full-time				
Environment	.10*	.10	15.94	5.35
External Amotivation	.11*	.21	10.89	5.99
Rewards	.08*	.29	7.69	4.79
External Regulated	.06*	.35	5.82	3.79
ID-Based Introjection	.06*	.40	4.07	3.93
Internal Support	.05*	.45	2.91	3.50
Internal Amotivation	.03*	.48	2.73	2.50
Total R-square =	.48			
Female CSOs part-time				
Internal Support	.25**	.25	-2.09	12.54
Internal Amotivation	.15**	.41	-6.83	9.28
Total R-square =	.41			

*p<0.05, **p<0.01

Summary of research question 2. The results answer the second research question that male and female CSOs, who are older and have longer work experiences do indeed differ significantly from younger and less experienced CSOs. The regression analyses revealed that quality of work life variables and motivation variables were significant predictors for age and length of service, the overall amount of explained variance was fair, ranging from 2% to 25% for individual variable significant scores.

The range of total R-square scores was higher and varied from 5% to 53%. Hence, the older CSOs became in regards to age and length of service, the more they became amotivated and showed a reduced sense of quality of work life as measured by the QWL-F and BWMI-F. These heightened levels of Amotivation and lowered sense of Quality of Work Life were especially indicated with the different CSO gender groups (male and female) of different status (full-time and part-time). The general interpretation of the multiple regressions conducted in this hypothesis determined that, as a whole, as CSOs increased in age and accumulated years of service they expressed more concern regarding need for increased Rewards of the QWL-F and generally expressed heightened levels of Internal Amotivation of the BWMI-F. However, within-group differences showed that it was part-time males and full-time females that were the strongest groups that indicate a variance with age. Regarding length of service, it was part-time males and full-time and part-time females that were the most significant groups that indicated this variance.

As a general interpretation for the second research question, the need for Rewards item of the QWL-F and Internal Amotivation item of BWMI-F appeared to be the items that showed the most variability and significant association regarding Age and length of service for CSOs in the Montreal area. More precisely, it was part-time female CSOs that contributed the most to these significant results when comparing quality of work life and motivation inventory items with Age by worker gender and status. This would indicate that part-time and full-time female CSOs who have been in their positions for longer period of time expressed higher levels of need for Rewards as well as a heightened sense of Internal Amotivation. Part-time males also showed high variability in this category. Regarding length of service, it was full-time Female CSOs and part-time female CSOs that showed the greatest variability when comparing quality of work life and motivation with time of service by gender and work status. Part-time males again also scored a high variability score. Hence, full-time males scored lowest in all of these categories and

showed the lowest variability when comparing CSO perception of quality of work life and motivation with age and length of service for CSOs in the Montreal area.

Variables of QWL-F and the BWMI-F were significant predictors of Age and Length of Service. Both masculinity and femininity scores as well as work status scores contributed. Full-time males reported, as a whole, that they were more amotivated and were affected by the work environment as a source of stress (Environment and Internal Amotivation were significant predictors). For Part-time males, waiting for a permanent of full-time status as well as a need for immediate extrinsic motivation (Time and Introjected based Motivation) the results showed that these were significant predictors of that desire. Full-time women's perception of rewards as well as an external amotivation (Rewards and External Amotivation) were significant predictors. Part-time female CSOs were more sensitive to internal amotivation as well as a lack of internal support from fellow male and female CSOs (Internal Amotivation and Internal Support).

Research Question 3

The third research question explored whether the predictor variables (various demographic and motivation variables) were significantly different from quality of work life between male and female, full-time and part-time, CSOs working in the Montreal area as measured by the QWL-F and the BWMI-F. This was answered by examining the different results of the Pearson correlations and the details of the multiple regression analysis. The Cronbach Coefficient Alpha for the combined raw variables was .65 and for the standardized variables, .87. Table 16, shows the multiple regression analysis through a stepwise procedure. The use of various demographic variables and the BWMI-F motivation variables as predictor and independent variables were determined. The average Quality of Work Life (QWL-F) score was used as the dependent variable.

Results shown in Table 16 indicate a significant association between these average Quality of Work Life variables as well as the various predictor variables. Again, due to the exploratory nature of the study, the research question was tested at the .05 and .01 alpha level. All the effects of selected sets of multiple regressions that show up in the various stepwise procedures were shown to be significant. Significant multiple regression associations were revealed through a stepwise procedure process of quantitative analysis. Variables were selected within the significance range of .001 to .15. The strongest variance was related to the averaged Intrinsic Motivation variable Knowledge, which accounted for 14% of the variance. The second

significant variable was External Amotivation, which accounted for 10% of the variability. The demographic variable Age, which is third, accounted for 2% of the variability. The full set yielded a total of 28% of the variability. With a variability of 28% it can be interpreted that there was significant variability and a positive correlation comparing the different levels of motivation with quality of work life for CSOs in the Montreal area.

Table 16

Multiple Regression Analysis comparing Motivation Variables With Quality of Work Life for CSOs

Variable Entered	Partial R-square	Model R-square	C(p)	F
Knowledge	.14**	.14	47.08	43.31
External Amotivation	.11**	.25	10.39	37.61
D2Age	.03**	.28	2.17	10.29
Total R-square =	.28			

*p<0.05, **p<0.01

Table 17 shows the second multiple regression analysis, using a stepwise procedure selected with various demographic variables and BWMI-F motivation variables as predictor and independent variables. The dependent variable selected was the average Job Satisfaction component of the Quality of Work Life Survey (QWL-F). Results shown in Table 10 indicated a significant association between averaged Quality and various predictor variables. Significant associations were also revealed through the stepwise procedure that was utilized. Variables were again selected within the .001 to .15 significance range. The strongest variance was related to the average Intrinsic Motivation variable Knowledge, which explained 12% of the variance.

The variable External Amotivation accounted for 7% of the variability. The average demographic variable Age, which was third in the stepwise procedure, accounted for 1% of the variability. The variable Sex, was fourth, and accounted for 1% of the variance. The full set yielded a total of 26% of the variability. With a variability of 26%, it can be interpreted that there was significant variability and a positive correlation when comparing the different levels of motivation with work satisfaction for CSOs in the Montreal area.

Table 17

Multiple Regression Analysis comparing Motivation Variables with Work Satisfaction for CSOs

Variable Entered	Partial R-square	Model R-square	C(p)	F
Knowledge	12**	.12	42.45	37.08
External Amotivation	.07**	.20	19.07	23.89
D2AGE	.04**	.24	6.01	14.94
D1SEX	.01*	.25	4.51	3.50
AVSTIM	.01**	.26	2.54	4.02
Total R-square =	.26			

*p<0.05, **p<0.01

In Table 18, the third multiple regression which was used in this section shows again a stepwise process. The independent, or predictor, variables selected were averaged demographic variables and all BWMI-F items or variables. The dependent variable selected was the average Job Stress dimension of the Quality of Work Life Survey (QWL-F). Results shown in Table 11 indicate a significant association between average Quality of Work Life, as a dependent variable, and the different predictor variables as indicated with the demographic and motivation variables. Significant associations were indicated in the applied stepwise multiple regression procedure and were selected within a .001 to a .15 range of significance. Within this regression analysis, the strongest variance was related to the average variable External Amotivation, which accounted for 9% of the variance. The second significant variable was the Intrinsic Motivation variable Knowledge, which explained 9% of the variability. The variable Age was the third and least significant variable and accounted for 2% of the variability. The full set yielded a total of 19% of the variability.

The results in Table 18 indicated, with a variability of 19%, that there was significant variability and a positive correlation when comparing the different levels of motivation with work stress for CSOs in the Montreal area. However, this 19% variability was not as high and significant as Work Satisfaction and the total Quality of Work Life scores as indicated in Tables 16 and 17.

Table 18

Multiple Regression Analysis Comparing Motivation Variables with Work Stress for CSOs

Variable Entered	Partial R-square	Model R-square	C(p)	F
External Amotivation	.09**	.09	27.97	23.52
Knowledge	.09**	.17	5.07	24.68
Age	.02*	.19	1.57	5.56
Total R-square =	.19			

*p<0.05, **p<0.01

In Table 19, various demographic variables and the BWMI-F motivation variables were selected as the predictor and independent variables. The dependent variable selected was the average Quality of Work Life of the Quality of Work Life Survey (QWL-F), which combined both the Job Stress and Satisfaction scales. Gender and occupational status were selected as by-variables for within-group breakdowns. Results shown in Table 19 indicated various significant associations between the average dependent variable Quality and the various predictor (independent) variables. Significant associations were again revealed through a stepwise multiple regression procedure. These variables were selected within a .001 to .15 significance range.

Of these multiple correlations, the strongest variance for full-time CSO males was related to the intrinsic motivation variable Knowledge, which accounted for 28% of the variance. The second significant variable, External Amotivation, explained 7% of the variability. The variable Age, which was third and the least significant variable, accounted for 2% of the variance. The full set yielded a highly significant total of 37% of the variability.

For part-time male CSOs, the strongest variance for these males was related to the variable External Amotivation, which accounted for 14% of the variance. The second and least significant intrinsic variable was Stimulation. It determined 15% of the variance. The full set for part-time CSO males yielded a total of 29% of the variability.

The strongest variance for full-time females was related to the average variable External Amotivation, which accounted for 39% of the variance. The second significant variable, Time, accounted for 11% of the variability. The average Intrinsic Motivation variable Accomplishment,

which was fourth and least significant, accounted for 6% of the variance. The full set yielded a surprising total of 55% of the variability.

For part-time female CSOs, the strongest variance was related to the variable Time that accounts for 21% of the variance. The second significant variable, Age, accounted for 12% of the variability. External Regulated Extrinsic Motivation, which was third, explained 5% of the variability and Intrinsic Accomplishment, which was fourth, accounted for 5% of the variance. Introjection Regulated Extrinsic Motivation accounted for 9% and Identification Regulated Extrinsic Motivation, the last and least significant variable, explained 6%. The full set yielded 58% of the variability.

It can therefore be interpreted that part-time female CSOs (r=.58) and full-time female CSOs (r=.55), with the items External Amotivation of the BWMI-F, and Time and Age of the demographic questionnaires, had the greatest variability when comparing motivation variables with quality of work life variables by gender and work status. Full-time male CSOs also scored high with 37% of the variability. Hence, there was a high positive correlation as well as a significant variability when comparing different levels of motivation with quality of work life when considering gender and status divisions for CSOs in the Montreal area.

Table 19

Multiple Regression Analysis Comparing Motivation Variables with Quality of Work Life by Gender and Status for CSOs

Variable Entered	Partial R-square	Model R-square	C(p)	F
Male CSOs full-time				
Knowledge	.29**	.29	13.65	53.15
External Amotivation	.07**	.35	1.88	13.90
Age	.02*	.37	0.07	3.90
Total R-square =	.37			
Male CSOs part-time				
External Amotivation	.14**	.14	7.50	6.66
Stimulation	.15**	.29	1.12	8.77
Total R-square =	.29			
Female CSOs full-time				
External Amotivation	.39**	.39	14.45	28.35
D4 Time	.11**	.50	6.67	9.00
Accomplishment	.06*	.55	3.3745	5.38
Total R-square =	.55			
Female CSOs part-time				
D4 Time	21**	.21	18.07	9.22
Age	.12*	.33	12.29	6.11
External Regulation	.05*	.38	11.10	2.62
Accomplishment	.05*	.43	10.07	2.61
Introjected Regulated	.09*	.52	6.17	5.87
ID-Based Introjection	.06*	.58	4.33	4.21
Total R-square =	.58			

*p<0.05, **p<0.01

Table 20 shows the fifth multiple regression analysis in this section. Again, this analysis was conducted using a stepwise multiple regression procedure. Various demographic variables and (BWMI-F) motivation variables were selected as predictor and independent variables. The dependent variable selected was the average Job Satisfaction of the Quality of Work Life (QWL-F) Survey. A selection was made by dividing gender and occupation status in order to detect within-group differences. Results shown in Table 20 indicated various significant associations between averaged Quality of Work Life and other predictor variables. Variables were selected within a .001 to .15 significance range within this stepwise multiple regression analysis.

Of this multiple regression analysis, the strongest variance was for full-time CSO males. It was related to the intrinsic motivation variable Knowledge, which accounted for 21% of the variance. The second and least significant variable was External Amotivation, which accounted for 4% of the variability. The full set yielded a total significant value of 25% of the variability. For part-time CSO males, the strongest variance was related to the variable External Amotivation, which accounted for 10% of the variance. The second and least significant variable was the Intrinsic Motivation variable Stimulation, which explained 10% of the variance. Education, the least significant variable, accounted for 5% of the variance. The full set yielded a total of 25% of the variability.

For full-time female CSOs, the strongest variance was related to the average variable External Amotivation, which accounted for 31% of the variance. The second significant QWL variable, Time, accounted for 11% of the variability. The Intrinsic variable Accomplishment, which was selected as being fourth and least significant, explained 8% of the variance. The full set yields a total of 51% of the variability. For part-time female CSOs, the strongest variance was related to the variable Time, which accounted for 19% of the variance. The second and least significant variable Age accounted for 11% of the variability. The full set yielded a total of 30% of the variability. It can therefore be interpreted that full-time female CSOs (R-square = .51) and part-time females (R-square = .31) with the item External Amotivation of the BWMI-F and Time of the demographic questionnaire had the greatest variability when comparing motivation variables with stress by gender and work status. Hence, there is a high positive correlation as well as significant variability when comparing different levels of motivation with job stress as a quality of work life when considering gender and status for CSOs in the Montreal area.

Table 20

Multiple Regression Analysis comparing Motivation Variables with Work Stress by Gender and Work Status for CSOs

Variable Entered	Partial R-square	Model R-square	C(p)	F
Male CSOs full-time				
Knowledge	.21**	.21	1.99	31.05
External Amotivation	.04*	.25	-2.24	6.54
Total R-square =	.25			
Male CSOs part-time				
External Amotivation	.10*	.10	2.81	4.55
Stimulation	.10*	.20	0.48	4.63
Education	.05*	.25	0.19	2.53
Total R-square =	.25			
Female CSOs full-time				
External Amotivation	.31**	.31	6.72	18.40
D4 Time	.11**	.42	1.24	7.82
Accomplishment	.08*	.51	-2.27	6.57
Total R-square =	.51			
Female CSOs part-time				
D4 Time	.19**	.19	14.88	8.66
Age	.11*	.30	10.18	5.58
Total R-square =	.30			

*p<0.05, **p<0.01

Table 21 presents a stepwise multiple regression analysis similar to all previous tables in the second and this third research question. The variables selected were various demographic variables and BWMI-F motivation variables as predictor or independent variables. The dependent variable selected was average Job Satisfaction of the Quality of Work Life (QWL-F)

Survey. The selection was made by dividing groups by gender and occupational status. A qualitative analysis of the data indicated within-group differences. Results shown in Table 21 indicated significant associations between average Job Satisfaction and various other predictor variables. Significant associations were revealed through this stepwise multiple regression analysis procedure. Variables were selected within a .001 to 0.15 range for significance.

Of this multiple regression analysis, the strongest variance, for full-time CSO males, was related to the Intrinsic Motivation variable Knowledge, which accounted for 23% of the variance. The second variable was External Amotivation, which explained 5% of the variability. The third and least significant variable, Age, accounted for 5% of the variance. The full set yielded a total significant 34% of the variability. For part-time CSO males, the strongest variance was related to the averaged variable External Amotivation that accounted for 13% of the variance. The second and least significant Intrinsic variable, Stimulation, explained for 16% of the variance. The full set yielded a total of 29% for variability.

For full-time female CSOs, the strongest variance was related to the average variable External Amotivation which accounted for 27% of the variance. The second significant variable, Time, accounted for 9% of the variability. The average variable Identification Regulated Extrinsic Motivation, which was fourth, explained 7% of the variance. Age was the fourth and the least significant variable, accounting for 4% of the variance. The full set yielded a total of 47% of the variability. For part-time female CSOs, the strongest variance was related to the variable Time, which accounted for 17% of the variance. The second variable was Age, which accounted for 10% of the variability and the third average variable was External Regulated Extrinsic Motivation, which accounted for 10% of the variance. The full set yielded a total of 44% of the variability.

It can therefore be interpreted that full-time female CSOs (R-square= .47) and part-time female CSOs (R-square = .44) with the item External Amotivation of the BWMI-F, Time and Age of the demographic questionnaire had the greatest variability, when comparing motivation variables with job satisfaction as a quality of work life component by gender and work status. Full-time male CSOs also scored high with 34% of the variability. There was a high positive correlation as well as significant variability when comparing different levels of motivation with quality of work life when considering gender and status for CSOs in the Montreal area.

Table 21

Multiple Regression Analysis: Motivation Variables with Work Satisfaction by Gender and Work Status for CSOs

Variable Entered	Partial R-square	Model R-square	C(p)	F
Male CSOs full-time				
Knowledge	.23**	.23	15.45	40.39
External Amotivation	.05**	.29	7.18	9.95
D2 Age	.05**	.34	-0.07	9.56
Total R-square =	.34			
Male CSOs part-time				
Stimulation	.13*	.13	9.50	6.26
External Amotivation	.16**	.29	2.38	9.26
Total R-square =	.29			
Female CSOs full-time				
External Amotivation	.27**	.27	14.55	16.41
D4 Time	.09*	.36	9.53	6.09
ID-Based Introjection	.07*	.43	6.46	4.78
Age	.04*	.47	5.15	3.30
Total R-square =	.47			
Female CSOs part-time				
D4 Time	.17*	.17	19.21	7.11
Age	.10*	.27	14.66	4.87
External Regulation	.10*	.37	10.34	5.30
Stimulation	.07*	.44	7.90	4.07
Total R-square =	.44			

*p<0.05, **p<0.01

Summary of research question 3. In summary, there is also in this research question a positive relationship between the various predictor variables (i.e., demographic and motivation variables) with Quality of Work Life regarding male and female part-time and full-time French-speaking CSOs working in the Montreal area. The multiple regression analyses revealed that various demographic and motivation variables were significant predictors for quality of work life (work satisfaction and work stress). The overall amount of explained variance in this third research question was higher than in the previous question. The overall amount of explained variance was fairly strong, ranging from 1% to 39% for individual variable significant scores and from 19% to 58% for the total R-square scores.

Hence, the data answers the third research question indicating that as Quality of Work Life (including individual stress and job satisfaction composites) increases, CSOs, as a whole, expressed a heightened sense of external Amotivation and Intrinsic Knowledge. More specific differences were noticed with the different CSO groups (male and female) of different occupation status as seen in Tables 19, 20, and 21. Individual differences were quantitatively accounted for and, at the different levels, were qualitatively picked out and analyzed.

Group differences for Job Satisfaction, a composite of the Quality of Work Life, indicated that with higher levels of Satisfaction full-time and part-time females showed more variance in regards to External Amotivation and years of service. Part-time and full-time male CSOs scored differently and showed a heightened variance with regards to Intrinsic Knowledge, External Amotivation, Stimulation, and time.

Group differences for Job Stress, also a composite of the QWL-F, indicated that with higher levels of Job Stress, for full-time CSO females, heightened levels of External Amotivation of the BWMI-F and years of service were present. Part-time female CSOs showed moderately high levels of this External Amotivation as years of service and age increased. For full-time and part-time male CSOs, the variance was indicated for External Amotivation, Stimulation and Knowledge of the BWMI-F.

Group differences indicated in this section that for higher levels of quality of work life, full-time and part-time CSO females indicated more variance in regards to Intrinsic Knowledge, Years of service and Age. Part-time and full-time CSO males scored differently and showed a heightened variance with regards to Intrinsic Knowledge, Stimulation and External Amotivation of the BWMI-F.

As a general interpretation for this third research question, it was determined that with variability approaching 30% for total Quality of Work Life and Job Satisfaction there was significant variability and a positive correlation when comparing the different levels of motivation with Quality of Work Life for CSOs in the Montreal area. However, average Job Stress did not yield a high score as averaged Job Satisfaction and the total Quality of Work Life averaged score. Hence, full-time and part-time female CSOs were indicated with multiple regression (R-square) scores approaching 50% of variability. The items External Amotivation of the BWMI-F and Time and Age of the demographic questionnaire contributed to this. This indicated that the greatest variability and the most significant relationships were shown when comparing various motivation and demographic variables with quality of work life for CSOs in the Montreal area.

CHAPTER 6

Summary and Discussion of Findings

This research investigation contributed to the field of career counselling as well as to the literature that focuses on work satisfaction, occupational stress, and motivation. Three research questions were examined within this study. First, motivation and quality of work life levels for Correctional Services Officers (CSOs) working in different establishments in the Montreal area were positively correlated as measured by the French-translated Quality of Work Life survey (QWL-F) and the French-translated Blais Work Motivation Inventory (BWMI-F). The use of different correlation analyses, such as Pearson correlations, Cronbach alpha correlations, as well as canonical correlation analysis, indicated these relationships. Interpretations of the canonical correlation analysis indicated that CSOs with enhanced perception of quality of work life, including all items related to low work stress and heightened job satisfaction, showed heightened levels of self-determined intrinsic and extrinsic motivation as well as amotivation.

Second, using multiple regression analysis it was indicated that male and female CSOs of different work status, who were older and had more work experience, differed significantly from younger and less experienced CSOs. As a general interpretation for the second research question, the need for rewards of the QWL-F and internal amotivation of BWMI-F were the related items that showed the most significance and positive correlation regarding age and length of service for CSOs in the Montreal area. Hence, as workers became older they expressed a heightened need for external rewards such as job security, pay, and benefits as opposed to intrinsic motivation.

Third, there was a positive relationship between the demographic and intrinsic and extrinsic motivation variables with the quality of work life for male and female part-time and full-time French-speaking CSOs working in the Montreal area. Using multiple regression analysis, it was indicated that as QWL-F (including individual stress and job satisfaction composites) increased, CSOs, as a whole, expressed a heightened sense of External Amotivation and Intrinsic Knowledge as BWMI-F items. Group differences in this section indicated that for higher levels of quality of work life, both full-time and part-time female CSOs indicated heightened Intrinsic Knowledge, Years of service and Age as significant items. Part-time and full-time CSO males scored differently and showed heightened Intrinsic Knowledge, Stimulation and External Amotivation with regard to quality of work life.

The findings of this study also support the existing literature on correctional rehabilitation personnel and their exposure to stress and fear of working with the resident prison population. Although there is a body of knowledge addressing motivation and burnout in Canadian prisons, as well as in some correctional settings in the United States and Europe (Belcastro, Gold & Grant, 1982; Blais, 1992b; Blankertz & Robinson, 1996; Blau, 1993; Cheek & Miller, 1983; Cooper & Cartwright, 1994; Dignam & Fagan, 1996; Dollard & Winefield, 1998; Farmer, 1977; Finn, 1999; Gross, Larson, Urban & Zupan, 1994; Haney, Banks & Zimbardo, 1973; Johnson, 1977; Jurik, 1985; Kalia, 1995; Kauffman, 1981; Kloffas & Toch, 1982; Léveillé, 2000; Linquist & Whitehead, 1986; Lombardo, 1981; Miller, 1998; Poole & Regoli, 1980; Pogrebin, 1987; Robinson, Porporino & Simourd,1992; Schaufeli & Peters, 2000; Shine, 1997; Sykes, 1958; Valierres & Latulippe, 1993; Webb & Morris, 1978; Williamson, 1990), to date, no studies have addressed the interaction of motivation and quality of work life as well as gender differences for Correctional Services Officers (CSOs), specifically French-speaking CSOs, within Quebec provincial detention facilities in the Montreal area was seen in this investigation.

General Implications of Findings

Findings for the first research question. The results of this first research question supported most of the literature regarding correlation analyses for both the QWL-F and the BWMI-F. The results of this study also support previous findings in other research (Blais, 1992b) that determines that the combination of both these inventories is warranted. Motivation and quality of work life levels for CSOs in different establishments in the Montreal area were, in general, positively correlated as measured by the QWL-F and the BWMI-F (see Pearson correlations in Appendix F).

The findings of this first research question support the literature on intrinsic and extrinsic sources of motivation, amotivation and occupational stress as defined by Ameringen and Arseneault (1990), Blais and Lachance (1992a), Briner (1994), Cooper (1998), Crandall and Perewé (1995), Dollard and Cormier (1998), Finn (1998), Grossi and Berg (1991), and Schaufeli and Peeters (2000). This study also supports research focusing on the interrelationship between intrinsic, extrinsic and motivational factors. Organizational concerns of quality of work life (occupational stress and work satisfaction) for front-line intervention work (Dignam & Fagan, 1996; Gill & Feinstein, 1994; Kalia, 1995; Rosine, 1992) are also determined and an association to work motivation (Valliere & Latulippe, 1994) was explored. It was assumed that sources of

stress associated with an individual's perception of task (intrinsic stress) are strongly related to an individual's perception of satisfaction and performance. Work stress is ultimately seen as diminishing motivation and work performance. These results and findings were related to absenteeism and symptoms of psychological and psychosomatic distress (Beehr, 1995; Ivancevich and Mattison, 1980; Jex and Beehr, 1991; Jex, 1998; Kahn & Byosière, 1992).

The QWL-F survey, including the occupational stress and the work satisfaction inventories, showed good internal consistency and was deemed as being a valid survey. This was again associated through the high significance and positive correlations between the various predictor variables and the dependent variables. With regard to the individual scores of the QWL-F, the correlational results of this study, as well as the different alpha values of the sub-items, support Pelsma, Richard, Harrington, and Burry (1989) as well as Blais, Vallerand, Pelletier, and Briere's (1991) perspective on the applicable use of this survey. The Pearson correlations as well as the different alpha values of the different sub-items also, confirmed the validity and the internal consistency of the item construction of this inventory with a French-speaking CSO population in the Montreal area. Furthermore, the results of this study, through an analysis of the canonical correlations, confirm that the QWL-F is an adaptable instrument that can be used with different work populations. Other studies involving school professors, front-line workers, and police officers have also determined the versatility of use of the QWL-F and gave support to its use in this study. The different correlation analyses shown through the Pearson and canonical correlation analysis results, as well as the different Cronbach alpha levels, support Pelsma, Richard, Harrington and Burry (1989) and Moharaji-Nelson (1998) results who claimed that the work climate of an occupation can be assessed with the QWL-F (by combining stress and satisfaction components).

Work satisfaction and occupational stress scales were considered independently and combined for a total quality of work life score. This practice of individually considering work stress and satisfaction or combining for a quality of work life score was supported by Pelsma, Richard, Harrington, and Burry (1989). The results of this study confirm the findings by Moharaji-Nelson (1998), which indicated that the different stress levels and work satisfaction scores were inversely correlated. By individually interpreting the work satisfaction and occupational stress scores of the QWL-F, it was possible to understand the impact of the two categories (stress and satisfaction) of the QWL-F. This direct inverse association between work

satisfaction and occupational stress confirmed that a decrease in stress levels would logically yield an increase in work satisfaction. As a result, it can be deduced through an analysis of correlations in this research that finding means of reducing stress levels (communication, relaxation techniques and/or long-term psychodynamic or short-term cognitive behavioural stress management) could be considered by CSOs as a means of increasing occupational work satisfaction and improved quality of work life. Hence, this study supports the literature findings that a decreased perception of occupational stress will directly be correlated with an increase in work satisfaction. (Ameringen & Arseneault, 1990; Blais & Lachance, 1992a; Briner, 1994; Cooper, 1998; Crandall & Perewé, 1995; Dollard & Cormier, 1998; Finn, 1998; Grossi & Berg, 1991; Moharaji-Nelson, 1998; Schaufeli & Peeters, 2000; Spector, 1997).

As a consequence of these findings, with a self-awareness of improved health and personal well being through awareness of occupational stress, CSOs can also increase their sense of personal satisfaction as well as their ability to cope with stress through a positive outlook regarding their work. As previously indicated by Moharaji-Nelson (1998) and Blais (1993), pay rate, occupational security, benefits, type of work, and other factors also play an enormous extrinsic role regarding work satisfaction and motivation for correctional workers in institutions.

With regard to the individual use of the BWMI-F, the Pearson correlations as well as the different alpha values of the different sub-items in this study also confirmed the validity and the internal consistency of the item construction of this inventory. The BWMI-F combined different motivation concepts according to the conceptual definitions of three forms of intrinsic self-determined motivation (knowledge, stimulation, and accomplishment; see Vallerand & Blais, 1987) three forms of extrinsic self-determined motivation (external, introjected, and identified regulation; see Deci & Ryan, 1985), as well as two forms of non self-determined amotivation (internal and external; see Blais, Vallerand, Pelletier, & Brière, 1991, 1991; Deci and Ryan, 1991). All correlations showed strong associations within the CSO population in the Montreal area. These strong correlations indicate internal consistency of the BWMI-F which parallels the results highlighted by Blais and his colleagues (1993) in a study examining over 2500 French-speaking employees in various work settings (police departments, telephone company technicians, clothing factory workers, health and law professionals) in the public and private sectors. This research contributed to the ever-continuing validation of the BWMI-F. The results of this investigation determined satisfactory internal consistency levels with alphas at the .75

level as well as high levels of temporal stability for all the scales.

When combined, the results of the QWL-F and BWMI-F confirmed the compatibility of these two assessment instruments, showing that both this quality survey and motivation inventory could be associated and were complementary to one another. The Pearson correlations as well as the different alpha values of the different sub-items confirmed the validity and the internal consistency of both these inventories. Over 50% of the Pearson correlations in this study were shown to be significant and positively correlated. When considered independently and combined, the Cronbach alpha scores were also very high. An earlier version of Blais' Work Motivation Model (1992b), which grouped together these two tests as well as other tests, also confirmed the validity and internal consistency when combining these two instruments.

Intrinsic motivation factors appeared to correlate highly with satisfaction and total quality for CSOs in the Montreal area, as shown by the Pearson correlational results from the BWMI-F and the QWL-F. In addition, the Stress Item from the QWL-F, as well as the Amotivation Item from the BWMI-F, were also highly correlated. Hence, the more CSOs were stressed the more they reported feeling amotivated. On the other hand, it was deduced from these findings that CSOs who were more intrinsically motivated than extrinsically motivated were internally driven to do their work for pleasure of accomplishing a task rather than doing something for the community. Through the correlational analysis, CSOs showed good association between Satisfaction and Quality of the QWL-F with Self-determined intrinsic motivation and extrinsic motivation of the BWMI-F. This was inversely related with the Stress component of the QWL-F with intrinsic and extrinsic motivation items of the BWMI-F. The stress component of the QWL-F was strongly related with both Internal and External Amotivation. Although Satisfaction and Quality were more highly correlated with intrinsic motivation items of the BWMI-F, the findings did not rule out that a certain number of CSOs were more purely extrinsic oriented to rewards such as work pay and benefits. However, as a whole, the results of this first research finding indicated that Satisfaction, Quality, and Intrinsic Motivation were highly correlated.

Thus, satisfied CSOs working within institutions report feeling self-determined by their work. This research corroborates other research conducted by Emmert and Taher (1992) and Gabris and Simo (1995), who demonstrated that with public sector workers, social relations and "on the job" fulfillment of intrinsic needs were the best predictors of positive attitudes towards work. Public sector employees were motivated by different needs (for example, a higher need to

serve the public and lower need for monetary rewards) than private sector employees.

The Pearson correlational results of this study also corroborate the findings of Vinokur-Kaplan, Jayaratne, and Chess (1994), who examined the impact of workplace conditions and motivators on work satisfaction for social workers in different institutional public agencies. Strong positive correlations between work satisfaction and intrinsic motivation were also indicated. However, Vinokur-Kaplan, Jayaratne, and Chess's research results dealt with public service employees who worked in institutions, and were not directly associated with correctional officers as seen in this study.

The results of the multiple correlation analyses for CSOs in the Montreal area, as reported by the BWMI-F and the QWL-F, demonstrated a clear association with self-determined intrinsic and extrinsic motivation with work satisfaction. The need for work achievement and satisfaction for CSOs was related as being an intrinsic trait. The various relationships between intrinsic needs (sense of personal achievement) and extrinsic rewards (pay and benefits) were investigated in relation to work behavior in prior investigations and the results of this study corroborate them (Emmert & Taher, 1992; Gabris & Simo, 1995; Kaplan, Jayaratne, & Chess, 1994).

Other investigations demonstrated that "achievement striving" was best related to the intrinsic desire to do well (Bluen, Barling, & Barns, 1990) and work role behaviour development (Lee, 1995). In association with this, Wright, Kacmar, McMahan, and Deleeuw (1995) demonstrated that cognitive ability moderates the relationship between the intrinsic need for achievement and performance. These authors determined that intrinsic accomplishments were more rewarding than were uniquely extrinsic rewards. The findings of this research also indicated that both intrinsic and extrinsic factors, which are components of motivation and self-determination theory, were shown to contribute significantly to a CSO's quality of work life.

Additionally, in reviewing the canonical correlation analyses for the combination of the different variables of the Quality of Work Life as well as the Blais Work Motivation Inventory, the overall construct became more evident (see Tables 8, 9, 10, and 11). Three highly significant sets emerged showing the good compatibility between these two measures. The combination of Quality of Work life variables such as Interruptions, Internal Support, Rewards, Inmate, Environment, Administration, External Support, and Time interacted well together, which indicated that when workers are both intrinsically and extrinsically motivated there is a

heightened perception of quality of work life. The contrary to this promotes heightened stress and heightened amotivation. Also, work motivation variables such as the averaged Intrinsic Accomplishment, Intrinsic Knowledge, Intrinsic Stimulation, and Identification Regulated Extrinsic Motivation correlated highly together with each other in the first set. External Regulated Motivation and Rewards correlated highly in the third canonical correlation analysis set. Hence, the results of combining both the QWL-F and the BWMI-F instruments with canonical correlations in the three significant sets (see Table 11) clearly support the multi-purpose use of these inventories as determined in the work motivation literature determined by Vallerand, Pelletier, & Briere, 1991 as well as the quality of work life literature determined by Pelsma, Richard, Harrington and Burry (1989).

In summary, the results of the first question indicated there was a good fit between the BWMI-F and the QWL-F. Positive correlations were observed between all internal items of each inventory as well as for the inter-correlations between the inventories. Therefore, as a general premise, intrinsic motivation was highlighted as having stronger correlations than extrinsic motivation with regards to Satisfaction and Quality variables. Hence, intrinsic motivation more so than extrinsic motivation, in relation to quality of work life and excluding stress, appeared to be the "key to quality of work life" for CSOs in the Montreal area. However, extrinsic Rewards correlated highly with intrinsic and extrinsic variables through the canonical correlation analysis.

Findings for the second research question. The second research question explored whether male and female CSOs, who are older and have more work experience, differ significantly from younger and less experienced CSOs in terms of amotivation and sense of quality of work life. This question was also measured by means of the QWL-F, the BWMI-F, as well as a demograhic questionnaire.

This research question was also confirmed. The older (in age and in terms of years of service) the male and female part-time and full-time CSOs were, the more they self-reported heightened levels of Amotivation from the BWMI-F as well as a lowered sense of Quality from the QWL-F. These heightened levels of Amotivation and lowered sense of Quality of Work Life varied with CSOs of different gender groups (male or female) in different status (full-time or part-time). As a whole, as CSOs became older and had more work experience, they expressed a higher level of concern regarding the need for increased Rewards and generally expressed heightened levels of Internal Amotivation. Group divisions indicated that part-time male and

full-time female CSOs were the strongest groups that indicated this predictability with Age. Regarding years of service, part-time male, full-time female, and part-time female CSOs were the most significant groups that indicated this significant predictability of QWL-F and BWMI-F variables regarding length of service. Hence, these research findings support Eichinger, Heifetz, and Ingraham (1991), Geller and Hobfoll (1994), Gianakos (1995), and more particularly Gross, Larson, Urban, and Zupan (1994), Hurst and Hurst (1997), Walters (1993), and Zupan (1986) regarding the impact of stress on different genders within the correctional milieu and the implications of the need for rewards as a means of quality of work life and as a deterrent to amotivation with correctional workers as they became older and had more work experience.

Regardless of work status and gender, CSOs reported different levels of quality of work life (stress and satisfaction) as well as motivation (intrinsic, extrinsic, and amotivation) as they became older and advanced in terms of length of service. However, Internal Amotivation is a BWMI-F variable characterized by a worker's belief that the pursuit of an activity or job in a resigned fashion, without control, was not due to external environmental factors but was seen as the result of self (for example a worker feeling that he/she is doing a job with a clientele while believing that he or she does not have the social abilities to establish adequate social contact with this clientele). These results predominated in nearly all the CSO groups of this study, which highlights past results by Blankertz and Robinson (1996), Blau (1986) and Pogrebin (1987) on amotivation and work dissatisfaction. The results also focussed on the lack of faith of correctional officers in their local and national administration and union.

The results of this study also replicated other studies done on private and public workers determined by Blais (1992b) with the use of the same work motivation inventory as was used in this investigation. Blankertz and Robinson (1996), Blau (1986) and Pogrebin (1987) in their studies of correctional workers also highlighted that, given the presence of so many stress factors including administrative concerns existing within different prison institutions, gender role and lack of support to workers were also contributing stress factors for correctional officers. The results of our study demonstrated that a lack of extra-organizational support (from family and friends outside the work setting) and intra-organizational support (from colleagues and supervisors within the work setting) were also shown to contribute to occupational stress and work dissatisfaction for all CSOs sampled in correctional institutions in the Montreal area.

The results of this study's multiple regression analyses further support Pogrebin's (1987) findings that a lowered sense of job satisfaction and prestige for correctional personnel manifested itself with workers in their fourth or fifth year of work as a result of failed intrinsic expectations. CSOs with longer careers (six to ten years) became more extrinsically motivated, possibly as a means of coping, and demonstrated less intrinsic motivation in contrast to entry level correctional officers, who showed a higher level of intrinsic motivation. This dissatisfaction phenomenon is probably more evident in urban as opposed to rural prisons, as was determined in this investigation in the institutions in the Montreal Urban area as well as in the institutions studied by Pogrebin (1987). Additionally, as a source of work dissatisfaction and occupational stress correctional workers viewed working relations amongst themselves as well as with the inmate population and their correctional administration as being negative in larger urban institutions. These findings also corroborated similar regression-based studies done by Gerstein, Topp, and Correll (1987), Lindquist and Whitehead (1986), and Lasky, Gordon, and Srebalus (1986), who also highlighted that various organizational factors, work experience, and age had an impact on work stress and satisfaction for correctional officers. CSOs, as a whole, expressed general dissatisfaction shown through internal amotivation and feelings of non-support by their CSO colleagues, managers, local administration, and union representatives.

The findings of this research question are similar to Leveillé's (2000) and Vallieres and Latulippe's (1993) investigations which reported that there were characteristics within correctional institutions that contribute to amotivation such as apathy, passivity, loss of drive for achievement, a tendency to drift, low frustration tolerance, and difficulty in concentrating and following routines. Amotivation, within the correctional context of institutions in the Montreal area, will occur when CSOs identify that they are unable to reach their occupational goals and do not perceive either concordance or dissonance between actions and the consequences of their work. The findings of this research question also highlighted negative job-related attitudes and lowered or failed internal and external support from fellow personnel as well as friends and family. Furthermore, CSOs deal with a fixed work routine, instructed operations, and procedures within the correctional work context. As a result, this lowered sense of internal and external support was related to eventual work dissatisfaction and amotivation as a whole for CSOs in this study.

This study also corroborates Blix, Cruise, Mitchell, and Blix's (1995) findings that although new workers wish to leave the field within their first few years of employment, longer term workers were either maintaining their occupation while being in an amotivated "auto-pilot" mode or were reported to have burned out. Although a sense of intrinsic motivation was considered the most important motivation factor for newly recruited employees, it was external rewards, dissatisfaction and amotivation that prevailed in the long run for workers with more than six years of work experience as CSOs. Furthermore, this research supports the claim that CSOs do have a need for extrinsic rewards (such as pay and benefits) and believed that extrinsic rewards were more important than intrinsic reward as they became older with more years of service.

Extrinsic rewards were shown to be a consistent predictor of advancing age as well as advanced years of service for male and female CSOs. Vallières and Latulippe (1993) also reported that extrinsic rewards were the preferred motivation style by correctional personnel in Canadian federal institutions. As federal agents advanced in years and work experience, they also expressed a lowered sense of intrinsic motivation, a heightened sense of amotivation and burnout. Although Leveillé's (2000) or Vallières and Latulippe's (1993) studies did not relate motivation directly to quality of work life, as this study did, they indicated that federal correctional officers as well as case-load workers experienced amotivation, emotional exhaustion, and burnout as a result of their prolonged exposure and length of service while working in correctional establishments in the province of Quebec. These results continue to contribute to other similar findings (Blankertz & Robinson, 1996; Blau, 1986; Correll, 1987; Diehl,1997; Dignam, Barrera & West, 1986; Dollard & Winefield, 1998; Finn, 1998; Gerstein, Topp & Correll, 1987; Grossi & Berg, 1991; Jex, 1998; Lindquist, 1986; Lombardo, 1981; Lindquist & Whitehead, 1986; Kalia 1995; Long, 1986; Maillet, 1980; McDonald, 1991; Pogrebin, 1987; Schaufeli & Peeters, 2000; Vallières & Latulippe, 1993; Webb, 1978; Walters, 1993).

Regarding gender differences, significant differences were shown between female CSOs and their male counterparts. These differences were associated with motivation levels as well as the lack of internal and external support between men and women in correctional settings in the Montreal area. Female CSOs, particularly those deployed in all-male inmate institutions, are exposed to and experience higher levels of stress than to men, probably due to the burden of

being "labelled" as women in male-dominated organizations. Previous research findings support this perspective as well as how women will cope differently than men by seeking internal and external support before becoming emotionally exhausted, as defined by Cullen, Link, Wolfe, and Frank (1985), Eichinger, Heifetz, and Ingraham (1991), Geller and Hobfoll (1994), Gianakos (1995), Stinchcomb (1986), and Zupan (1986).

Again, these findings also confirmed the results of Gross, Larson, Urban, and Zupan (1994): women, in their occupation, were significantly more stressed as a result of external factors such as single-parent responsibilities. Female correctional officers were also more likely to have taken "sick leaves" and were more able to gauge their stress levels. As our study replicated the findings of the above authors, female workers were less likely than men to have filed stress or assault-related compensation and would simply take a "sick leave". Female CSOs in the Montreal area, had less tendency to depersonalize inmates and were more likely to take a sick leave as a means of preventing emotional exhaustion as a deterrent to occupational stress. Female CSOs in the Montreal area would also rely on internal and external support more than male CSOs. As years of service and age increased, there was a predominant increase in occupational stress pertaining to gender and stress outcomes. (see Hurst & Hurst, 1997; Walters, 1993).

The multiple regression analyses for both age and length of service revealed that motivation, work satisfaction, and work stress variables were significant predictors for both age and length of service. Older full-time CSOs were more likely to report feeling amotivated and needing extrinsic rewards (pay, bonus, and benefits) as a form of motivation to continue their work. This finding is consistent with previous research that reports older workers continually reevaluate their satisfaction and commitment regarding their jobs (Ornstein, Cron, & Slocum, 1989), exhibit career stability based on realistic self-perceptions of needs and motivations (Blais, 1993; Deci and Ryan, 1985; Khristjansson, 1993), and report greater career self-efficacy reflective of methodological self-appraisals (Gianakos, 1996). As older CSO workers may perceive fewer career opportunities due to age and/or may be constrained by family obligations, they were less likely to search for intrinsic career growth within their correctional work context. As a result, CSOs became more amotivated and are dissatisfied with their occupations, which, as a whole, became detrimental to their career identities or health.

The results indicated that younger male and female CSOs begin their careers with more intrinsic and less extrinsic drive. However, as they are exposed to the correctional work setting, CSOs were more easily influenced by their more experienced, extrinsically motivated and dissatisfied peers. As the literature shows, and as confirmed in this study, within five years of service, CSOs become saturated with their work environment, and follow their older workmates' attitudes in regards to extrinsic motivation, need for extrinsic reward, and amotivation. Regarding gender differences, female CSOs reported higher levels of external and internal amotivation as well as heightened levels of need for internal and external support. As a result, with an increase in age and experience, female CSOs also expressed a need for extrinsic reward as a replacement for intrinsic motivation. The results of this study also indicated that female CSOs were more sensitive to complaints by workmates than their male counterparts and were more empathic with the inmate population. Hence, female CSOs would be less depersonalized (for example feeling personally detached from their work as a result of reduced intrinsic work satisfaction resulting in lowered motivation to provide services to the inmate population) in comparison to male CSOs and were less likely to fall in a so-called "auto-pilot" state as defined by Dhaher (1996) and Lemire (1991). Finally, part-time and full-time female CSOs also reported having taken more sick leaves and appeared more open to consulting with mental health practitioners individually or through an EAP service. These results also support the findings on gender-related differences as highlighted by Cullen, Link, Wolfe, and Frank (1985), Eichinger, Heifetz, and Ingraham (1991), Geller and Hobfoll (1994), Gianakos (1995), Stinchcomb (1986), and Zupan (1986).

Taken together, the present findings indicate that male and female CSOs, who were older and had longer work experience, differed significantly from younger and less experienced CSOs in terms of motivation, amotivation, and sense of quality of work life as measured by the Quality of Work Life survey (QWL-F) and the Blais Work Motivation Inventory (BWMI-F). As a means of coping with occupational stress and amotivation, older workers were more inclined towards extrinsic reward as a payback and were less intrinsically motivated to do their work. Part-time and full-time male CSOs did not report that they consulted with external and internal supports as much as their female counterparts did. The fact that male CSOs did not communicate their stress at work and their lack of work satisfaction, and that they did not seek out external and internal support could be indicative of lowered work satisfaction, heightened occupational stress and

amotivation. Female CSOs initially followed a pattern as similar to that of their male counterparts, however, they reported being more stressed. Female CSOs were, however, more open to communicate their issues and to consult with EAPs (Employee Assistance Programs) and/or mental health practitioners and/or with other internal or external resources. These results were corroborated by the demographic results of this research.

In summary, the primary gender difference findings indicated that French-speaking female CSOs in the Montreal area, as they became older and more experienced, were more stressed than their male colleagues but were more intrinsically communicative about it. Hence, female CSOs appeared to be more able to express their work stress than men in the correctional environment in the Montreal area. Female CSOs, as a result of their higher expressiveness, were also able to seek out help inside and outside their work environment. Finally, female CSOs, in proportion to the research sample, reported having taken more sick leaves and appeared to be more comfortable communicatimg their work-related concerns than their male CSO colleagues as they became older with similar work experience. Female CSO espressiveness can be seen as a form of coping style related to adaptive work functioning (Havlovic & Keenan, 1995). This expressiveceness ultimately buffers the impact of stress in the workplace by female CSOs as they are intrinsically motivated to self-support and refer to external networks. (see Aronson, 1997; Festinger, 1957; Folkman & Lazarus, 1984; Steffy & Laker, 1991; for more information on coping research).

Findings of third research question. The third research question explored whether the predictor variables (the various demographic and motivation variables) were significantly different from quality of work life as a dependent variable between male and female, full-time and part-time, CSOs working in the Montreal area. This question was measured with the use of the QWL-F, the BWMI-F, as well as the demographic questionnaire.

A positive relationship between the various predictor variables (various demographic and motivation variables) with quality of work life for male and female part-time and full-time French-speaking CSOs working in the Montreal area was determined. As quality of work life increases (occupational stress inversely to work satisfaction) for CSOs, as a whole, there was heightened exposure of the BWMI-F variables: External Amotivation (the pursuit of an activity in resigned fashion, without control, influenced by an external source of control) and Intrinsic Knowledge (pursuing an occupation with the goal of learning something new motivated by

intrinsic need of exploration, curiosity, and knowledge of new events).

The findings of this research question support the idea that occupational characteristics (extrinsic rewards, external support, and control) are indeed related to psychological well-being (satisfaction, positive stress, quality of work life, and lack of vulnerability to negative experiences) and that differences were attributable to age, length of service, and gender.

It was understood through this survey that stress might be perceived as being intrinsic to the individual or extrinsic regarding the organization. Internal satisfaction is experienced by a CSO's personal sense of work gratification that he or she will receive from self or others in the accomplishment of a personal or occupational task. In corroboration of this research finding, when examining quality of work life and work satisfaction as a deterrent to occupational stress, Cahill, Landsbergis, and Schnall (1995), Moharaji-Nelson (1998), and Schaufeli & Peeters (2000) acknowledged that with the reduction of occupational stress there is an increase in job satisfaction. (see Ameringen & Arseneault, 1990; Blais & Lachance, 1992a; Briner, 1994; Cooper, 1998; Crandall & Perewé, 1995; Dollard & Cormier, 1998; Finn, 1998; Grossi & Berg, 1991; Spector, 1997).

The results of the findings of this research question support the results determined by Pelsma, Richard, Harrington, and Burry (1989). Quality of work life was assessed by combining the perceived degree of stress and the perceived degree of satisfaction that was experienced by CSOs in the correctional environment of different establishments in the Montreal area. Stress, in this research, was perceived as being intrinsic to the individual and/or extrinsic regarding the organization.

Regarding gender-role differences in the workplace, namely male and female expected CSO work roles, these were perceived differently by CSO workers. As a result, there was a significant influence of motivation on quality of work life for both male and female workers in relation to career development and work-related behaviors in this field. Women who chose to work in a male-dominant career, such as a CSO in an all-male or all-female prison or institution which offers above-average pay, status but limited upward mobility, and fewer opportunities reported lowered percepts of self-efficacy in career decision-making and the sense that they were not valued in their careers. These findings corroborate those on gender-related differences as highlighted by Cullen, Link, Wolfe, & Frank (1985), Eichinger, Heifetz, and Ingraham (1991), Geller and Hobfoll (1994), Gianakos (1995), Stinchcomb (1986), and Zupan (1986).

It was determined by Long (1989) that in the workplace, traditional-type women may receive approval from others and experience less interpersonal strain as a result of this. These findings have also shown that female CSOs seek out this type of external support and, as a result, appear to have a stronger ability to cope with occupational stress and amotivation within the Montreal correctional settings in the Montreal area. However, as these findings as well as findings of Long (1989) emphasized, women do seek external support and this is perhaps due to female role-congruent behaviors. However, this traditional behavior may also undermine professional success as defined by Bhatnagar (1988). Again, these findings determined that women need to feel more comfortable in their work role as CSOs, as well as working with men, as a result of the myth of the prison setting and being in an all-male environment. Female CSOs occupy nearly 45% of the total CSO population in the Montreal area. Women reported a higher level of external and internal amotivation as well as heightened levels of internal and external support.

As a result, women also shared with their male counterparts the outcome results that as female CSOs became older and had a higher level of work experience they shifted away from intrinsic motivation to the extrinsic need for reward as a means of coping with the negative context of the work environment. Women reported being more sensitive to complaints made by workmates than their male counterparts and were also more empathic with the male inmate population. Hence women would be less depersonalized (emotionally distant from their task at work) in comparison to male CSOs. Relationships with superiors, colleagues, and subordinates were indicated as being stress related for both male and female CSOs. It was also determined that the mistrust of co-workers was related to high work-role ambiguity, poor communication, low job satisfaction, low motivation, and poor psychological well-being. These findings were also determined in a similar study done with American correctional officers, by Cooper and Cartwright (1994), Gross, Larson, Urban, and Zupan (1994), Hurst and Hurst (1997), Walters (1993), and Zupan (1986).

Taken together, the present findings indicated that male and female CSOs, who were older and had longer work experience, differed significantly from younger and less experienced CSOs in terms of amotivation and sense of quality of work life as measured by the QWL-F, the BWMI-F, and the demographic questionnaire. As a means of coping with occupational stress and amotivation, older workers focus on extrinsic reward as a payback and become less intrinsically

motivated and also had amotivation and dissatisfaction as an outcome. Both full-time and part-time males did not consult with external and internal resources or supports as much as full-time and part-time female CSOs. It can be deduced that as a result of this, full-time male CSOs would be more likely to demonstrate amotivation and heightened occupational stress.

Women followed a similar pattern, although, they appeared to be more at ease in consulting with EAP (Employee Assistance Program) specialists or with internal or outside resources, perhaps as a result of their expressed sensitivity to internal and external support. As a result of this, the primary gender difference is that women will communicate their issues more so than men as they become older and have more experience. Hence, female CSOs appear to be able to deal with work stress better than men in the correctional environment in the Montreal area as a result of their higher expressiveness, their ability to seek help outside and inside the work environment. This form of coping style related to adaptive work functioning (Havlovic & Keenan, 1995) will ultimately buffer the impact of stress in the workplace by intrinsically providing self-support and other networks.

As was indicated in the self-reported QWL-F survey and the BWMI-F inventory, more specific differences (regarding levels of motivation regarding quality of work life) were noticed with the different CSO groups (male and female) of different status (full-time and part-time) for the results and the findings of this research question. Individual differences were quantitatively accounted for and were noticed at different levels.

Group differences for Satisfaction, a composite of the Quality of Work Life, indicated that with higher levels of Satisfaction full-time and part-time females showed more variance in regards to External Amotivation and years of service. Part-time and full-time males scored differently and showed higher levels for the BWMI-F items Intrinsic Knowledge of motivation, External Amotivation, Stimulation, and Time. This indicated that younger male CSOs perform their activities with the goal of learning something new about their occupation. Exploratory behavior, curiosity, and knowledge of new events may best apply to this type of Intrinsic Knowledge motivation, which usually depend on a level of intellectualization (such as CSOs who have just completed academic training). Furthermore, young male CSOs beginning their career perform their work through an intrinsic risk-taking standpoint. Again, this type of Satisfaction motivation is usually associated with individuals whose careers are at higher physical risk, which involves split-second decision-making as determined by the BWMI-F.

Group differences for Stress, also a composite of the Quality of Work Life survey, indicated that with higher levels of stress full-time females showed heightened levels of External Amotivation and years of service. Part-time and full-time females showed moderately high levels of Amotivation as they increased in age and in length of service. For full-time and part-time males External Amotivation, Stimulation and Knowledge were the clearest indicators. Group differences were also indicated for full-time and part-time females with regards to Intrinsic Knowledge pertaining to their length of service as predictors for quality of work life. Part-time and full-time males scored differently and showed heightened variance with regards to Intrinsic Knowledge, Stimulation and External Amotivation as significant predictors of quality of work life.

Hence, the findings of this research question determined that different sources of stress, such as poor communication, internal squabbling, and work-related politics, were experienced differently for men and women alike in the CSO setting. Clear gender differences were noted in the findings of this study research question, although these differences were not the unique moderating factors of the relationship between psychological health and stress in the workplace. Gender-role did have an impact with regard to the assessment of the different Pearson correlations as well as the multiple regression analyses. Organizational structure and work climate were also seen to be associated with Work Satisfaction and Amotivation for men and women alike. However, the findings of this study demonstrate that men and women cope differently with work stress-related conditions in different environments as was also determined by similar research done by Gross, Larson, Urban, and Zupan (1994), Hurst and Hurst (1997), Walters (1993), and Zupan (1986).

Affective responses, such as workplace jealousy and envy amongst employees, have even been blamed for pathological outcomes such as workplace violence and harassment (Vecchio, 1995). Although this was not directly determined for CSOs in the Montreal area, through the data analysis, there were results that indicated heightened stress with regard to lack of social support. On the other hand, CSO relationships offering support and attachment for men and women alike were shown to have positive effects pertaining to work satisfaction and motivation.

Cognitive appraisal, administrative support, attachment, organizational structure, and climate were also associated with quality of work life, motivation, and gender issues. These results correlated highly with the ones indicated in this research question's findings. These

research findings are also corroborated by Anderson and Grunert's (1997) study. Also, poor supervisory role, its impact on gender differences and its association with occupational stress were also some of the additional findings that were highlighted in a different study and that were not reflected through the findings in this research question. Hence, different supervisory styles for men and women were also shown to have an impact on CSO worker motivation, work satisfaction, and perception of occupational stress (Blanchard, 1993; Kuhnert & Palmer, 1991).

The results found in this third research question did not support the view posited by Bruhn (1989), Levi (1990), Dorn (1992), and Sowa (1992), on occupational wellness. The above-mentioned authors viewed stress, in small amounts, as conducive to intrinsic motivation, productivity, and creativity. Within correctional establishments in the Montreal area CSOs did not report any correlation between occupational stress with quality of work life or work satisfaction. Similar findings can be related with stress and motivation variables through the correlation and multiple regression analyses of this study. Although the above-mentioned authors state that occupational wellness and positive stress are positively correlated and that a worker's sense of self and career are both linked to a global sense of work satisfaction, this phenomenon was not observed with the sampled CSO population of this study.

The relationship of the regression results of QWL-F and the BWMI-F did not support a stress/wellness approach. This research did not corroborate the findings by Sauter, Murphy, and Hurrell (1990) and Sauter (1992) that initiated the focus on well-being or occupational wellness. Although it was politically encouraged by the different establishments' local administration representatives to understand the different occupational stress factors in the correctional environments and to improve negative situations, this perspective was not acknowledged by CSOs in the Montreal area. CSOs, as a whole, did not feel encouraged by their work situation, were amotivated and were not feeling motivated, be it extrinsically or intrinsically. The goal of local administrations to encourage worker motivation, and to understand how certain workers would perceive and experience work-related stress differently, was also considered. This perspective was not acknowledged by male and female CSOs, as a whole. When union representatives suggested this, the outcome was different. Hence, CSOs were not supportive of local and regional administration attempts to understand stress and worker motivation, but were encouraged by local union attempts to do so.

The results of this research support Hendrix, Steel, and Schultz's (1987) findings that the way in which occupational stress is experienced by an individual, along with the individual's combination of intra-personal and extra-personal concerns, had a major effect on that individual's career identity. With an understanding of occupational stress, satisfaction, and motivation, a felt-stress perspective was viewed differently from one CSO to another depending on gender and work status.

As a summary to this third research finding, past research in this area has always attempted to imply that a stressful condition, as opposed to the individual, has always had the most significant influence on stress level. Moharaji-Nelson's (1998) research findings determined that stressful situations, job satisfaction, quality of work life, and occupational stress were also contributing components that involve many factors for CSOs. Improved health and personal well-being were shown to increase an individual's ability to cope with stress. As previously indicated, pay rate, occupational security, benefits, type of work, and other factors played an enormous extrinsic role regarding work satisfaction. Older workers were more likely to report feeling amotivated and needing extrinsic reward to continue their work. Perhaps this is due to the fact that older CSOs did not "choose" but rather "decided" to work in a correctional setting. Younger CSOs, when entering the correctional setting, are required to have received theoretical and clinical training in correctional intervention work, criminology, social work, or psychology. This finding is consistent with previous research, which reports that older workers continually reevaluate their satisfaction regarding commitment to their jobs (Ornstein, Cron, & Slocum, 1989), exhibit career stability based on realistic self-perceptions of needs and talents (Blais, 1993; Deci and Ryan, 1985), and report greater career self-efficacy reflective of methodological self-appraisals (Gianakos, 1996). As older CSO workers may perceive fewer career opportunities due to age and/or may be constrained by family obligations, they may be less likely to search for intrinsic career growth within their correctionnal work context. As a result, older male CSOs become more amotivated and are dissatisfied with their occupations, which becomes individually detrimental to their career identities or health.

Research Implications

These research findings and the general model of this investigation showed that the combination of the BWMI-F, the QWL-F, and the demographic questionnaire work well together. Explicitly, what made this study unique was the innovative use of the individual and

the combined scores of these two instruments, as well as the CSO-related demographic variables. Another unique factor of this study was the participant concentration on a French-speaking population in the Montreal area. Nearly all of the elementary statistical analyses, Pearson correlations, canonical correlation analyses, and multiple regression analyses supported all of the implicit and explicit research assumptions that were determined in the three research questions of this investigation.

Initially, it was predicted that individuals who expressed high levels of quality of work life would rate themselves high on a number of positive associated variables. This would be indicative of a positive view of self of CSOs in their work context. It was also assumed that participants would indicate a lower than average self-perception of job satisfaction and motivation (both intrinsic and extrinsic) as well as a heightened sense of occupational stress and amotivation. These predictions were confirmed in this study through the findings of the research questions.

Furthermore, the findings of this research support Pelsma, Richard, Harrington, and Burry's (1989) model on the multiple applicability of the QWL-F as well as Blais, Vallerand, Pelletier, and Briere's (1991) analysis of combining these two instruments in either English or in French. Hence, these instruments are not only adaptable with a school teacher population but with different occupational groups such as front-line workers including Correctional Services Officers in both federal and provincial institutions. Work satisfaction and work stress are strongly inversely related. As previously noted by Maslach and Jackson (1986), however, job stress is not simply a synonym for job dissatisfaction. It is possible that some related areas associated with low job satisfaction may not be producing job stress. Quality, as defined in this study, takes into account both satisfaction and stress in attempts to provide for a more accurate picture of the working life quality for CSOs.

This study also supported numerous investigations showing that a strong inverse correlation between stress levels and work satisfaction scores were existent with this sampled CSO population. The findings of this research also confirmed that a decrease in stress would accentuate an increase in work satisfaction (Brenner, Sorbum & Wallius, 1984; Moharaji & Nelson, 1998; Spector, 1997).

Correlational analyses indicated that CSOs appeared to be genuinely more intrinsically motivated than extrinsically motivated. CSOs were not all classified into one group; the general

tendency of each group/subset of CSOs was towards an intrinsic motivation. Relying on the correlational analyses, CSOs do their work for internal motivation, pleasure, and out of desire to achieve and do something for the community.

Generally, amotivation, work dissatisfaction, and need for extrinsic rewards predominated as workers became older and had more work experience as CSOs in the Montreal urban area. Differences in regard to gender and work status were also highlighted. Hence, younger male and female workers showed heightened intrinsic motivation regarding employment. Older CSO males with more than five years of experience were evidently more amotivated than their younger work colleagues, which supports previous studies (Blankertz & Robinson, 1996; Blau, 1986; Pogrebin, 1987). Female CSOs follow a similar pattern as their male counterparts; however, they were shown to be open to consult with EAP and/or mental health practitioners and/or with internal or outside resources as the demographic results indicated. According to the findings of this research, the primary gender difference seen in female CSOs was that they were more communicative than their male CSO colleagues. This was demonstrated through an analysis of the questionnaires, the correlations, and the regression analyses. Hence, as male CSOs increased in age and in length of service, they would have difficulty in communicating and expressing their concerns to internal and external resources. Older female CSOs also showed heightened stress levels; however, they were able to cope differently than expecting uniquely extrinsic rewards. Hence, female CSOs, who reported being more stressed and amotivated, appeared to be able to deal with work stress better than men in the correctional environment in the Montreal area as a result of their higher expressiveness and their ability to seek help outside and inside the work environment. (Gross, Larson, Urban, & Zupan, 1994; Hurst & Hurst, 1997; Walters, 1993; Zupan, 1986).

Furthermore, it was determined that there was not a general sense of occupational wellness and work satisfaction among both younger and older workers. Positive perspectives of work stress were not highlighted as determined by Bruhn (1989), Levi (1990), Dorn (1992), and Sowa (1992), on occupational wellness. Stress in the workplace was not seen as being synonymous with intrinsic motivation, productivity, and creativity. Within correctional establishments in the Montreal area, CSOs did not report any correlation between occupational stress with quality of work life or work satisfaction. In fact, they were inversely related. Although the above-mentioned authors state that occupational wellness and positive stress are

positively correlated and that a worker's sense of self and career are linked to a global sense of work satisfaction, this phenomenon was not observed with the sampled CSO population in this study.

The interplay of the multiple regression analysis results of QWL-F and the BWMI-F did not support a stress/wellness approach as was highlighted earlier. This research did not corroborate the findings by Sauter, Murphy, and Hurrell (1990) and Sauter (1992) that initiated a focus on well-being or occupational wellness. Although it was politically encouraged by the different establishments' local administration representatives to understand the different occupational stress factors in the correctional environments and to improve negative situations, this perspective was not acknowledged by CSOs in the Montreal area. CSOs, as a whole, did not feel encouraged by their work situation, were amotivated and were not feeling motivated extrinsically or intrinsically. The goal of the local administration to encourage worker motivation, and understand how certain workers will perceive and experience work-related stress differently, was also considered. However, it was not acknowledged by male and female CSOs, as a whole. When union representatives suggested this, the outcome was different. Hence, CSOs were not supportive of local and regional administration attempts to understand stress and worker motivation but were encouraged by local union attempts to investigate the milieu, as was determined with the authorization to conduct this study in the Montreal area.

In general, it was determined that greater self-determined forms of motivation (intrinsic and extrinsic) will be more positively related with quality of work life; an overall quality of life for BWMI-F was therefore determined in these research findings. Therefore, CSOs having an internal sense of autonomy would present higher scores on the self-determined scales (all Intrinsic Motivation items and one Extrinsic Motivation variable items excluding Amotivation) and lower scores on the non-self determined scales (two Extrinsic Motivation variable Items and External and Internal Amotivation items). Therefore, the findings of this study support the continuing results and the internal validity and consistency of the BWMI-F, which assesses eight forms of motivation based on the most contemporary version of the self-determination theory (Deci & Ryan, 1985, 1991) when combined with the adapted version of the QWL-F for CSOs in the Montreal area. The combination of both these instruments was deemed as being fit by Blais and his colleages for different work groups and occupations, and the results of this study reflect the same situation from a theoretical and practical standpoint.

Applied Implications.

With regard to either a clinical or industrial/organizational psychology perspective, these findings indicate that changes need to be brought to the correctional work settings within the different institutions in the Montreal area. Local, national, administration and union representatives need to focus on the issues that were highlighted in the research findings of this investigation. Consideration of the theoretical findings will provide CSOs with the necessary environmental and organizational changes to improve quality of work life as well as work motivation. Furthermore, male and female CSOs of full-time and part-time work status should take the initiative in order to define their own intrinsic and extrinsic needs. CSOs need to individually and collectively be aware that increased work satisfaction and a positive perspective to work stress can promote wellness. Hence, self-perceived quality of work life and motivation, that were highlighted in this study, were indicative of the current situation for CSOs working in a front-line work milieu. CSOs of different work status and gender need to be individually and collectively assured by management and union representatives that worker communication and expression to both external and internal resources should be encouraged while workers' disclosure is maintained confidential.

The development of the QWL-F, as well as its adaptation for different work environments has confirmed the practical validity of its usage both alone and when combined with the BWMI-F with a correctional population in the Montreal area. The confirmation of the different research questions examined using these instruments has determined the basis and the need for this population to be assessed in order to understand the different relationships of work satisfaction, work stress, and motivation for CSOs as front-line workers. The use of the QWL-F and the BWMI-F, as a means of evaluating the quality of work life of correctional personnel working in Montreal institutions holds promise for identifying additional research questions and hypotheses that may precipitate from the findings of this investigation. For example, provided with diagnostic information on the nature of perceived quality of work life for CSOs, correctional management and local union representatives can focus their strategic planning and organizational development efforts to meet the specific needs of CSOs.

In regard to the implications for work personnel, individual CSO motivation and quality of work life scores may be provided in profile form so that clinical and administrative interventions may consider both individual and diverse issues pertaining to their workers. Data

from the combined standardized results of the QWL-F, the BWMI-F, and the demographic variables can be provided to help a correctional worker or a group of workers identify and address one or many problem area(s) for improvement of work satisfaction and motivation. Furthermore, with a theoretical and practical understanding of the existing trend in the Montreal area, clinicians can further develop interventions and investigations towards the practical applicability of the findings of this research within the establishments examined in this study, as well as other areas.

The bulk of the literature has determined that there is little support for emotionally distraught CSOs. Work in correctional institutions has been considered one of the more stressful occupations. Psychological concerns for CSOs in regard to the chronic exposure to specific stressors within a correctional environment, as well as the fear of physical altercations with residents, have been well documented. There has always been a need to provide CSOs with resources within and outside their work setting; however, as this research has shown, male CSOs continue not to use these existing internal and external resources for support.

Although many correctional establishments provide direct help to aid CSOs, the literature has shown that these services are not fully used by its personnel who have psychological difficulties. Although many establishments boast of having EAP services, the percentage of CSOs who refer to these services remains limited. There appears to be an intrinsic fear of expressing difficulties within the work environment. This fear has been associated to being "denounced" to the local administration or appearing weak in front of fellow CSOs or not following the so-called "code of honour". Seeking psychological services and counseling is seen as a "double-edged sword" in the para-military CSO environment. There is also a collective belief that external resources cannot understand the true work life implications for CSOs within the correctional milieu. Hence, CSOs are not provided with the means to cope with stress and amotivation and do not seek support. When working within an aggressive front-line milieu, such as a correctional environment, CSOs continue to express an ambivalent message that administration and union officials do not understand the existent reality of the front-line work. CSOs also believe that administration and union officials need to understand and pay attention to the specific staff mindset and demands of its personnel.

The need for a stronger presence of EAP programs is a relatively new topic for CSO personnel. Correctional administration as well as local and national unions have long addressed

their impartiality as well as respect of confidentiality regarding their CSO personnel seeking help. Dhaher (1996) reported that the general attitude is for distraught CSOs to "shake off their issues and get over it". However, this is not the outcome that the findings of this research have indicated. Increased work dissatisfaction, work stress, and amotivation are the evident long-term perceived outcomes for CSOs. Generally, when CSOs begin their careers they often feel intrinsically motivated and enthusiastic. Older and more experienced CSOs were shown to consider the new CSOs as being young, idealistic, and naive as a result of their intrinsic drive. Young CSOs report that older and more experienced CSOs are frustrated and do not understand their "choice" to work in a correctional institution as opposed to an outcome. After a few years, the majority of CSOs become cynical and hardened to the exposure of front-line work. Furthermore, the results of this study support that the negative attitude (amotivation) of these older and more experienced CSOs spills outside the work setting and into their personal lives. Similar to Lemire's (1991) study, the CSO culture instructs its members not to "talk out" their problems outside their particular world of work, which confirms the law of silence and perceived honor of the "thin blue line" perspective. Through this perspective CSOs, similar to police officers, resort to each other for support as opposed to seeking external help for psychological support. Hence, a wall of silence is created within the milieu of the correctional environment resulting in increased CSO work stress, dissatisfaction, and amotivation. This "blue wall of silence" distances CSOs from outside resources and promotes increased isolation, negative stress and ultimately distress.

Dhaher (1996) reported that CSOs felt that they lacked internal support, work challenge, work autonomy, variety, flexibility or security in their jobs. CSOs also reported trouble in resting, relaxing, as well as planning for the future. Failing to care for one's physical, intellectual, emotional, spiritual or social needs was also seen in Dhaher's (1996) study on the CSO population within one correctional establishment in the Montreal area. CSOs reported lower energy, diminished vitality, and a dampened zest for life. Although CSOs work hard, make tremendous sacrifices to soar to the top of their field, they seem to "run out of energy". Heavy workloads, ambiguous job descriptions, a rude clientele, lack of knowledge or information, an impersonal work environment are also other work stressors for CSOs.

Some of the questions that have arisen in this study attempt to address why CSOs report being increasingly irritable, tired, pessimistic, socially isolated, and generally do not

communicate their feelings or concerns. As the results of this investigation have corroborated the research data that CSOs feel powerless and amotivated as a result of their occupation, further clinical assessment of the practical findings needs to be addressed as well as why CSOs suffer from insomnia, headaches and/or other psychosomatic complaints.

However, as a means of preventing or reducing occupational stress and amotivation as well as increasing work motivation, different techniques have been determined. Researchers in the field have demonstrated that work stress and amotivation for CSOs is preventable. A possible treatment may be short-term or long-term psychotherapy which may become a catalyst for developmental growth for the individual. For example, one study reported that many police officers and front-line workers such as social workers and ambulance workers stay healthy because they are committed, challenged, have control over their destinies, feel supported by others, and are in a psychotherapy process. They thrive on adversity, and have learned to use stress as a source of energy that helps them get their work done as well as permitting a positive sense of personal accomplishments. The philosophy of adopting a wellness perspective can also be considered as determined by Sauter, Murphy, and Hurrell (1990) and Sauter (1992) to eleviate the detrimental effects of negative stress. Using stress positively, as opposed to experiencing stress negatively, can result in enhancing motivation and avoiding distress and burnout. This is one of many reason why CSOs need help to focus on their own individual sense of motivation and quality of work life. Hence, it is more relevant for CSOs to focus on the implications of work stress and job satisfaction through a quality perspective as opposed to ponder the negative "dead end" perspectives of burnout.

As a result of this research and the findings, there are positive implicit changes that CSOs can focus on as a means of positively improving their quality of work life and self-perceived motivation. Individual-oriented and organization-oriented approaches to reduce job stress and increase work satisfaction can focus on improving human resources management, professionalization of CSOs, and improvement of external and internal resources available to CSOs. There are several other individual-oriented changes that could be included in CSOs' lives:

(1) The development of professional and organizational development programs. The focus could be directed at leadership training and strategic planning, and focus on the work environment as a learning organization ought to be considered. Also, the development of various work-related research programs. Correctional workers are trained to work as a team. When one

team member is not present or is aloof there are stress and danger concerns that arise within the team. The inconsistency of team work and its members during the application of diverse correctional operations will usually create a lack of motivation. Correctional administrators should enforce the consistency of team work and train their personnel in this manner. The development of clear work procedures for strategic operations and the consistency of the personnel in each unit is crucial. The mix of CSOs from different sections, different establishments, or without prior experience or knowledge of the classified population should not be encouraged without the proper training, exposure, and work-related preparation.

(2) An employee competency training program: CSOs can seek challenges at work or in work- related leisure activities in order to futher their own development. CSOs can list their work energizers and stressors in order to determine problems in potential areas as well as find appropriate solutions. Furthermore, workers could learn, develop, and expand their knowledge and be sent to local and international training seminars. These team workers could transfer knowledge and skills to fellow workers through a learning organization perspective.

(3) The re-assessment of the employee evaluation procedures. An employee committee in conjunction with union and admistrative officials could work at re-defining CSO work evaluations, emphasizing on intrinsic, extrinsic, and quality of work life determinants. Furthermore, CSOs could also come to evaluate their superiors as well.

(4) To increase a sense of self-respect, CSOs can engage in positive self-talk, individually as well as collectively. A focus on intrinsic self-determination rather than extrinsic reward as might be influenced by certain workers.

(5) To establish clear and healthy work boundaries. CSOs can realize that a sense of balance between work and off-work activities is the key to health (avoid spillover stress). This perspective could be considered by local and national EAPs with regard to CSO work.

(6) CSOs could be permitted to restructure their work time (i.e, adjustable work schedule, flextime, etc) with local and national administrative as well as internal work supports. A revision of work procedures.

(7) CSOs could concentrate on the positive aspects of their work responsibilities. CSOs could focus on choosing to do their work as opposed to doing it by obligation. Further professional development ought to be offered to CSOs.

(8) It is apparent that CSOs and correctional administration staff tend to have a more pessimistic outlook. However, if the positive aspect of dealing with stress was reinforced for CSOs and their colleagues in the work milieu, perhaps a more positive attitude would result.

(9) CSOs need to keep their personal and work-related problems in perspective. Mistakes and setbacks can become valuable learning experiences. CSOs ought to accept responsibility for their actions without becoming oversensitive and overcritical. Openness and ownership are key to professional development.

(10) Finally, CSOs can develop more positive support systems within their local work contexts, and cultivate meaningful relationships with a variety of people including work associates. By doing so, CSOs can talk about frustrations with trusted individuals within and outside the work environment.

Alleviating workplace stressors is another tactic. The results of the research findings support some of the literature in organizational directed strategies to prevent or limit stress to improve work satisfaction (Cooper & Cartwright, 1994; Dignam & Fagan, 1996; Dollard & Winefield, 1998; Finn, 1999; Miller, 1998; Schaufeli & Peters, 2000; Shine, 1997). Eliminating or reducing stressors that are intrinsic to the job may involve ergonomic solutions, task/workplace re-design, internal and external worker support, and alleviation of work overload/underload by recruitment, skills training, appropriate selection decisions, and appropriate delegation. Clearly defining and negotiating work roles can help reduce occupational stress. Career development-related stressors can be alleviated by regular appraisals, retraining opportunities, sabbaticals, and career counseling. Home/work transition difficulties may be alleviated by diverse services such as counseling, occupational development, and the introduction of flexible working arrangements for the employee.

Moharaji-Nelson (1998) determined that decreased stress levels yield an increase in work satisfaction. Furthermore, different relaxation techniques and psychotherapy (stress management) will usually reduce stress levels which, in turn, increases occupational satisfaction. However, even the most effective relaxation methods required a long period of time in order to provide noticeable results. The results of this, though not statistically significant, did support a directional change in stress level: stress levels were reduced with the application of different stress management and psychology techniques. In the lower stress level group, a decrease in stress level was seen as well as an increase in work satisfaction.

General Limitations of the Study

The use of self-reported instruments is an inherent limitation to this type of research which has been addressed by several researchers concerning the measurement of quality of work life and motivation. There was a limited number of French-translated self-report measures that can effectively measure quality of work life as well as motivation. One may question whether the use of alternate scales to assess quality of work life, motivation, or coping would have produced different results. It would also have been interesting to note the differences when comparing English-speaking with French-speaking results with different CSO populations. Sampling and comparing with English correctional workers using the same original instruments without the French-translated versions could also have been considered.

Another limitation concerns the participants in this study. Although it was relatively easy to recruit CSO participants, it would have been interesting to assess all occupations existing within the Quebec correctional services including nurses, unit managers, case-load officers and administrative personnel. Although a wide perspective was considered with Blais' earlier studies, only CSO participants in one area were used in this study. Using different CSO workers in different areas as well as subdivions of different security levels (maximum security, medium security, and minimal security) within the province of Quebec may have yielded different results.

Another area that may have created a bias in the results, like similar investigations of this nature, was the lack of data from the CSOs who did not contribute by completing and returning their questionnaires. However, it must be noted that the number of questionnaires that were returned was exceptionally high (over 50% of the 600 that were distributed in the four establishments in the Montreal area). Logically, a higher statistical response would have made the findings even more substantial.

The findings using the QWL-F and the BWMI-F should still be interpreted with caution. Although item constructions of the inventories were exact duplicates of those translated by Blais and his colleagues, these inventories were utilized in a provincial correctional institution for the first time in this investigation. The analysis of the instrument's psychometric properties must continue regarding design, internal validity, external validity, generalizability, analysis, and statistical power. A larger sample size is needed to perform a complete validation of the QWL-F in the correctional milieus. Also, this research did not involve the rigorous multi-trait multi-method validation procedures outlined by Stevens (1996). Nevertheless, the results of this

research do seem to warrant acceptance, at least tentatively, of several conclusions, as indicated in the different tables and findings of this investigation.

A physiological measure of stress could have been considered to assess psycho-somatic responses to occupational stress, work dissatisfaction, and amotivation. Occupational stress was measured using subjective workload measures. Physiological measures would have assisted the researcher in understanding the physical response to stress, job satisfaction, motivation and job quality. Nevertheless, the quality of work life as well as the motivation measures were highly correlated, and were excellent at providing answers to the research questions.

Finally, this study was limited by the decision to use an average of the dimensions to measure average stress, motivation, job satisfaction and quality of work life. While this provides an overall index of perceived stress, job satisfaction, quality and motivation, it did not permit the research to quantify all of the infinite factors that may individually contribute to all the different levels of quality of work, stress, satisfaction and motivation for each individual CSO in the Montreal area. Furthermore, factors that are unique to the stresses of the Montreal area do not necessarily equate with those outside Montreal in other regions. This can also be said about the grouping together of the different correctional establishments in the Montreal area. The working conditions for a CSO in one specific environment can be different in another environment.

Directions for Future Research

Future research may address some of the limitations of the findings of this present study. With regards to the practice of psychology, what do our findings reflect within the clinical or industrial/organizational practice of psychology? From a purely technical standpoint, the first direction of improvement is to replicate the research, making adjustments to the sample size in terms of age representations, and education level and so on. Using the same analysis of QWL and BWMI with different work populations in front-line work, such as crisis intervention counselors or social workers, this would provide validation that the results observed from this study are indeed generalizable to a broader population of front-line workers.

Another direction for future research could be to bring these results to a practical application for clinicians and administrators. As mentioned in the research limitations, this study was primarily of a correlational and regression nature. There was no link in terms of either outcome (how do the different BWMI-F and QWL-F factors contribute to a successful and genuine quality of life) or cause and effect (why are certain motivation variables used more than

others in certain groups). The next logical step in terms of research would be to explore these two avenues.

While gender roles were associated with control-related coping styles, the analyses were correlational and no causation was implied. Also, participants were adult CSOs currently employed, and the present results may reflect reactions to the types of employments held by this occupational group specifically. Generalizing to other populations such as CSOs in different areas or correctional officers in federal government institutions must be considered with caution. Extrinsic and intrinsic variables and results will undoubtedly be different with different workers in different institutions, in different areas. To further expand on Gross, Larson, and Zuban's (1994) work on gender differences a more in-depth analysis in comparing provincial and federal, urban versus rural establishments could also have been considered with the perspective of gender differences. Also the gender-related findings of this research may not necessarily be generalizable to other professional occupations, as CSOs are considered front-line technical workers.

Future research may also benefit from differentiated approaches to the measurement of subjective self-reported stress, satisfaction, motivation and quality of work life. Finally, bias precautions were taken during this study in order to analyse and report the data and for it to reflect the reality of the CSO population as best as possible. Similar to studies done by Mendlowicz and Stein (2000), a clearer understanding of other "quality of life" studies could also have been considered in comparison to other quality of work life perspectives.

Longitudinal research could also be a focus for future research while examining the effects of stress, satisfaction, motivation and quality of work life. In addition, the use of more differentiated measures of stress and occupational stress could also be considered and may help to clarify, refine, or redefine the understanding of alternate relationships between stress, motivation, satisfaction and quality of work life between genders and according to work status. Unobtrusive physiological measures to assess for stress levels and behavioral concerns could also be considered. Hence, further studies of this nature ought to provide greater information to guide the selection and training of CSOs in any area or establishment. Longitudinal studies using the same and more sophisticated statistical instruments could also be considered as a support or to critique the analysis of this pioneering work.

Using a qualitative analysis as well as quantitative analysis could also have brought a different perspective to this study. By using a combination of qualitative and quantitative research methods this could also provide additional useful information that is not found in the quantitative self-reported questionnaire format. Although quantitative research seems to be more accepted in social science research methodology, qualitative studies appear to have been more widely recognized as a flexible, in-depth, and descriptive method of research that can also support or critique quantitative results.

Comparing stress levels, work satisfaction levels as well as motivation levels in both provincial and federal correctional establishments ought to also be considered in future research. Although the nature of provincial and federal establishments differ significantly, these comparisons could yield interesting complementary results to the findings of this analysis as well as in the field of correctional research. Assessing satisfaction, stress, general quality of work life, and motivation at different intervals as well as frequencies (in time) could also be considered as a means of more clearly understanding the work environment of correctional establishments in the Montreal area. Furthermore, comparing the front-line occupation of CSOs could be compared with other similar front-line occupations for men and women alike in a part-time and full-time work status. A larger sample with a greater number of CSOs could also have been considered, taking into account different provincial prisons in Quebec. Comparing provincial establishment results with those from federal penitentiaries could also have been considered.

Future directions of research could also include a coping component as defined by Aronson (1997), Festinger (1957), Folkman and Lazarus (1991), and Steffy and Laker (1991). At the time of assessment of this study there were no officially French-translated and validated instruments to measure coping. Although the motivation and quality of work life instruments used in this research surveyed the material and the sampled population in an appropriate manner, more sophisticated analyses could have also been considered. Further analysis of other related studies in the field of motivation, job satisfaction, job stress and quality of work life ought to be considered with related coping studies.

Regarding the outcome of the research findings, it would be useful to have a measure of successful coping that could then be related to the use of different coping strategies. If this relationship could be established in future research, a link between coping and motivation could be determined. In addition, the reinforcement of the use of healthier or more successful coping

strategies could be considered with perspectives of quality of work life in clinical interventions with front-line workers such as CSOs. Looking at these data, one could suggest that younger males and females cope more because they were intrinsically motivated. Research that would connect the different themes of this research with the coping literature would be extremely useful and could be a guide for assessment by clinicians and researchers in understanding motivation and quality of work life. The use of more effective coping strategies and the development of this perspective could serve to progress the field of career psychology and organizational development in this area. Furthermore, comparing different education levels for CSOs could also have been considered in regard to motivation and quality of work life.

Regarding cause and effect, it would be interesting to have future research examine the reasons why particular motivation and quality of work life instruments are used more often than others, or to a greater degree than the others (more intensity). What are the motivators or drivers in these types of behaviours? Increased research regarding social support as well as communication styles, within this particular culture of work such as CSO front-line workers, ought to be considered. Understanding this causation would help clinicians and researchers ascertain whether participants are finding that social support to alleviate work stressors and augment motivation is effective. It would also be helpful in understanding why certain motivation factors and quality of work life factors were not highlighted or considered in this research.

Finally, future research could also examine the effects of quality of work life and motivation using repeated measures, within-subject designs and other sophisticated statistical designs for men and women of full-time and part-time status. By examining different research variables with the data collected in this research, different perspectives could be considered while using other multivariate and univariate statistical designs.

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Glossary

Accomplishment: Fulfillment, completion; thing or situation done or attained.

Administration: Management (of business) management of public affairs, a government; a ministry, etc.

(A)motivation: A personality pattern (rather than a recognized clinical entity) consisting of apathy, passivity, loss of drive for achievement, a tendency to drift, low frustration tolerance, and difficulty in concentrating and following routines. Amotivation, within an occupational context, will occur when an individual is unable to reach his/her goals and does not perceive the concordance or dissonance between actions and consequences. Non-self-determination will occur when a person will feel a high level of amotivation. Intrinsic and extrinsic levels will be referred to as intentional regulations of behavior. Deci and Ryan (1985,1991) propose that amotivation is not related to an intentional regulation, it is associated to a non-regulated or a non-intentional behavior. Amotivation within a work context will correspond to a person who perceives and will expect a non-contingency between consequences and behavior. Blais, Vallerand, Pelletier, and Brière (1993) determined that amotivation should be considered through both external and internal perspectives.

External amotivation will correspond to the pursuit of an activity in resigned fashion, without control, influenced by an external environment (i.e., a person doing a job without knowing why he/she is doing it and by realizing that his/her superiors have non-realistic expectations of their employees).

Internal amotivation, on the other hand, will correspond to a person's belief that the pursuit of an activity or job in a resigned fashion, without control, is not due to external environmental factors but is the result of self (i.e., a person feeling that he/she is doing a job with a clientele while believing that he or she does not have the social abilities to establish adequate social contact with this clientele).

Blais Work Motivation Inventory (French-translated): the BWMI-F is composed of eight scales assessing three forms of intrinsic motivation (IM to know, to accomplish and to experience stimulations), three forms of extrinsic motivation (external, introjected, and identified regulation), and two forms of amotivation (internal and external). The theoretical underpinnings of the BWMI-F(rench) are based upon self-determination theory (SDT; Deci & Ryan, 1985, 1991). The BWMI-F is comprised of an Intrinsic Motivation measure including items of

Accomplishment, Knowledge, and Stimulation. The Extrinsic Motivations measure is composed of items called Identification Regulated, Introjection Regulated, and External Regulated. There are two amotivation measures called Internal Amotivation and External Amotivation.

Career development: Elements of a person's experience that contribute to the formulation of a "work identity", including life experience, education, career choice, on-the-job experience, level of professional achievement, and degree of satisfaction.

Clientele: Customers or persons who seek professional advice.

Correctional Services Officers (CSOs): Agents employed by the Quebec Ministry of Public Security and Correctional Services. Work functions include, on a daily basis, to ensure the security and care of an incarcerated population (sentences ranging from a 0 to 2 years) CSO are assigned to different work sectors and have as a responsibility to maintain the security and well-being of residents. Incarcerated residents will either hold a detention or prevention status. Responsibility for case-load process, liberation, case follow-up, case preparation for conditional liberation, temporary absence, and eventual social reinsertion into the community may also be part of the CSO work mandate. Clinical psycho-social evaluation and orientation of cases in resource centers while providing aid, counsel, and support within an institutional framework will also be a job function for certain CSO.

Correctional Psychology: A branch of psychology concerned with the application of counselling and clinical techniques to delinquents and criminals in penal and correctional institutions (reformatories, training schools, penitentiaries). Correctional psychologists also participate professionally in court activities , probation departments, parole boards, prison administration, supervision of inmate behavior, and programs for the rehabilitation of offenders.

Correctional Service (Quebec Provincial): There are 17 detention centres across Québec within the ministère de la Sécurité publique that employs full and part-time CSOs. The mission of the service is to promote the social reintegration of detainees while ensuring a safe living environment, which is considered to be essential to fully exercising individual rights and liberties, as well as being favorable to an individual's development.

Correlational Study: The studies of acts of processes in which two or more variables co-vary, usually with the objective of establishing an orderly relationship between the variables or of considering them together in order to find relationships.

Criminology: The science of the causes, effects, and socio psychological aspects of crime, including penology and rehabilitation.

Demography: The statistical study on human populations in regards to various factors including geographical distribution, sex and age diostribution, size, and population trends. Demographic patterns are revealed by a study of population variables such as the ones described in the demographic quetionaire of this investigation.

Distress: To exhaust or weaken with strain which causes extreme pain, suffering, etc. To be distressed implies being anxious, suffering, troubled.

Environment: Surrounding; surrounding objects, region, or conditions, esp. circumstances of life of person or society.

Externalization: The projection of one's own thoughts into the external world, as in ideas of reference; also the process of learning to distinguish between the self and the environment during childhood; also, the process by which a drive comes to be aroused by external stimuli instead of internal stimuli.

Forensic Psychology: Application of psychological principles and techniques in situations involving the law, including (a) the evaluation of testimony, (b) functions of the expert witness in commitment and criminal proceedings, (c) methods of interrogation, (d) guilt detection, (e) legal policies involving human relations, (f) diagnosis and therapy in correctional institutions, and (g) providing assistance in development of laws on such problems as adoption, juvenile delinquency, drug addiction, and intergroup conflicts. Also called legal psychology.

Identification: The process of associating one's self closely with other persons and assuming their characteristics or views. This process takes many forms: The infant feels he is part of his mother; the child gradually adopts his parents' attitudes, standards, and personality traits; the adolescent takes on the characteristics of the peer group; the adult identifies with a particular profession or political party. Identification operates largely on an unconscious or half-conscious level, and may be used as defense mechanism; that is, allying one's self with others may be a source of security and an antidote to anxiety.

Institutionalization: Placement of an individual in an institution for therapeutic or correctional purposes; also, the individual's gradual adaptation to institutional life.

Interruption: Act so as to prevent from proceeding continuously; obstruct; break the continuity.

Introjection: The process of incorporating another person's or group's standards and values into one's personality. E.g., a child adopts his parents' attitudes, or an adolescent adopts the behavior of the peer group. This process may also be used as a defense mechanism in situations that arouse anxiety.

Knowledge of Results: A principle of learning that states the learner profits from immediate information about his progress, e.g., about the accuracy of his/her responses on a test or quiz. According to this principle, prompt feedback is more effective than delayed feedback in reinforcing correct responses and helping the learner to focus on problem areas.

Motivation: The process of initiating, sustaining, and directing psychological or physical activities; also, any internal force (impulse, drive, desire) that is involved in this process. Motives may operate on a conscious or unconscious level, and are frequently divided into (a) physiological, primary, or organic (such as hunger and elimination), and (b) personal and social, or secondary (affiliation, competition, and individual interests and goals). Motivation can either be extrinsic, intrinsic, or amotivated (see individual definitions).

Motivation (Intrinsic): Any motive or incentive that is inherent in a specific behavior or activity, e.g., studying that is motivated by genuine interest or pleasure in the subject rather than the need for course credit. An intrinsic reward is implicit in an activity, e.g., the pleasure or satisfaction of developing a special skill. Intrinsic motivation is based in the innate need for competence and self-determination. It energizes a wide variety of behaviours and psychological processes for which the primary rewards are the experiences of autonomy. Intrinsic needs differ from primary drives since they need not break into awareness or push to be satisfied. However, intrinsic needs, like drives, are innate to the human organism and function as an important energizer of behavior. Intrinsic motivation may also interact with primary drives to either amplify or reduce drives or effect drive satisfaction. Hence, intrinsic motivation is the stimulation or drive stemming from within oneself. In regards to learning intrinsic motivation is associated to wanting to learn by the motive to understand originating from one's own curiosity.

Stimulation-based intrinsic motivation corresponds to the individual, within the work context, who performs an activity or many activities that will result in satisfaction. It is the process of such an activity, through sensorial pleasure, that will motivate the individual to seek out and perform an activity through an intrinsic standpoint. Stimulation-based intrinsic motivation may be associated to careers that involve high risk taking such as fire fighting,

policing, ambulancing, and correctional service. These types of careers that involve peak experiences will bring individuals to feel that their creativity and esthetics are considered an important part of their work task and environment (e.g., artists, professional athletes, and surgeons). Again, this type of motivation will be most associated with individuals whose careers are at high risk which involves split-second decision making (Berlyne, 1971a; Blais & Lachance, 1992b; Blais, Brière, Lachance, Riddle, & Vallerand 1993; Csikszentmihalyi, 1978)

Knowledge-based intrinsic motivation may be associated to individuals who perform activities in the goal of learning something new. Exploratory behavior, curiosity, and knowledge of new events may best apply to this type of motivation which will usually depend on a level of intellectualization (i.e., teaching and academic research).

Accomplishment-based intrinsic motivation corresponds to the accomplishment of personal activities for personal optimal pleasure. A person that works for the simple pleasure of doing a job and accomplished tasks as originally and efficiently as possible and were self motivated by the sheer sense of accomplishing a task.

Motivation (Extrinsic): Any motive or incentive that is external to a specific behavior or activity, especially motivation arising from the expectation of punishment or reward, e.g., studying motivated by the fear of an examination. An extraneous reward that is not logically related to the performance or behavior itself. Compare intrinsic motivation. Extrinsic motivation is defined as the way in which one practices an activity and is motivated by instrumental reasons or the process of doing an activity to reach a result (i.e., the means to an end). Deci and Ryan (1985,1991) acknowledge that extrinsic motivation is self-determined and self-regulated. Extrinsic motivation can be categorized through different levels of regulation that are external, introjected, and identified.

External-regulated extrinsic motivation is associated within an individual who conducts his/her work in the goal of obtaining appreciation as opposed to material or social punishment from his/her environment. Through this perspective of motivation, an individual is dependent on others to regulate the motivation within a work context. It is assumed that this form of motivation can be considered an important source of interpersonal conflict.

Introjected-regulated extrinsic motivation is associated with a primary level of self-regulation or self-control. An individual will, at this level, learn to motivate him or herself through a personalized understanding, more or less aware, of one's level of involvement within a

work context. An individual, through this perspective, will attempt to avoid failure and focus energy towards completion and success of a project or goal. An individual will work at ameliorating one's sense of success by putting self esteem in question and by leaving mental and physical health on a secondary level.

Identified-regulated extrinsic motivation will correspond to an individual that will have an introjected view of his or her work and will understand through a self control viewpoint that he or she will have the choice to either continue or abandon. This level of extrinsic motivation will be far more self-motivated as opposed to the introjected and external regulated motivations as mentioned above. At this level an individual will be less focused on the fear or failure, as determined by others and self, and will be more aware, through self-control, of other alternatives as possibilities (i.e., not feeling that self is obliged to accomplish but wishes to do so).

Occupational Stress: Tension and strain experienced by workers and/or executives on the job., arising out of such factors as resentment against superiors, disagreeable working conditions, fatigue, occupational hazards, excessive competition, or anxiety over possible unemployment.

Prison: A place in which a person is kept in captivity. A building to which a person is legally committed while awaiting trial for punishment. Also understood as custody or confinement within a penal institution.

Quality of Work Life Survey (French-translated): The QWL-F consists of 36 items that are used to measure satisfaction and stress. Each statement is rated on two dimensions using Lickert scales: satisfaction and stress experienced. The satisfaction scale is labelled at each point and ranges from "very dissatisfied" to "very satisfied". The stress range scale ranges from "extreme stress" to "no stress". The rationale for requesting two such ratings involves the assumption (Maslach & Jackson, 1986) that stress experience is not simply a synonym for job dissatisfaction. In combining two ratings, quality is defined as the sum of perceived stress (or lack of stress) plus the perceived dissatisfaction (or satisfaction) with factors inherent to the investigated occupation. The eight different items that are composed within the the QWL-F are: Interruption, Internal support, Rewards, Clientele, Environment, Administration, External support, and Time.

Regulation: Prescribed rule, authoritative direction. In accordance with regulations, of correct pattern, ordinary, usual, formal.

Reward(s): Extrinsic return or recompense for service or merit.

Self-determination: The control of one's behavior by internal convictions and decisions rather than external demands. It is the flexibility in managing the interaction of oneself and the environment. When self-determined, one acts out of choice rather than obligation or coercion, and those choices are based on an awareness of one's organismic needs and a flexible interpretation of external events. Self-determination often involves controlling one's environment or one's outcomes, but it may also involve choosing to give up control.

Stimulation: In general, any event or situation, internal or external, that elicits a response from the organism; or more specifically, any change in the physical-energy level that activates a sense organ, or receptor.

Strain: A term used to indicate excessive tension in a muscle or nerve unit, usually due to an activity overload, or in psychological adjustment, usually due to an emotional overload.

Stress: A state of physical or psychological strain which imposes demands for adjustment upon the individual. Stress may be internal or environmental, brief or persistent. If excessive or prolonged, it may overtax the individual's resources and lead to a breakdown or organized functioning, or decompensation. types of situation that produce stress include frustrations, deprivations, conflicts, and pressures, all of which may arise from internal or external sources. The term also used to denote emphasis put on a word or thought in speaking or writing. (The concept of stress was introduced to psychology by Hans Selye, around 1940.) Also see stress theory; Selye

Stress theory: The theory that certain stimuli perceived as noxious or threatening cause reactions that have adverse emotional, behavioral, and physiological reactions. See stress; General Adaptation Syndrome.

Stressor: Any event or force that results in physical or emotional stress

Stress situation: Any condition that puts an extra burden on the organism's capacity to adapt. Examples are extreme hunger, an over competitive environment, combat conditions, bankruptcy, marital conflicts, and a new and taxing job.

Stress tolerance: The capacity to withstand pressures and strains; the ability to function effectively under conditions of stress.

Support: Enable to last out, keep from failing, give strength to, encourage, endure, tolerate, which may be from self or external.

Time: Duration, indefinitely continued existence. allotted or available portion of time, the time at one's disposal.

Work Satisfaction: The attitude of a worker toward his job, sometimes expressed as a hedonic response of liking or disliking the work itself, the rewards (pay, promotions, recognition), or the context (working conditions, benefits).

Appendix A
Research Authorisations
and Participation Letters

Appendix B

Research Presentation

(Présentation de la recherche)

Appendix C

Participant Consent

(Consentement à la Participation)

McGill

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Consentement à la Participation

Cette étude **vise à mesurer la présence du stress à l'emploi, la satisfaction au travail, et la motivation et comprendre leurs inter-relations.**

Je comprend que ma participation à cette étude est sur une base volontaire, et que je suis libre de retirer ma participation à tout moment avant la remise du questionnaire. Il n'y a aucun risque personnel pour le ou la participant(e) lors du processus de cette étude.

Répondre au questionnaire ne prendra, à peine, une heure de mon temps. Je suis conscient que toute donnée ou résultat du questionnaire seront gardés complètement confidentiels et anonymes. Je retournerai cette brochure dans une enveloppe cachetée et je la déposerai dans une boite identifiée par le chercheur qui sera recueilli par un assistant(e) de recherche. La remise de cette enveloppe fera preuve de mon consentement et ma participation à cette recherche. **Je répondrai et je retournerai le tout le plus rapidement possible.** Le chercheur, Monsieur Richard Bolduc, sera la seule personne qui aura accès aux résultats de ce questionnaire. Après la retranscription, tout élément identifiant (noms, lieux, etc.) de cette brochure ou tout autre document seront détruits.

Comme participant, j'ai le contrôle ultime sur le questionnaire que j'aurai complété et je pourrai, en tout temps, retirer ma participation en gardant ce questionnaire en ma possession à la place de le remettre. Je pourrai ensuite détruire ce questionnaire à ma volonté.

Je comprends le consentement pré-cité et j'accepte de participer à cette recherche en ce mois de janvier de l'an 2000.

Signature participant(e) _____ **Date**_____

Signature du chercheur_____ **Date**_____

n.b. à remettre à l'assistant lors de la remise du questionnaire au participant(e).

Appendix D

Participant Questionnaires

{Questionnaire pour Participants

Comprenant Données Demographiques, les traductions francaise du

Quality of Work Life scale (QWL-F)

et le Blais Work Motivation Inventory (BWMI-F)}

DONNÉES DÉMOGRAPHIQUES

Veuillez fournir les informations suivantes:

1. Sexe:

__Homme

__Femme

2. Votre Age: ___ ans _____ mois ___/___/19( ) ( )

3. Quel est votre ethnicité culturelle? _____

4. Nombre d'années et de mois depuis votre embauche comme ASC:

_____années_____ mois

5. Heures travaillées par semaine comme ASC (en moyenne):

__Moins de 16 hrs/ sem __8 à 16 hrs/sem __16 à 24 hrs/sem

__24 à 32 hrs/sem __32 à 40 hrs/sem __Plus de 40 hrs/sem

6- Statut de votre poste d' ASC: __Permanent temps plein

__Permanent temps partiel

7- Vous occupez le poste d'ASC:

__ l'Établissement de Détention de Rivière des prairies (RDP)

__ l'Établissement de Détention de Montréal (Bordeaux)

__ l'Établissement de Détention de St-Jérome (St-Jérome)

__ l'Établissement Maison Tanguay (Tanguay)

8. Quel est votre salaire annuel brut, à titre d'ASC (en moyenne)?

__Moins de $25 000 __$25 000- $30 000

__$30 000- $35 000 __$35 000- $40 000

__$40 000- $45-000 __Plus de $55 000

9. Quel est votre niveau d'éducation?

__Secondaire complété __CEGEP complété

__Certificat(s) complété __Baccalauréat complété

__Maîtrise complétée __Doctorat complété

__Formation(s) professionnelle(s) relié(s) au rôle d'ASC

10. Quel est votre statut civil?

__Célibataire __Marié(e)

__Divorcé(e) __Veuf(ve)

11. Vous habitez.

__Seul __ Avec conjoint(e)

__Avec co-locataire(s) __ Avec parents

__Avec famille {i.e., avec conjoint(e) et enfant(s)} __Autre, préciser_____

12. Combien d'enfant(s) avez-vous à votre charge?

__zéro __un __deux __trois __quatre __plus de quatre

13. Avez-vous consulté un professionnel de la santé, dans la dernière année, en relation à votre travail d'ASC? __oui __non

si oui, * Avec un/des médecin(s): ___fois * Avec un/des psychiatre(s): ___ fois

* Avec un/des psychologue(s), conseiller(s), thérapeute(s), PAE, etc._____fois

(i.e., PAE = Programme d'Aide aux Employé(e)s)

14. Avez-vous pris un congé de maladie relié a votre occupation d'ASC dans la dernière année?

__oui __non si oui, _____mois___ journée(s).

Raison(s)_____

15. Avez-vous un parent, un membre de votre famille, ou un/une conjoint(e) qui est ou a déjà été Agent(e) Correctionnel(le)? __oui __non

Relation_____

16. Avez-vous une/des source(s) de support psychologique "<u>au travail</u>"

(i.e., collègue(s) de travail, conjoint(e), superviseur(s), PAE, etc.) comme ASC?

__oui __non si oui, la(les)quelle(s) _____

17. Avez-vous une/des source(s) de support psychologique "<u>à l'extérieur de votre travail</u>" comme ASC?

__oui __non si oui, la(les)quelle(s)

ami(es), conjoint(e), membre de votre famille, autre _____

18. Avez-vous une expérience de travail ou de stage qui est connexe à votre rôle d'ASC?

__oui __non si oui, comme _____ ; _____ année(s) mois____

19. Présentement, poursuivez-vous une formation professionnelle qui est connexe à votre rôle d'ASC dans le milieu correctionnel?

__oui __non si oui, laquelle_____ depuis _____

20. Est ce que vous avez une deuxième source de revenu?

__oui __non si oui, laquelle_____ depuis _____

21. Quel a été votre occupation précédente?

_____

22. Quel est ou a été l'occupation principale de votre père?_____

23. Quelle est ou a été l'occupation principale de votre mère?_____

LA QUALITÉ DE VIE AU TRAVAIL

A L'aide de l'échelle ci-dessous, indiquez à quelle intensité chacun des items suivants est d'une part une source de satisfaction et d'autre part, une source de stress, en *encerclant le chiffre* approprié à la droite des énoncés.

Veuillez répondre à toutes les questions !

***Attention:* Si l'item présenté ne s'applique pas actuellement à votre situation de travail, veuillez tout de même indiquer dans quelle mesure l'absence de cet aspect est pour vous, une source de satisfaction et une source de stress.**

1) Salaire.

Très insatisfait(e) **1 2 3 4 5** **Très satisfait(e)**

Aucun stress **1 2 3 4 5** **Stress extrême**

2) Avantages sociaux.

Très insatisfait(e) **1 2 3 4 5** **Très satisfait(e)**

Aucun stress **1 2 3 4 5** **Stress extrême**

3) Nombres de personnes incarcérées dans mon(mes) secteur(s) de travail.

Très insatisfait(e) **1 2 3 4 5** **Très satisfait(e)**

Aucun stress **1 2 3 4 5** **Stress extrême**

4) Temps quotidien alloué au dénombrement des personnes incarcérées.

Très insatisfait(e)				**Très satisfait(e)**
1	**2**	**3**	**4**	**5**
Aucun stress				**Stress extrême**
1	**2**	**3**	**4**	**5**

5) Temps quotidien alloué à la préparation de mon travail.

Très insatisfait(e)				**Très satisfait(e)**
1	**2**	**3**	**4**	**5**
Aucun stress				**Stress extrême**
1	**2**	**3**	**4**	**5**

6) Compétence de l'administration de l'établissement auquel je travaille.

Très insatisfait(e)				**Très satisfait(e)**
1	**2**	**3**	**4**	**5**
Aucun stress				**Stress extrême**
1	**2**	**3**	**4**	**5**

7) Compétence du personnel ASC de l'établissement auquel je travaille.

Très insatisfait(e)				**Très satisfait(e)**
1	**2**	**3**	**4**	**5**
Aucun stress				**Stress extrême**
1	**2**	**3**	**4**	**5**

8) Compétence du personnel de soutien.
(i.e., PAE, C.S.M.C., Pastorale, Comités, etc.)

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

9) Temps consacré à vos activités para correctionnelles.
(i.e., PAE, Sports, Comités, etc.)

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

10) Temps consacré ou alloué aux taches administratives
(i.e., travail de bureau, rédaction de rapport[s]).

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

11) Temps consacré ou alloué à l'évaluation du comportement des incarcérés.

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

12) Autodiscipline des personnes incarcérées.

Très insatisfait(e) 1 2 3 4 5 **Très satisfait(e)**

Aucun stress 1 2 3 4 5 **Stress extrême**

13) Nombre d'interruptions pendant le travail (i.e., appels téléphoniques, annonces sur ondes, etc.).

Très insatisfait(e) 1 2 3 4 5 **Très satisfait(e)**

Aucun stress 1 2 3 4 5 **Stress extrême**

14) Nombre d'interruptions causées par le personnel de soutien. (i.e., PAE, C.S.M.C., divers comités, etc.)

Très insatisfait(e) 1 2 3 4 5 **Très satisfait(e)**

Aucun stress 1 2 3 4 5 **Stress extrême**

15) Personne(s) incarcérée(s) absente(s) des secteurs de vie pour raisons d'activités para correctionnelles. (i.e., sports, bibliothèque, la cour, pastorale, etc.)

Très insatisfait(e) 1 2 3 4 5 **Très satisfait(e)**

Aucun stress 1 2 3 4 5 **Stress extrême**

16) Sécurité d'emploi des ASC.

Très insatisfait(e)			Très satisfait(e)	
1	2	3	4	5

Aucun stress			Stress extrême	
1	2	3	4	5

17) Mobilité d'emploi pour vous comme ASC à l'intérieur de l'organisation.

Très insatisfait(e)			Très satisfait(e)	
1	2	3	4	5

Aucun stress			Stress extrême	
1	2	3	4	5

18) Mon habilité à évaluer le rendement des personnes incarcérées.

Très insatisfait(e)			Très satisfait(e)	
1	2	3	4	5

Aucun stress			Stress extrême	
1	2	3	4	5

19) Temps consacré à l'individualisation des programmes aux personnes incarcérées qui requièrent des besoins spéciaux.

Très insatisfait(e)			Très satisfait(e)	
1	2	3	4	5

Aucun stress			Stress extrême	
1	2	3	4	5

20) Intégration des personnes incarcérées ayant des troubles de comportement dans mon (mes) secteurs de travail.

Très insatisfait(e) **Très satisfait(e)**
1 2 3 4 5

Aucun stress **Stress extrême**
1 2 3 4 5

21) Ambiance de travail.

Très insatisfait(e) **Très satisfait(e)**
1 2 3 4 5

Aucun stress **Stress extrême**
1 2 3 4 5

22) Respect des personnes incarcérées à mon endroit de travail.

Très insatisfait(e) **Très satisfait(e)**
1 2 3 4 5

Aucun stress **Stress extrême**
1 2 3 4 5

23) Agressivité verbale et physique des personnes incarcérées résident à mon endroit de travail.

Très insatisfait(e) **Très satisfait(e)**
1 2 3 4 5

Aucun stress **Stress extrême**
1 2 3 4 5

24) Équipement de l'établissement.
(i.e., équipement de sécurité, etc.)

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

25) Matériel consacré aux programmes pédagogiques correctionnels.
(i.e., outils de travail, instructions, etc.)

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

26) Qualité des relations avec mes collègues de travail.

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

27) Relations avec le personnel correctionnel qui ne sont pas ASC.
(i.e., personnel de bureau, concierge(s), etc.)

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

28) Taches de travail assigné à l'ASC. (i.e., clarté des directives et/ou énoncés p/r aux taches).

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

29) Soutien de l'administration de *votre établissement.*

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

30) Soutien de l'administration *de votre région.*

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

31) Soutien des familles des personnes incarcérés et autres tierces personnes.

Très insatisfait(e) **1** **2** **3** **4** **5** **Très satisfait(e)**

Aucun stress **1** **2** **3** **4** **5** **Stress extrême**

32) Soutien pour mon rôle d'ASC venant de la communauté. (i.e., policiers, travailleurs sociaux, amis, famille, etc.)

Très insatisfait(e) 1 2 3 4 5 **Très satisfait(e)**

Aucun stress 1 2 3 4 5 **Stress extrême**

33) Soutien de mon syndicat.

Très insatisfait(e) 1 2 3 4 5 **Très satisfait(e)**

Aucun stress 1 2 3 4 5 **Stress extrême**

34) Occasion pour une promotion ou un avancement chez l'ASC. (i.e., opportunité de promotion).

Très insatisfait(e) 1 2 3 4 5 **Très satisfait(e)**

Aucun stress 1 2 3 4 5 **Stress extrême**

35) Niveau de motivation chez la personne incarcérée. (i.e., à s'améliorer positivement, à se réhabiliter).

Très insatisfait(e) 1 2 3 4 5 **Très satisfait(e)**

Aucun stress 1 2 3 4 5 **Stress extrême**

36) Niveau d'intérêt
chez la personne incarcérée.
(i.e., à s'impliquer positivement
dans des activités constructives)

Très insatisfait(e) **Très satisfait(e)**
1 2 3 4 5

Aucun stress **Stress extrême**
1 2 3 4 5

37) Relation entre l'ASC et
l'administration de son *centre*.

Très insatisfait(e) **Très satisfait(e)**
1 2 3 4 5

Aucun stress **Stress extrême**
1 2 3 4 5

38) Relation entre l'ASC et
l'administration de sa *région*.

Très insatisfait(e) **Très satisfait(e)**
1 2 3 4 5

Aucun stress **Stress extrême**
1 2 3 4 5

39) Relation entre l'ASC et les familles
des personnes incarcérées.

Très insatisfait(e) **Très satisfait(e)**
1 2 3 4 5

Aucun stress **Stress extrême**
1 2 3 4 5

40) Temps requis pour m'adapter aux exigences administratives vis-à-vis les personnes incarcérées.

Très insatisfait(e)				**Très satisfait(e)**
1	**2**	**3**	**4**	**5**
Aucun stress				**Stress extrême**
1	**2**	**3**	**4**	**5**

41) Temps alloué à l'intérieur de mon travail pour le ressourcement. (i.e., temps d'arrêt ou de repos, repas, etc.)

Très insatisfait(e)				**Très satisfait(e)**
1	**2**	**3**	**4**	**5**
Aucun stress				**Stress extrême**
1	**2**	**3**	**4**	**5**

42) Évaluation formelle de mon rendement comme ASC. (i.e., évaluation écrite, verbale, etc.)

Très insatisfait(e)				**Très satisfait(e)**
1	**2**	**3**	**4**	**5**
Aucun stress				**Stress extrême**
1	**2**	**3**	**4**	**5**

43) Feedback ou renforcement autre que la paie.

Très insatisfait(e)				**Très satisfait(e)**
1	**2**	**3**	**4**	**5**
Aucun stress				**Stress extrême**
1	**2**	**3**	**4**	**5**

44) Opinion publique face à l' incarcération.

Très insatisfait(e)			Très satisfait(e)	
1	2	3	4	5

Aucun stress			Stress extrême	
1	2	3	4	5

45) Participation aux décisions affectant les règlements de l'établissement.

Très insatisfait(e)			Très satisfait(e)	
1	2	3	4	5

Aucun stress			Stress extrême	
1	2	3	4	5

46) Compte-rendu journalier du comportement des personnes incarcérés remis aux chefs d'unités

Très insatisfait(e)			Très satisfait(e)	
1	2	3	4	5

Aucun stress			Stress extrême	
1	2	3	4	5

47) Environnement physique du travail.

Très insatisfait(e)			Très satisfait(e)	
1	2	3	4	5

Aucun stress			Stress extrême	
1	2	3	4	5

48) Distribution et consommation de drogues illicites chez les personnes incarcérées.

Très insatisfait(e)			Très satisfait(e)	
1	2	3	4	5

Aucun stress			Stress extrême	
1	2	3	4	5

49) Comportement éthique de mes collègues envers les personnes incarcérées.

Très insatisfait(e)			Très satisfait(e)	
1	2	3	4	5

Aucun stress			Stress extreme	
1	2	3	4	5

)URQUOI FAITES-VOUS CE TRAVAIL?

ıide de l'échelle ci dessous, veuillez indiquer dans quelle mesure chacun des énoncés suivants espond actuellement à l'une des raisons pour lesquelles vous faites ce travail spécifique.

	Pas du tout	Très peu	Un peu	Modérément	Fortement	Très fortement	Exactement
Pour les différents avantages sociaux associés à ce type de travail.	1	2	3	4	5	6	7
Parce que c'est ce type de travail que j'ai choisi et que je préfère pour atteindre un certain niveau de vie.	1	2	3	4	5	6	7
Je ne le sais pas, j'ai l'impression que je n'ai pas ce qu'il faut pour bien faire ce travail.	1	2	3	4	5	6	7
Pour les moments de plaisir intense que m'apporte ce travail.	1	2	3	4	5	6	7
Parce que j'ai beaucoup de plaisir à apprendre de nouvelles choses dans ce travail.	1	2	3	4	5	6	7
Parce que cela me permet de faire de l'argent.	1	2	3	4	5	6	7
Pour les différentes émotions positives que me procure ce travail.	1	2	3	4	5	6	7
Je ne le sais pas, je n'arrive pas à faire correctement les tâches importantes de ce travail.	1	2	3	4	5	6	7
Parce que j'ai l'impression de m'accomplir en faisant mon travail de façon bien personnelle et unique.	1	2	3	4	5	6	7
Je ne le sais pas, on nous impose des normes de rendement trop élevées.	1	2	3	4	5	6	7
Parce que j'ai du plaisir à approfondir mes connaissances sur une foule de choses intéressantes.	1	2	3	4	5	6	7
Pour le salaire.	1	2	3	4	5	6	7
Parce que je tiens absolument à être très bon(ne) dans ce travail, sinon je serais déçu(e).	1	2	3	4	5	6	7
Parce que plusieurs choses dans ce travail stimulent ma curiosité à connaître davantage	1	2	3	4	5	6	7

		Pas du tout	Très peu	Un peu	Modérément	Fortement	Très fortement	Exactement
15.	Pour la satisfaction que je ressens alors que je relève des défis intéressants au travail.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
16.	Parce que ce type de travail me procure une sécurité	*1*	*2*	*3*	*4*	*5*	*6*	*7*
17.	Parce que je m'amuse beaucoup dans ce travail.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
18.	Parce que c'est le type de travail que j'ai choisi pour me permettre d'atteindre certains objectifs importants tout en respectant les autres aspects de ma vie.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
19.	Parce que j'ai souvent des choses intéressantes à apprendre dans ce travail.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
20.	Je ne sais pas, il me manque des habiletés importantes pour bien accomplir les tâches de ce travail.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
21.	Pour le plaisir intense que je ressens à faire les tâches intéressantes de ce travail.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
22.	Je ne le sais pas, on attend trop de nous.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
23.	Parce que je tiens énormément à réussir dans ce travail, sinon j'aurais honte de moi.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
24.	Parce que mon travail c'est ma vie et je ne veux pas échouer.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
25.	Parce que c'est dans ce genre de travail que je préfère poursuivre ma carrière.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
26.	Pour la satisfaction que je vis lorsque je suis en train de réussir des tâches difficiles.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
27.	Je ne le sais pas, on nous donne des conditions de travail trop difficiles.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
28.	Parce que je veux être un(e) "gagnant(e)" dans la vie.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
29.	Pour le plaisir que j'éprouve à être créatif(ve) dans ma façon de réaliser mon travail.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
30.	Parce que c'est le type de travail que j'ai choisi pour réaliser mes projets de carrière.	*1*	*2*	*3*	*4*	*5*	*6*	*7*
31.	Je ne le sais pas, on nous donne des conditions de travail irréalistes.	*1*	*2*	*3*	*4*	*5*	*6*	*7*

Appendix E

Supplementary Tables
on Demographic Data
and other Elementary Statistics

Table E1

Population vs. Sample at Montreal Detention Centre (Bordeaux)

Population:	N		%
Temporary (full-time):	135		
Permanents: (full-time):	169		
Grand Total:	304	165/304	54.3%
Sample			
Total questionnaires distributed	250		
Total questionnaires retained	165	165/250	66.0 %
Male CSO sample:	114	114/165	69.0%
Female CSO sample:	51	51/165	31.0%

Note: Within this establishment there were 135 temporary CSOs and 169 permanent CSOs for a total of 304 CSOs from February 1 to 26, 2000. Two hundred and fifty questionnaire packages were distributed at Établissement de Détention de Montréal (Bordeaux) via assigned distributors. The sample population collected was of 165 questionnaire packages. A total of 51 female CSOs and 114 male CSOs were considered. Hence, a questionnaire response rate of (66.0%) was collected with a grand total of (54.3%) of the population of this establishment responded.

Table E2

Population vs. Sample at the Montreal Women's Prison (Maison Tanguay)

Population:	N		%
Temporary (full-time):	22		
Permanents: (full-time):	37		
Grand Total:	59	39/59	66.1%
Sample			
Total questionaires distributed	60		
Total questionaires retained	39	39/60	65 %
Male CSO sample:	9	9/39	23%
Female CSO sample:	30	30/39	77%

Note: Within this establishment there were 22 full time temporary CSOs and 37 permanent CSOs for a total of 59 CSOs from February 1 to 26, 2000. Sixty questionnaire packages were distributed there via an assigned distributor. The sample population collected was of 39 questionnaire packages. A total of 30 female CSOs and 9 male CSOs responded. Hence, a questionnaire response rate of (65.0%) was collected with a total of (66.1%) of the population which responded.

Table E3

Population vs. Sample at the St-Jérome Detention Centre

Population:	N		%
Temporary (full-time):	51		
Permanents: (full-time):	85		
Grand Total:	136	60/136	44.1%
Sample			
Total questionaires distributed	140		
Total questionaires retained	60	60/140	42.8 %
Male CSO sample:	44	44/60	73.3%
Female CSO sample:	16	16/60	27.0% .

Note: There were 51 full time temporary CSOs and 85 permanent CSOs for a total of 136 CSOs that were officially present from February 1 to 26, 2000 . One hundred and forty questionnaire packages were distributed via an assigned distributor. The sample population collected was of 60 questionnaire packages. A total of 16 female CSOs and 44 male CSOs were considered for this study. Hence, a questionnaire response rate of (42.8%) was collected with a grand total of (44.1%) of the population which responded.

Table E4

Population vs. Sample at the Rivière-Des-Prairies Detention Centre (RDP)

Population:	N		%
Temporary (full-time):	91		
Permanents: (full-time):	103		
Grand Total:	194	83/194	42.8%
Sample			
Total questionnaires distributed	150		
Total questionnaires retained	83	83/150	55.3%
Male CSO sample:	60	60/83	72.3%
Female CSO sample:	23	23/83	28.0%

Note: There were 91 full time temporary CSOs and 103 permanent for a total of 194 CSOs that were officially present from February 1 to 26, 2000 . One hundred and fifty questionnaire packages were distributed via an assigned distributor. The sample population collected was of 83 questionnaire packages. A total of 23 female CSOs and 60 male CSOs were considered for this study. Hence, a questionnaire response rate of (55.3%) was collected. A grand total of (42.8%) of the population which responded.

Table E5

Code Listing for French-Translated Quality of Work Life Inventory (QWL-F)

	Variable	Item
Interruption	(INTER)	13, 14 and 15
Internal support	(SUPINT)	7,8,26,27,33,37 and 49
Rewards	(REWARD)	1,2,16,17 and 34
Clientele	(INMATE)	3,12,18, 20,22,23,35,36 and 48
Environment	(ENVIRO)	21,24,25 and 47
Administration	(ADM)	6,28,29,30,38,41,42,43,45 and 46
External support	(SUEXT)	31,32,39 and 44
Time	(TIME)	4,5,9,10,11,19 and 40

Note: The QWL-F questionnaire, which was composed of 49 questions, looked at the CSOs perception of job satisfaction and stress. The total score of the satisfaction and job stress scales gave a total quality of work life score. Here are presented the 8 different quality of work life themes in this French-translated instrument.

Table E6

Code listing for French-Translated Blais Work Motivation Inventory (BWMI-F)

	Variable	Item
Intrinsic Motivation:		
Accomplishment	(ACCOM)	9,15,26 and 29
Intrinsic Motivation:		
Knowledge	(CONN)	5,11,14 and 19
Intrinsic Motivation		
Stimulation	(STIM)	4,7,17 and 21
Extrinsic Motivations:		
Identification Regulated	(RID)	2,18,25 and 30
Extrinsic Motivation:		
Introjection Regulated	(RINT)	13,23,24 and 28
Extrinsic Motivation:		
External Regulated	(REXT)	1,6,12 and 16
Amotivation:		
Internal Amotivation	(AMOTI)	10,22,27 and 31
Amotivation:		
External Amotivation	(AMOTE)	3,8 and 20

Note: The different items in the 31 question BWMI-F Inventory were composed of Amotivation (Internal and External), Extrinsic Motivation (Externally Regulated, Introjection Regulated, Identification-based regulated), Intrinsic Motivation (Knowledge based, Stimulation, and Accomplishment). Regrouped Auto-determined scores were composed of total Intrinsic (Knowledge based, Stimulation, and Accomplishment) and one Extrinsic theme (Identification Regulated). Non-autodetermined scores were composed by two Extrinsic themes (externaly regulated, introjected regulation). Amotivation was composed of both the External and Internal components.

Table E7

Summary of code listing for Averaged QWL-F and BWMI-F

	Averaged Variable	Item
QWL-F Set		
Interruption	(AVINTER)	13, 14 and 15/3
Internal support	(AVSUPINT)	7,8,26,27,33,37 and 49 /7
Rewards	(AVREWARD)	1,2,16,17 and 34 /5
Clientele	(AVINMATE)	3,12,18, 20,22,23,35,36 and 48 /9
Environment	(AVENVIRO)	21,24,25 and 47 /4
Administration	(AVADM)	6,28,29,30,38,41,42,43,45, 46/10
External support	(AVSUEXT)	31,32,39 and 44 /4
Time	(AVTIME)	4,5,9,10,11,19 and 40 /7
BWMI-F Set		
Intrinsic Motivation:		
Accomplishment	(AVACCOM)	9,15,26 and 29 /4
Intrinsic Motivation:		
Knowledge	(AVCONN)	5,11,14 and 19 /4
Intrinsic Motivation		
Stimulation	(AVSTIM)	4,7,17 and 21 /4
Extrinsic Motivations:		
Id-based Introjection	(AVRID)	2,18,25 and 30 /4
Extrinsic Motivation:		
Introject Regulation	(AVRINT)	13,23,24 and 28 /4
Extrinsic Motivation:		
External Regulation	(AVREXT)	1,6,12 and 16 /4
Amotivation:		
Internal Amotivation	(AVAMOTI)	10,22,27 and 31 /4
Amotivation:		
External Amotivation	(AVAMOTE)	3,8 and 20 /3

Appendix F

Supplementary Tables on Statistical Correlations and Regressions

Table F1
Significant Pearson Correlations for QWL-F and BWMI-F

	Components of QWL-F vs. Components of BWMI-F							
	QUALITY	AVACCOM	AVCONN	AVSTIM	AVRID	AVRINT	AVREXT	AVAMOTE	AVAMOTI
STRESS	-.92**	-.24**	-.27**	-.26**	-.16**	-.03	-.03	.30	.14
N.	266	267	267	269	268	269	269	269	267
SATISFAC	.87**	.34**	.35**	.31**	.28**	.19**	.09	-.26**	-.10
N.	293	289	289	290	290	291	291	291	288
QUALITY	1.0	.33**	.36**	.31**	.24**	.13*	.06	-.33**	-.17**
N.	293	289	289	290	290	291	291	291	288

*p< .05 **p< .01

Table F2
Canonical Correlation Analysis for QWL-F BWMI-F Combined Items

	Canonical Correlation	Adjusted Canonical Correlation	Approx Standard Error	Squared Canonical Correlation
1	0.519201	0.475947	0.044047	0.269570
2	0.366750	0.286483	0.052191	0.134505
3	0.322316	.	0.054038	0.103888

Eigenvalues of INV(E)*H
= CanRsq/(1-CanRsq)

	Eigenvalue	Difference	Proportion	Cumulative
1	0.3691	0.2136	0.4787	0.4787
2	0.1554	0.0395	0.2016	0.6803
3	0.1159	0.0581	0.1504	0.8307

Table F3

Null Hypothesis Test for Canonical Correlation Between QWL-F and BWMI-F

	Likelihood Ratio	Approx F	Num DF	Den DF	Pr > F
1	0.49860420	3.0179	64	1506.137	0.0001
2	0.68261717	2.1193	49	1329.475	0.0001
3	0.78870176	1.7793	36	1153.283	0.0033

Note. Test of H0: The canonical correlations in the current row and all that follow are zero

Table F4

Multivariate Statistics and F Approximations

Statistic	Value	F	Num DF	Den DF	Pr > F
Wilks' Lambda	0.49860420	3.0179	64	1506.137	0.0001
Pillai's Trace	0.63286686	2.8670	64	2136	0.0001
Hotelling-Lawley Trace	0.77094210	3.1109	64	2066	0.0001
Roy's Greatest Root	0.36905618	12.3173	8	267	0.0001

S=8 M=-0.5 N=129

NOTE. F Statistic for Roy's Greatest Root is an upper bound.

Table F5

Overview of Multiple Regression analyses for Age and Length of Service for CSOs

	Parameter Estimates	
	Age	Length Of Service
Rewards	.8**	.08**
Internal Amotivation	.8**	.05**
Time	.2*	.01**
Environment	.2*	---
ID-Based Introjection	.2**	---
Accomplishment	.3**	.03**
Stimulation	.2**	.04**
Intojected Regulated	.2*	
Knowledge		.02**
Model R-square =	.29	.22

*p<0.05, **p<0.01

Table F6

Overview of Multiple Regression analyses for Age and Length of Service for CSOs with BWMI-F and QWL-F survey by Work Status and Gender

	Parameter Estimates	
	Age	Length of Service
Male CSO full-time		
Environment	.08**	---
Internal Amotivation	.03*	---
Accomplishment	.03*	---
Stimulation	.02*	---
Introjected Regulated	.03*	---
Administration	---	.05*
Total R-square =	.19	.05
Male CSO part-time		
Introjected Regulated	.24**	.15**
Time	.05*	---
Administration	.13**	---
Internal Amotivation	---	.07*
External Regulated	---	.06*
External Amotivation	---	.04*
Internal Support	---	.06*
Total R-square =	.43	.39
Female CSO full-time		
Rewards	.12*	.08*
External Amotivation	.09*	.11*
ID-Based Introjection	.08*	.06*
External Regulation	.06*	.06*
Internal Amotivation	.04*	.03*
Environment	.04*	.10*
Accomplishment	.06*	---
Internal Support	---	.05*
Time	.04*	---
Total R-square =	.53	.48
Female CSO part-time		
Internal Amotivation	.17*	.15**
Internal Support	---	.25**
Total R-square =	.17	.40

*p<0.05, **p<0.01

Table F7

Overview of Multiple Regression analyses for Quality of Work Life, Work Satisfaction, and Work Stress for CSOs

	Parameter Estimates		
	QWL-F	Work Satisfaction	Work Stress
Knowledge	.14**	.12**	.09**
External Amotivation	.11**	.07**	.09**
D2Age	.03**	.04**	.02*
D1SEX	---	.01*	---
AVSTIM	---	.01**	---
Model R-square	.28	.26	.19

*p<0.05, **p<0.01

Table F8

Overview of Multiple Regression analyses for Quality of Work Life, Work Satisfaction, and Work Stress for CSOs by Gender and Work Status

	Parameter Estimates		
	QWL-F	Work Satisfaction	Work Stress
Male CSO full-time			
Knowledge	.29**	.23**	.21**
External Amotivation	.07**	.05**	.04*
Age	.02*	.05**	---
Total R-square =	.37	.34	.25
Male CSO part-time			
External Amotivation	.14**	.16**	.10**
Stimulation	.15**	.13*	.10**
Education	---	---	.05*
Total R-square =	.29	.29	.25
Female CSO full-time			
External Amotivation	.39**	.27**	.31**
D4 Time	.11**	.09*	.11**
ID-Based Introjection	---	.07*	.08*
Accomplishment	.06*	---	---
Age	---	.04*	---
Total R-square =	.55	.47	.51
Female CSO part-time			
D4 Time	21**	.17*	.19**
Age	.12*	.10*	.11*
External Regulation	.05*	.10*	---
Accomplishment	.05*	---	---
Introjected Regulated	.09*	---	---
ID-Based Introjection	.06*	---	---
Stimulation	---	.07*	---
Total R-square =	.58	.44	.30

*p<0.05, **p<0.01

Table F9

Overview of Internal Consistency for Averaged Items of the QWL-F Inventory (Independent) Alpha Correlations

	Raw Variables		Std. Variables	
	Total	Alpha	with Total	Alpha
Interuptions	.62	.92	.63	.93
Internal Support	.79	.91	.79	.92
Rewards	.63	.92	.63	.93
Inmates	.79	.91	.79	.92
Environment	.81	.91	.81	.91
Administration	.83	.91	.84	.91
External Support	.73	.92	.74	.92
Time	.79	.91	.79	.92

Note: This table highlights internal independent consistency of the French-translated Quality of Work Life survey. As can be noticed most of the raw and standardized alpha scores are near to above the .80 mark. As for correlation with total variables most scores are situated between .70 and .80. The Averaged Cronbach Coefficient Alpha for QWL-F for raw variables was 0.92 and for all standardized variables it was 0.93

Table F10

Overview of Internal Consistency for Averaged Items of the BWMI-F Inventory (Independent)

	Raw Variables Correlation with Total	Alpha	Std. Variables Correlation with Total	Alpha
Accomplishments	.74	.66	.73	.64
Knowledge	.66	.68	.64	.66
Stimulation	.68	.68	.66	.66
Id-Based Introjection	.66	.68	.65	.66
Introjected Regulated	.65	.68	.64	.66
External Regulation	.11	.78	.10	.77
External Amotivation	.05	.80	.07	.77
Internal Amotivation	.07	.78	.06	.77

Note: This table highlights the internal independent consistency of the Blais Work Motivation Inventory. As can be noticed, most of the raw and standardized alpha scores were near to above the .60 mark. As for correlation with total variables most scores are situated between .60 and .70. The averaged Cronbach Coefficient Alpha for QWL-F for raw variables was 0.75 and for all standardized variables it was .73.

Table F11

Cronbach Alpha for Averaged Items of the QWL-F Survey and BWMI-F (Combined)

	Raw Variables		Std. Variables	
	with Total	Correlation Alpha	with Total	Alpha
Accomplishment	.61	.83	.61	.82
Knowledge	.58	.83	.58	.82
Stimulation	.56	.83	.56	.83
ID-Based Introjection	.49	.83	.49	.83
Introjected Regulated	.40	.84	.40	.83
External Regulation	.13	.85	.13	.85
External Motivation	-.23	.87	-.23	.87
Internal Amotivation	-.09	.86	-.10	.86
Interruptions	.49	.84	.50	.83
Internal Support	.71	.82	.70	.82
Rewards	.54	.83	.54	.83
Inmate	.61	.83	.61	.82
Environment	.69	.82	.69	.82
Administration	.73	.82	.73	.82
External Support	.59	.83	.59	.82
Time	.61	.83	.60	.82

Note: This table highlights internal consistency of the combined French-translated Quality of Work Life survey and the Blais Work Motivation Inventory. As can be noticed there is enormous variance amongst the raw scores. However regarding the standardized alpha scores we notice that they are all above .80, which indicates good internal consistency. The Averaged Cronbach Coefficient Alpha for QWL-F for raw variables was 0.85 and for all standardized variables it was 0.84.

Table F12

Pearson Correlation Analysis Demographic,QWL-F,and BWMI-F Items

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / Number of Observations

	D2AGE	D4TIME	AVINTER	AVSUPINT	AVREWARD	AVINMATE
D2AGE	1.00000	0.72935	-0.03256	0.09208	0.27745	0.08264
	0.0	0.0001	0.5580	0.099	0.0001	0.1433
	334	330	326	322	322	315
D4TIME	0.72935	1.00000	-0.06350	0.03524	0.27025	-0.01677
	0.0001	0.0	0.2507	0.5260	0.0001	0.7658
	330	337	329	326	325	318
AVINTER	-0.03256	-0.06350	1.00000	0.55459	0.38548	0.52768
	0.5580	0.2507	0.0	0.0001	0.0001	0.0001
	326	329	337	328	326	324
AVSUPINT	0.09208	0.03524	0.55459	1.00000	0.57341	0.62582
	0.0990	0.5260	0.0001	0.0	0.0001	0.0001
	322	326	328	333	325	319
AVREWARD	0.27745	0.27025	0.38548	0.57341	1.00000	0.50824
	0.0001	0.0001	0.0001	0.0001	0.0	0.0001
	322	325	326	325	332	319
AVINMATE	0.08264	-0.01677	0.52768	0.62582	0.50824	1.00000
	0.1433	0.7658	0.0001	0.0001	0.0001	0.0
	315	318	324	319	319	326
AVENVIRO	0.17775	0.08783	0.53560	0.73056	0.56907	0.69035
	0.0012	0.1102	0.0001	0.0001	0.0001	0.0001
	329	332	334	331	328	324
AVADM	0.14401	0.08688	0.50283	0.76866	0.62928	0.71782
	0.0114	0.1257	0.0001	0.0001	0.0001	0.0001
	308	312	314	314	315	309
AVSUEXT	0.04360	0.00174	0.53153	0.61565	0.48785	0.70108
	0.4451	0.9755	0.0001	0.0001	0.0001	0.0001
	309	312	316	314	317	312
AVTIME	-0.00553	-0.00868	0.66238	0.62992	0.53141	0.71361
	0.9225	0.8781	0.0001	0.0001	0.0001	0.0001
	312	315	320	318	317	315
STRESS	-0.07770	-0.02056	-0.57927	-0.73323	-0.63910	-0.77847
	0.2109	0.7395	0.0001	0.0001	0.0001	0.0001
	261	264	270	269	270	269
SATISFAC	0.15566	0.11466	0.59838	0.77059	0.64231	0.70680
	0.0086	0.0523	0.0001	0.0001	0.0001	0.0001
	284	287	293	293	293	293
QUALITY	0.09750	0.03912	0.66773	0.84432	0.71967	0.84987
	0.1011	0.5092	0.0001	0.0001	0.0001	0.0001
	284	287	293	293	293	293

	D2AGE	D4TIME	AVINTER	AVSUPINT	AVREWARD	AVINMATE
AVACCOM	0.07541	-0.00528	0.14581	0.32317	0.25492	0.24348
	0.1744	0.9239	0.0082	0.0001	0.0001	0.0001
	326	330	328	327	325	318
AVCONN	-0.02238	-0.14970	0.17122	0.35542	0.20296	0.27843
	0.6877	0.0065	0.0018	0.0001	0.0002	0.0001
	325	329	329	327	326	318
AVSTIM	-0.08092	-0.15310	0.12321	0.29210	0.18334	0.27931
	0.1449	0.0053	0.0254	0.0001	0.0009	0.0001
	326	330	329	327	327	319
AVRID	-0.09308	-0.05528	0.10256	0.24932	0.16509	0.13960
	0.0934	0.3168	0.0632	0.0001	0.0028	0.0127
	326	330	329	328	326	318
AVRINT	-0.06248	-0.05220	0.10196	0.14548	0.06529	0.01521
	0.2599	0.3437	0.0643	0.0083	0.2390	0.7864
	327	331	330	328	327	320
AVREXT	0.06158	0.13055	0.04554	0.09361	0.22066	0.02109
	0.2639	0.0168	0.4068	0.0896	0.0001	0.7057
	331	335	334	330	329	323
AVAMOTE	-0.00594	0.00971	-0.24716	-0.24617	-0.27079	-0.39673
	0.9146	0.8599	0.0001	0.0001	0.0001	0.0001
	329	333	332	330	328	321
AVAMOTI	0.21162	0.19434	-0.09495	-0.14186	-0.10319	-0.19490
	0.0001	0.0004	0.0865	0.0103	0.0636	0.0005
	325	328	327	326	324	317
D1SEX	-0.26766	-0.32699	-0.00627	0.06709	0.00004	0.12479
	0.0001	0.0001	0.9086	0.2221	0.9994	0.0242
	334	337	337	333	332	326

	AVENVIRO	AVADM	AVSUEXT	AVTIME	STRESS	SATISFAC
D2AGE	0.17775	0.14401	0.04360	-0.00553	-0.07770	0.15566
	0.0012	0.0114	0.4451	0.9225	0.2109	0.0086
	329	308	309	312	261	284
D4TIME	0.08783	0.08688	0.00174	-0.00868	-0.02056	0.11466
	0.1102	0.1257	0.9755	0.8781	0.7395	0.0523
	332	312	312	315	264	287
AVINTER	0.53560	0.50283	0.53153	0.66238	-0.57927	0.59838
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	334	314	316	320	270	293
AVSUPINT	0.73056	0.76866	0.61565	0.62992	-0.73323	0.77059
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	331	314	314	318	269	293
AVREWARD	0.56907	0.62928	0.48785	0.53141	-0.63910	0.64231
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	328	315	317	317	270	293
AVINMATE	0.69035	0.71782	0.70108	0.71361	-0.77847	0.70680
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	324	309	312	315	269	293

	AVENVIRO	AVADM	AVSUEXT	AVTIME	STRESS	SATISFAC
AVENVIRO	1.00000	0.77628	0.61304	0.69393	-0.73774	0.78705
	0.0	0.0001	0.0001	0.0001	0.0001	0.0001
	340	318	318	320	270	293
AVADM	0.77628	1.00000	0.68900	0.66749	-0.83790	0.80029
	0.0001	0.0	0.0001	0.0001	0.0001	0.0001
	318	319	309	308	268	293
AVSUEXT	0.61304	0.68900	1.00000	0.61404	-0.78126	0.62822
	0.0001	0.0001	0.0	0.0001	0.0001	0.0001
	318	309	319	309	269	293
AVTIME	0.69393	0.66749	0.61404	1.00000	-0.73676	0.72698
	0.0001	0.0001	0.0001	0.0	0.0001	0.0001
	320	308	309	321	270	293
STRESS	-0.73774	-0.83790	-0.78126	-0.73676	1.00000	-0.61538
	0.0001	0.0001	0.0001	0.0001	0.0	0.0001
	270	268	269	270	270	266
SATISFAC	0.78705	0.80029	0.62822	0.72698	-0.61538	1.00000
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0
	293	293	293	293	266	293
QUALITY	0.85355	0.91206	0.79799	0.83470	-0.91897	0.87297
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	293	293	293	293	266	293

	AVENVIRO	AVADM	AVSUEXT	AVTIME	STRESS	SATISFAC
AVACCOM	0.28263	0.30739	0.24375	0.22461	-0.24028	0.34347
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	330	312	312	315	267	289
AVCONN	0.26810	0.35012	0.27213	0.17743	-0.27284	0.34527
	0.0001	0.0001	0.0001	0.0016	0.0001	0.0001
	331	312	313	315	267	289
AVSTIM	0.26383	0.27402	0.23049	0.21574	-0.25845	0.31390
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	331	313	314	317	269	290
AVRID	0.24211	0.24477	0.13680	0.11497	-0.15597	0.28226
	0.0001	0.0001	0.0153	0.0408	0.0106	0.0001
	331	313	314	317	268	290
AVRINT	0.14621	0.17500	0.05032	0.04610	-0.03187	0.18533
	0.0076	0.0019	0.3734	0.4126	0.6028	0.0015
	332	314	315	318	269	291
AVREXT	0.13233	0.05759	-0.00395	0.07493	-0.03034	0.09168
	0.0152	0.3075	0.9443	0.1819	0.6203	0.1187
	336	316	316	319	269	291
AVAMOTE	-0.30320	-0.25741	-0.29048	-0.33021	0.30493	-0.26491
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	334	315	315	319	269	291
AVAMOTI	-0.14292	-0.09574	-0.14509	-0.21024	0.13603	-0.10202
	0.0094	0.0914	0.0103	0.0002	0.0262	0.0839
	329	312	312	315	267	288
D1SEX	0.05384	0.12949	0.03264	0.07157	-0.05982	0.12123
	0.3223	0.0207	0.5613	0.2009	0.3274	0.0381
	340	319	319	321	270	293

	QUALITY	AVACCOM	AVCONN	AVSTIM	AVRID	AVRINT
D2AGE	0.09750	0.07541	-0.02238	-0.08092	-0.09308	-0.06248
	0.1011	0.1744	0.6877	0.1449	0.0934	0.2599
	284	326	325	326	326	327
D4TIME	0.03912	-0.00528	-0.14970	-0.15310	-0.05528	-0.05220
	0.5092	0.9239	0.0065	0.0053	0.3168	0.3437
	287	330	329	330	330	331
AVINTER	0.66773	0.14581	0.17122	0.12321	0.10256	0.10196
	0.0001	0.0082	0.0018	0.0254	0.0632	0.0643
	293	328	329	329	329	330
AVSUPINT	0.84432	0.32317	0.35542	0.29210	0.24932	0.14548
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0083
	293	327	327	327	328	328
AVREWARD	0.71967	0.25492	0.20296	0.18334	0.16509	0.06529
	0.0001	0.0001	0.0002	0.0009	0.0028	0.2390
	293	325	326	327	326	327
AVINMATE	0.84987	0.24348	0.27843	0.27931	0.13960	0.01521
	0.0001	0.0001	0.0001	0.0001	0.0127	0.7864
	293	318	318	319	318	320
AVENVIRO	0.85355	0.28263	0.26810	0.26383	0.24211	0.14621
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0076
	293	330	331	331	331	332
AVADM	0.91206	0.30739	0.35012	0.27402	0.24477	0.17500
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0019
	293	312	312	313	313	314
AVSUEXT	0.79799	0.24375	0.27213	0.23049	0.13680	0.05032
	0.0001	0.0001	0.0001	0.0001	0.0153	0.3734
	293	312	313	314	314	315
AVTIME	0.83470	0.22461	0.17743	0.21574	0.11497	0.04610
	0.0001	0.0001	0.0016	0.0001	0.0408	0.4126
	293	315	315	317	317	318
STRESS	-0.91897	-0.24028	-0.27284	-0.25845	-0.15597	-0.03187
	0.0001	0.0001	0.0001	0.0001	0.0106	0.6028
	266	267	267	269	268	269
SATISFAC	0.87297	0.34347	0.34527	0.31390	0.28226	0.18533
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0015
	293	289	289	290	290	291
QUALITY	1.00000	0.33554	0.35829	0.31366	0.23806	0.12762
	0.0	0.0001	0.0001	0.0001	0.0001	0.0295
	293	289	289	290	290	291

	QUALITY	AVACCOM	AVCONN	AVSTIM	AVRID	AVRINT
AVACCOM	0.33554	1.00000	0.78408	0.74587	0.66757	0.65718
	0.0001	0.0	0.0001	0.0001	0.0001	0.0001
	289	336	331	332	331	333
AVCONN	0.35829	0.78408	1.00000	0.76010	0.64354	0.48490
	0.0001	0.0001	0.0	0.0001	0.0001	0.0001
	289	331	337	333	331	333
AVSTIM	0.31366	0.74587	0.76010	1.00000	0.64796	0.47252
	0.0001	0.0001	0.0001	0.0	0.0001	0.0001
	290	332	333	337	332	335

	QUALITY	AVACCOM	AVCONN	AVSTIM	AVRID	AVRINT
AVRID	0.23806	0.66757	0.64354	0.64796	1.00000	0.55394
	0.0001	0.0001	0.0001	0.0001	0.0	0.0001
	290	331	331	332	337	334
AVRINT	0.12762	0.65718	0.48490	0.47252	0.55394	1.00000
	0.0295	0.0001	0.0001	0.0001	0.0001	0.0
	291	333	333	335	334	338
AVREXT	0.06269	0.10650	0.00792	0.10775	0.11723	0.19095
	0.2865	0.0511	0.8850	0.0484	0.0319	0.0004
	291	336	336	336	335	337
AVAMOTE	-0.33238	-0.07271	-0.04407	-0.08379	-0.00370	0.12209
	0.0001	0.1843	0.4214	0.1253	0.9462	0.0250
	291	335	335	336	335	337
AVAMOTI	-0.16886	-0.02070	-0.05333	-0.02326	-0.02809	0.10327
	0.0041	0.7080	0.3341	0.6733	0.6106	0.0602
	288	330	330	331	331	332
D1SEX	0.11137	0.03941	0.16882	0.08572	0.13282	-0.01830
	0.0569	0.4716	0.0019	0.1162	0.0147	0.7374
	293	336	337	337	337	338

	AVREXT	AVAMOTE	AVAMOTI	D1SEX
D2AGE	0.06158	-0.00594	0.21162	-0.26766
	0.2639	0.9146	0.0001	0.0001
	331	329	325	334
D4TIME	0.13055	0.00971	0.19434	-0.32699
	0.0168	0.8599	0.0004	0.0001
	335	333	328	337
AVINTER	0.04554	-0.24716	-0.09495	-0.00627
	0.4068	0.0001	0.0865	0.9086
	334	332	327	337
AVSUPINT	0.09361	-0.24617	-0.14186	0.06709
	0.0896	0.0001	0.0103	0.2221
	330	330	326	333
AVREWARD	0.22066	-0.27079	-0.10319	0.00004
	0.0001	0.0001	0.0636	0.9994
	329	328	324	332
AVINMATE	0.02109	-0.39673	-0.19490	0.12479
	0.7057	0.0001	0.0005	0.0242
	323	321	317	326
AVENVIRO	0.13233	-0.30320	-0.14292	0.05384
	0.0152	0.0001	0.0094	0.3223
	336	334	329	340
AVADM	0.05759	-0.25741	-0.09574	0.12949
	0.3075	0.0001	0.0914	0.0207
	316	315	312	319
AVSUEXT	-0.00395	-0.29048	-0.14509	0.03264
	0.9443	0.0001	0.0103	0.5613
	316	315	312	319

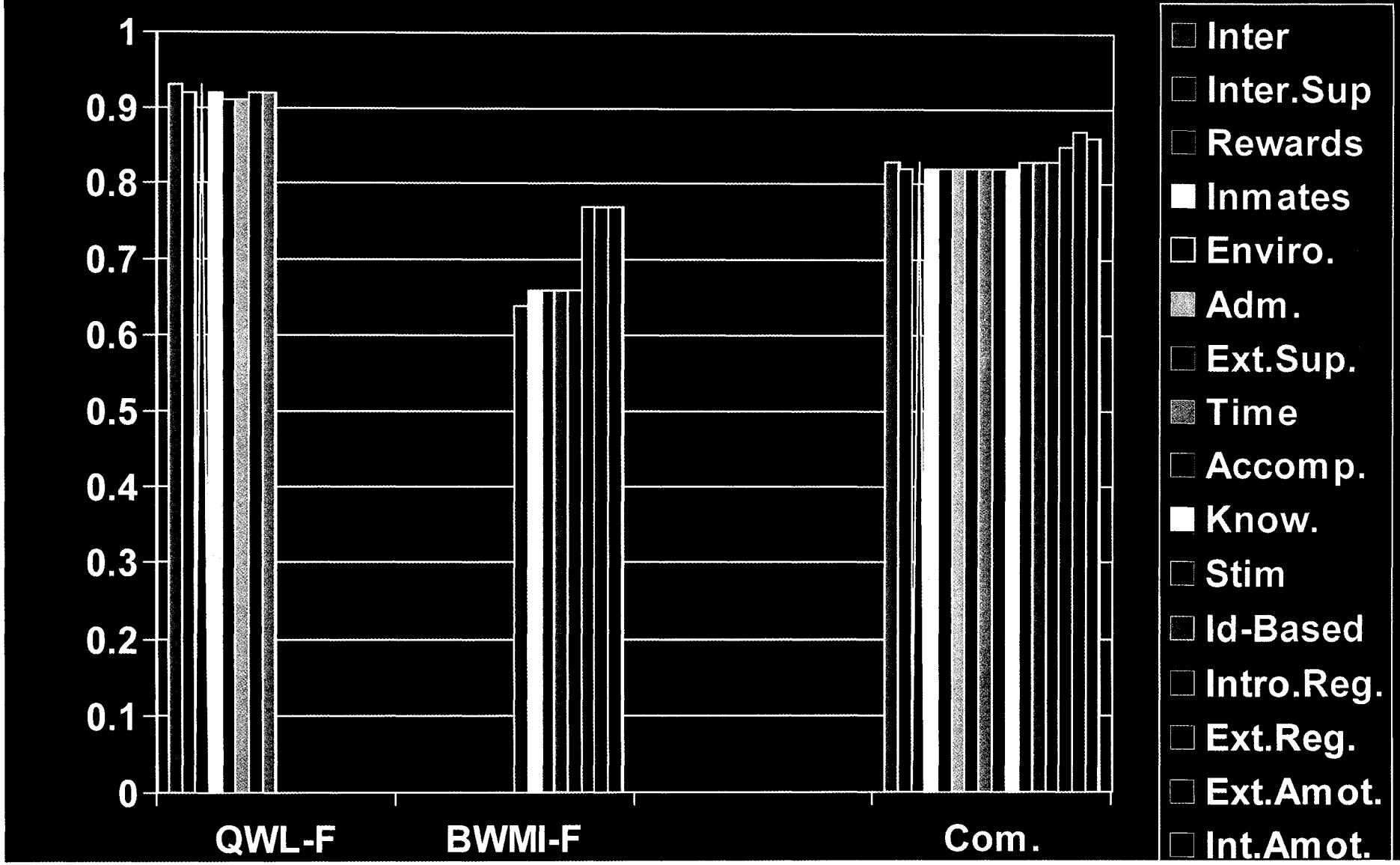
	AVREXT	AVAMOTE	AVAMOTI	D1SEX
AVTIME	0.07493	-0.33021	-0.21024	0.07157
	0.1819	0.0001	0.0002	0.2009
	319	319	315	321
STRESS	-0.03034	0.30493	0.13603	-0.05982
	0.6203	0.0001	0.0262	0.3274
	269	269	267	270
SATISFAC	0.09168	-0.26491	-0.10202	0.12123
	0.1187	0.0001	0.0839	0.0381
	291	291	288	293
QUALITY	0.06269	-0.33238	-0.16886	0.11137
	0.2865	0.0001	0.0041	0.0569
	291	291	288	293

	AVREXT	AVAMOTE	AVAMOTI	D1SEX
AVACCOM	0.10650	-0.07271	-0.02070	0.03941
	0.0511	0.1843	0.7080	0.4716
	336	335	330	336
AVCONN	0.00792	-0.04407	-0.05333	0.16882
	0.8850	0.4214	0.3341	0.0019
	336	335	330	337
AVSTIM	0.10775	-0.08379	-0.02326	0.08572
	0.0484	0.1253	0.6733	0.1162
	336	336	331	337
AVRID	0.11723	-0.00370	-0.02809	0.13282
	0.0319	0.9462	0.6106	0.0147
	335	335	331	337
AVRINT	0.19095	0.12209	0.10327	-0.01830
	0.0004	0.0250	0.0602	0.7374
	337	337	332	338
AVREXT	1.00000	0.00404	-0.08436	0.04967
	0.0	0.9410	0.1239	0.3598
	342	339	334	342
AVAMOTE	0.00404	1.00000	0.37796	-0.01904
	0.9410	0.0	0.0001	0.7264
	339	340	334	340
AVAMOTI	-0.08436	0.37796	1.00000	-0.17076
	0.1239	0.0001	0.0	0.0017
	334	334	335	335
D1SEX	0.04967	-0.01904	-0.17076	1.00000
	0.3598	0.7264	0.0017	0.0
	342	340	335	346

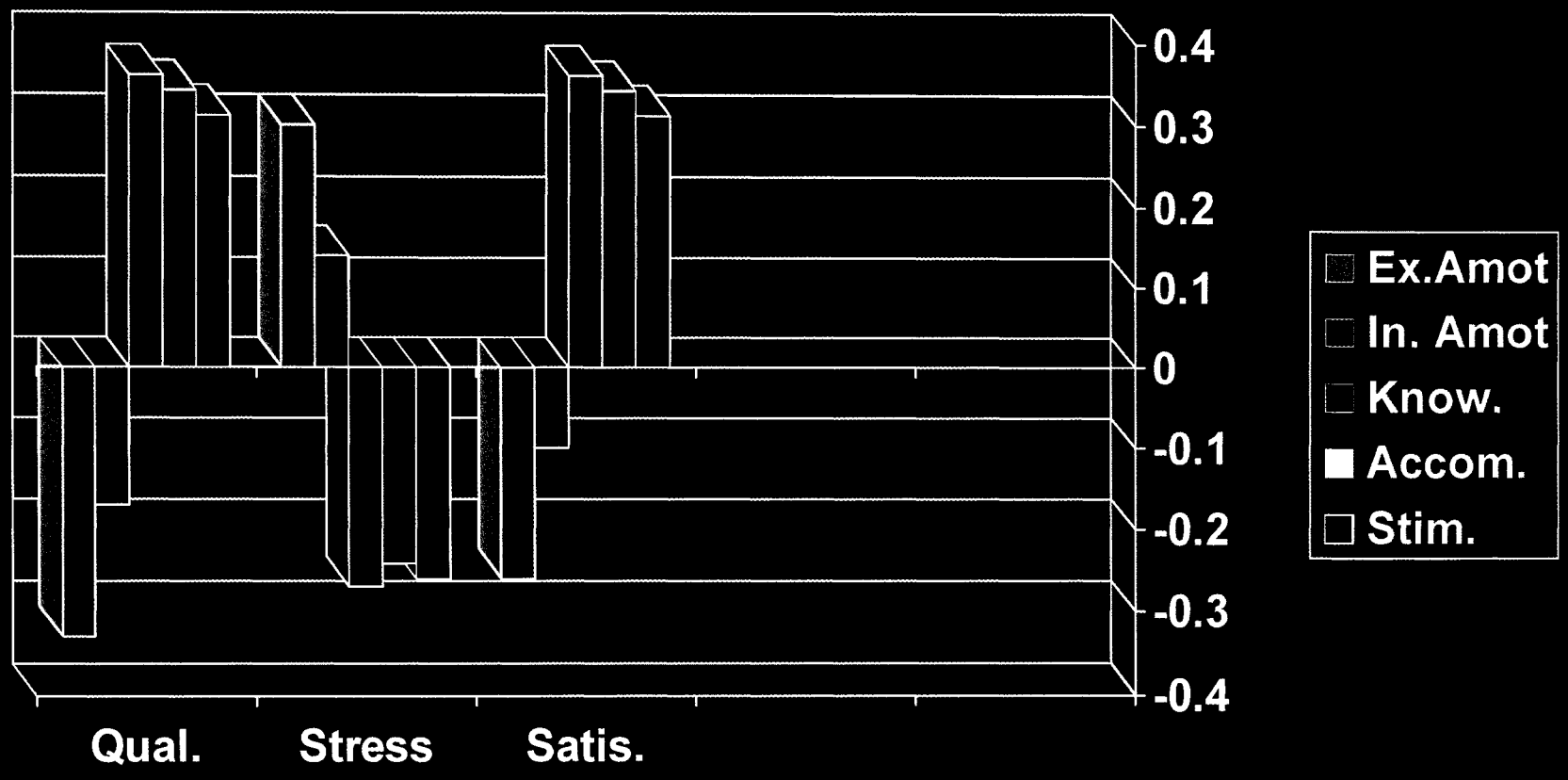
Appendix F

Supplementary Figures on Statistical Correlations, Canonical Correlations, and Multiple Regression Analyses

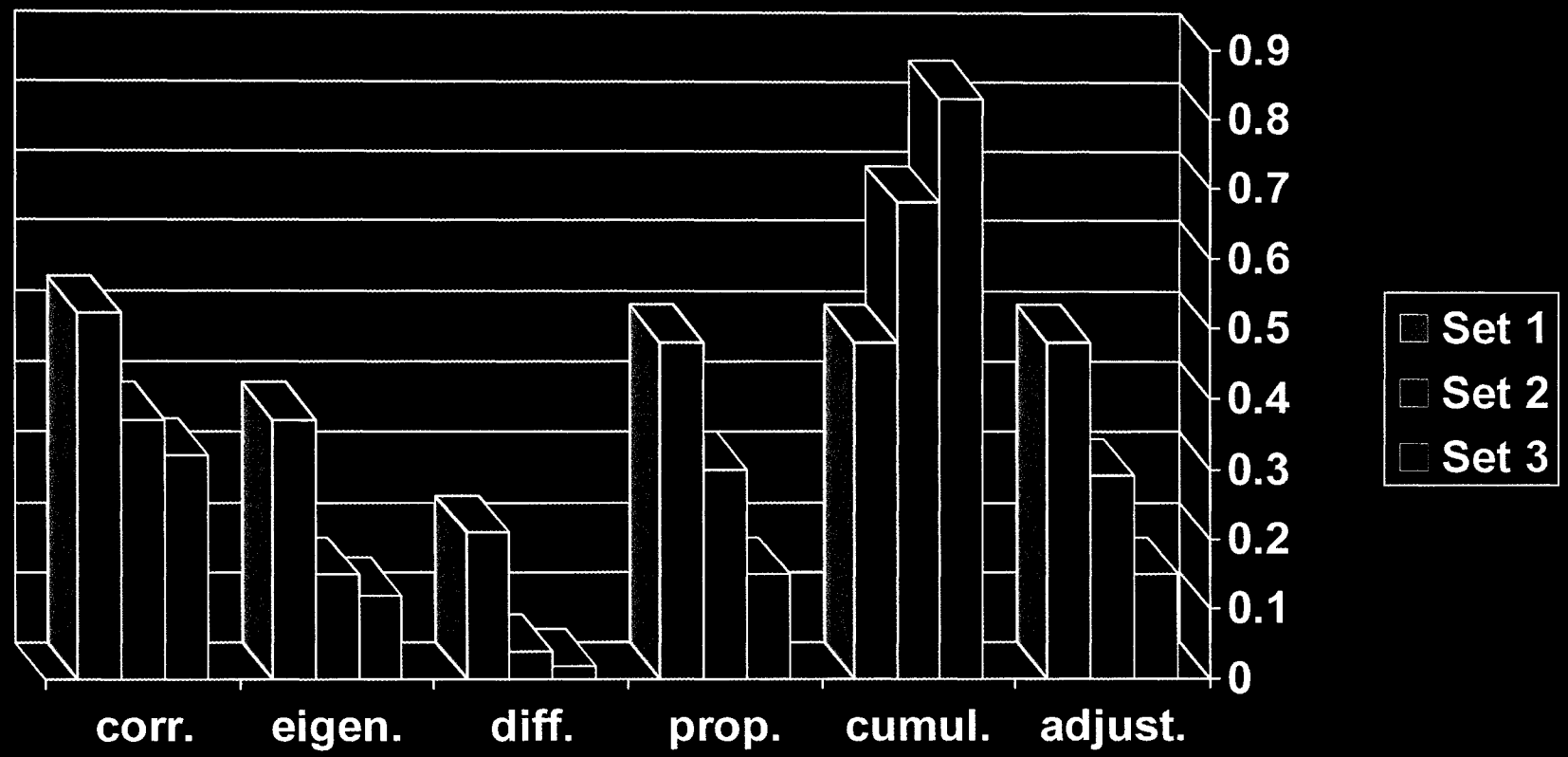
Cronbach Alphas for QWL-F and BWMI-F



Significant Pearson Correlations



Canonical Correlation Set Results



Age, Time, QWL, Stress, and Satisfaction as D.V. Multiple Regression "R-square" Results