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Dependency and Self-Criticism: Individual Differences in Strategies for Negotiating Changes in and Threats to Social Rank

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Abstract

The two studies reported in this thesis examine the influence of two depressive personality styles, dependency and self-criticism, on how individuals respond to potentially disruptive events, such as a change in or threat to social rank. The studies used an experimental protocol in which participants were allowed to believe firstly that they outperformed a close friend or were outperformed by a close friend and secondly that friends generally agreed or disagreed with them. Findings offer support for the integration of depressive personality styles and interpersonal factors within a social rank framework. Results from the two studies suggest that dependency and self-criticism (a) moderate the impact of interpersonal events, (b) influence how individuals behave towards close friends, (c) affect how individuals remember interpersonal interactions with others, and (d) moderate the manner in which individuals actively structure their social environments. Depressive personality styles may contribute to maladaptive environments and depressive processes in complex ways by influencing the types of strategies individuals adopt to deal with threats to interpersonal relatedness and self-definition.

Résumé

Les deux études décrites dans cette thèse examinent l'influence de deux types de personalités dépressives: la dépendance et l'auto-critique; sur la façon dont les individus réagissent à des événment perturbateurs, comme par example un changement ou une menance au sein de l'échelle sociale. Un protocole expérimental à été utilisé afin de réaliser les deux études ou on laissait croire aus participants qu'il avaient mieux exécuté une tâche qu'un ami proche ou vice-versa et dans un deuxième temps, qu'un groupe d'amis soit du même avis ou non avec eux. Les résultats offrent un support pour l'intégration des genres de personalitiés dépressives et des facteurs interpersonnels à l'intérieur de la structure de classe sociale. Les résultats des deux études suggèrent que la dépendence et l'auto-critique a) minimsent l'impact des événements interpersonnels, b) influençant la façon dont les individus agissent envers leurs amis proches, c) affectent la façon dont les individus se souviennent de leurs interactions interpersonnelles avec les autres, d) modèrent la façon par laquelle les individus structurent leurs environnments sociaux. Les genres de personalités dépressives peuvent contribuer de façon complexe aux environnments mal adaptés et aux processus de dépression en influençant les types de stratégies que les individus adoptent afin de traiter avec les menaces associées aux liens interpersonnels et à l'auto-critique.

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I would like to acknowledge several individuals for their continuing support and enthusiasm throughout my studies at McGill. My advisor, David Zuroff, has been instrumental in encouraging a broad range of interests. I have come to value his dedication to conceptual clarity, as well as his methodological rigor and conscientiousness in authorship.

I am also grateful for James Ramsay's support in developing an interest in item-response theory and statistics in general. I have acquired a new appreciation of data and analysis which I would not have had otherwise. Both he and David Zuroff provided me with the opportunity and support to develop a second productive area of research.

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In the past five years I have learned many things, not the least of which is to appreciate good parents, Bernice and Don. Above all, I am grateful to Azijada for her excitement and commitment to my endeavours.

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Statement of Authorship

The two studies reported in this thesis were co-authored by myself and David Zuroff. For both studies, David Zuroff served in an advisory capacity during the formulation of research questions, throughout the development of the experimental protocols, and while writing the final reports. An initial pilot study was first planned and conducted. Findings from this study guided the development of two subsequent studies. Results of the two main studies are reported in two articles which appear in this thesis and which have been submitted for publication. Both manuscripts were written and revised by myself. In addition, computer software developed to execute the experimental protocols was designed by myself, and data from both studies were collected and analysed by myself.

Statement of Original Contributions

This research constitutes an original contribution to knowledge in the areas of depressive vulnerability factors and social rank. The two studies reported in the thesis demonstrate the utility of integrating vulnerability factors and interpersonal processes within a formal model, such as social rank. Few studies have examined the influence of depressive vulnerability factors on how individuals respond to potentially disruptive events, such as changes in social rank and disagreement from a close friend. The two studies reported here are the first studies to demonstrate the influence of changes in social rank on mood and behaviour (Gilbert, 1994, personal communication), as well as the influence that depressive personality styles, like dependency and self-criticism, have on behavioural responses to changes in social rank and disagreement from close friends. The studies employed an experimental protocol that allowed individuals to believe they were interacting with one another while believing the behaviour of the individual with whom participants thought they were interacting was manipulated experimentally.

Table of Contents

Introduction

Interest in personality and depressive processes has increased considerably in recent years. Several measures now exist to assess specific personality dispositions which are believed to constitute vulnerabilities to depressive experiences. Other research has studied depressive processes and broad personality dispositions associated with negative affective states (Clark, Watson, & Mineka, 1994). The recent special issue of *The Journal of Abnormal Psychology* marks a renewed interest in investigating the relation between personality and numerous forms of psychopathology, including depression (Watson & Clark, 1994).

The status of personality dispositions as vulnerability factors for depression has, however, remained controversial. Cognitive models of depression have hypothesized that individual dispositions or vulnerabilities influence the appraisal of events and contribute to the development of depressive symptoms (Beck, 1963), whereas interpersonal models of depression have directly questioned the causal status of individual dispositions or personality styles (Coyne, 1976). Indeed, one of the central issues in the debate between cognitive and interpersonal models of depression concerns the status of personality dispositions. Numerous studies have been cited to either to support or to repudiate the causal relation between depression and personality processes, and reviews criticizing both positions have appeared (Barnett & Gotlib; 1988; Segal & Shaw, 1986).

However, cognitive and interpersonal theories of depression can be further criticized. First, both theories ignore the subtlety of the cognitive and interpersonal deficits individuals demonstrate and the manner in which cognitive and interpersonal processes interact.

> [T]he deficits that characterize [depressed] clients are not necessarily gross, easily observable cognitive distortions that show up in analogue experimental tasks or interpersonal deficits that show up on standardized behavioral measures. Instead they often involve an ongoing subtle interplay between cognitive and interpersonal realms (Safran, 1990, p.98).

Cognitive and interpersonal models of depression have been traditionally viewed as competing or alternative explanations, rather than as components of an integrated model. Clearly, cognitive vulnerability models need to consider how potentially disruptive interpersonal events may activate depressive vulnerabilities and contribute to dysfunctional interpersonal processes, just as interpersonal models of depression need to consider how individual differences or personality styles may moderate the effects of dysfunctional interpersonal processes. But research investigating cognitive models of depression has focused primarily on the connection between cognitive vulnerabilities, major life events, and depression, and has largely ignored how cognitive vulnerabilities may contribute to depressive processes in connection with dysfunctional interpersonal environments. Similarly, research examining interpersonal processes and depressive experiences has focused primarily on factors that characterize and maintain ongoing depressive processes, namely the withdrawal or absence of social support,

rather than on personality dispositions that may initiate or exacerbate such processes.

Second, both theories utilize models of personality that in many ways ignore contemporary formulations of personality and, in some instances, may even misrepresent the essential features of cognitive models (Segal & Ingram, 1994). Traditionally, proponents of cognitive and interpersonal models of depression have espoused divergent views not only on the status and role of individual dispositions in models of depression but also on how individual dispositions are formulated within such models. In cognitive models of depression, individual dispositions or vulnerabilities, such as dependency and self-criticism, have been viewed as predisposing factors that cause the onset of depressive symptoms. In interpersonal models of depression, individual dispositions have been viewed as concomitants of depression. However, connections among vulnerability factors, negative life events, and interpersonal environments are likely to be complex (Monroe & Simons, 1991). Researchers need to reconsider how individual dispositions have been formulated in both theories and consider different ways in which individual dispositions, life events, and interpersonal environments may interact. Contemporary personality theories provide a number of models suggesting how personality dispositions or vulnerabilities could interact with the social environment and offer more specific predictions about the kinds of interpersonal events and environments that may activate individual dispositions or personality styles.

A number of proposals have appeared describing ways in which cognitive and interpersonal processes may be integrated (Andrews, 1989; Safran, 1990; Zuroff, 1992). However, some recent attempts (cf. Gotlib & Hammen, 1992; Klein, Wonderlich, & Shea, 1993) to elucidate an integrated cognitive-interpersonal model of depression can be faulted for failing to provide precise formulations describing how specific individual dispositions or vulnerabilities, events, and the interpersonal behaviours of others are interrelated. These models acknowledge that both personality dispositions and the interpersonal environment are important, but predictions linking the two remain vague. Accordingly, the present research seeks to provide and investigate a more precise model describing how depressive personality styles and interpersonal events can contribute to maladaptive interpersonal processes that may increase the risk for depressive experiences.

Recently, ethological models have suggested how attachment (Bowlby, 1980) and social rank (Gilbert, 1992) may provide potentially important insights into understanding how negative life events and the interpersonal behaviours of others can contribute to depressive processes. Ethological models provide researchers with precise mechanisms regulating mood and behaviour and offer researchers the means of conceptualizing events on the basis of the function events hold rather on the basis of the descriptive features they share in common. Research has demonstrated the relevance of ethological models to depressive processes. Studies have shown that nonsecure attachment styles generally increase the risk for depression

following interpersonal loss (Bowlby, 1980) and that there may be important associations among social rank, submissive behaviour, and depressive symptoms (Gilbert, 1992).

The present research examines how depressive personality styles, namely dependency and self-criticism (Blatt, 1974; Blatt & Zuroff, 1992), influence interpersonal responses to changes in social rank and disagreement from others. The interpersonal model of depression suggests that the interpersonal environment is crucial for the maintenance of depressive symptoms (Coyne, 1976). Accordingly, how individuals respond to such threats may adversely affect the quality of the interpersonal environment and contribute to depressive experiences or exacerbate existing depressive symptoms. Studies have suggested that dependent and self-critical individuals may experience qualitatively different interpersonal environments (Zuroff, 1994; Zuroff & Fitzpatrick, 1995; Zuroff, Stotland, Sweetman, Craig, & Koestner, 1995). Dependent individuals may experience interpersonal environments as insecure, whereas self-critical individuals may experience interpersonal environments as criticizing, which may explain why dependent and self-critical individuals are vulnerable to different dysphoric and depressive experiences (Blatt, Quinlan, Cheveron, McDonald, & Zuroff, 1982). The present research hypothesizes that depressive personality styles, like dependency and self-criticism, may contribute to maladaptive interpersonal environments in complex ways, by moderating how individuals respond to potentially disruptive events, such as changes in social rank or

disagreement from others, and by influencing how individuals actively contribute to the creation of the interpersonal environments they inhabit.

In the first sections of the introduction, the role of personality dispositions in cognitive and interpersonal models of depression is reviewed. In subsequent sections, the social rank model of depression (Gilbert, 1992; Price, 1967) is introduced and the implications and benefits of conceptualizing situational events in terms of social rank are considered. Last, the importance of understanding how depressive personality styles, such as dependency and self-criticism, may moderate the effects of social rank is considered.

Cognitive Vulnerability for Depression: Personality as Diathesis

Beck's (1963; 1967) cognitive theory of depression has generated extensive research evaluating the validity of cognitive models, as well as the effectiveness of cognitive treatments. Since its development, components of Beck's (1967) theory have been revised (Beck, 1987; cf. Haaga, Dyck, & Ernst, 1991), and a number of other cognitive models of depression have emerged (Abramson, Metalsky, & Alloy, 1989; Kuiper, Olinger, & Macdonald, 1985; Pyszczynski & Greenberg, 1987; Teasdale, 1983; 1988). One of the more controversial components of many cognitive models of depression concerns the causal role of individual dispositions or personality styles describing how individuals typically structure and interpret situations and events. In Beck's model, individuals are believed to possess *schemata* which contain *predisposing attitudes* or *dysfunctional beliefs*. It is these

dysfunctional attitudes and beliefs that constitute a diathesis or vulnerability for depressive symptoms. Confronted with particular events, relevant dysfunctional beliefs and attitudes may be activated in vulnerable individuals increasing their risk for depression.

Beck delineated two dimensions of personality, *sociotropy* and *autonomy*, that specify the classes or domains of situations and events that will likely activate particular dysfunctional attitudes. Sociotropy defines a personality style characteristic of individuals who value "positive interchange with others, focusing on acceptance, intimacy, support and guidance" (Beck, Epstein, & Harrison, 1983, p.3). Autonomy defines a second personality style characteristic of individuals who value "independent functioning, mobility, choice, achievement, and integrity of one's domain" (Beck et al., 1983, p.3).

Other personality dispositions similar to sociotropy and autonomy have been suggested. Blatt (1974; 1990; Blatt & Zuroff, 1992) proposed that the relative overemphasis on interpersonal relatedness or self-definition defines two broad personality configurations, dependency and self-criticism. Dependent individuals are motivated to "establish and maintain good interpersonal relationships" and "rely on others to provide and maintain a sense of well-being" (Blatt & Zuroff, 1992, p.528). Highly dependent individuals may have difficulty expressing dissatisfaction or negative emotion because they fear losing the support and satisfaction gained from someone they are close to. As a result, they may attempt "to minimize overt conflict

by conforming to and placating others" (Blatt & Zuroff, 1992, p.528). In contrast, self-critical individuals are preoccupied with issues of self-definition and self-worth. They strive for "excessive achievement and perfection and are often highly competitive" (Blatt & Zuroff, 1992, p. 528). They desire respect and admiration, but fear disapproval and recrimination. Consequently, they may be ambivalent about interpersonal relationships and "can be critical and attacking of others as well as themselves" (Blatt & Zuroff, 1992, p. 528).

Although the formulation of sociotropy/autonomy and dependency/ self-criticism differ somewhat (Zuroff, 1994), these and related constructs have generally distinguished two broad domains of vulnerability[1]. One domain involves a vulnerability to interpersonal loss or rejection (dependency); the other domain involves a vulnerability to failure (self-criticism). Measures used to assesses these domains of vulnerability include the Sociotropy-Autonomy Scale (Beck, Epstein, Harrison & Emery, 1983) and Depressive Experiences Questionnaire (Blatt, D'Afflitti, & Quinlan, 1976), as well as the Dysfunctional Attitudes Scale (Weissman & Beck, 1978) and Personal Style Inventory (Robins et al., 1994). Despite important differences in their conceptualization and psychometric properties, research suggests that many of these scales demonstrate some convergence around dependent and self-critical domains (Blaney & Kutcher, 1991; Zuroff, 1994)[2].

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[1] Vulnerability factors not related directly to one of these domains have also been proposed, including causal attributions (Abramson, Seligman & Teasdale, 1978) and a depressive self-focusing style (Pyszynski & Greenberg, 1987).

[2] For the present discussion on individual dispositions, sociotropy and dependency as well as autonomy and self-criticism have been grouped together for convenience. Important differences exist between

In most cognitive models of depression, the factors or diatheses believed to make individuals vulnerable to depressive experiences are conceptualized as individual dispositions or personality styles reflecting how individuals tend to appraise certain events, evaluate certain outcomes, or assess their own self-worth. Situations and events congruent with one's personality style are believed to activate dysfunctional beliefs, threaten self-worth, and precipitate depressive symptoms. The congruency hypothesis suggests that depressive symptoms result from a congruence between specific diatheses and stressful events. Individuals possessing these dispositions are considered vulnerable to depressive symptoms following the occurrence of certain life events that are congruent with a particular vulnerability factor or depressive personality style. For example, self-critical individuals will be more vulnerable to an *introjective* depressive experience following failure, whereas dependent individuals will be more vulnerable to an *anaclitic* depressive experience following interpersonal loss or rejection. Although findings are mixed, research shows some evidence supporting the view that a congruency between depressive personality styles, like dependency and self-criticism, and specific life events increase the severity of subsequent depressive symptoms (see Blatt & Zuroff, 1992, pp. 538-541, for a review). Support for the congruency model has been found in both non-depressed college women (Zuroff & Mongrain, 1987) and remitted depressives (Segal, Shaw, Vella & Katz, 1992).

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dependency and sociotropy and, in particular, between self-criticism and autonomy (Zuroff, 1994), but many of the issues raised by critics of cognitive models apply to both.

Interpersonal models of depression (Coyne, 1976) have challenged a number of components of cognitive models of depression, including the view that certain individual dispositions or personality styles may make individuals vulnerable to depressive episodes. Critics of cognitive models argue there is little evidence for a stable vulnerability to depression. They suggest that manifest vulnerabilities, such as dysfunctional attitudes, dependency, or self-criticism, reflect the severity of depressive symptoms and do not exist independently of depressive experiences (Coyne & Gotlib, 1983). Support for this view comes from research showing (a) that scores on scales assessing dysfunctional attitudes do not predict the onset of depressive symptoms and (b) that scores on measures of dysfunctional attitudes are either no different in remitted depressed patients than in nondepressed controls or are significantly lower in depressed patients tested in remission (see Barnett & Gotlib, 1988; Segal & Ingram, 1995, for a review).

However, this view remains controversial. Research on vulnerability factors for depression has examined both general domains of vulnerability, such as dysfunctional attitudes, as well as more specific domains of vulnerability, such as dependency and self-criticism. Evidence for measures of specific vulnerabilities has been more promising. Bagby et al. (1994) have shown that dependency and self-criticism scores remain stable in depressed patients who recovered after 12 weeks of treatment, suggesting that levels of dependency and self-criticism are stable characterological dispositions and are not state-dependent. Even research showing that scores on measures of

dependency and self-criticism scores are somewhat lower in recovered depressed patients at follow-up demonstrate that recovered patients still have scores on dependency and self-criticism that are higher than scores in nondepressed controls (Klein, Harding, Taylor, & Dickstein, 1988).

In both cognitive and interpersonal models, the formulation and function of personality factors have been unclear. Within cognitive models of depression, important differences exist in how vulnerability factors have been formulated and assessed. Some research focuses on the content of schemata (Beck, 1979) which have been equated with dysfunctional beliefs. This conceptualization of schemata has been operationalized in measures such as the Dysfunctional Attitude Scale (DAS; Weissman & Beck, 1978) and have been characterized as stable, enduring personality dispositions (Gotlib & Coyne, 1983). Consequently, personality dispositions, such as dependency/sociotropy and self-criticism/autonomy, are often viewed as predisposing factors which constitute a direct vulnerability for depressive experiences.

In contrast, other research has viewed cognitive schemata as latent structures that are activated by stressful events. Kovacs and Beck (1978) emphasized that "the schemata which are active in depression are previously latent cognitive structures, [which ...] are reactivated when the patient is confronted with certain internal or external stimuli" (p. 529). This formulation emphasizes that both a vulnerability and an activating event are necessary. Possessing only a vulnerability is not sufficient. In contrast to

much of the research investigating personality and depression, research focusing on the structure of schemata (Segal, 1988) has defined and operationalized schemata in terms of an interrelation of elements whose activation by relevant negative events results in the experience of a negative view of the self and possible onset of depression. Proponents of this view argue that the effects of possessing a vulnerability for depression can only be tested by examining how individuals respond to specific activating events (see Segal & Ingram, 1995, for a review). The importance of including a prime (cf. Segal & Vella, 1990) or stressful event (cf. Zuroff & Mongrain, 1987) as a precondition for the assessment of a vulnerability to depression represents a crucial element of this research paradigm. That is, schemata must be activated before being assessed. Studies examining the ability of manifest personality styles, such as sociotropy or autonomy, to predict the onset of depression have often ignored the impact of activating events. Research suggesting that personality dispositions do not represent a direct vulnerability to depression is important, but this research does not directly address the validity of the vulnerability model formulated by Beck (Kovacs & Beck, 1978).

Formulations of Personality

To a large degree, whether one accepts personality dispositions as predisposing causes of depressive experiences depends on how personality dispositions are formulated. One view holds that personality measures assess stable and enduring traits that contribute directly to depressive experiences

irrespective of situational events. Another view holds that personality contributes to depressive experiences in connection with specific events. Although support for both formulations may be found, the manner in which personality dispositions have been formulated and utilized in models of depression has ignored many issues frequently addressed by contemporary personality theorists. Contemporary personality theories provide a number of different models suggesting how individual dispositions or vulnerabilities may interact with the social environment and offer more specific predictions about the kinds of interpersonal events and environments that may activate individual dispositions or personality styles. However, conclusions about the relation between personality and depressive experiences have often been drawn from existing research designs without considering (a) the amount of stability and cross-situational generality that can be reasonably expected, (b) the status of personality traits and how stability should be realistically assessed, (c) the different ways in which events and individual dispositions may influence mood and behaviour, and (d) the manner in which depressogenic events might be classified and linked to personality. In fact, negative findings reported in the literature on depression and personality are often viewed as evidence for rejecting the utility of personality models in general, rather than evidence for rejecting one of several models of personality. Research on depression and personality needs to consider the numerous alternate views that exist within contemporary personality theory.

Stability of Personality. Views about whether personality dispositions are influenced by situational events have changed dramatically in the past 30 or 40 years. Initially, it was presumed that personality dispositions were highly stable and that the situational influences on traits were negligible. This view was replaced with the view that personality is highly specific and does not generalize across situations at all (Mischel, 1968). Subsequent views suggested that the degree of consistency was dependent on a specific combination of personality traits and situations (Magnusson & Endler, 1977) and that the degree of consistency realistically anticipated is moderate and would only be observed across aggregated situations (Epstein, 1983; Moskowitz, 1982). In general, most contemporary personality theorists acknowledge the importance of examining the consistency of traits across situations (Epstein, 1983; Moskowitz, 1988) and recognize that considerable variability in mood and behaviour exists across time and situations. More recently however, some personality theorists have again emphasized the view that certain broad kinds of traits may not be greatly influenced by situational differences (McCrae & Costa, 1990), but traditionally, even trait theorists have been concerned with the influence of situations (Allport, 1961; cf. Zuroff, 1986).

Beck's (1967) initial formulation of a schema as a vulnerability factor that remains latent until activated by specific events is far more consistent with an approach to personality that recognizes the importance of situational differences, but few studies have examined the effects of depressive

vulnerabilities across situations. In fact, very little is known about how individual differences in these depressive vulnerabilities may moderate mood and behaviour in potentially disruptive situations, despite the emphasis placed on interpersonal environments by proponents of interpersonal models of depression (Coyne, 1976). Most studies on depressive vulnerability have failed to recognize the importance of situational factors which may moderate both mood and behavior. Although most personality researchers express a concern for situational differences, the trend in research examining personality and psychopathology appears to be towards adopting general factor models of personality that neither acknowledge nor even test situational specificity (Clark, Watson, & Mineka, 1994). Research often conceptualizes vulnerability factors as personality dispositions without recognizing the importance of assessing cross-situational generality.

Ontological Status of Personality. Conceptual differences also exist concerning the ontological status of personality characteristics (Zuroff, 1986). For some theorists, personality characteristics are viewed as real entities or *traits* that cause behaviour (Allport, 1961), whereas for others, personality characteristics are viewed as purely descriptive and only summarize an individual's behaviour (Buss & Craik, 1984). Others have viewed personality characteristics as dispositions which refer to a tendency to act or behave in a certain way (Ryle, 1949). Despite these differences, critics often write about personality variables, such as dependency and self-criticism, as if they were real *traits* that cause behaviour and often demand a degree of cross-situational

consistency not usually expected by personality theorists themselves (Epstein, 1983). In addition, critics have attempted to reduce effects due to personality characteristics to situational differences or differences in learning histories.

However, the degree of cross-situational consistency expected from personality characteristics, the reasons for that consistency, and the ontological status of those characteristics are separate issues. The utility of a personality construct to predict behaviour exists apart from the reasons for its predictive value, as well as its ontological status. Personality traits, descriptive characteristics, and individual dispositions are useful if they (a) can account for or describe some degree of consistency in an individual's thoughts, feelings, and behaviours across situations and over time, (b) can account for or describe commonalties and differences in thoughts, feelings, and behaviours among individuals, and (c) can account for differences, commonalties, and consistency across situations which cannot be explained by the immediate biological or social pressures of the moment (adapted from Maddi, 1980). This view of personality does not try to deny the influence of genetics or learning history on thoughts, feelings and behaviour, but it is silent with respect to the ontological status of these personality characteristics.

Other important methodological differences exist in how personality researchers investigate the relation between individual and situational factors. Some theorists employ research methodologies consistent with the view that individual and situational influences are independent or orthogonal factors

(Magnusson & Endler, 1977), whereas others employ methodologies that acknowledge the reciprocal influence of personality and environment (Bandura, 1977; Buss, 1987). Both views deserve careful investigation. However, proponents of cognitive and interpersonal models of depression have consistently investigated the former model with the aim of evaluating which model accounts for a greater proportion of variance in depression scores rather than with the aim of investigating possible reciprocal influences between individual and situational factors. Clearly, the occurrence of life events and the presence of individual differences in personality dispositions may not be independent of one another.

Effects of Personality. Differences also exist with respect to how personality theorists conceptualize the relation among thoughts, feelings, and behaviours. For some theorists, personality characteristics are conceptualized as complex groupings of thoughts, feelings, needs, and behaviours. Almost without exception, however, cognitive models have examined the influence of events and vulnerabilities with respect to their effect on mood. Cognitive models employ personality constructs as diatheses which influence mood without considering the effects of personality (or a diathesis) on behaviour. Although interpersonal models of depression (Coyne, 1976) have demonstrated the importance of examining how depressed individuals act and respond to others, the influence of personality on how individuals respond to interpersonal stressful events has been ignored.

Research by cognitive theorists has examined how personality dispositions may moderate the impact of major life events, such as losing a job or the death of a spouse, but the influence individual dispositions, such as dependency and self-criticism, have on how individuals respond immediately to situational events, such as interpersonal rejection or loss, is less well understood (cf. Zuroff & Mongrain, 1987). Researchers have been more concerned with the distal effects of negative life events on mood, rather than with more proximal influences of situations and how individuals behave in those situations.

Categorizing and Linking Events to Personality. Alternate proposals have also been made with respect to how situations and events can be classified and subsequently linked to personality dispositions. In most studies on depression, situations and events are categorized on the basis of their descriptive features. Typically, failure or achievement events include being fired from a job, whereas rejection events include losing a romantic partner (cf. Segal, Shaw, Vella, & Katz, 1992; Zuroff & Mongrain, 1987). Some theorists have proposed classifying situations on the basis of the different personal needs that a situation fulfills or threatens (Rotter, 1954). Accordingly, losing a romantic partner may threaten the self-worth needs of self-critical individuals just as being fired from a job could threaten the attachment needs of dependent individuals.

In fact, some research supports the potential utility of investigating alternate ways of categorizing events. In a study conducted by Zuroff and

Mongrain (1987), self-critical women experienced increased levels of introjective dysphoria following both interpersonal rejection and achievement failure events, whereas the experience of anaclitic dysphoria was more specific to rejection events in dependent women. These results underscore the inherent difficulty in conceptualizing events as uniquely belonging to interpersonal or achievement domains. Events described as failure and interpersonal loss events both produced dysphoric feelings in self-critical individuals. It is striking how much research has focused on developing or revising inventories to assess these two vulnerability domains, while relatively little research and theorizing has been devoted to developing different ways of classifying events relevant to these domains[3]. Indeed, few studies have attempted to explicitly formulate how events might be threatening to dependent and self-critical individuals within a theoretical system, such as social rank (Gilbert, 1992; Price, 1967). Clearly, events can be categorized and interpreted in many ways. Consequently, it is important to conceptualize how events may influence mood and behaviour within a formal system. In the studies to be introduced, events are formulated in terms of social rank; that is, on the basis of whether they represent a threat

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[3] To date, two other revisions of the Depressive Experiences Questionnaire have been published (Bagby, Parker, Joffe, & Buis, 1994; Welkowitz, Lish, & Bond, 1985). Other scales have also been developed to assess similar personality dispositions; these include the Sociotropy-Autonomy Scale (Beck, Epstein, Harrison, & Emery, 1983), the Dysfunctional Attitudes Scale (Weissman & Beck, 1978) and the Personal Style Inventory (Robins et al., 1994). In contrast, relatively little research has been devoted to conceptualizing depressogenic events in different ways. Events continue to be classified solely on the basis of their descriptive features.

or endorsement of an individual's social rank or position within a group, relationship, or social hierarchy.

Personality and Interpersonal Models of Depression

Unlike cognitive models of depression, the role that individual dispositions hold in the onset, maintenance, and relapse of depression has not been emphasized in interpersonal models of depression. In interpersonal models of depression, an individual's depressive symptoms are believed to be maintained by the deleterious effects of dysfunctional interpersonal relationships (Coyne, 1976; Coyne & DeLongis, 1986). Differences between cognitive and interpersonal models represent important philosophical differences. For cognitive theorists, depression is the result of how individuals construct and perceive reality, whereas for theorists supporting an interpersonal model, depression is viewed as an accurate reflection of a dysfunctional interpersonal environment.

In Coyne's (1976) model, depression is viewed "as a response to the disruption of social space in which the person obtains support and validation for his experience" (p.33). How the social environment of the depressed individual becomes disrupted and maintains an individual's depressive symptoms is a complex process, involving both the depressed person's demand for approval and support, as well as the ability of individuals within the depressed person's environment to provide genuine, nonambiguous support and validation. Coyne believes that depressed individuals use symptoms to elicit reassurance from others and to test both the "nature of his

acceptance and the security of his relationship" (p.34). But depressive symptoms are believed to be aversive to persons in the depressed individual's environment. Individuals in the social environment may feel both irritated and obliged to assure depressed individuals of his acceptance. Consequently, support and validation may be withdrawn or be disingenuous. A further factor in this process involves the dilemma facing the depressed individual, namely that others may only be reassuring because the depressed person, himself, has attempted to elicit such reassurance.

Evidence for the interpersonal model has come from studying the role of social relationships and martial discord in depression, as well as from examining the behaviour of individuals interacting with depressed individuals (for a review see Barnett & Gotlib, 1988; Coyne, Kahn & Gotlib, 1987; Marcus & Nardone, 1992). The majority of research investigating this model of depression has focused on verifying the relation between social support and depressive symptoms; that is, studies generally test a model proposing that poor social support is associated with depressive symptoms. Interactions of couples in which one partner is depressed are characterized by more negative evaluations (Hautzinger, Lind & Hoffman, 1982) and, in particular, increased levels of hostility (Kowalik & Gotlib, 1987). Depressed college students and nondepressed partners also tend to exhibit more negative and less positive behaviours when interacting (Gotlib & Robinson, 1982), which is believed to maintain depressive symptoms (Coyne, 1976).

Other researchers have examined the moderating role of individual or interpersonal features of depressed persons and of those who are paired with dysphoric or depressed individuals. These include self-disclosure (Jackobson & Anderson, 1982), self-blame (Gotlib & Beatty, 1985), aid-seeking behaviour (Stephens, Hokanson, & Weller, 1987), and hostile-competitive responses (Blumberg & Hokanson, 1983). However, most of these studies focus on the role of interpersonal behaviours that characterize the interactions of dysphoric or depressed individuals and those who are paired with them, rather than on how differences in individual dispositions may moderate these behaviours. Self-disclosure, self-blame, and hostile-competitive responses are viewed as factors that maintain depressive symptoms rather than as sequelae of individual dispositions or personality characteristics that may in fact moderate the impact of interpersonal events. The ways in which individual dispositions may contribute to the interactions characteristic of depressed persons has generally been ignored, and individual differences in the degree of self-disclosure or self-blame are reduced to differences in the social environment. Few studies have examined the role that individual differences in depressive personality dispositions, such as dependency and self-criticism, may hold in moderating or initiating interpersonal processes.

However, a careful reading of Coyne's (1976) initial article suggests (a) that individual differences in personality dispositions may be important in maintaining dysfunctional processes that contribute to depressive symptoms

and (b) that what depressed individuals need from others in their social environments may be relevant to individuals characterized as dependent or self-critical. In general, Coyne's model focuses on how support is communicated by others and how support is interpreted by depressed individuals. Accordingly, individual differences in the degree to which individuals tend to seek reassurance from others, differences in how irritated others may become in response to the demands and symptoms of depressed individuals, and individual differences in how capable others are at communicating support and acceptance to depressed individuals may all influence depressive symptomatology (Coyne, 1976).

One study has explicitly examined the effects of differences in the disposition to seek reassurance. Joiner, Alfano, and Metalsky (1992) argued that one of the central processes in Coyne's (1976) model concerns the need of mildly depressed persons to seek reassurance from others. Differences in the tendency to seek reassurance from others should therefore moderate depressive processes, particularly, in individuals with poor self-esteem. Support for the effects of individual differences in reassurance seeking was found. Depressive symptoms were related to excessive reassurance seeking, and depression was most strongly associated with rejection from college roommates in individuals with a strong need for reassurance.

Coyne also acknowledges that the interpersonal environment may fulfill a number of individual needs. In the original formulation of the interpersonal model of depression, Coyne (1976) refers to "depression as a

response to the disruption of social space in which the person obtains *support* and *validation* for his experience" (italics added, p.33). Depressed individuals use symptoms to elicit reassurance from others, in order to test both the "nature of his *acceptance* and the *security of his relationship*" (italics added, p.34). This suggests that the meaning that interpersonal behaviours and interactions have for depressed individuals can be interpreted in a number of ways, as validation, support, or perhaps as both. Proponents of cognitive models might formulate these needs in terms of self-definition and interpersonal relatedness and hypothesize that the absence of *validation* or *support* might affect dependent and self-critical individuals differently.

Although, social support has been viewed as one of the crucial elements mediating depressive symptoms in interpersonal models of depression, Coyne, himself, has recently questioned many of the assumptions about the benefits of social support and argued that research should focus more on the identifiable features of interpersonal relationships, rather than on global concepts and measures of social support (Coyne & Bolger, 1990). Understandably, interpersonal responses are likely to be very complex. As a result, they may be interpreted in a number of ways. Hostile responses and interpersonal rejection may threaten self-definition, interpersonal relatedness, or both. Cognitive theorists would argue that how events and behaviour are understood will likely be influenced by individual differences in personality dispositions, like dependency and self-criticism. Even though the withdrawal of support may be crucial to the maintenance of depression, the meaning of

the events that precipitate the withdrawal of support remain vague and may depend on individual differences in personality.

Because it is possible to interpret events in a number of ways, it is crucial to conceptualize the meaning of events within a formal system. One possibility may be to interpret interpersonal events and behaviours within a framework that emphasizes the importance of attachment processes (Bowlby, 1969). For example, Safran (1990) argues that individuals posses interpersonal schemata containing information that specifies the implicit rules or contingencies for maintaining relatedness and self-worth. An interpersonal schema is a "generalized representation of self-other relationships" which permits the individual to "predict interactions in a way that increases the probability of maintaining relatedness" to attachment figures (p. 93). This model emphasizes maintaining relatedness to others. Failing to maintain relatedness may ultimately lead to depression. Some studies have attempted to integrate cognitive and interpersonal theories of depression within an attachment framework by examining how an individual's "internal working models" of relationships is related to depressive symptomatology (Carnelley, Pietromonaco, & Jaffe, 1994). However, studies that rely on self-report measures to assess the quality of interactions experienced by mildly depressed college students and formerly depressed women miss the essence of Coyne's interpersonal model. How individuals actually respond to specific interpersonal events needs to be investigated explicitly.

Others have emphasized the importance of acquiring rank within a social hierarchy (Gilbert, 1990; 1992; Price, 1967; 1972). Proponents of the social rank model argue that threats to or losses of social rank may contribute to depressive processes. Although an attachment framework is consistent with Coyne's model in which dysfunctional interpersonal relationships are characterized in terms of lost social support, the interactions of distressed individuals or spouses can likely be characterized not only in terms of threats to interpersonal relatedness but also in terms of threats to self-definition, both of which may contribute to dysphoric hostile feelings and the subsequent withdrawal of social support. The effects of dysfunctional interpersonal interactions can be characterized in either attachment terms, such as the loss of social support, or in social rank terms, such as the loss of social rank.

Social Rank

The social rank model proposes that (a) the psychological well-being of an individual is largely dependent upon the position or rank the individual holds within a dominance hierarchy and (b) the capacity to become depressed is the result of an evolved behavioural system aimed at acquiring and maintaining rank within a dominance hierarchy (Gilbert, 1992; Henry, 1982; Price, 1969; 1972). The model is significant because it provides a means of interpreting the functional significance of events within a framework relevant to depressive processes.

The social rank model is an ethological model that attempts to explain how social rank, dominance hierarchies, and depressive processes are interrelated, as well as the significance of dominance hierarchies and ranking in general. Why people should rank themselves at all is as important as establishing how ranking may be related to depressive processes. Price (1967) was the first to theorize about that the relations among emotional states, social rank, and dominance hierarchies, all of which he argues are common to a number of species including humans.

> The basic thesis is as follows. States of depression, anxiety, and irritability are the emotional concommitants of behaviour patterns which are necessary for the maintenance of dominance hierarchies in social groups. A dominance hierarchy is necessary in a social group if aggressive animals are to live together without fighting each other. A dominance hierarchy is a social ranking of the animals within a group, such that each animal knows its own rank relative to every other group member (the ranking need not be linear); it is an established order of leadership and precedence, and makes unnecessary the determination of a new precedence every time the interests of two members come into conflict. The advantages of such a system are obvious, and in fact it has been found in practically all species which do not limit their aggression by the strict division of territory between members (Price, 1967, p. 244).

Social rank refers to the position an individual holds relative to others within a dominance hierarchy. Most social environments contain some element of a dominance hierarchy or social order in which individuals organize themselves in terms of their relative position or influence. Most social hierarchies are dominance hierarchies. The position an individual holds within an hierarchy reflects the influence the individual has over other members of the group,

that is, the extent to which a member of the group is allied with others, a leader or a follower, dominant or subordinate, relative to others in the group.

Gilbert (1990; 1992) believes that individuals are predisposed to evaluate and organize themselves in terms of social rank. Much of what people do in interpersonal environments involves locating themselves within a dominance hierarchy. Many activities can be viewed in terms of a need to maintain, verify, or acquire social rank relative to others.

Ranking and recognition of rank serve a number of functions. Ranking provides individuals with a social structure in which leaders can be selected, and recognition of rank allows decisions to be executed efficiently and resources to be controlled effectively. The recognition of social rank also fosters a reduction in conflict and competitiveness among members of a group and can facilitate group co-operation in the attainment of common goals. In summary, rank is a means of exerting social control over others, limiting combat among group members, and of allocating resources within a groups of individuals.

Rank can be acquired in different ways. Gilbert (1992) argues that in humans, rank can be acquired by threatening or attracting others. In the first instance, rank is achieved by dominating or overpowering others aggressively. In the second instance, rank is obtained by attracting the attention of others or when others confer their attention upon us. Individuals with high social rank are not necessarily dominating; however, they are influential. For Gilbert (1989; 1992), attracting the interest of others

is perhaps the most important determinant of rank. We compete for and award recognition to the most worthy, and we admire the wealthiest and the most attractive. In most of these areas, ranking is usually implicit. For example, attractive, intelligent people garner more attention than ordinary people. However, we also explicitly orchestrate competition. Honours are awarded to the most powerful prize fighters, as well as the most valued intellectuals.

The social rank model hypothesizes that depression and dysphoria are related to social rank. Individuals who acquire high rank within a group of individuals will usually be more admired and will garner more attention and favours from others. Accordingly, gains in rank represent clear benefits and usually result in positive experiences. In contrast, lost rank or threatened rank will often produce dysphoric experiences and may motivate individuals to retaliate or contest threats to social rank (Gilbert, 1990; 1992). Changes in social rank may threaten self-worth, influence mood, and regulate behaviour.

For Gilbert (1990), gaining control over resources is strongly related to social rank and can influence an individual's well being. Individuals acquiring high rank will typically have greater control over decisions and resources than individuals with low rank. Resources can include having the attention of influential individuals, access to research funding and lab space, as well as use of the family car and television. Gaining or exerting control over a resource often results in success and a gain of rank, which may subsequently afford the individual more respect and attention from others. Moreover,

individuals who have control over resources will be more able to fulfill personal needs, and high ranking individuals within a group usually have greater access to resources and greater influence in controlling resources. That is, there is a reciprocal relationship between rank and control of resources[4].

Social Rank and Depression

One of the most controversial claims of the social rank model concerns the assertion that losses of social rank and how individuals respond to such losses may contribute to *episodes* of depression. Although experiencing a loss of rank is usually a dysphoric experience, which may motivate individuals to retaliate and contest such losses, a loss of rank will not generally lead to a depressive episode. However, proponents of the social rank model argue that the manner in which individuals respond to such changes may be related to depressive experiences. In some instances a depressive or submissive response may be adaptive and serve a function of negotiating differences in rank. Submitting to a higher ranking individual following a defeat may represent a social strategy aimed at maintaining relatedness and reducing the likelihood of subsequent competition or attack. Submission informs a competitor or attacker that the individual is not a threat to the higher ranking individual and that competition or attack can be called off. Depressive affect serves the

[4] Although social rank and control over resources can mutually influence one another, it does not follow that a gain of rank necessarily provides one greater accesses to resources. Nor does it follow that access to and control over resources necessarily entails a gain of social rank. There are likely a number of other factors that contribute to social rank, most importantly, gaining the attention of others.

function of inhibiting an individual from further competing under conditions that do not benefit the individual.

However, prolonged submissiveness may become problematic and could predispose an individual to depressive experiences (Gilbert, 1992; Sloman & Price, 1987). Research supports the association between submissiveness and depressive symptomatology (Gilbert, Pehl, & Allen, 1994). In particular, when submitting or yielding to others becomes involuntary, prolonged, or automatic, individuals may be at risk for severe depressive experiences. In one sense, depression can be viewed as a "miscarriage" of an adaptive response (Sloman, Price, Gilbert, & Gardner, 1994). Submissiveness may promote a sense of worthlessness within an individual or make that individual potentially less attractive to others or less valued by others (Gilbert, 1992). Both changes in social rank and the individual's response to such changes may be potentially important moderators of dysphoric and depressive experiences.

Interpersonal Events and Depression

Gilbert (1990) suggests that subordinate individuals may inhibit control over resources in order to preserve a relationship with others. In contrast, dominant individuals may exert control over resources to preserve high rank. However, there may be costs associated with how individuals exert control over resources that are shared with others may also contribute to maladaptive interpersonal environments. Exerting control over a shared

interpersonal resource may influence the quality of interpersonal relationships and an individual's self-worth.

One of the benefits of formal models, like the social rank model, is that interpersonal events and depressive symptoms can be conceptualized in new ways. Within the social rank model, both events and the behaviours of others provide individuals with information about their social rank. Different events and actions may confirm, enhance, or threaten one's rank or position within a dominance hierarchy. Accordingly, events may be conceptualized in terms of their function rather than in terms of their descriptive features, resulting in different kinds of predictions about the kinds of events that may contribute to depressive processes. Failure and interpersonal rejection events would typically belong to different domains of vulnerability, but within a social rank framework both could potentially represent a threat or loss of social rank.

Dependency and Self-Criticism

Research has shown that dependent and self-critical individuals experience qualitatively different interpersonal environments (Zuroff, 1994; Zuroff & Fitzpatrick, 1995; Zuroff, Stotland, Sweetman, Craig, & Koestner, 1994), which may partly explain why dependent and self-critical individuals may be vulnerable to different dysphoric and depressive experiences (Blatt, Quinlan, Cheveron, McDonald, & Zuroff, 1982; Zuroff & Mongrain, 1987). Researchers have speculated that dependency and self-criticism may influence the types of social environments individuals are likely to participate in and

the types of responses they evoke from others (Blatt & Zuroff, 1992). But the precise way in which vulnerability factors, such as dependency and self-criticism, moderate the influence of interpersonal events and the behaviour of others is unclear. Few studies have examined how dependent and self-critical individuals respond to specific events which may contribute to or aggravate maladaptive interpersonal environments.

One criticism of the social rank model involves the failure to consider individual differences in how events may be perceived. How individuals respond to relative changes in social rank within close interpersonal relationships, such as friendships, is likely to vary greatly. Although a gain in rank relative to a close friend may enhance feelings of competence and self-worth, the friend's relative loss in rank may also threaten the friendship, particularly if the loss of rank could lead to retaliatory behaviour or the withdrawal of friendship and support. But the manner in which individuals respond to changes in rank or threats to rank likely depends on the extent to which individuals are concerned with interpersonal relatedness or self-definition. Personality dispositions, such as dependency and self-criticism, may determine whether close friends, for example, behave deferentially and relinquish gains in rank or attempt to contest or retaliate for lost rank.

Previous research investigating the interpersonal environments of dependent and self-critical individuals has focused primarily on attachment issues involving loss, closeness, and relationship satisfaction (cf. Zuroff & Fitzpatrick, 1995), rather than on issues involving contention, appeasement,

and social rank. Blatt's formulation of dependency and self-criticism provides a useful framework for understanding how individuals respond to changes in and threats to social rank. Changes in social rank may exacerbate the interpersonal relatedness concerns of dependent individuals, as well as the self-definition concerns of self-critical individuals, which may also contribute to maladaptive environments and subsequent depressive experiences. In addition, Blatt's model offers a framework in which both cognitive and interpersonal processes can be integrated. Although dependency and self-criticism have typically been viewed as cognitive vulnerability factors that influence mood, dependency and self-criticism are likely to influence how individuals behave in interpersonal environments.

The Two Studies

The two studies to follow examine how dependency and self-criticism influence interpersonal responses to changes in or threats to social rank. The focus of this research is on the strategies that individuals use to negotiate changes in social rank in their social environments. Individuals characterized by depressive personality styles, such as dependency and self-criticism, may adopt strategies and engage in behaviours in response to changes in social rank that may contribute to maladaptive interpersonal environments or deprive them of fulfilling their own individual needs. Either outcome may lead to dysphoric or potentially depressive experiences.

The first study investigates how dependent and self-critical women behave towards close friends after experiencing a gain or loss of social rank

relative to the close friend. This study examines whether dependent and self-critical women prefer placating and praising friends or would rather withhold praise and not be deferential towards close friends. The second study examines whether dependent and self-critical women will exert or relinquish control over a shared resource after experiencing a gain or loss of social rank relative to a close friend. This study examines whether dependent and self-critical women will relinquish control of a shared resource at their own expense or exert control over a resource at the close friend's expense.

The studies were designed to address some of the methodological issues discussed previously. First, the studies examined the joint influence of depressive personality styles and interpersonal events in an integrative cognitive-interpersonal model. Second, events were conceptualized within a formal model, namely social rank. Predictions were based on how events could threaten the needs of dependent and self-critical individuals, rather than on the basis of their descriptive features. Outperforming a friend and being outperformed by a friend were conceptualized, respectively, as a gain and loss of social rank. Disagreement and agreement from a friend were formulated as a threat to and endorsement of social rank. Third, the studies examined interpersonal responses to specific events. Few studies have examined how depressive personality styles, such as dependency and self-criticism, influence an individual's behaviour. Fourth, the methodology examined responses to a series of interpersonal events, and responses to events were aggregated across multiple trials. Last, the studies examined the

interpersonal behaviour of individuals with close friends; no confederates were used.

In summary, these studies examine how dependency and self-criticism moderate behavioural and affective responses to events that may threaten interpersonal relatedness or self-worth within the social rank model. The research seeks to provide and investigate a more precise model describing how depressive personality styles and interpersonal events can contribute to maladaptive interpersonal processes that may increase the risk for depressive experiences.

Interpersonal Responses to Changes in Social Rank: Effects of Dependency and Self-Criticism

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Abstract

Previous research investigating the interpersonal environments of dependent and self-critical individuals has focused primarily on attachment issues and broad qualitative variables, such as relationship satisfaction, rather than on how dependent and self-critical individuals respond to specific interpersonal events. We examined how interpersonal responses to changes in social rank were influenced by dependency and self-criticism. Forty pairs of female college students participated in a laboratory experiment. Participants were allowed to believe firstly that they outperformed a close friend or were outperformed by a close friend and secondly that friends generally agreed or disagreed with them. Results showed that dependent women were more concerned with maintaining a good interpersonal relationship, whereas self-critical women were more concerned with preserving a positive self-definition. Dependent women relinquished gains in rank acquired at the expense of a friend, praised friends even when friends disagreed, and minimized disagreement experienced with disagreeing friends. In contrast, self-critical individuals contested lost rank, withheld praise from friends who challenged gains in rank, and did not minimize disagreement with disagreeing friends. Results support the utility of an interactional framework in which depressive personality styles, such as dependency and self-criticism, and situational events interact to regulate interpersonal behavior. Maladaptive interpersonal processes may explain why dependent and self-critical individuals are prone to different dysphoric and depressive experiences.

Interpersonal Responses to Changes in Social Rank: Effects of Dependency and Self-Criticism

Depressive vulnerability factors and maladaptive interpersonal environments are among the factors thought to contribute to depression and depressive episodes. Recent studies have suggested that dependent and self-critical individuals experience qualitatively different interpersonal environments (Zuroff, 1994; Zuroff, Stotland, Sweetman, Craig, & Koestner, 1994), which may partly explain why these individuals are vulnerable to different depressive experiences (Blatt, Quinlan, Cheveron, McDonald, & Zuroff, 1982; Zuroff & Mongrain, 1987). Researchers have speculated that dependency and self-criticism may influence the types of social environments individuals are likely to participate in and the types of responses they evoke from others (Blatt & Zuroff, 1992). But how vulnerability factors, such as dependency and self-criticism, moderate the influence of interpersonal events and the behavior of others is unclear. Few studies have examined how dependent and self-critical individuals respond to specific events that may contribute to or aggravate maladaptive interpersonal environments.

Research investigating the interpersonal environments of dependent and self-critical individuals has also focused primarily on attachment issues (cf. Zuroff, 1994), rather than on issues involving contention, appeasement, and social rank, which may also contribute to maladaptive environments and subsequent dysphoric or depressive episodes. Proponents of the social rank model argue there may be important connections between social rank and depression (Gilbert, 1992; Price, 1967). In the present study, we examined

how dependency and self-criticism influence interpersonal responses to changes in or threats to social rank. Participants were allowed to believe firstly that they outperformed a close friend or were outperformed by a close friend and secondly that friends generally agreed or disagreed with them. Outperforming a friend and being outperformed by a friend were conceptualized, respectively, as a gain and loss of social rank. Disagreement and agreement from a friend were formulated as a threat to and endorsement of social rank.

Social Rank

Ethological models of human behavior suggest that dysphoric and depressive episodes may be partly related to social rank (Gilbert, 1990; 1992; Price, 1967; 1972). Proponents of the model have argued that individuals are predisposed to evaluate and organize themselves in terms of social rank and that social rank is important for an individual's well being. Individuals within a social hierarchy or environment acquire different degrees of social rank. High ranking individuals are usually perceived as more capable. They are more admired, more frequently sought out for advice, and garner more attention and favours than others. Consequently, changes in or threats to social rank may harm self-worth, influence mood, and regulate behavior. Experiencing a loss of rank is usually a dysphoric experience, which may motivate individuals to retaliate and to contest lost social rank, whereas experiencing a gain of rank usually elevates mood. The social rank model predicts that losses of social rank may contribute to depressive episodes

(Gilbert, 1992; Price, Sloman, Gardner, Gilbert, & Rhodes, 1994; Sloman & Price, 1987).

How individuals respond to relative changes in social rank within close interpersonal relationships, such as friendships, is likely to be very complex. Although a gain in rank relative to a close friend may enhance feelings of competence or self-worth, the friend's relative loss in rank may also threaten the friendship, particularly if the loss of rank leads to retaliatory behaviour or the withdrawal of friendship or support. If one believes that maintaining a friendship depends on being subordinate, then outperforming a friend may threaten the friendship or the availability of the friend's support. The manner in which individuals respond to changes in rank or threats to rank likely depends on the extent to which individuals are concerned with interpersonal relatedness or self-definition. Personality dispositions, such as dependency and self-criticism, may determine whether close friends, for example, behave deferentially and relinquish gains in rank or attempt to contest or retaliate for lost rank.

Researchers investigating social rank also emphasize there may be costs associated with how individuals respond to social rank (Gilbert, 1992; Sloman & Price, 1987). Research has demonstrated a relation between submissiveness and depressive symptomatology (Gilbert, Pehl, & Allen, 1994). In general, submitting to a higher ranking individual represents a social strategy aimed at maintaining relatedness. Submission signals to a competitor or an attacker that the individual is not a threat to the higher ranking individual. Further competition is unnecessary; the attack can be

called off. However, prolonged submissiveness may become problematic and could contribute to the onset of a depressive episode (Sloman & Price, 1987). Submissiveness may promote a sense of worthlessness within an individual or make that individual potentially less attractive or less valued by others (Gilbert, 1992). Both changes in social rank and the individual's response to such changes may be potentially important moderators of dysphoric and depressive experiences.

One criticism of the social rank model involves the failure to consider how attachment issues, such as a concern for interpersonal relatedness, may moderate the impact of changes in or threats to social rank. A second criticism involves the failure to consider individual differences in how events may be perceived. Clearly, the manner in which individuals respond to changes in rank or threats to rank is complex and likely depends on the extent to which individuals are concerned with attachment issues, such as interpersonal relatedness or with social rank issues, such as self-definition.

Dependency and Self-Criticism

Blatt (1974; 1990; Blatt & Zuroff, 1992) proposed that the relative overemphasis on interpersonal relatedness or self-definition defines two broad personality configurations, dependency and self-criticism. Dependent individuals are motivated to "establish and maintain good interpersonal relationships" and "rely on others to provide and maintain a sense of well-being" (Blatt & Zuroff, p. 528). Highly dependent individuals may have difficulty expressing dissatisfaction or negative emotion because they fear losing the support and satisfaction gained from someone they are close to.

As a result, they may attempt "to minimize overt conflict by conforming to and placating others" (Blatt & Zuroff, 1992, p.528). In contrast, self-critical individuals are preoccupied with issues of self-definition and self-worth. They strive for "excessive achievement and perfection and are often highly competitive" (Blatt & Zuroff, 1992, p. 528). They desire respect and admiration, but fear disapproval and recrimination. Consequently, they may be ambivalent about interpersonal relationships and "can be critical and attacking of others as well as themselves" (Blatt & Zuroff, 1992, p. 528).

Research on the interpersonal environments of dependent and self-critical individuals supports many of these hypotheses. In an experience sampling study of daily interactions (Reis & Wheeler, 1991), dependency was related to more frequent and intimate interactions (Zuroff et al., 1994). Dependency has been associated with attachment fears concerning the loss of love (Zuroff, 1994) and with feelings of guilt about expressing hostility (Zuroff et al., 1983). In contrast, self-criticism in college women was associated with a desire to attain extrinsic rewards, such as status and respect, rather than to share emotional closeness (Zuroff & Fitzpatrick, 1991) and was related to a fearful avoidant style (Zuroff, 1994). In an experience-sampling study, self-criticism was related to less pleasant interactions (Zuroff et al., 1994). Self-critical women were also less successful in resolving conflict (Zuroff & Fitzpatrick, 1991).

Blatt's formulation of dependency and self-criticism provide a useful framework for understanding how individuals will respond to changes in and threats to social rank. Dependent individuals are concerned with

establishing and maintaining good interpersonal relationships and may behave submissively when faced with conflict. Dependent individuals are likely to experience a gain in rank at the expense of a close friend or disagreement from a close friend as a threat to the availability of support. Consequently, dependent individuals will be more motivated to maintain a relationship with valued others than to acquire rank at the expense of others. In order to preserve the friendship and ensure the availability of the friend's support, they may be more agreeable and more likely to defer to and appease close friends.

In contrast, self-critical individuals are more concerned with gaining respect from others for their achievements and with avoiding disappointment and recrimination. Self-critical individuals are likely to experience a loss of rank, even to a close friend, as a threat to self-worth. Because self-critical individuals are generally ambivalent about interpersonal relationships, they may be more willing to contest lost rank or to retaliate for challenges to gains in rank than to foster interpersonal relatedness. Consequently, self-critical individuals may be more motivated to achieve status through contesting losses, even at the expense of close friends and partners and less motivated to foster a friendship with someone of higher rank.

On both theoretical and empirical grounds there is good reason to believe that changes in rank will be important to both dependent and self-critical individuals and that dependent and self-critical individuals will respond differently to changes in rank. Investigating how dependent and self-critical individuals respond to events representing a change in or threat to

social rank is important for two reasons. First, examining the influence dependency and self-criticism may have on how individuals respond to such events may help to explain why dependent and self-critical individuals report experiencing interpersonal environments quite differently. Second, research on social rank suggests there may be important connections between social rank and depressive symptomatology (Gilbert, 1990; 1992). A better understanding of how vulnerability factors, such as dependency and self-criticism, interact with situational factors, such as changes in social rank and the behavior of others, may provide insights into specific interpersonal processes which may ultimately become problematic and make dependent and self-critical individuals vulnerable to dysphoric and depressive experiences.

Social Comparison Theories

Many of Gilbert's (1990) hypotheses about how changes in social rank affect mood and behaviour, as well as our own hypotheses about how dependent and self-critical individuals will respond to changes in rank and status are consistent with the substantial body of research on social comparison. Ranking can be conceptualized as social comparison. A loss of rank is analogous to an unfavourable comparison and may be threatening to self-worth or well-being. Research has demonstrated how unfavourable comparisons with other individuals may be threatening to self-worth (Tesser & Smith, 1980, Wheeler & Miyake, 1992) and how favourable comparisons may enhance self-worth (Wills, 1981). Predictions that threats to self-worth can be mitigated by denigrating victorious friends (Tesser & Campbell, 1982;

Tesser, Pilkington, & McIntosh, 1989) may be understood as an attempt to restore or contest a loss of rank.

Although studies investigating social comparison emphasize that the process of social comparison is an inherently social or interpersonal event, most social comparison studies tend to focus on the intrapsychic consequences of favourable or unfavourable comparison with respect to self-worth, rather than on the interpersonal consequences of social comparison. Typically, participants are compared favourably or unfavourably with a friend or stranger, and the effects of comparison are assessed by measuring the participants' affect or private responses to the persons with whom they were compared. Whether or not individuals openly denigrate friends who outperform them has been examined less thoroughly. Moreover, in most studies the experience of social comparison is conceptualized and operationalized as an event relevant only to issues of self-worth or self-definition. Social comparison models predict only that individuals are motivated to maintain or enhance self-esteem. The potential threat to interpersonal relatedness that exists in experiencing a gain in rank at the expense of a friend (i.e., outperforming a close friend) has generally been ignored.

Neither the social rank model nor the social comparison model formally consider how enduring personality dispositions, such as dependency or self-criticism, may moderate either the effects of social comparison or of changes in social rank. Interestingly, some research suggests that individual dispositions may in fact moderate social comparison processes. In one study,

unfavourable comparisons were only threatening to individuals low on self-esteem (Tesser, Millar, & Moore, 1988).

Overview of the Study

We propose that changes in or threats to social rank can be threatening to both interpersonal relatedness and self-definition and that how individuals respond to such changes or threats will be moderated by dependency and self-criticism. In this study, we employed a bogus feedback paradigm. In the first part of the paradigm, college women were allowed to believe that they outperformed a close friend or were outperformed by a close friend. In the second part, they were led to believe that their friends generally agreed or disagreed with them. Only women participated in the present study. Interpersonal responses to this type of feedback may differ depending on the sex of friend. Because the focus of the study was on the influence of individual dispositions on interpersonal responses to changes in social rank, only one gender was initially studied.

The task we employed consisted of a series of video-taped episodes. Individuals were required to make judgements about the nature of the relationship between the people appearing in the episodes, for example, to decide if the people were friends, strangers, or romantic partners. Participants rated the helpfulness and importance of the friend's (bogus) suggestions and were given the opportunity of adopting the friend's (bogus) response as superior. Adopting the friend's response as superior was conceptualized as deferring or subordinating one's self to the other. Accordingly, participants could minimize differences in rank by deferring to

and praising their friends, or they could contest differences in rank by not deferring to and not praising their friends. Upon completion of the study, participants were also asked to recall how many times friends disagreed with them and to rate the quality of the interactions with their friends. These measures were included to assess how the representation of events is influenced by dependency, self-criticism, and changes in social rank.

Certain features of the study merit comment. First, the study examines the joint influence of depressive personality styles, such as dependency and self-criticism, and interpersonal events that may threaten interpersonal relatedness or self-worth on how individuals behave towards close friends. Second, events were conceptualized within a formal model, namely social rank. Predictions were based on how events could threaten the needs of dependent and self-critical individuals, rather than on the basis of their descriptive features. Outperforming a friend and being outperformed by a friend were conceptualized, respectively, as a gain and loss of social rank. Disagreement and agreement from a friend were formulated as a threat to and endorsement of social rank. Third, the study examined interpersonal responses to specific events. Few studies have examined how depressive personality styles, such as dependency and self-criticism, influence an individual's behaviour. Indeed, very little is known about how vulnerability factors, such as dependency and self-criticism, may moderate behavioural responses to specific events. Fourth, the methodology employed examined responses to a series of interpersonal events, and responses to events were

aggregated across multiple trials. Last, the study examined the interpersonal behaviour of individuals with close friends; no confederates were used.

Method

Subjects

Forty pairs of female friends attending classes at McGill University participated in the experiment. Subjects were recruited through advertisements in the student newspaper and were paid $15 for their participation. The mean age of participants was 20. Subjects reported knowing their friends for an average of 4 years (SD=4.7) and spending an average of 20 hours (SD=18.1) per week with their friends. All participants described their friends as either "a best friend", "one of my best friends", or "a very good friend". No friend was described as just "one of my friends" or as "a good acquaintance". Age, years known, and time spent together were analyzed in an analysis of variance with Rank (outperforming a friend versus being outperformed by a friend) and Friend Behavior (agreeing friend or disagreeing friend) as the independent variables. Years known and time spent together were first log-transformed. No main effects or interactions between the independent variables were observed for age, years known, or time spent together (ps $>$ .50).

Measures and Dependent Variables

Depressive Experiences Questionnaire. The DEQ includes 66 Likert-type items assessing various thoughts and feelings about self and others (Blatt, D'Afflitti, & Quinlan, 1976). The DEQ can be scored for three factors, Dependency, Self-Criticism, and Efficacy. Items typical of the Dependency

factor include: "I often think about the danger of losing someone who is close to me" and "After an argument I feel very lonely." Items typical of the Self-Criticism factor include: "If I fail to live up to expectations, I feel unworthy" and "I tend to be very critical of myself." The factor structure has been replicated in a second large college sample (Zuroff, Quinlan, & Blatt, 1990). The DEQ demonstrates high internal consistencies (Cronbach's a > .75) and high 12-month test-retest reliabilities, r=.79 for both Dependency and Self-Criticism (Zuroff, Igreja, & Mongrain, 1990). Scores for Dependency and Self-Criticism were calculated using the scoring coefficients for the sample from Blatt et al. (1976), as recommended by Zuroff et al. (1990).

Interpersonal Perception Task. The Interpersonal Perception Task (IPT; Archer & Constanzo, 1988) consists of a series of video-taped episodes, 30 to 60 seconds in length, containing one or more persons. For each vignette, the viewer is presented with a multiple choice question and is required to decide, for example, if the man and the woman in the episode are friends, strangers, or romantic partners. The content of the episodes covers a number of domains, including kinship, lying, competition, status, and intimacy. Participants are informed that there is an objective answer. We used the first 14 episodes for the Rank manipulation and used the second 14 episodes for the Friend Behavior manipulation. For each of the second 14 episodes, participants were also presented with four possible reasons for the answer they selected and were required to select the "best" of these four reasons.

Mood The mood measure consisted of four positively (happy, joyful, fun, pleased) and five negatively valanced adjectives (angry, depressed, unhappy, frustrated, worried) scored on a 10-point scale according to how the individual feels at the present moment (Diener & Larsen, 1984; Larsen & Kasimatis, 1991). Participants circled 0 for "not at all" and 9 for "extremely". Larsen and Ketelaar (1991) found that adjectives comprising the mood measure were sensitive to laboratory mood manipulations.

CES-D. The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) is a 20-item self-report measure of depressive symptoms and affect. Subjects rate each item on a four-point scale indicating the degree to which they experienced the symptom during the previous week. The scale demonstrates good internal consistency (a = .84), and split-half reliabilities ranging from .77 to .92 in the general population (Corcoran & Fisher, 1987). Psychometric analyses based on item response theory suggest that in college samples the CES-D may be more discriminating of differences in depressive severity than the BDI (Santor, Zuroff, & Ramsay, in press).

Procedure

There were three parts to the experimental protocol. In part one, participants completed a package of questionnaires including the DEQ, the CES-D, and a base line measure of mood. In part two, participants were assigned randomly to Rank conditions and were led to believe either that they had outperformed their friends (Gain of Rank) or that they were outperformed by their friends (Loss of Rank). In part three, participants were assigned randomly to Friend Behavior conditions and were led to believe that

their friends generally agreed or disagreed with them on a second series of IPT episodes.

Subjects were recruited and completed the experimental protocol in pairs. Both participants were assigned to experimental conditions randomly. The experimental task was described as a measure of an individual's ability to form accurate impressions about people's behaviour. Accurate impression formation was described as "an important interpersonal skill in a number of domains including friendships and romantic relationships," and participants were told that we were "interested in the relation between personality and ability; scores from the personality questionnaires completed earlier would be used to predict their ability at forming accurate impressions." Subjects were then seated in separate rooms, each of which contained a computer and television monitor. A single video cassette recorder (VCR), controlled by computer, was connected to both monitors. All further instructions were provided by computer.

Rank Manipulation

For each of the first 14 IPT episodes, the computer displayed a multiple choice question before the episode began. Questions typically had two or three possible choices. Participants viewed the episode and then entered their answers into the computer. The computer provided the subject with (bogus) feedback, indicating whether the subject's response for the episode was "correct" or "incorrect." The computers waited for both participants to respond before prompting the VCR to play the next episode[1]. After completing the 14 episodes, subjects were provided feedback for their own

performance. They were then informed that their scores would be tabulated and sent to the friend's computer and that the friend's scores would be sent to their own computer. A computer subroutine simulated the connection of the two computers, prompted each participant to enter her name into the computer, and then displayed the friend's name on the participant's computer screen. Participants were then told the number of participants in this and previous studies who had achieved scores "better" and "worse" than their own scores and were informed how many participants had achieved scores "better" and "worse" than the friends' scores.

Participants in the Gain of Rank condition were told they answered 10 of the 14 questions correctly and had a score better than 86 percent of all participants. They were also informed that their friends had answered 5 of the 14 questions correctly and had a score worse than 72 percent of all participants. In the Loss of Rank condition subjects were informed they answered 5 of the 14 questions correctly and had a score worse than 72 percent of all participants. They were also informed that their friends had answered 10 of the 14 questions correctly and had a score better than 86 percent of all participants. Once participants believed results had been sent to the friend, the computer administered a post-feedback measure of affect. Completing the first 14 episodes required about 20 minutes.

The computer routine then proceeded to introduce the second part of the experiment. Participants were told the computer would assign them and their friends to one of two conditions. In Condition 1, participants would be asked to respond to a second series of episodes. In Condition 2, participants

would be asked to assist their friends. All participants were assigned to Condition 1 and were informed that their friends had been assigned to Condition 2 and would therefore be assisting them.

Friend Behavior Manipulation

In the second part of the study, participants were instructed that they would be required to answer questions for a series of new episodes but also that they would be required to identify the "best" from four possible reasons for the answer they choose. Participants were informed that some of the four reasons were better than others and were asked simply to identify the reason that made most sense, all things considered, regardless of the reasons they may have actually used in answering the questions. Feedback at the end of this series of episodes would be provided for both answers and reasons.

Participants were led to believe that their answers and reasons would be sent to the friend and that the friend would then decide, in her own opinion, whether the participant's answer was "correct" or "incorrect" and whether or not the participant had selected the "best" reason. Unlike part one of the study, participants were informed that they would not have access to objective computer feedback after each episode. The friend's feedback was characterized as assistance, and participants were instructed to use the friend's feedback in whatever manner to be as accurate as possible in choosing answers and selecting reasons. Participants were told they would be provided with the friend's feedback regarding their answers or reasons and would be given the option of changing their opinion and adopting the friend's answers or reasons if they so desired.

The distinction between answers and reasons is important for the experimental paradigm. As will be seen subsequently, the Friend Behavior manipulation was achieved by varying the extent to which participants believed friends agreed or disagreed with their answers. But in both the Agreeing and Disagreeing Friend conditions, participants were allowed to believe that their friends disagreed with the majority of their reasons. This was necessary to ensure (a) that participants would be rating the relevance of the friend's reason not identical to their own reasons and (b) that for most episodes participants could decide whether they or the friend had a "better" response (whether the response referred to an answer or reason).

Participants were presented (bogus) answers and reasons which they believed their friends had chosen as the "correct" answer and the "best" reason. In the Disagreeing Friend condition, participants were informed that on 10 of the 14 episodes friends disagreed with their answers and had selected different reasons. In the Agreeing Friend condition, participants were informed that on 10 of the 14 episodes friends agreed with their answers but that their friends had selected different reasons. For all but two of the 14 episodes the computer informed participants that friends had selected different reasons. Consequently, for 12 of 14 episodes, participants experienced a certain amount of disagreement on reasons. Except when the participant selected the (bogus) reason that the computer would have provided, all participants were told that their friends had selected the same (bogus) reason. In these rare instances, an alternate reason was presented.

For episodes in both conditions in which the friend disagreed with the participant's answer and/or reason, each participant was presented with the friend's (bogus) reason and was asked (a) to evaluate its relevance on a scale ranging from 0, signifying "not at all relevant," to 9, signifying "extremely relevant," (b) to decide whose answer (or reason) was the "better" answer (or reason), "your own" or "your friend's," and (c) to assess how helpful the friend's reason was in coming to understand the content of the episode on a scale ranging from 0, signifying "not at all helpful," to 9, signifying "extremely helpful." For episodes in which a participant was informed that her friend disagreed with the answer, participants were asked to decide who had the "better" answer. For episodes in which a participant was informed that her friend disagreed with the reason, participants were asked to decide who had the "better" reason. For episodes in which participants believed friends agreed with both their answers and reasons, participants completed only the relevance and helpfulness ratings. Completing the second 14 episodes and responding to questions regarding the friend's answers and reasons required about 45 minutes.

The principal dependent measures in the study were (a) relevance ratings, (b) helpfulness ratings, and (c) adopting the friend's response as superior. Upon completing the 14 episodes, a computer subroutine simulated the disconnection of the two computers, and participants were asked to recall the number of times their friends disagreed with their answers and were also requested to rate how "positive" or "negative" interacting with their friends was on a scale ranging from 0 or negative to 9 or positive.

We debriefed participants following procedures suggested by Aronson and Ellsworth (1991, pp. 314-325). Participants seemed involved throughout the protocol. Spontaneous remarks made by many of the participants throughout the study corroborated replies to our inquiries made during the debriefing. All participants reported behaving as if they were interacting with their friends. Two participants felt that the computers might have been providing bogus answers or feedback. These two participants were deleted from our analyses.

In summary, participants were first led to believe that they were either outperformed by their friends or that they actually outperformed their friends in part one. Believing they either outperformed their friends or were outperformed by their friends, they were then allowed to believe that friends generally agreed or disagreed with them in part two. For each episode in part two, participants were provided with the friend's (bogus) answer and reason, rated the friend's reason in terms of relevance, decided who had the "best" answer or reason, and finally evaluated the friend's reason in terms of helpfulness.

Results

The results are presented in four sections. First, we report univariate statistics and zero-order correlations among Dependency, Self-Criticism, and the dependent measures, and report the effects of the Rank manipulation on mood. Second, we examine the effects of Dependency and the experimental manipulations on the dependent measures. Third, we examine the effects of Self-Criticism and the experimental manipulations on the dependent

measures. Lastly, we examine how the pattern of results changes after accounting for depressive affect.

Univariate Statistics and Correlations

Means, standard deviations, and zero-order correlations among Dependency, Self-Criticism, and dependent variables are presented in Table 1.

Insert Table 1 about here

Dependency was related to both the Relevance and Helpfulness ratings, and was nominally related to adopting the friend's response as superior. Individuals with high Dependency scores rated the friend's reasons as helpful and relevant. Dependency was unrelated to baseline mood and depressive affect. In contrast, Self-Criticism was not correlated with Helpfulness ratings and was not related to adopting the friend's response as superior. Self-Criticism was, however, significantly related to Relevance ratings, baseline mood, and depressive affect, as measured by the CES-D. Correlations among dependent measures were also significant. Rating the friend's reasons as helpful was strongly related to rating reasons as relevant, and both of these ratings were moderately related to adopting the friend's response as superior. Given the high correlation between the Relevance and Helpfulness ratings these two dependent variables were standardized and aggregated into a single variable which we labelled Praise. To clarify the presentation of results, mean

Praise was used in subsequent analyses. Mean Praise was computed by dividing total Praise by the number of episodes.

Changes in Mood

Post-manipulation mood scores were first regressed on pre-manipulation mood scores. Residual mood scores were then used as the dependent variable in hierarchical regression analyses examining the effects of the Rank manipulation and the interaction of this manipulation with Dependency and Self-Criticism. An effect for Rank was found in both the regression analysis including Dependency ($F(1,74) = 42.46$, $p < .0001$) and in the regression analysis including Self-Criticism ($F(1,74) = 43.52$, $p < .0001$). The mean residual mood score for women outperforming their friends was 8.1, whereas for women being outperformed by their friends the mean residual mood score was -8.55. Post hoc t-tests demonstrated that women who outperformed their friends experienced a significant improvement in mood ($t(1,38) = 8.59$, $p < .0001$), whereas women who were outperformed by their friends experienced a significant decrement in mood ($t(1,38) = -3.52$, $p < .001$). Interactions between Rank and Dependency and Rank and Self-Criticism were not significant.

Dependency, Rank, and Friend Behavior

Adopting friend's response. Hierarchical regression analyses were performed to examine main effects and interactions among Dependency, Rank, and Friend Behavior (Cohen & Cohen, 1983). We regressed the dependent variable assessing the frequency with which women adopted the friend's response as superior on the three main effect terms, the three two-

way interaction terms and the three-way interaction term. Main effect terms for experimental conditions were entered prior to Dependency, and the interaction effect for the experimental conditions was entered prior to interaction effects involving Dependency. A main effect for Dependency ($F(1,70) = 5.66$, $p = .03$) and for the interaction between Dependency and Rank ($F(1,70) = 5.17$, $p = .03$) were observed[2]. Analyzing simple slopes revealed that when women outperformed their friends, Dependency was positively related to the frequency of adopting the friend's response as superior ($t(70) = 3.49$, $p < .001$)[3]. However, when women were outperformed by their friends, Dependency was unrelated to adopting the friend's response as superior ($p > .30$). Only women high on Dependency who believed they had outperformed the friend adopted the friend's response as superior[4]. Regression lines for adopting the friend's response as superior are plotted as a function of Dependency and Rank in Figure 1.

Insert Figure 1 about here

Praise. Similar hierarchical analyses were conducted for the Praise variable. A main effect was observed for Dependency ($F(1,70) = 7.86$, $p < .01$). Women high on Dependency praised their friends more than women low on Dependency across all conditions.

Remembered disagreements. Regressing remembered disagreements on main effect and interaction terms revealed a significant main effect for Friend Behavior ($F(1,70) = 112.83$, $p < .0001$) and an interaction between

Dependency and Friend Behavior ($F(1,70) = 5.43, p < .03$). Women in the disagreement condition recalled more disagreements than women in the agreement condition. Analyzing simple slopes revealed that in the Disagreeing Friend condition, Dependency was negatively related to the number of disagreements recalled ($t(70) = -2.34, p < .02$). However, in the Agreeing Friend condition, Dependency was unrelated to the number of disagreements recalled ($p > .30$). Regression lines for remembered disagreements are plotted as a function of Dependency and Friend Behavior in Figure 2. Given that there were ten episodes in the Disagreeing Friend condition on which women were told that their friends disagreed, women low on dependency accurately recalled how frequently friends disagreed with their answers, whereas women high on dependency recalled fewer disagreements than there actually were.

Insert Figure 2 about here

Quality of the interaction. Hierarchical regression analyses for the quality of the interactions revealed a main effect for Friend Behavior ($F(1,70) = 10.34, p < .01$) and Dependency ($F(1,70) = 6.92, p < .01$). Women rated interactions with agreeing friends more positively than interactions with disagreeing friends. Women high on Dependency rated the overall quality of the interactions more positively than women low on Dependency.

Self-Criticism, Rank, and Friend Behavior

Adopting friend's response. Analogous hierarchical regression analyses were performed to examine the main effects and interactions among Self-Criticism, Rank, and Friend Behavior. An interaction between Self-Criticism and Rank ($F(1,70) = 5.05$, $p = .03$) was observed in the analysis involving the frequency of adopting the friend's response as superior. An analysis of simple slopes revealed that women high on Self-Criticism who were outperformed by their friends tended to adopt the friend's response less frequently than women low on Self-Criticism ($t(70) = -1.82$, $p = .07$), whereas women high on Self-Criticism who outperformed their friends did not adopt the response of friends more or less frequently than women low on Self-Criticism ($p > .20$). Regression lines for adopting the friend's response as superior are plotted as a function of Self-Criticism and Rank in Figure 3.

Insert Figure 3 about here

Praise. Similar hierarchical analyses were conducted for the Praise variable. A two-way interaction between Self-Criticism and Rank ($F(1,70) = 5.14$, $p < .03$) and a three-way interaction among Self-Criticism, Rank, and Friend Behavior ($F(1,70) = 3.99$, $p < .05$) were observed. Analyzing simple slopes revealed that in the Loss of Rank/Agreeing Friend condition, Praise was negatively related to Self-Criticism in women ($t(70) = -2.80$, $p < .01$). Self-critical women who believed they were outperformed by friends who subsequently agreed with them praised friends less than women low on Self-

Criticism. Other simple main effects did not reach traditional significant levels. Regression lines for mean Praise are plotted as a function of Rank, Friend Behavior, and Self-Criticism in Figure 4.

Insert Figure 4 about here

Remembered disagreements. The analysis for remembered disagreements revealed a significant main effect for Friend Behavior ($F(1,70) = 106.03$, $p < .0001$) and an interaction between Self-Criticism and Friend Behavior ($F(1,70) = 4.02$, $p < .05$). Analyzing simple slopes revealed that in the Disagreeing Friend condition, Self-Criticism was positively related to the number of disagreements recalled ($t(70) = 2.15$, $p < .04$), whereas in the Agreeing Friend condition Self-Criticism was unrelated to the number of disagreements recalled ($p > .30$). Regression lines for remembered disagreements are plotted as a function of Self-Criticism and Rank in Figure 5. Given that there were 10 episodes in the Disagreeing Friend condition on which women believed their friends disagreed with their answers, women high on Self-Criticism accurately recalled how frequently friends disagreed, whereas women low on Self-Criticism recalled fewer disagreements than there actually were.

Insert Figure 5 about here

Quality of the interaction. Analyses for the overall quality of the interaction with the friend revealed a main effect for Friend Behavior ($F(1,70) = 11.02, p < .002$), a two-way interaction between Friend Behavior and Self-Criticism ($F(1,70) = 10.21, p < .002$), and a three-way interaction among Self-Criticism, Rank, and Friend Behavior ($F(1,70) = 5.56, p < .03$). Analyses of simple slopes revealed that Self-Criticism was related to rating the quality of the interactions positively in the Gain of Rank/Agreeing Friend condition ($t(70) = 2.15, p < .05$) but was related to rating the quality of the interactions less positively in the Gain of Rank/Disagreeing Friend condition ($t(70) = -3.99, p < .001$). Other simple main effects were not significant. Self-critical women who believed they outperformed friends who subsequently agreed with them rated the quality of the interaction more positively than women low on Self-Criticism, whereas self-critical women who believed they outperformed friends who subsequently disagreed with them rated the quality of the interaction less positively relative to women low on Self-Criticism. Regression lines for ratings of overall valence are plotted as a function of Rank, Friend Behavior, and Self-Criticism in Figure 6.

Insert Figure 6 about here

Depressive Affect as a Covariate

Including the CES-D measure of dysphoria as a covariate in the hierarchical regression analyses for the experimental manipulations, Dependency and Self-Criticism affected only one of the findings. Entering

CES-D first in the analysis in which Praise was regressed on Rank, Friend Behavior, Self-Criticism, and their interaction terms reduced the level of significance for the three-way interaction term to a trend ($p < .08$). All other findings for Dependency and Self-Criticism remained significant.

Discussion

We examined the influence of dependency and self-criticism on how women responded to gains and losses in rank, as well as to subsequent agreement or disagreement from close female friends. As anticipated, changes in rank, the behavior of others, and the personality of the individual were important in regulating the participant's behavior towards the friend. Support for the social rank model (Gilbert, 1990; 1992) was also found. Experiencing a gain in rank elevated mood, whereas experiencing a loss of rank depressed mood.

Dependency

Blatt (1974; 1990; Blatt & Zuroff, 1992) proposed that dependent individuals are concerned with maintaining supportive, intimate relationships and may behave submissively when the availability of support or intimacy is threatened. Results were generally consistent with this formulation. We conceptualized experiencing a gain in rank at the expense of a close friend or disagreement from a close friend as threats to interpersonal relatedness. Faced with such threats, dependent women were more willing to foster interpersonal relatedness and minimize conflict than women low on dependency.

Dependent women who outperformed close friends preferred to adopt reasons from less competent friends as superior rather than insisting upon the superiority of their own reasons--even though their own reasons were more likely to be correct. We interpreted adopting the friend's response as superior as relinquishing a gain in rank. Relinquishing gains in rank by deferring to others may serve to reconcile the defeated friend and mitigate the threat of retaliation or further competition which could threaten interpersonal relatedness. In contrast, a loss of rank would not provoke retaliation and may even give rise to expectations of support and reconciliation.

Dependent women also rated the (bogus) reasons suggested by close friends as more relevant and more helpful than women low on dependency, even when they believed close friends disagreed with them. Results for the retrospective measures also support the view that dependent individuals are motivated to preserve the relationship. Dependent women minimized conflict and characterized interactions with others positively. They recalled fewer disagreements than women low on dependency and fewer disagreements than there actually were, but only when they believed close friends disagreed with them. Dependent women also rated interactions with close friends more positively than women low on dependency.

In summary, interactions involving Dependency, Rank, and Friend Behavior were observed with respect to relinquishing gains in rank and recalling fewer disagreements. Main effects for dependency were observed with Praise for the friend's suggestions and with retrospective ratings involving the quality of the interaction with the friend. Both the interactions

and main effects observed here are consistent with the view that dependent individuals are strongly motivated to foster interpersonal relationships. However, certain behaviors, such as praising others, appear to be robust across a variety of situations and may only be influenced by dependency, whereas other behaviors, such as deferring to others and minimizing disagreements, may be influenced by both dependency and situational factors, such as changes in social rank.

Self-Criticism

Blatt (1974; 1990; Blatt & Zuroff, 1992) has proposed that issues of self-definition and self-worth dominate interpersonal relationships for self-critical women. Self-critical individuals desire respect and admiration but fear disapproval and recrimination. Results were generally consistent with this formulation. For self-critical individuals, experiencing a loss of rank to a close friend and disagreement from a close friend may be interpreted as threats to self-definition. Accordingly, self-critical women were more willing to contest changes and threats to rank than women low on self-criticism.

Self-critical women who were outperformed by a friend were more likely to contest the loss of rank than women low on self-criticism. When outperformed, self-critical women adopted the friend's suggestion as superior less frequently than women low on self-criticism, even though self-critical women knew the close friend was probably more competent. Rather than acknowledging the close friend's ability, self-critical women who experienced a loss of rank persisted in communicating to their friends that their own answers and reasons were superior.

Praise for the friend's reasons was influenced by self-criticism, changes in rank, and whether participants believed close friends agreed or disagreed. Self-critical women who experienced a loss in rank praised agreeing close friends less than women low on self-criticism. Although simple main effects for the other conditions did not reach traditional levels of significance, self-critical women who experienced a loss in rank tended to praise both agreeing and disagreeing close friends somewhat less frequently than women low on Self-Criticism. Only when self-critical women believed they had outperformed friends and believed that friends agreed with them were they as praising as women low on self-criticism.

These results underline the importance of changes in rank for self-critical women, as well as the importance of obtaining recognition or praise from others. When self-critical women experienced an increase in rank by outperforming a friend and believed that friends subsequently disagreed with them, they praised friends less than women low on Self-Criticism. Indeed, self-critical women may have anticipated recognition for their achievements--especially from a close friend. In this instance, disagreement may have been a challenge to their gain in rank and threatened self-worth either by invalidating their achievement or by placing the standard of performance at which recognition may be anticipated much farther out of reach. Withholding praise from friends may be one way of retaliating against criticism or a challenge to rank.

Results for the retrospective measures were also consistent with the view that a loss of social rank or a challenge to a gain of social rank may be

threatening for self-critical individuals. Self-critical women did not minimize conflict or characterize interactions with close friends positively. Women low on self-criticism recalled fewer disagreements than self-critical women and fewer disagreements than there actually were, but only when they believed close friends disagreed. Self-critical women were unwilling to forget disagreement even with close friends. Retrospective ratings for the quality of the interactions with close friends resembled the findings for the praise variable. Self-critical women who experienced a gain in rank rated interactions with agreeing close friends more positively than women low on self-criticism and they rated interactions with disagreeing close friends less positively than women low on Self-Criticism. As before, self-critical women who experienced a loss in rank rated interactions with agreeing close friends less positively than women low on Self-Criticism. The most unpleasant experience for self-critical women occurred with disagreeing close friends, following a gain in rank.

In summary, interactions involving Self-Criticism, Rank, and Friend Behavior were observed. Self-critical women who experienced a loss of rank contested their friend's gain of rank, and when friends failed to acknowledge gains in rank, self-critical women praised friends less and characterized the quality of interactions negatively. Self-critical women also failed to minimize the frequency of disagreement when friends disagreed.

Theoretical Implications

First, the results provide a detailed account of the kinds of chronic problems dependent and self-critical individuals may experience in

interpersonal relationships. In the present study, dependent individuals adopted a strategy which focused on maintaining interpersonal relatedness. Dependent women relinquished gains in rank, praised friends even when friends disagreed, and minimized disagreement. Sloman and Price (1987) postulate that prolonged submissiveness may dispose an individual to dysphoric or depressive experiences. Although a strategy of submissiveness and appeasement may preserve interpersonal relatedness, it could also undermine self-worth and reinforce a sense of dependency. Continuously neglecting self-worth could place dependent individuals at risk for dysphoric and depressive experiences by precluding potential sources of self-worth. Moreover, excessive or prolonged submissiveness may make an individual less attractive or less valued by others (Gilbert, 1992) and possibly exhaust the willingness of others to maintain a relationship.

In contrast, self-critical individuals adopted a strategy focusing on preserving self-identity at the expense of a friend. Self-critical individuals contested lost rank, withheld praise, and were unwilling to minimize disagreement with close friends. Although a strategy of hostile competitiveness may protect self-definition, it will not necessarily win the praise and respect desired from others. Support may be withdrawn in retaliation which could subsequently contribute to dysphoric or depressive experiences. Contesting the advice of more competent higher ranking individuals may even hinder achievement, contribute to a sense of failure, and undermine self-worth.

Second, the findings have implications for research examining how the congruency between vulnerability factors, such as dependency and self-criticism, and life events may increase the risk for depression (Hammen, Marks, Mayol, & deMayo, 1985; Segal, Shaw, & Vella, 1989). The congruency hypothesis suggests that depressive experiences are most likely to occur when individuals with specific vulnerabilities experience events that activated those vulnerabilities, for example when self-critical individuals experience a loss of social rank. In the present study, mood effects due to changes in social rank were not moderated by self-criticism or by dependency. Experiencing a gain of rank elevated mood, and a loss of rank depressed mood. Self-criticism did not exacerbate the effects of lost rank, nor did dependency mitigate the benefits of gained rank. This suggests that although a congruency between vulnerability and event may increase the likelihood of dysphoric or depressive feelings, certain events can affect individuals, regardless of how dependent or self-critical they may be. As has been argued elsewhere, the contribution of events, vulnerabilities, and their congruency effects should be viewed in terms of gradients of activation for depressive experiences (Zuroff & Mongrain, 1987). Accordingly, results also show how life events from an achievement domain may be threatening for both dependent and self-critical individuals. Although dependency and self-criticism may lower the threshold at which events can cause dysphoria, significant losses of social rank may be sufficient to activate dysphoric or depressive feelings in all individuals. More importantly, results demonstrate that although mood effects may not be explained by a congruence between

vulnerability and event, effects due to vulnerability factors, such as dependency and self-criticism, may be found with respect to interpersonal behavior. Individual dispositions may confer a vulnerability to depressive processes through their effects on the interpersonal environment rather than through their effects on mood.

Third, the results show how events, depressive vulnerability factors, and interpersonal processes may jointly contribute to depressive experiences. Cognitive and interpersonal theories have been recently criticized for ignoring the subtle manner in which cognitive and interpersonal process can interact (Safran, 1990). Responses to major life events may initiate maladaptive interpersonal processes which subsequently contribute to depressive experiences or depressive processes. For example, a demotion at work may motivate self-critical individuals to contest and restore lost rank through their interactions with colleagues, but hostile, competitiveness may lead to the withdrawal of support and recognition from colleagues which could further threaten self-worth. In contrast, a promotion at work could be threatening for highly dependent individuals. Being placed in a role of superiority may be seen by dependent individuals as a threat to previous relationships. In order to preserve these relationships, dependent individuals may tend to behave submissively, but excessive submissiveness may hinder the individual's ability to perform competently as a superior and make them less valued by subordinates.

Last, support for the social rank model was found; changes in social rank strongly influenced mood. Experiencing a gain of social rank elevated

mood, whereas experiencing a loss of social rank depressed mood. However, findings suggest that aspects of the social rank model (Gilbert, 1990; 1992) must be elaborated. How individuals responded to changes in social rank depended strongly on whether individuals were concerned with maintaining interpersonal relatedness or with preserving self-definition. Results demonstrate the need to formally acknowledge (a) the role of individual dispositions, such as dependency and self-criticism, in moderating effects of changes in social rank and (b) the interdependence of attachment and social rank systems. In the present study, changes in social rank were important for dependent individuals who are typically characterized by their attachment concerns. Clearly, changes in social rank can influence the attachment system, and attachment concerns can moderate how individuals respond to changes in social rank. How attachment and social rank systems interact must be formally considered.

Several aspects of the study limit the generality of our findings. First, all of the subjects in the study were women. How male friends or romantic partners may behave towards one another may differ dramatically. Second, women in our study experienced only a nominal amount of disagreement and were not clinically depressed. They were told only whether or not their friends agreed or disagreed. Although we did obtain strong effects with this mild manipulation and the effects appear unrelated to concurrent levels of depressive affect, the effects of disagreement may change as disagreement becomes more caustic or as the level of depression increases. Third, we also simulated interpersonal interactions which forced individuals to respond

without experiencing how friends subsequently reacted. Some women may have preferred to avoid deciding who had superior answers and reasons or may have wanted to ignore friends rather than withhold praise.

Although findings support the utility of constructs, such as dependency and self-criticism, other constructs related to interpersonal relatedness and self-definition may also account for these results. Individual differences in agency and communion (Bakan, 1966) may influence how individuals respond to changes in social rank and the behaviour of close friends. In the present study, the effects of changes in social rank were formulated as potential threats to the well-being of individuals who either overemphasize interpersonal relatedness or self-definition. Dependency and self-criticism are viewed as maladaptive individual dispositions that may contribute to dysfunctional interpersonal environments when specific needs for relatedness and self-definition are threatened. They were formulated as maladaptive ways of dealing with specific threats. In contrast, agency and communion are not generally formulated in terms of threats to well-being, nor are they generally viewed as maladaptive. Consequently, it is unclear whether constructs, such as agency and communion, could in fact account for the present findings.

Conclusion

Changes in and threats to social rank may be threatening to both interpersonal relatedness and self-definition. How individuals respond to such events may depend on individual dispositions, such as dependency and self-criticism. Results suggest that maintaining a good interpersonal

relationship may be more important to dependent women than maintaining gains in rank acquired at the expense of a friend. In contrast, contesting a loss of rank or disagreement from a close friend may be more important to self-critical women, than fostering interpersonal relatedness. These differences may partly explain how interpersonal processes may contribute to maladaptive interpersonal environments and subsequently make dependent and self-critical individuals vulnerable to different dysphoric and depressive experiences. Moreover, findings demonstrate the utility of examining models in which events, cognitive vulnerabilities, and interpersonal processes are viewed as components of an integrated theory rather than as competing or alternative explanations (Andrews, 1989; Safran, 1990; Zuroff, 1992).

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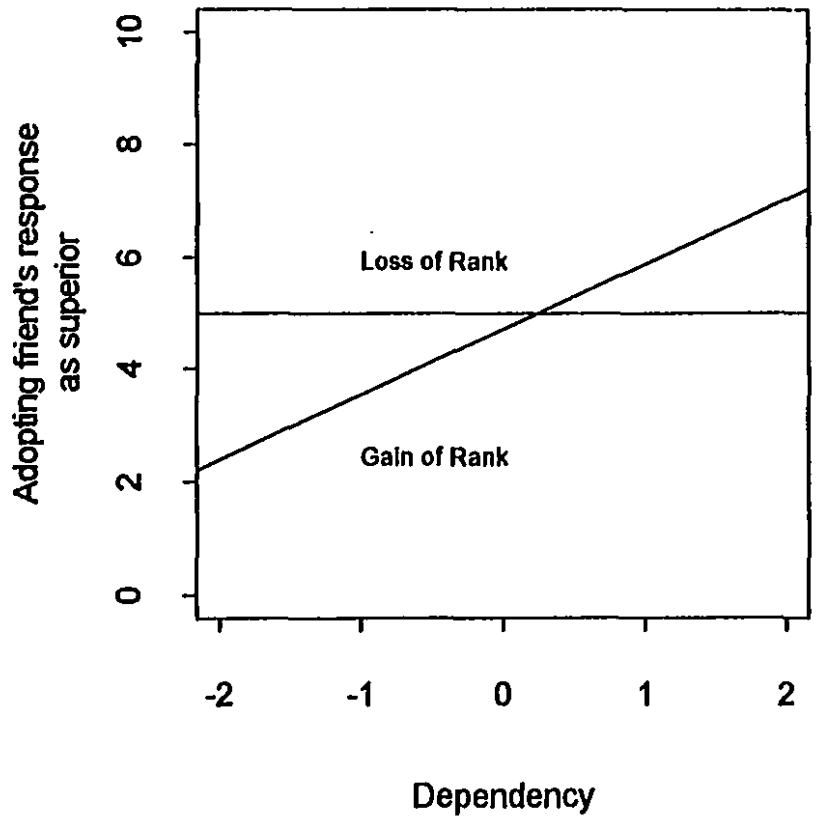
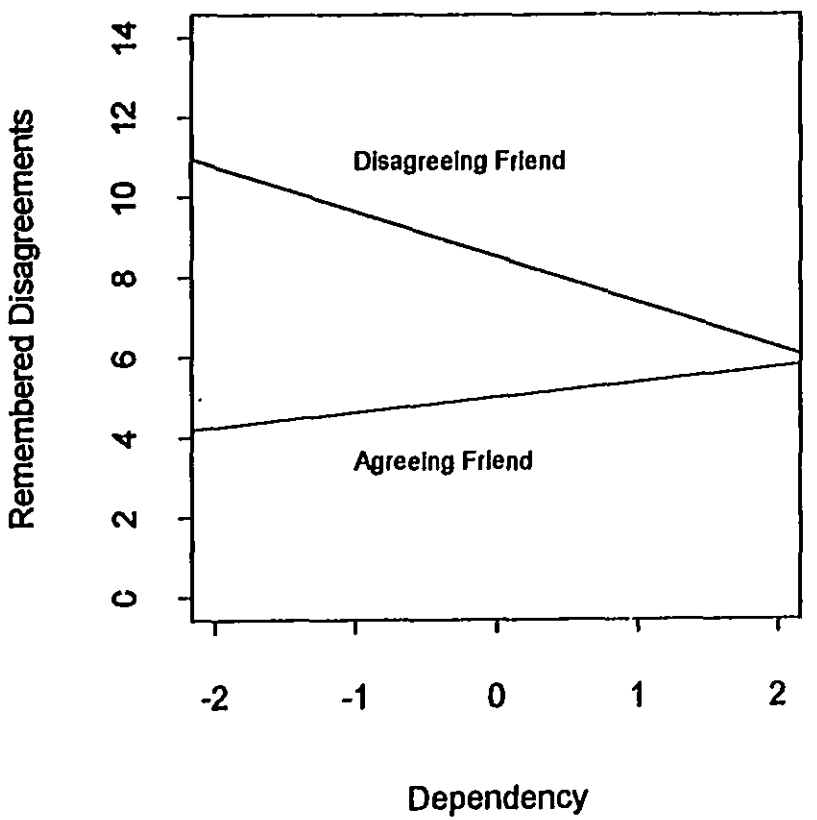
Table 1

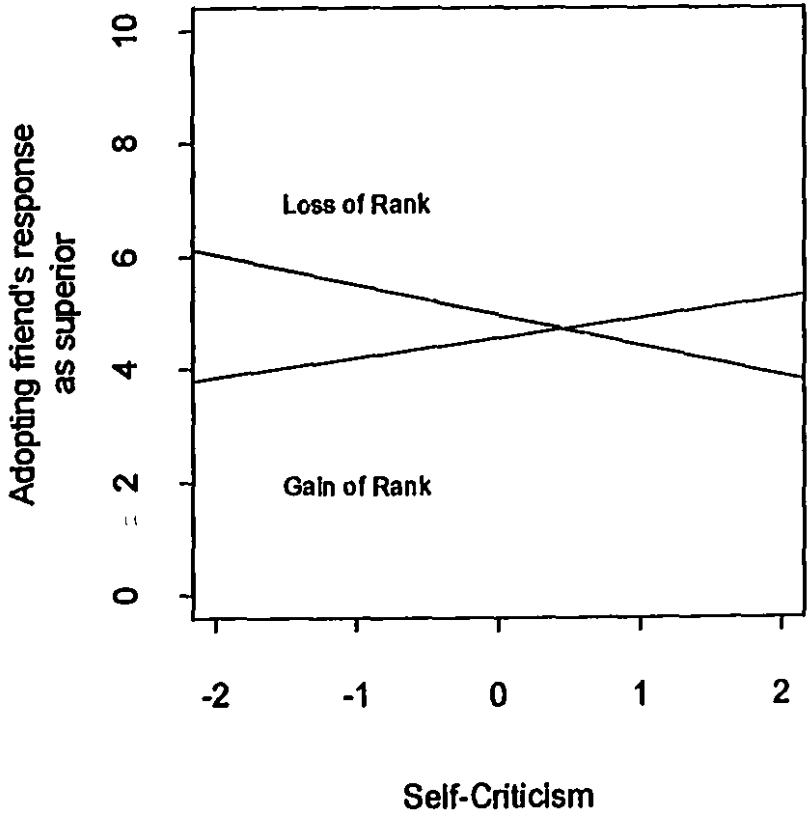
Correlations, Means, and Standard Deviations for Self-Criticism, Dependency, and Dependent Measures

	1.	2.	3.	4.	5.	6.	Mean	SD
1. DEQ Dependency							-.52	.8
2. DEQ Self-Criticism	-.02						-.10	1.0
3. Pre-experimental Mood	.16	-.33**					57.3	12.7
4. Relevance of Friend's Reason	.21+	-.15*	.15				85.2	15.7
5. Helpfulness of Friend's Reason	.25*	-.15	.22*	-.85***			83.9	17.0
6. Adopting the Friend's Response	.23*	.13	-.07	.45***	.43***		4.7	1.9
7. CES-D Dysphoria	.11	.51***	-.61***	-.04	-.10	.11	14.8	8.6

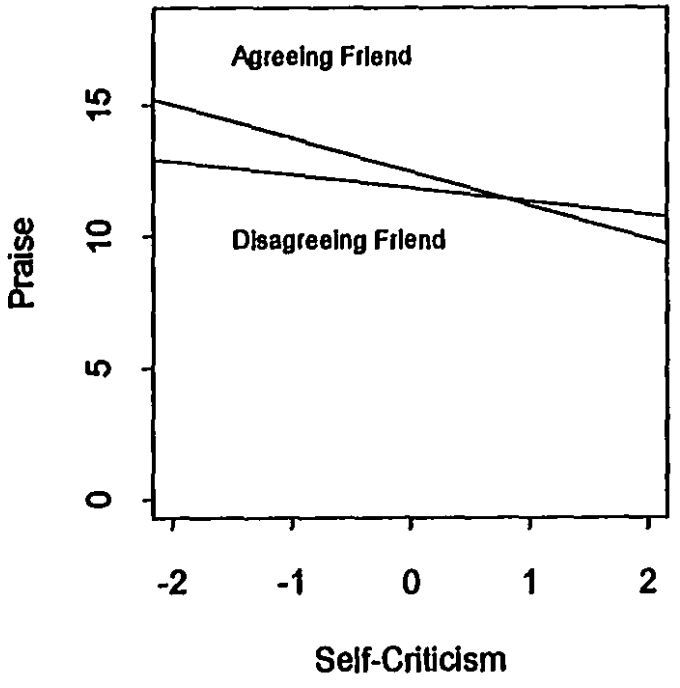
Note. DEQ = Depressive Experiences Questionnaire. CES-D = Center for Epidemiologic Studies Depression Scale.
+ $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$


Adopting friend's response as superior
0
2
4
6
8
10
Loss of Rank
Gain of Rank
-2
-1
0
1
2
Dependency

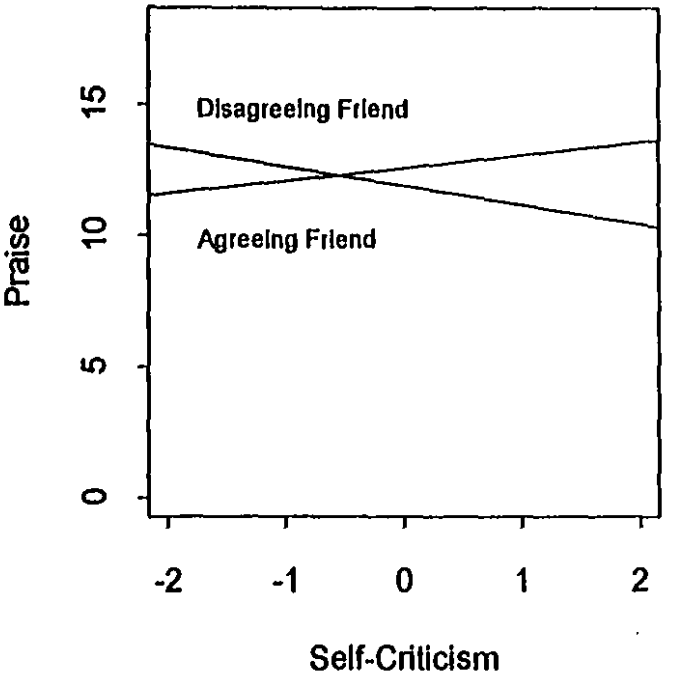

Remembered Disagreements
0
2
4
6
8
10
12
14
Disagreeing Friend
Agreeing Friend
-2
-1
0
1
2
Dependency

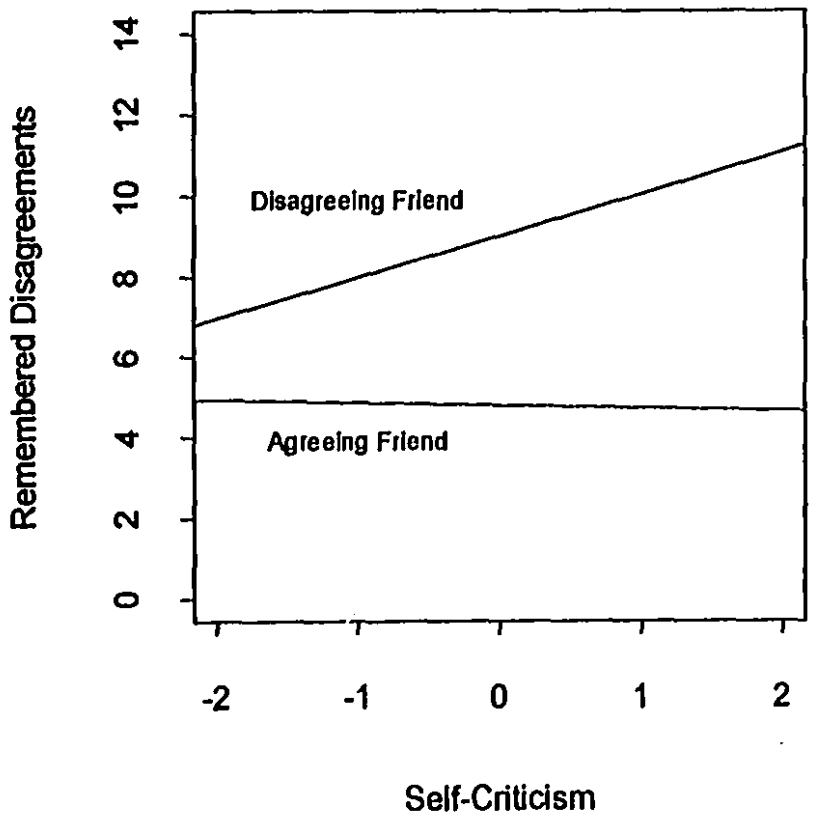

Adopting friend's response as superior
0
2
4
6
8
10
Loss of Rank
Gain of Rank
-2
-1
0
1
2
Self-Criticism

Loss of Rank

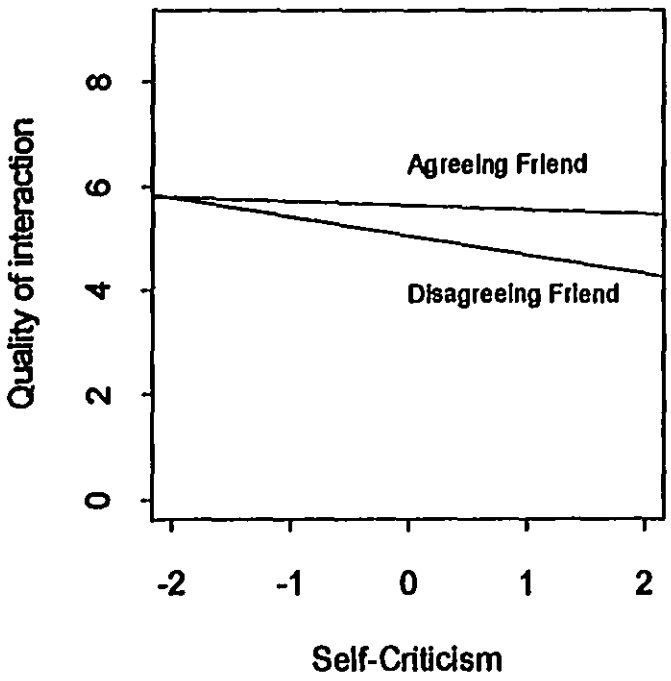


Gain of Rank

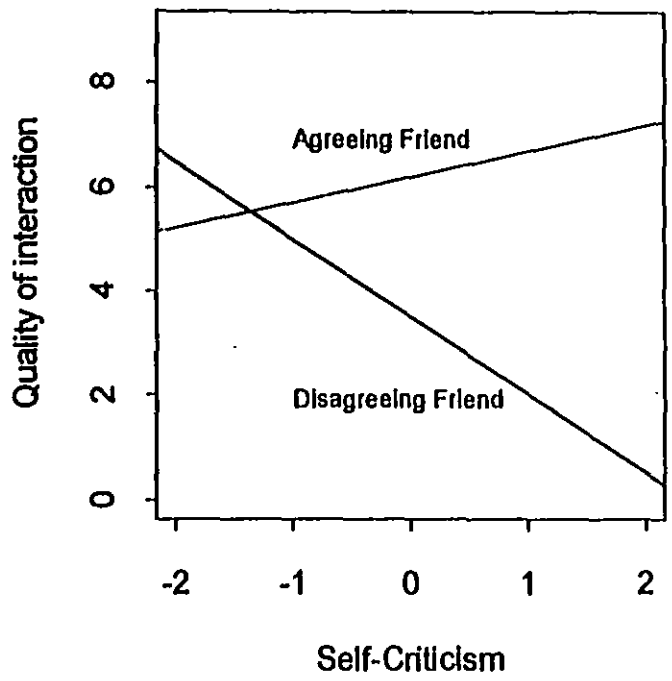



Remembered Disagreements
0
2
4
6
8
10
12
14
Disagreeing Friend
Agreeing Friend
-2
-1
0
1
2
Self-Criticism

Loss of Rank



Gain of Rank



Notes

[1] All computer routines were written by the first author in Borland C++ (1992). Serial communications subroutines were developed from existing serial communication packages (Goodwin, 1992).

[2] In order to determine whether effects were specific to Dependency, effects for Self-Criticism were subsequently included in the model, entered prior to effects for Dependency. Given the present design, only two-way interaction effects for Dependency that also include effects for Self-Criticism in the model could be tested. For example, the significant interaction between Dependency and Rank was retested in a model in which Rank, Dependency, and Self-Criticism were entered as main effects, followed by the interaction between Rank and Self-Criticism and the interaction between Rank and Dependency. Similar analyses were also conducted for two-way interaction effects for Self-Criticism. For all two-way interaction effects reported in the present study for both Dependency and Self-Criticism, effects remained significant after effects for Dependency or Self-Criticism were also added. Effects for Self-Criticism with respect to Remembered Disagreements were, however, weakened. Entering effects due to Dependency first reduced the interaction between Self-Criticism and Friend Behavior to a trend ($p < .06$).

[3] We employed techniques described in Aiken and West (1991) to test simple regression effects. Standard errors for the simple slopes are derived from the variance-covariance matrix, S_b, of the slope parameters for the model in question. For example, the model $Y = b_0 + b_1X + b_2Z + b_3XZ$

contains three slope parameters. The simple slope equation for the regression of Y on X can be re-expressed as $Y = (b_1 + b_3Z) X$. That is, the value of Y at X is determined by the main effect for X, b_1, and by the interaction of Z and X, namely the influence of X at Z, b_3. Accordingly, the variance of the simple slope, s^2_b, for the regression of Y on X is a function of the combination of the parameters b_1 and b_3, the variances and covariance of b_1 and b_3, and the values of Z. The standard error, s_b, is computed as the square root of $\mathbf{w'S_bw}$ where **w** defines the combination of the slope parameters **B**, [b_1, b_2, b_3]. In this example **w** is defined as [1 0 Z], since b_2 contributes nothing and b_3 depends on Z. The significance of this slope is evaluated as a t-test, $t_{(b|z)} = (b_1 + b_3Z)/ s_{b|z}$, with (N-k-1) degrees of freedom.

[4] Women high and low on Dependency and Self-Criticism refer to women with high and low scores and should not be viewed as Dependent and Self-Critical types which have been used in other studies (cf. Zuroff & Mongrain, 1987).

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Figure Captions

Figure 1. Adopting the friend's response as a superior plotted as a function of Dependency and Rank. Women high on Dependency who experienced a gain of rank at the expense of the friend adopted the friend's response as superior more frequently than women low on Dependency.

Figure 2. Number of disagreements recalled plotted as a function of Dependency and Friend Behavior. Women high on Dependency who believed friends generally disagreed with them recalled fewer disagreements than women low on Dependency.

Figure 3. Adopting the friend's response as a superior plotted as a function of Self-Criticism and Rank. Women high on Self-Criticism who experienced a loss of rank adopted the friend's response as superior less frequently than women low on Self-Criticism.

Figure 4. Praise plotted as a function of Self-Criticism, Rank, and Friend Behavior. Self-critical individuals who experienced a gain in rank and believed friends disagreed with them praised friends less than women low on Self-Criticism. Self-critical women experiencing a loss of rank tended to praise friends less even when they believed friends agreed. Only when self-critical women experienced a gain in rank and friends agreed did they not praise friends less than women low on Self-Criticism.

Figure 5. Number of disagreements recalled plotted as a function of Self-Criticism and Friend Behavior. Women high on Self-Criticism who believed their friends had generally disagreed with them accurately recalled the number of disagreements. Women low on Self-Criticism who believed friends generally disagreed with them recalled fewer disagreements.

Figure 6 Quality of the interaction with friends plotted as a function of Self-Criticism, Rank, and Friend Behavior. Self-Critical women who experienced a gain in rank and believed that friends generally disagreed with them rated interactions with the friend more negatively than women low on Self-Criticism.

Controlling Shared Resources: Effects of Dependency, Self-Criticism, and Social Rank

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Abstract

The social rank model suggests that unfavourable changes in social rank and the manner in which individuals respond to changes in social rank may be related to depressive processes (Gilbert, 1992). We examined the influence of depressive personality styles, dependency and self-criticism, on how individuals exert and relinquish control over a shared resource following a change in social rank or a threat to social rank. Forty pairs of female college students participated in a laboratory experiment. Participants were allowed to believe firstly that they outperformed a close friend or were outperformed by a close friend and secondly that friends generally agreed or disagreed with them. Results showed that dependent women who experienced a gain of rank at the expense of a friend relinquished gains in rank to less competent friends and waited longer before taking control of a shared resource. In contrast, self-critical women waited less time before taking control of a shared resource than women low on self-criticism. The costs of exerting or relinquishing control over a shared interpersonal resource is discussed. Dependent women maintained interpersonal relatedness by relinquishing control to others but may have neglected self-worth. Self-critical women promoted self-definition by actively controlling a shared resource, even at the expense of a close friend, regardless of the rank or behaviour of close friends.

Controlling Shared Resources: Effects of Dependency, Self-Criticism, and Social Rank

Research has shown that dependent and self-critical individuals may experience qualitatively different interpersonal environments (Zuroff, Stotland, Sweetman, Craig, & Koestner, in press; Zuroff, 1995), which may partly explain why dependency and self-critical individuals are prone to different depressive experiences (Blatt, Quinlan, Cheveron, McDonald, & Zuroff, 1982; Hammen, Marks, Mayol, & deMayo, 1985; Zuroff & Mongrain, 1987). Although researchers have speculated that dependency and self-criticism may influence the types of social environments individuals are likely to participate in, as well as the types of responses they direct towards and evoke from others (Blatt & Zuroff, 1992), few studies have attempted to investigate how dependent and self-critical individuals actively structure interpersonal environments in ways that may potentially threaten self-worth or the quality of interpersonal relationships with others.

Gilbert (1990; 1992) has proposed that changes in social rank and how individuals respond to changes in social rank are important moderators of an individual's well-being and may contribute to depressive experiences. Santor and Zuroff (1995) examined the influence of dependency and self-criticism on behavior towards close friends within a social rank framework to provide a more detailed account of how depressive vulnerability factors may contribute to maladaptive interpersonal environments and depressive processes. Results of this study demonstrated that dependent and self-critical individuals respond differently to changes in social rank and the behavior of close

friends. Dependent women relinquished gains in rank to less competent friends, praised friends even when friends disagreed, and minimized disagreement with disagreeing friends. In contrast, self-critical individuals contested lost rank, withheld praise from friends who challenged gains in rank, and were unwilling to minimize disagreement. Results of this first study provide a detailed account of the kinds of chronic problems dependent and self-critical individuals may experience in interpersonal relationships, as well as the kinds of strategies that may potentially contribute to maladaptive environments and depressive experiences. The aim of the present study was to examine how dependent and self-critical individuals exert or relinquish control over a shared resource in response to a change in social rank or a threat to social rank. How individuals exert control over resources shared with others may influence one's sense of well-being and the quality of interpersonal relationships with others.

Social Rank

The social rank model proposes that the psychological well-being of an individual is largely dependent upon the position or rank an individual holds within a group or social hierarchy (Gilbert, 1992; Price, 1967; 1972). Gilbert (1992) has argued that individuals are predisposed to evaluate and organize themselves in terms of social rank. Within a social hierarchy, high ranking individuals are usually more admired, more frequently sought out for advice, and garner more attention and favours than others. Threats to social rank or lost social rank may threaten self-worth and influence mood and behavior. Lost or threatened rank will often produce dysphoric experiences, may

motivate individuals to retaliate or contest threats to social rank, and can potentially contribute to depressive episodes (Gilbert, 1992; Price, Sloman, Gardner, Gilbert, & Rhodes, 1994; Sloman & Price, 1987).).

For Gilbert (1990), gaining control over resources is strongly related to social rank and can influence an individual's well being. Resources can include having the attention of influential individuals, access to research funding and lab space, as well as use of the family car and television. Control over resources can contribute to well-being in different ways. First, gaining access to resources enables one to more effectively fulfil personal needs. Having the attention of influential others may facilitate the acquisition of resources needed to satisfy occupational needs, just as having access to the television or family car may fulfil recreational needs. Second, control over resources itself may result in a gain of social rank to the extent that it affords the individual more respect and attention from others. Individuals who control large amounts of research funds are likely to garner more respect and deference from others than individuals who do not control such resources.

Individuals may exert control over resources in order to preserve, acquire, or restore social rank, or they may relinquish control over resources to foster and maintain interpersonal relatedness. How individuals attempt to control resources may have costs that can threaten the quality of interpersonal relationships or undermine self-worth. Exerting control over resources may represent one way of preserving or acquiring social rank, but there may be costs associated with exerting control over resources,

particularly when resources are shared with others. For example, exerting control over shared research funds, lab space, or the family car may strain relationships with research colleagues or family members. In contrast, relinquishing control over resources may be one way of preserving a relationship with another, but relinquishing control of lab space, research funds, or the family car may hinder attempts to meet personal needs, diminish one's social rank, and even contribute to depressive experiences.

Research supports the association between submissiveness and depressive symptomatology (Gilbert, Pehl, & Allen, 1994). Submitting or relinquishing control of resources to a higher ranking individual can represent a social strategy aimed at maintaining interpersonal relatedness. Submission signals to a competitor or an attacker that the individual is not a threat to the higher ranking individual and that competition or the attack can be called off. But prolonged submissiveness may become problematic and could predispose to an individual to depression or depressive experiences (Sloman & Price, 1987). Behaving submissively or relinquishing control of resources may promote a sense of worthlessness within an individual or make that individual potentially less attractive to others or less valued by others (Gilbert, 1992).

One criticism of the social rank model involves the failure to consider how attachment may moderate the impact of changes in social rank. A second criticism involves the failure to consider individual differences in how events may be perceived. Clearly, the manner in which individuals respond to changes in rank or threats to rank is complex and likely depends on the

extent to which individuals are concerned with attachment issues, such as interpersonal relatedness, or with social rank issues, such as self-definition or self-worth.

Dependency and Self-Criticism

Blatt (1974; 1990; Blatt & Zuroff, 1992) proposed that the relative overemphasis on interpersonal relatedness or self-definition defines two broad personality configurations, dependency and self-criticism, which may make individuals prone to depressive experiences. According to Blatt and Zuroff (1992), dependent individuals are motivated to "establish and maintain good interpersonal relationships" and "rely on others to provide and maintain a sense of well-being" (p.528). Because dependent individuals fear losing the support and satisfaction gained from someone they are close to, they may have difficulty expressing dissatisfaction or negative emotion and may attempt "to minimize overt conflict by conforming to and placating others" (Blatt & Zuroff, 1992, p.528). In contrast, self-critical individuals are believed to be preoccupied with issues of self-definition and self-worth. They desire respect and admiration, fear disapproval and recrimination, and are ambivalent about interpersonal relationships (Blatt & Zuroff, 1992).

Findings from the study conducted by Santor and Zuroff (1995) are consistent with this formulation. In this study, dependent women relinquished gains in rank acquired at the expense of a friend, praised friends even when friends disagreed, and minimized the degree of disagreement experienced with disagreeing friends. Self-critical individuals contested lost

rank, did not minimize the degree of disagreement with disagreeing friends, and withheld praise from friends who challenged gains in rank.

There are good theoretical and empirical reasons for predicting that dependency and self-criticism may influence the manner in which individuals exert or relinquish control over shared interpersonal resources. A gain in rank at the expense of a close friend may enhance competence or self-worth, but the friend's relative loss in rank may also threaten the relationship with the friend, particularly if the loss of rank leads to retaliatory behaviour such as the withdrawal of friendship or support. Because dependent individuals are concerned with establishing and maintaining good interpersonal relationships, particularly when interpersonal relatedness is threatened, they may be more likely to relinquish control of a resource, in order to preserve interpersonal relatedness. Dependent individuals may relinquish control of an interpersonal resource when interpersonal relatedness is threatened in order to demonstrate they are not a challenge or threat to the other.

In contrast, theory and research suggest that self-critical individuals are concerned with gaining respect from others for their achievements and avoiding disappointment and recrimination. Self-critical individuals are unlikely to relinquish the control of a resource, since relinquishing control may be perceived as evidence of being incapable and will not enhance one's social rank or self-image. Because self-critical individuals are concerned with self-definition, they may even exploit a resource at the expense of a close friend in order to promote social rank.

Investigating the influence of dependency and self-criticism on how individuals exert or relinquish control over shared resources is important for a number of reasons. First, investigating how individuals exert or relinquish control over shared resources represents an important extension of the results of the study previously conducted by Santor and Zuroff (1995). One concern with this study is that behavior consisted exclusively of verbal responses subjects believed they were communicating to their friends. It might be argued that informing another individual that she is helpful, competent, or superior is significant but that it only represents a strategy of verbal appeasement. Whether or not results would generalize to more nonverbal measures of behavior, such as how individuals control resources, is unclear.

Second, examining how dependency and self-criticism moderate the manner in which individuals exert or relinquish control over resources shared with others may help to explain why dependent and self-critical individuals experience interpersonal environments quite differently (Zuroff et al., 1995; Zuroff, 1994). The manner in which an individual exerts control over shared resources, such as the family car or television, can influence both the quality of interpersonal relationships, as well as an individual's sense of well-being. Exerting control over shared resources may allow an individual to better fulfil personal needs, but it may also threaten relationships by denying others valued resources.

Last, examining the extent to which depressive personality styles, like dependency and self-criticism, influence the manner in which individuals exert or relinquish control of resources may provide insights into alternate

ways in which depressive personality styles can contribute to potentially maladaptive environments. Most studies examining the role of person factors in depressive processes have traditionally viewed person and situation factors as orthogonal rather than as factors that may exert reciprocal influences on one another (cf. Bandura, 1977; Buss, 1987). However, depressive personality styles, such as dependency and self-criticism, may directly contribute to the occurrence of potentially disruptive events and situations by influencing how individuals actively structure their environments.

Overview of the Study

We propose that how individuals exert or relinquish control over a shared interpersonal resource will be moderated by dependency, self-criticism, and social rank. In this study, we employed a bogus feedback paradigm in which college women believed first that close friends outperformed them or were outperformed by them and second that friends subsequently agreed or disagreed with them. The task we employed consisted of a series of video-taped episodes. Participants believed they controlled how the episode would be viewed, including how much of the episode they and their friends would view, how long to wait before taking control of episodes from friends, and how long to wait before relinquishing control of episodes to friends. Taking episodes, relinquishing episodes, and allocating time spent viewing the episode between themselves and their friends were conceptualized as measures of how willing individuals were to exert or relinquish control over a shared, limited resource.

As in the previous study (Santor & Zuroff, 1995) participants were required to make judgements about what people in the episodes were doing, for example, to decide if the couple in the episode were friends, strangers, or romantic partners. Participants rated the helpfulness and importance of the friend's suggestions, and decided who had the better response. Participants could minimize differences in rank experienced earlier by praising or deferring to friends, or by relinquishing control of episodes to friends. Alternatively, they could contest differences in rank by not praising or deferring to friends, or by relinquishing control of episodes to friends. Measures from the previous study were included in the present study both to replicate previous effects and to ensure that the two studies were comparable. Ensuring that the present study is comparable to the previous study is important, because the task used in the present study was more difficult than in the previous study. Participants in the present study had the additional task of deciding how the episode would be viewed.

The present study also examined how ratings of superiority changed following a gain and loss of rank, while taking into account participants' general perceptions concerning their ability to perform well at the experimental task relative to their friends. In the previous study (Santor & Zuroff, 1995), changes in rank were not measured directly. Although being outperformed by a friend might be interpreted as a loss of rank, the extent to which feelings of superiority change is unclear. Lastly, participants were required to indicate how they originally intended to allocate time to themselves and their friends.

In summary, we anticipated that dependent individuals would generally relinquish control over resources shared with close friends in order to maintain interpersonal relatedness, particularly when interpersonal relatedness was threatened. In contrast, we expected self-critical individuals to exert control over resources in order to promote or preserve social rank, particularly when social rank is threatened, even when resources are shared with close friends.

Method

Subjects

Forty pairs of female friends attending classes at McGill University participated in the experiment. Subjects were recruited through advertisements in the student newspaper and were paid $15 for their participation. The mean age of participants was 20. Subjects reported knowing their friends for an average of 4.0 years (SD= 1.7) and spending an average 27 hours (SD= 24) a week with their friends. All participants described their friends as either "a best friend", "one of my best friends", or "a very good friend". No friend was described as just "one of my friends" or as "a good acquaintance". Age, years known, and time spent together were analyzed in an analysis of variance with Rank (outperforming a friend versus being outperformed by a friend) and Friend Behavior (agreeing friend or disagreeing friend) as the independent variables. Years known and time spent together were first log-transformed. No main effects or interactions between the independent variables were observed for age, years known, or time spent together (ps > .30).

Measures

Depressive Experiences Questionnaire. The Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) includes 66 Likert-type items assessing various thoughts and feelings about self and others. The DEQ can be scored for three factors, Dependency, Self-Criticism, and Efficacy. Items typical of the Dependency factor include: "I often think about the danger of losing someone who is close to me" and "After an argument I feel very lonely." Items typical of the Self-Criticism factor include: "If I fail to live up to expectations, I feel unworthy" and "I tend to be very critical of myself." The factor structure has been replicated in a large college sample (Zuroff, Quinlan, & Blatt, 1990). The DEQ demonstrates high internal consistencies (Cronbach's a > .75) and high 12-month test-retest reliabilities, r=.79 for both Dependency and Self-Criticism (Zuroff, Igreja, & Mongrain, 1990). Scores for Dependency and Self-Criticism were calculated using the scoring coefficients for the sample from Blatt et al. (1976), as recommended by Zuroff, et al., (1990).

Interpersonal Perception Task. The Interpersonal Perception Task (IPT; Archer & Constanzo, 1988) consists of a series of video-taped episodes, containing one or more persons. For each vignette, the viewer is presented with a multiple choice question and is required to decide, for example, if the man and the women in the episode are friends, strangers, or romantic partners. The content of the episodes covers a number of domains, including, kinship, lying, competition, status, and intimacy. Participants are informed that there is an objective answer. We used the first 14 episodes for

the Rank manipulation and used the second 14 episodes for the Friend Behavior manipulation. For each of the second 14 episodes, participants were also presented with four possible reasons for the answer they selected and were required to select the "best" of these four reasons.

Mood. The mood measure consisted of four positively (happy, joyful, fun, pleased) and five negatively valanced adjectives (angry, depressed, unhappy, frustrated, worried) scored on a 10-point scale according to how the individual feels at the present moment (Diener & Larsen, 1984; Larsen & Kasimatis, 1991). We also included an additional item concerning feelings of superiority. Participants circled 0 for "not at all" and 9 for "extremely". Larsen and Ketelaar (1991) found that adjectives comprising the mood measure were sensitive to laboratory mood manipulations.

Procedure

There were three parts to the experimental protocol. In part one, participants completed a package of questionnaires including the DEQ and a base line measure of mood. They also rated their relative competence on the experimental task (i.e., forming accurate perceptions of others) on a 6-point scale ranging from -3 to 3, indicating whether they believed they were generally more or less competent than their friends. In part two, participants were assigned randomly to Rank conditions and were led to believe either that they outperformed their friends (Gain of Rank) or that they were outperformed by their friends (Loss of Rank). In part three, participants were assigned randomly to Friend Behavior conditions and were led to believe that their friends generally agreed or disagreed with them on a second series of

IPT episodes. The experimental protocol described by Santor and Zuroff (1994) was used to manipulate Rank and Friend Behavior. In the present study, participants were however also required to control how the video-taped episodes would be viewed.

Rank Manipulation

For each of the first 14 IPT episodes, the computer displayed a multiple choice question before the episode began, waited for participants to enter their answers, and then provided participants with (bogus) feedback, indicating whether participants were "correct" or "incorrect." Participants in the Gain of Rank condition were told they answered 10 of the 14 questions correctly and had a score better than 86 percent of all participants. They were also informed that their friends had answered 5 of the 14 questions correctly and had a score worse than 72 percent of all participants. In the Loss of Rank condition, subjects were informed they answered 5 of the 14 questions correctly and had a score worse than 72 percent of all participants. They were also informed that their friends had answered 10 of the 14 questions correctly and had a score better than 86 percent of all participants. Subjects believed that results for their own performance as well as their friend's performance were tabulated and sent to both computers. After being provided with bogus feedback for their own performance and the friend's performance, subjects completed a computer administered post-feedback measure of mood. Completing the first 14 episodes required about 20 minutes.

The computer routine then proceeded to introduce the second part of the experiment. Participants were told the computer would assign them and their friends to one of two conditions. In Condition 1, participants would be asked to respond to a second series of episodes. In Condition 2, participants would be asked to assist their friends. All participants were assigned to Condition 1 and were informed that their friends had been assigned to Condition 2 and would be assisting them.

Friend Behavior Manipulation

In the second part of the study, participants were required to answer questions for a series of new episodes and to identify the "best" from four possible reasons for the answer they choose. Participants were informed that some of the four reasons were better than others and were asked simply to identify the reason that made most sense, all things considered, regardless of the reasons they may have actually used in answering the questions. They were also told that feedback for both answers and reasons would be provided at the end of the study.

Unlike part one of the study, participants were also told that only one person could view the episode at a time and that participants in Condition 1 would decide how the video-taped episodes would be viewed. They were informed that pressing the space-bar would turn one television off and turn the other television on. They could change who viewed the episode as frequently as they desired. Pressing the space-bar successively would repeatedly change who was viewing the episode. Subjects believed that what one person saw the other did not, but in reality, subjects only controlled

whether their own television monitor was on or off. In addition, for some episodes participants believed they would begin watching the episode; for other episodes, participants believed that the friend would begin watching the episode. Accordingly, participants believed they were relinquishing the episode to the friend for some episodes and believed they were taking the episode from the friend for other episodes. The measures of resource control were (a) how participants allocated time, (b) how long participants waited before taking control of the episode from the friend, and (c) how long participants waited before relinquishing control of the episode to the friend.

Participants were directed to view the episode in whatever way they considered appropriate to answer questions and select reasons as accurately as possible. So that the Friend Behavior manipulation would be credible, participants were requested to ensure that both they and their friends viewed enough of each episode to formulate an opinion about the correct answer and reason. These instructions were consistent with participants' natural inclinations. Pilot testing revealed that most friends attempted to be equitable in how the allocated time between themselves and their friends.

As in the previous study, participants were lead to believe that their answers and reasons would be sent to the friend and that the friend would then decide, in her own opinion, whether the participant's answer was "correct" or "incorrect" and whether the participant had selected the "best" reason. Participants were told they would be provided with the friend's feedback regarding their answers or reasons and would be given the option of changing their opinion and adopting the friend's answers or reasons if they

so desired. Participants were then presented (bogus) feedback for answers and reasons depending on the experimental condition. In the Disagreeing Friend condition, participants were informed that on 10 of the 14 episodes friends disagreed with their answers and had selected different reasons. In the Agreeing Friend condition, participants were informed that on 10 of the 14 episodes friends agreed with their answers but that their friends had selected different reasons. Further details of this manipulation are described in Santor and Zuroff (1994).

Participants were then presented (bogus) answers and reasons which they believed had been provided by the friend and were asked (a) to evaluate relevance of the reason on a scale ranging from 0, signifying "not at all relevant," to 9, signifying "extremely relevant," (b) to decide whose answer (or reason) to keep as the "better" answer (or reason), "your own" or "your friend's," and (c) to assess how helpful the friend's reason was in coming to understand the content of the episode on a scale ranging from 0, signifying "not at all helpful," to 9, signifying "extremely helpful." For episodes in which a participant was informed that her friend disagreed with the answer, participants were asked to decide who had the "better" answer. For episodes in which a participant was informed that her friend disagreed with the reason, participants were asked to decide who had the better reason. The measures of interpersonal behaviour were (a) relevance ratings, (b) helpfulness ratings, and (c) adopting the friend's response as superior. Completing the second 14 episodes and responding to questions regarding the friend's answers and reasons required about 45 minutes.

We debriefed participants following procedures suggested by Aronson and Ellsworth (1991, pp. 314-325). Participants seemed involved throughout the protocol. Spontaneous remarks made by many participants throughout the study corroborated replies to our inquiries made during the debriefing. All participants reported behaving as if they were interacting with their friends. Four participants felt that the computers might have been providing bogus answers or feedback. These participants were deleted from our analyses.

In summary, participants were allowed to believe that they were either outperformed by their friends or that they actually outperformed their friends in part one. Believing they either outperformed their friends or were outperformed by their friends, they were subsequently led to believe that friends generally agreed or disagreed with them in part two. For each episode in part two, participants believed they controlled how the episode would be viewed. After being provided the friend's (bogus) answer and reason, they rated the friend's (bogus) reason in terms of relevance, decided who had the "best" answer or reason, and finally evaluated the friend's reason in terms of helpfulness.

Results

Results will be presented and discussed in two sections, followed by a general discussion. In section one, we present and discuss findings for the Interpersonal Behavior measures which were included to replicate findings from our earlier study (Santor & Zuroff, 1994) and to ensure that the present

and previous studies were comparable. In section two, we present and discuss findings for the Resource Control measures.

Section One: Interpersonal Behavior Measures

In this section, we first present univariate statistics and zero-order correlations for Dependency, Self-Criticism, and the Interpersonal Behavior measures and examine the effects of the Rank manipulation on mood. Second, we examine the effects of Dependency and the experimental manipulations on Interpersonal Behavior measures. Lastly, we examine the effects of Self-Criticism and the experimental manipulations on Interpersonal Behavior measures.

Changes in Mood and Ratings of Superiority

Post-manipulation mood scores were regressed on baseline mood scores. Residual mood scores were then used as the dependent variable in hierarchical regression analyses examining the effects of the Rank manipulation and the interaction of Rank with Dependency and Self-Criticism. An effect for Rank was found in the regression analysis including Dependency ($F(1,72) = 54.99, p < .0001$) and in the regression analysis including Self-Criticism ($F(1,72) = 55.86, p < .0001$). No interaction between Rank and Dependency or between Rank and Self-Criticism was observed. The mean residual mood score for women experiencing a gain of rank relative to a close friend was 5.4, whereas for women experiencing a loss of rank, the mean residual mood score was -6.5. Post hoc t-tests demonstrated that women in the Gain of Rank condition, experienced a significant improvement in mood ($t(38) = 5.7, p < .0001$), whereas women in

the Loss of Rank condition experienced a significant decrement in mood ($t(38) = -5.0$, $p < .0001$).

We also examined changes in ratings of superiority following a gain and loss of rank. Post-manipulation ratings of superiority were regressed on baseline ratings of superiority as well as on participants' ratings of relative competence. Residual superiority scores were then used as the dependent variable in hierarchical regression analyses examining the effects of the Rank manipulation and the interaction of Rank with Dependency and Self-Criticism. An effect for Rank was found in the regression analysis including Dependency ($F(1,72) = 24.39$, $p < .0001$) and in the regression analysis including Self-Criticism ($F(1,72) = 24.75$, $p < .0001$). No interaction between Rank and Dependency or between Rank and Self-Criticism was observed. The mean residual superiority score for women experiencing a gain of rank relative to a close friend was 1.16, whereas for women experiencing a loss of rank, the mean residual superiority score was -1.25. Post hoc t-tests demonstrated that women in the Gain of Rank condition, experienced a significant increase in feeling superior ($t(38) = 2.97$, $p < .005$), whereas women in the Loss of Rank condition experienced a significant decrease in feeling superior ($t(38) = -4.43$, $p < .0001$).

Univariate Statistics and Correlations

Means, standard deviations, and zero-order correlations for Dependency, Self-Criticism, and the Interpersonal Behavior measures are presented in Table 1.

Insert Table 1 about here

Results indicate that both Dependency and Self-Criticism were uncorrelated with rating the friend's reasons as helpful or relevant and were unrelated to how frequently participants adopted the friend's response as superior. None of the Interpersonal Behavior measures was related to baseline affect, but baseline affect was related to Self-Criticism. In addition, Relevance and Helpfulness ratings were unrelated to the frequency of adopting the friend's response as superior but were strongly intercorrelated ($p < .001$). That is, rating reasons as helpful was strongly related to rating reasons as relevant. Given the high correlation between Relevance and Helpfulness ratings, these two dependent variables were standardized and aggregated into a single variable which was labelled Praise.

These results differ in certain respects from findings reported in Santor and Zuroff (1994). Participants in the present study were more dependent ($t(152) = 2.07, p < .04$), rated the friend's reason as more helpful ($t(152) = 2.49, p < .01$) and more relevant ($t(152) = 2.57, p < .01$), and adopted the friend's response as superior more frequently ($t(152) = 3.91, p < .001$) than participants in the study conducted by Santor and Zuroff (1994). The mean helpfulness and relevance rating per episode in the present study were 6.52 and 6.45 respectively. No differences in mean baseline mood, depressive affect, or self-criticism between the two studies were observed.

Dependency, Rank, and Friend Behavior

Adopting friend's response. Hierarchical regression analyses were performed to examine main effects and interactions for Rank, Friend Behavior, and Dependency (Cohen & Cohen, 1983). We regressed the dependent variable assessing the frequency with which women adopted the friend's response as superior on the three main effect terms, the three two-way interaction terms, and the three-way interaction term. Main effect terms for experimental conditions were entered before Dependency, and the interaction effect for the experimental conditions was entered before interaction effects involving Dependency. A trend for Rank ($F(1,68) = 2.84$, $p < .08$) and an interaction between Dependency and Rank ($F(1,68) = 5.07$, $p = .02$) were observed. Analyzing simple slopes (Aiken & West, 1991) revealed that in the Gain of Rank condition, Dependency was positively related to the frequency of adopting the friend's response as superior ($t(72) = 2.57$, $p < .01$), but in the Loss of Rank condition, Dependency was unrelated to adopting the friend's response as superior ($p > .30$)[2]. Dependent women who believed they experienced a gain of rank relative to a close friend adopted the friend's response as superior more frequently than women low on Dependency[3]. Regression lines for adopting the friend's response as superior are plotted as a function of Dependency for both Rank conditions in Figure 1.

Insert Figure 1 about here

Praise. Similar hierarchical analyses were conducted for the Praise variable. No significant main effects or interactions were observed for Dependency, Rank, and Friend Behavior.

Self-Criticism, Rank, and Friend Behavior

Adopting friend's response. Analogous hierarchical regression analyses were performed to examined main effects and interactions for Rank, Friend Behavior, and Self-Criticism. Only a trend for Rank was observed ($F(1,68) = 2.84, p < .08$). Women who experienced a gain of rank relative to the close friend tended to adopt the friend's response as superior less frequently than women who believed they experienced a loss of rank.

Praise. Similar hierarchical analyses were conducted for the Praise variable. A main effect for Friend Behavior ($F(1,68) = 8.09, p < .01$) and a three-way interaction among Self-Criticism, Rank, and Friend Behavior ($F(1,68) = 6.54, p < .01$) were observed. Analyzing simple main effects for the three-way interaction revealed that Praise was positively related to Self-Criticism only in the Loss of Rank/Disagreeing Friend condition ($t(1,18) = 2.62, p < .01$). Self-critical women who experienced a loss of rank relative to a friend who subsequently disagreed tended to praise the friend's reasons more than women low on Self-Criticism.

Discussion

Consistent with previous research, changes in social rank strongly influenced mood, and interpersonal responses to changes in social rank were moderated by dependency and self-criticism (Santor & Zuroff, 1994). Individuals experiencing a gain of rank reported elevated mood and increased

feelings of superiority, whereas individuals experiencing a loss of rank reported depressed mood and decreased feelings of superiority. Results for Dependency were, however, more consistent with previous research than were the results for Self-Criticism. As in our previous study (Santor & Zuroff, 1994), dependent women fostered interpersonal relatedness by relinquishing gains in rank, but only when interpersonal relatedness was threatened by a gain in rank at the expense of a friend. Dependent women who experienced a gain of rank relative to a close friend adopted reasons from less competent friends more frequently than women low on Dependency, although dependent women knew their own reasons were more likely to be correct. No effects for Dependency were observed with respect to praising the friend's reasons.

Effects for Self-Criticism were only observed with respect to praising the friend's reasons as helpful and relevant. These effects were moderated by both changes in rank and whether participants believed close friends agreed or disagreed but were contrary to predictions. Self-critical women who experienced a loss of rank and believed that friends disagreed with them praised friends more than women low on Self-Criticism. Differences between the studies may offer insights into why self-critical women praised higher ranking, disagreeing friends.

The experimental protocol in the present study was more complicated and more difficult than in the previous study. Because participants allocated time between themselves and their friends, participants generally saw far less of the video-taped episodes than in the previous study, which would make

the task more difficult and participants less certain of their decisions. This increased difficulty was reflected in how participants interacted with friends. Participants in the present study rated the friend's reason as more helpful and more relevant and adopted the friend's response as superior more frequently than participants in the previous study (Santor & Zuroff, 1994). Because self-critical individuals are likely to be more concerned with performance than dependent individuals, increased task difficulty might affect self-critical individuals more than dependent individuals. Being outperformed by a close friend who subsequently disagrees, together with the high degree of difficulty of the task may have made self-critical individuals less certain of their own abilities and consequently less confident about contesting lost or threatened rank. Under these circumstances, praising and adopting the responses of higher ranking individuals who disagree with one's responses may be a more successful strategy of protecting self-worth. Although speculative, this explanation is consistent with social comparison research suggesting that in some instances identifying with or basking in the successes of others may actually preserve self-worth (Tesser, Pilkington, McIntosh, 1989).

In summary, effects for Dependency were consistent with the general formulation that dependent individuals are more motivated to preserve interpersonal relatedness than to acquire social rank at the expense of a close friend. Dependent individuals relinquished gains in rank to less competent friends despite differences across studies. Unexpected findings associated with self-criticism may have been related to increased task difficulty.

Section Two: Resource Control Measures

In this section, we first present univariate statistics and zero-order correlations for Dependency, Self-Criticism, and the Resource Control measures, which included how participants allocated time to themselves and friends, how long participants waited before taking the episode, and how long participants waited before relinquishing the episode[4]. Second, we examine the effects of Dependency and the experimental manipulations. Lastly, we examine the effects of Self-Criticism and the experimental manipulations.

Univariate Statistics and Correlations

Means, standard deviations, and first-order correlations among Dependency, Self-Criticism, and the dependent variables are presented in Table 2.

Insert Table 2 about here

Results indicate that Dependency was unrelated to the amount of time spent viewing episodes or the amount of time waited before taking or relinquishing control of episodes. Self-Criticism was also unrelated to the amount of time spent viewing the episode and the amount of time waited before relinquishing control of episodes, but was related to the amount of time waited before taking control of episodes. In addition, time spent viewing the episode was related to waiting less time before taking episodes from friends ($p < .001$).

Dependency

Allocating Time. Hierarchical regression analyses were used to examine how participants allocated viewing time to themselves and friends. A marginally significant interaction was observed between Dependency and Friend Behavior ($F(1,68) = 2.95$, $p = .10$). Analyzing simple main effects for the interaction revealed that Dependency was negatively related to the amount of time spent viewing the episode in the Disagreeing Friend condition ($t(72) = -2.38$, $p < .04$), but was unrelated to the amount of time spent viewing the episode in the Agreeing Friend condition ($p > .30$). Women high on Dependency who believed friends disagreed with them spent less time viewing the episode than women low on Dependency. Restated, dependent women gave more time to disagreeing friends than women low on Dependency. Regression lines for the mean amount of time spent viewing an episode are plotted as a function of Dependency and Friend Behavior in Figure 2.

Insert Figure 2 about here

Taking and relinquishing the episode. Separate hierarchical regression analyses were conducted for episodes in which participants believed they began with the episodes and relinquished the episode to their friends and for episodes in which participants believed the friend began with the episode which participants were required to take from their friends. No main effects or interactions were observed for episodes in which participants were required

to relinquish the episode. However, an interaction between Dependency and Rank ($F(1,68) = 6.24$, $p < .02$) was observed for taking episodes from friends. Analyzing simple main effects for the interaction revealed that in the Gain of Rank condition, Dependency was related to waiting longer before taking episodes from friends ($t(72) = 2.46$, $p < .03$) but was unrelated to how long participants waited before taking episodes in the Loss of Rank condition ($p > .15$). Dependent women who experienced a gain of rank relative to a close friend waited longer before taking episodes from friends than women low on Dependency. Regression lines for the mean amount of time participants waited before taking the episode is plotted as a function of Dependency and Rank in Figure 3.

Insert Figure 3 about here

Self-Criticism

Allocating Time. Analogous hierarchical regression analyses were used to examine how participants allocated time viewing episodes to themselves and friends. Only a marginally significant interaction was observed between Self-Criticism and Friend Behavior ($F(1,68) = 2.72$, $p = .10$). Simple main effects for the interaction were not significant ($ps > .11$).

Taking and relinquishing the episode. Separate hierarchical regression analyses were conducted for episodes in which participants believed they began with the episodes and relinquished episodes to friends and for episodes in which participants believed friends began with episodes which participants

were required to take from friends. No main effects or interactions were observed with respect to relinquishing the episode. However, a main effect for Self-Criticism ($F(1,68) = 4.77$, $p < .04$) was found with respect to taking episodes from friends. Women high on Self-Criticism took episodes from friends faster than women low on Self-Criticism.

Discussion

We examined the influence of dependency, self-criticism, changes in social rank, and agreement or disagreement from close female friends on how individuals exert control over a shared interpersonal resource. As anticipated, changes in rank, the behavior of close friends, and the personality of the individual were all important in regulating how subjects exerted or relinquished control over the episodes.

Dependency

Results for Dependency were consistent with the view that dependent women are more motivated to foster interpersonal relatedness than to preserve social rank, particularly when interpersonal relatedness is threatened. In the present study, dependent women were more willing to relinquish control of a shared resource when interpersonal relatedness was threatened by disagreement from a close friend or by a gain of rank relative to a close friend than women low on Dependency. Dependent women tended to allocate more time to disagreeing friends and less time to themselves, and when they believed they had experienced a gain of rank relative to a close friend they waited longer before taking episodes from friends. Women in this study could allocate resources shared with friends in

a manner that could benefit themselves or their friends. When interpersonal relatedness was threatened, however, dependent women acted in ways that benefited close friends at their own expense.

Self-Criticism

Results for Self-Criticism were also consistent with the view that self-critical individuals are more motivated to promote self-definition than to foster interpersonal relatedness. However, results do not support the prediction that self-critical women would attempt to promote or preserve self-definition only in response to threatened or lost social rank. Regardless of changes in social rank and the behavior of close friends, self-critical women were faster to take episodes from friends than women low on Self-Criticism. Self-critical women in this study acted in ways that benefited themselves at the friend's expense, regardless of the friend's rank or behavior.

Theoretical Implications

Findings from the study have four major theoretical implications. First, results of the present study confirm findings from earlier research suggesting that changes in social rank strongly influence mood (Santor & Zuroff, 1994). Experiencing a gain of social rank elevated mood, whereas experiencing a loss of social rank depressed mood. Results also demonstrate that dependent and self-critical women respond differently to changes in social rank and the behavior of others. Findings for Dependency were consistent with previous research (Santor & Zuroff, 1994) and appear to be robust. Despite differences in task difficulty across studies, results in both studies suggest that dependent women are motivated to preserve

interpersonal relatedness by relinquishing gains of rank and control over resources, particularly when interpersonal relatedness is threatened.

Results for Self-Criticism were more complex. Evidence that self-critical women promote or preserve social rank specifically in response to threatened self-worth was not replicated in the present study. However, results do support the view that self-critical women are generally more concerned about issues of self-definition and may promote self-worth more than women who are not self-critical. Although findings for Self-Criticism are complex and may depend on other factors, such as task difficulty, results are still consistent with Blatt's general formulation that dependent individuals are more concerned with issues of interpersonal relatedness, whereas self-critical individuals are more concerned with issues of self-worth or self-definition (Blatt, 1974; Blatt & Zuroff, 1992).

Second, results provide additional insights into the kinds of chronic problems dependent and self-critical individuals may experience in interpersonal relationships. In the present study, dependent women adopted a strategy that focused on maintaining interpersonal relatedness. When interpersonal relatedness was threatened, dependent individuals preserved interpersonal relatedness by relinquishing gains in rank and relinquishing control over a resource. Sloman and Price (1987) postulate that prolonged submissiveness may dispose an individual to dysphoric or depressive experiences. Relinquishing control of a situation or resource may threaten the individual's ability to fulfil personal needs. Although the consequences of relinquishing gains in rank and control of situations were not tested

explicitly, relinquishing gains in rank or control over resources may undermine potential sources of self-worth or make an individual less attractive or less valued by others (Gilbert, 1992). Relinquishing control of shared resources, such as shared research funds or lab space, in order to preserve or maintain relationships with colleagues may hinder one from attaining career goals or may make an individual less valued or respected than others.

Evidence was also found suggesting that self-critical women may exploit friends. In the present study, self-critical women waited less time than women low on self-criticism before taking control of episodes. Exerting control over resources may promote a sense of self-worth (Gilbert, 1992), but there may be costs associated with a tendency to exert control over resources regardless of the close friend's rank and behavior. Exerting control over shared resources, such as the family car or television, may strain relationships, if others feel entitled to these resources or disagree with how resources have been allocated. Failing to attend to differences in rank and behavior may contribute to misunderstandings in relationships.

Third, results demonstrate that personality dispositions, such as dependency and self-criticism, can directly influence how individuals actively structure interpersonal environments. In an earlier study, we examined whether dependent and self-critical individuals praised and deferred to their friends following a change in or threat to social rank. Findings from the present study extend earlier results (Santor & Zuroff, 1994) to nonverbal

measures of behavior, namely how dependent and self-critical women actively exert or relinquish control over resources.

Lastly, results provide support for the view that social rank, control over resources, and dysphoric and depressive experiences may be interrelated processes (Gilbert, 1992). A number of theories of depression have considered the association between depression and control suggesting that depression may be the result of a perceived inability to exert control over situations (Abramson, Seligman, & Teasdale, 1978) or the result of a real inability to exert control over interpersonal situations (McLean, 1976). Gilbert (1992) suggests that control is important to well-being but emphasizes the connection between control over resources and social rank, both of which may influence the individual's ability to fulfil personal needs. Relinquishing control of resources may be problematic if it undermines self-worth or makes an individual less attractive or valued by others (Gilbert, 1992). Exerting control over resources may be problematic if it exacerbates strained interpersonal relationships or contributes to the withdrawal of support.

However, results also show that the association between social rank and control over resources may be moderated by depressive personality styles like dependency and self-criticism. In the present study, self-critical women exerted control over situations (i.e., episodes), whereas dependent women relinquished control over situations following a threat to interpersonal relatedness. Results demonstrate the need to formally acknowledge (a) the role of individual dispositions, such as dependency and self-criticism, in

moderating the effects of changes in social rank and (b) the interdependence of attachment and social rank systems. Individual dispositions may moderate the meaning and influence of social rank. Attachment concerns, such as preserving interpersonal relationships, may moderate how individuals respond to changes in social rank.

Several aspects of the study limit the generality of our findings. First, all the subjects in the study were women. How male friends or romantic partners behave under similar circumstances may differ dramatically. Second, we simulated interpersonal interactions which forced individuals to respond without experiencing how friends reacted. Some women may have even preferred to avoid evaluating the friend's response or may have wanted to ignore friends all together. Third, women in our study experienced only a nominal amount of disagreement. They were told only whether or not their friends agreed or disagreed. Although we did obtain strong effects with this mild manipulation, the effects of disagreement may change as disagreement becomes more caustic.

However, certain features of the study merit comment. First, events were conceptualized within a formal model, namely social rank, and predictions were based on how events could threaten the needs of dependent and self-critical individuals. Outperforming a friend and being outperformed by a friend were conceptualized, respectively, as a gain and loss of social rank. Disagreement and agreement from a friend were formulated as a threat to and endorsement of social rank. Second, the study examined interpersonal responses to specific events. Few studies have examined how depressive

personality styles, such as dependency and self-criticism, influence an individual's behaviour. Indeed, very little research has examined how vulnerability factors, such as dependency and self-criticism, may moderate behavioural responses to specific events. Third, the methodology employed examined responses to a series of interpersonal events, and responses to events were aggregated across multiple trials. Lastly, the study examined the interpersonal behaviour of individuals with close friends; no confederates were used.

Conclusion

Results are consistent with previous research (Santor & Zuroff, 1994) suggesting that dependent women were more concerned with maintaining a good interpersonal relationships, whereas self-critical women were more concerned with promoting self-definition or self-worth. Evidence was found suggesting that individual dispositions, such as dependency and self-criticism, influence how individuals exert or relinquish control over a shared resource. However, findings also suggest that effects for dependency are robust but that effects for self-criticism are more complex. Findings demonstrate how depressive personality styles like dependency and self-criticism can actively influence interpersonal processes which may contribute to maladaptive interpersonal environments and subsequently make dependent and self-critical individuals vulnerable to depressive experiences.

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Table 1

Correlations, Means, and Standard Deviations for Dependency, Self-Criticism, and Interpersonal Behavior Measures

	1.	2.	3.	4.	5.	6.	Mean	SD
1. DEQ Dependency							-.30	.68
2. DEQ Self-Criticism	-.06						-.34	.92
3. Affect	.02	-.32**					55.3	11.7
4. Relevance of Friend's Response	.01	-.15	-.12				91.3	14.1
5. Helpfulness of Friend's Response	-.02	-.13	-.10	.91***			90.3	15.9
6. Adopting Friend's Response as Superior	.11	.01	-.07	.12	.16		5.9	2.2

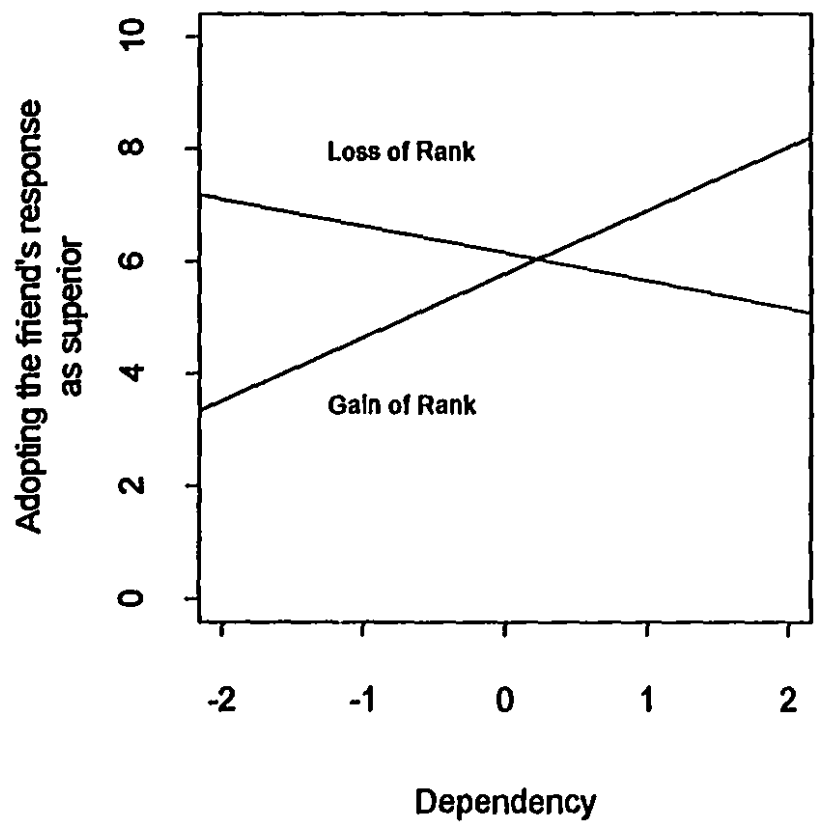
Note. DEQ = Depressive Experiences Questionnaire. * $p < .05$ ** $p < .01$ *** $p < .001$

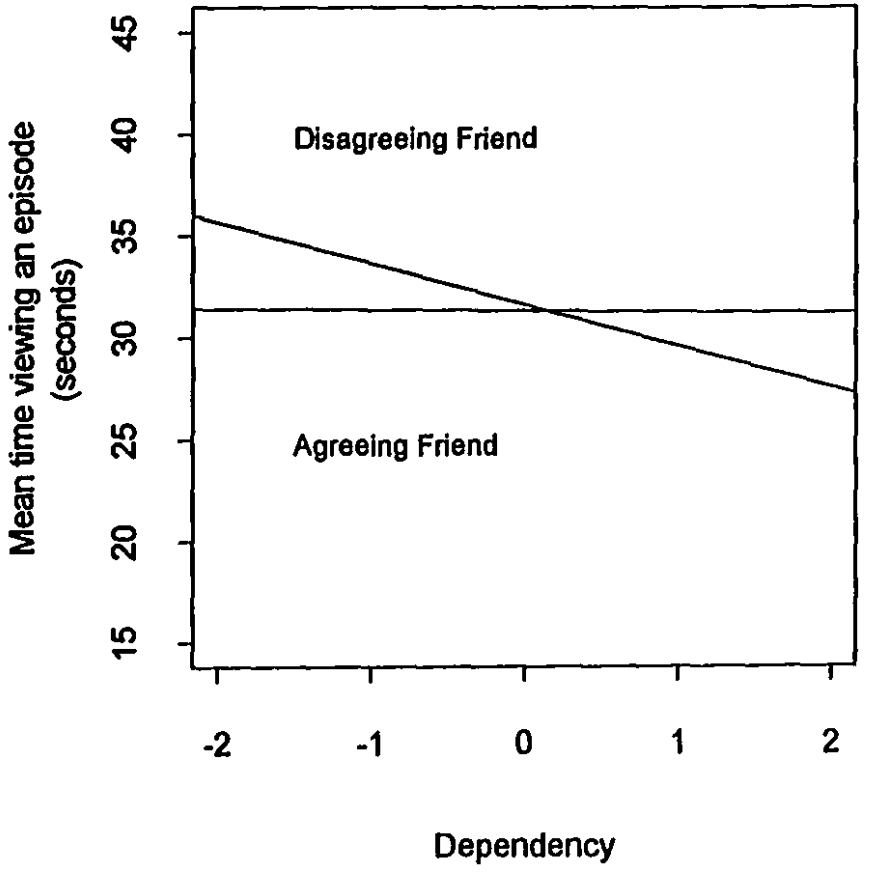
Table 2

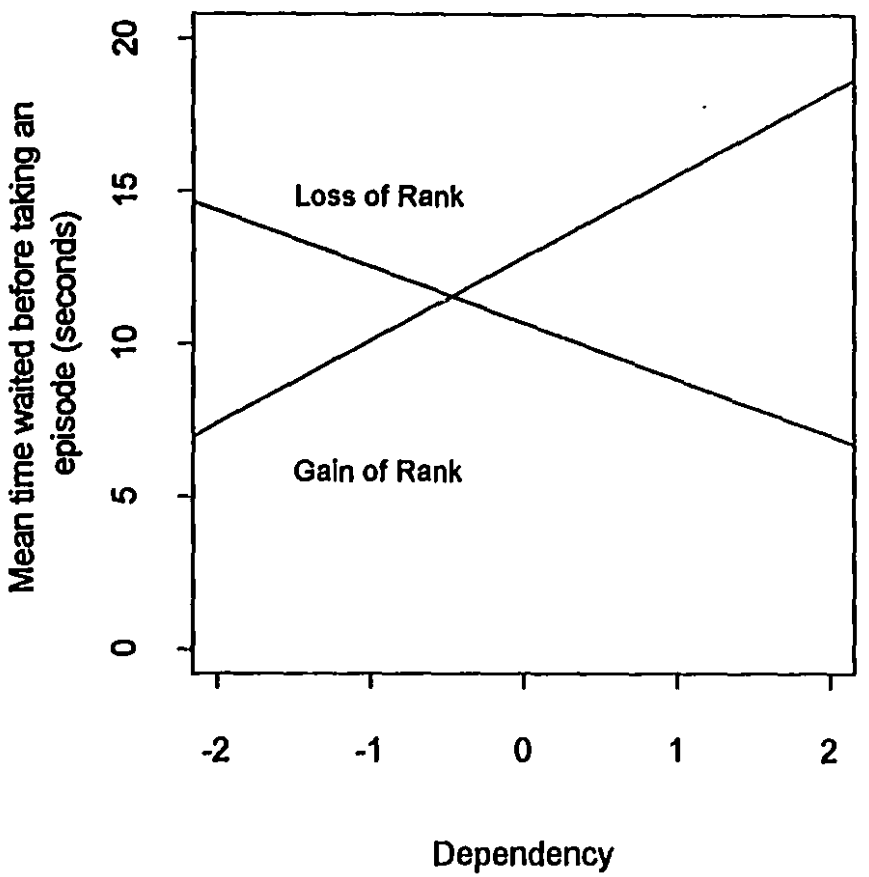
Correlations, Means, and Standard Deviations for Dependency, Self-Criticism, and Resources Control Measures.

	2.	3.	4.	5.	6.	Mean	SD
1. DEQ Dependency						-.30	.68
2. DEQ Self-Criticism	-.06					-.34	.92
3. Affect	.02	-.32**				55.3	11.7
4. Mean Time	-.11	.02	-.22+			34.2	4.5
5. Time to take episode	.09	-.24*	.22+.	-.54***		12.3	6.1
6. Time to give episode	.04	-.17	.13	.10	.18	17.7	4.6

Note. DEQ = Depressive Experiences Questionnaire. + $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$


Adopting the friend's response as superior
0
2
4
6
8
10
Loss of Rank
Gain of Rank
-2
-1
0
1
2
Dependency


Mean time viewing an episode (seconds)
45
40
35
30
25
20
15
Disagreeing Friend
Agreeing Friend
-2
-1
0
1
2
Dependency


Mean time waited before taking an episode (seconds)
0
5
10
15
20
Loss of Rank
Gain of Rank
-2
-1
0
1
2
Dependency

Notes

[1] All computer routines were written by the first author in Borland C++ (1992). Serial communications subroutines were developed from existing serial communications packages (Goodwin, 1992).

[2] We employed techniques described in Aiken and West (1991) to test simple regression effects. Standard errors for the simple slopes are derived from the variance-covariance matrix for the complete model using the entire sample, rather than from separate regression analyses performed within each experimental condition. The significance of this slope is evaluated as a t-test with (N-k-1) degrees of freedom.

[3] Women high and low on Dependency and Self-Criticism refer to women with high and low scores and should not be viewed as Dependent and Self-Critical types as have been used in other studies (cf. Zuroff & Mongrain, 1987).

[4] For half the episodes participants believed they began with episodes which they relinquished to friends. For the other half of the episodes participants believed the friend began with the episodes which participants were required to take from friends. In order to examine the effects of Dependency, Self-Criticism, and the experimental variables, we analyzed "take" and "relinquish" episodes separately rather than as a repeated measures factor. "Take" and "relinquish" episodes were viewed as two distinct behaviors or situations rather than as each other's experimental control.

[5] Participants in this study were also required to rate how they intended and believed they actually allocated time to themselves and their friends at

the end of the study. Although the majority of women indicated that they intended and believed that they allocated time evenly between themselves and their friends, on average participants allocated 65 percent of total viewing time to themselves. Hierarchical regression analyses for these measures were non-significant. Due to the large percentage of individuals (75%) who reported that they intended and believed they actually allocated time evenly between themselves and their friends, these data are likely inappropriate for regression analyses.

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Figure Captions

Figure 1. Adopting the friend's response as a superior plotted as a function of Dependency and Rank. Women high on Dependency who experienced a gain of rank relative to a close friend adopted the friend's response as superior more frequently than women low on Dependency.

Figure 2. Mean amount of time spent viewing an episode plotted as a function of Dependency and Friend Behavior. Women high on Dependency allocated more time to disagreeing friends than did women low on Dependency.

Figure 3. Mean amount of time waited before taking control of episodes from close friends plotted as a function of Dependency and Rank. Women high on Dependency who believed they experienced a gain of rank relative to a close friend waited longer before taking control of episodes away from close friends than women low on Dependency.

Discussion

Summary. The purpose of this research was two fold. One purpose was to examine how depressive personality styles, such as dependency and self-criticism, influence interpersonal responses to changes in and threats to social rank. On a more theoretical level, a second purpose was to demonstrate how individual dispositions and interpersonal factors may be integrated within a formal model, and to elucidate alternate ways in which personality dispositions may place individuals at risk for depressive experiences. Study One examined how women responded to interpersonal events, which were conceptualized within a social rank framework. Study Two examined how women actively structured or controlled resources and interpersonal situations. In Study One, participants experienced either a gain or loss of rank relative to a close friend who they believed subsequently agreed or disagreed with them. Participants in Study Two additionally believed they could directly relinquish or exert control over the experimental task, following a gain or loss of rank relative to a close friend who generally agreed or disagreed with them. Participants in both studies were required to evaluate the friend's responses and believed their evaluations were communicated to the friend. Study One employed verbal measures of behaviour, whereas Study Two also employed nonverbal measures of behaviour. Both studies examined how women dealt with events that could threaten either interpersonal relatedness or self-definition. Participants could minimize differences in rank experienced earlier by yielding to and praising

friends, or they could contest differences in rank by not yielding to and not praising friends.

Blatt (1974; Blatt & Zuroff, 1992) proposed that the relative overemphasis on interpersonal relatedness or self-definition defines two broad personality configurations, dependency and self-criticism, which may make individuals prone to depressive experiences. Dependent individuals are believed to be motivated to establish and maintain good interpersonal relationships, whereas self-critical individuals are preoccupied with issues of self-definition and self-worth. In the present studies, changes in social rank or threats to the position an individual holds in a social hierarchy, such as a friendship, were formulated as potential threats to self-worth or interpersonal relatedness. On the basis of Blatt's formulation of dependency and self-criticism (Blatt, 1974; Blatt & Zuroff, 1992), it was hypothesized that dependent individuals would be more motivated to maintain a relationship than to acquire rank at the expense of a close friend and that self-critical individuals would be more motivated to preserve a positive self-image by contesting losses, even at the expense of a close friend.

In general, findings from both studies supported this formulation. Effects were observed with both verbal and nonverbal measures of behaviour. In Study One, dependent women relinquished gains in rank to less competent friends, praised friends even when friends disagreed, and minimized conflict with disagreeing friends. In Study Two, dependent women relinquished control of situations to friends both following a gain in

rank and when friends disagreed. In contrast, self-critical women contested lost rank, failed to reciprocate praise with higher ranking friends, and did not minimize conflict with disagreeing friends in Study One. In Study Two, they exerted control over situations, regardless of the friend's rank, and whether close friends generally agreed or disagreed. Results from Study One also suggest that effects for dependency and self-criticism exist beyond any effects due to depressed mood at least in college women.

Results for dependency were more consistent across studies than were the results for self-criticism. Despite differences in the difficulty of the tasks used in Study One and Study Two, dependent women were more motivated to increase interpersonal relatedness than to preserve or pursue social rank at the expense of a close friend. In contrast, effects for self-criticism differed somewhat across studies. In Study Two, self-critical women did not attempt to foster or restore social rank following a loss or threat to social rank. However, findings in both studies were consistent with the more general prediction that self-critical women are more concerned with promoting a positive self-definition than fostering an interpersonal relationship relative to women low on self-criticism.

Findings from these studies have a number of implications for (a) research on depressive vulnerability factors and (b) research on social rank. Implications concerning these areas of research will be discussed in turn.

Depressive Vulnerability Factors

Chronic Interpersonal Problems. Results offer an account of the kinds of chronic problems experienced by dependent and self-critical individuals in interpersonal relationships. Dependent women focused on maintaining interpersonal relatedness by submitting or yielding to others, at the expense of promoting self-worth, whereas self-critical women adopted a strategy aimed at preserving a positive self-identity, at the expense of fostering interpersonal relatedness with a close friend. Blatt (Blatt & Shichman, 1983) has suggested that overemphasizing interpersonal relatedness or self-definition may be potentially maladaptive.

A strategy of submissiveness may preserve interpersonal relatedness, but it could also undermine self-worth. Gilbert has demonstrated that submissiveness is related to depressive symptomatology (Gilbert, Pehl, & Allan, 1994). Continuously neglecting self-worth could place dependent individuals at risk for depressive experiences by precluding potential sources of self-worth. Moreover, excessive or prolonged submissiveness may make an individual less attractive or less valued by others (Gilbert, 1992). In situations where dependent individuals are more competent than others, the fear of losing the other's support may inhibit dependent individuals from providing the assistance they are qualified to give. Disagreement from others may actually motivate dependent individuals to relinquish control of situations.

Numerous studies have also demonstrated the relation between negative social environments and depressive affect (Gotlib & Robinson, 1982;

Hautzinger, Lind, & Hoffman, 1982; Kowlaik & Gotlib, 1987). The self-critical individual's strategy of contesting losses may protect self-definition, but it will not necessarily win the praise and respect desired from others. Support may be withdrawn in retaliation which could subsequently contribute to depressive experiences. Moreover, contesting the advice of more competent higher ranking individual may even hinder achievement and undermine self-worth.

Not only might these strategies be maladaptive, but elements of these strategies may also reinforce a sense of dependency or self-criticism. In the present studies, dependent women experiencing a gain of rank were likely to be more competent than their friends, but they adopted the responses of their less competent friends and yielded control of episodes to friends more frequently than women low on Dependency. Following this kind of strategy may preclude experiencing success in a domain of competence and even contribute to a reliance or dependence on others. An analogous process may contribute to self-criticism. In Study One, self-critical women who interacted with disagreeing friends tended to remember disagreements with these friends more frequently than women low on self-criticism. Self-critical women seemed unable or unwilling to forget how frequently disagreeing friends disagreed. Remembering disagreements may undermine feelings of self-worth or competency and actually contribute to feelings of self-criticism.

Effects of Personality. Findings from both studies have implications for how personality is formulated in research on depression. Typically, research

on depression has viewed personality as a diathesis which in connection with specific negative life events produces depressed mood (Beck, 1987; Kovacs & Beck, 1978). The congruency hypothesis suggests that depressive experiences are most likely to occur when individuals with specific vulnerabilities experience events that activated those vulnerabilities (Hammen, Marks, Mayol, & deMayo, 1985; Segal, Shaw, & Vella, 1989; Zuroff & Mongrain, 1987). However, mood effects due to changes in social rank were not moderated by self-criticism or by dependency in the present studies. Experiencing a gain of rank elevated mood, and a loss of rank depressed mood. Self-criticism did not exacerbate the effects of lost rank, nor did dependency mitigate the benefits of gained rank. This suggests that although a congruency between vulnerability and event can increase the likelihood of dysphoric or depressive feelings, certain events may affect individuals, regardless of how dependent or self-critical they may be. As has been argued elsewhere, the contribution of events, vulnerabilities, and their congruency effects should be viewed in terms of gradients of activation for depressive experiences (Zuroff & Mongrain, 1987). Although dependency and self-criticism may lower the threshold at which events can cause dysphoria, significant losses of social rank may be sufficient to activate dysphoric or depressive feelings in all individuals. Results also show how life events from an achievement domain, such as a change in social rank, may be threatening for both dependent and self-critical individuals.

Considerable research has investigated the effects of personality conceptualized as a diathesis or vulnerability for depressed mood. However, personality may contribute to depressive experiences in many other ways which have largely been ignored. Personality is a diathesis, but it is much more than just a diathesis. Results from the present studies demand a more elaborate view of how personality may contribute to potentially maladaptive environments and depressive experiences than what has typically been examined in research on depression.

Interactive Effects. One possibility is that personality may moderate the influence of *interpersonal events*, such as the behaviour of others. Typically, research on depression has focused on the connection between major life events and personality (see Beck, 1987), and not on how cognitive factors moderate the effects of interpersonal environments (cf. Zuroff & Mongrain, 1987; Zuroff, et al., 1995). In the two studies reported here, the effects of experiencing a change in rank relative to a close friend, as well as disagreement from a close friend depended heavily on the extent to which individuals tended to be self-critical or dependent. As suggested by a number of critical reviews (Andrews, 1989; Safran, 1990; Zuroff, 1992), cognitive models of depression need to consider how potentially disruptive interpersonal environments may also activate depressive vulnerability factors, like dependency and self-criticism, and interpersonal models of depression need to consider how personality styles may moderate the effects of dysfunctional interpersonal processes. The present studies support the

integration of cognitive and interpersonal processes. But in contrast to some theoretical approaches attempting to integrate cognitive and interpersonal factors (cf. Gotlib & Hammen, 1992; Klein, Wunderlich, & Shea, 1993), the present research integrates cognitive and interpersonal processes within a formal model, namely social rank, and as a result can offer more specific hypotheses about the kinds of individual dispositions and interpersonal events that may be problematic.

Behavioural Strategies. In addition to the effects personality can have on an individual's affective experience in social environments (cf. Zuroff et al., 1995), a second possibility is that personality may moderate how individuals *behave* towards others. In general, depression researchers have been more concerned with the distal effects of life events and personality on *mood*, rather than with more proximal influences of situations and personality on *behaviour*. Indeed, very little is known about how depressive vulnerability factors moderate interpersonal responses to potentially threatening events. Research shown here suggests that dependency and self-criticism exert strong effects on both verbal (Study One) and nonverbal measures (Study Two) of interpersonal behaviour.

Influencing Situations. A third possibility is that personality may influence how individuals actively structure interpersonal environments (Buss, 1987). The traditional view is that personality and events are orthogonal or independent factors (Magnusson & Endler, 1977). Cognitive and interpersonal theories of depression have been generally concerned with

evaluating which model of depression can account for a greater proportion of variance in depression scores, rather than examining models in which personality and events are formulated as interdependent factors require further investigation (cf. Bandura, 1977).

Studies examining the moderating effects of vulnerability factors on negative life events have generally employed a model in which individual dispositions (or diatheses) and events are considered independent or orthogonal. However, individuals may influence their environments in a number of ways, for example, by selecting the kinds of situations they wish to enter into or avoid, by influencing the kinds of responses they evoke or demand from others, as well as by contributing to the actual occurrence of events or situations, such as losing a job or being rejected by others (cf. Buss, 1987). Results in Study Two show that personality can directly influence how individuals actively structure environments. Cognitive and interpersonal models of depression need to consider how personality may contribute to the occurrence of potentially disruptive events and situations.

Memory Effects. A fourth possibility concerns the effects that personality may have on how individuals organize and represent potentially threatening events, like disagreement or a loss of rank, in memory. In Study One, memory effects were observed for dependency and self-criticism in the Disagreeing Friend condition. Dependent women remembered fewer disagreements than there actually were, whereas self-critical individuals accurately recalled how many times friends disagreed. Research on depressive

mood and memory has typically examined how depressive affect influences recall for positive, negative, and neutral words (see Blaney, 1986, for a review). Few studies have examined the effects of vulnerability factors or depressed mood on complex stimuli, like interpersonal events, within an experimental paradigm. The research presented here suggests there may be memory effects for more complex stimuli, such as interpersonal disagreements, and that these effects may be moderated by personality dispositions, such as dependency and self-criticism.

Results from Study One may also have implications for research employing methodologies that rely on the use of retrospective accounts, such as the research examining the parental relationships of dependent and self-critical individuals (see Blatt & Homan, 1992; Blatt & Zuroff, 1992, Brewin, Andrews, & Gotlib, 1993, for reviews). Blatt and Homan (1992) speculated that failure to demonstrate the theoretical relationship between lack of care and dependency may reflect the inability of dependent individuals to recognize or express dissatisfaction or negative emotion for fear of losing or threatening their relationship with their parents. Results for the retrospective measure of disagreement in Study One are consistent with this prediction that dependent individuals are unwilling or unable to accurately recall events that may be potentially threatening to them or that may evoke feelings of dissatisfaction with others. In Study One, dependent women remembered fewer disagreements than there actually were; that is, they minimized conflict. Findings do not provide direct evidence with respect to the quality of child-

parent interactions, but they are consistent with a mechanism by which potentially threatening events in childhood, such as a lack of care, might not be accurately recalled.

Ideas outlined in the preceding sections have important implications with respect to (a) how dependency and self-criticism should be conceptualized as vulnerability factors and (b) the potential effects that personality may have on mood and behaviour. An accumulating body of evidence suggests that dependency and self-criticism might also be viewed as vulnerability factors for experiencing different kinds of interpersonal environments and for the different kinds of strategies adopted to deal with specific threats. Previous research has suggested that dependent and self-critical individuals differ with respect to general factor measures of agreeableness (Zuroff, 1994), attachment style (Zuroff, 1995), motivation (Mongrain & Zuroff, 1994), as well as the frequency, pleasantness, and intimacy of social interactions (Zuroff et al., 1995). Dependent individuals can be generally characterized as agreeable and anxiously attached; they are motivated to pursue interpersonal goals moreso than achievement or independence goals and may experience social interactions as more intimate and intimate interactions more frequently. In contrast, self-critical individual can be generally characterized as disagreeable and avoidantly attached; they are motivated to pursue self-presentation goals more than interpersonal goals and may experience social interactions as less pleasant. Results from the present studies also suggest that dependency and self-criticism confer a

vulnerability to depressed mood indirectly through their effects on the interpersonal environment. Events may initiate strategies to deal with potentially threatening events, like changes in social rank and disagreement from friends, which may subsequently contribute to depressive experiences.

Results of these studies also suggest that the effects dependency and self-criticism have on *mood* may be quite different from the effects that dependency and self-criticism may have on *behaviour*. Even though effects for dependency and self-criticism were observed with respect to (a) how women behaved towards close friends, (b) how they actively structured their environments, and (c) how they remembered interpersonal events, the influence that a change in social rank had on mood was *not* moderated by dependency and self-criticism. These results suggest that affective, cognitive, and behaviour domains may possibly have somewhat different and independent causal structures that must be considered in their own right. Causal theories postulating a single underlying factor which links cognitive vulnerability factors and depression may be overly simplistic. Just as theorists have considered different domains of vulnerability and different types of depression, theories of depression should reflect the possibility of multiple, domain-specific causal paths. That is, the circumstances in which unfavourable changes in mood occur and contribute to depressive experiences may differ from the condition in which maladaptive behaviours are evoked and contribute to depressive experiences. Results further suggest that mood, cognition, and behaviour need not always be highly correlated.

The implication of this fact is potentially significant; interventions aimed strictly at altering mood may have little influence on behaviour.

Social Rank

The principal aim of the present research was to provide and investigate a more precise model describing how depressive personality styles and interpersonal events can contribute to maladaptive interpersonal processes that may increase the risk for depressive experiences. Interpersonal events and potential moderating effects of depressive personality style like dependency and self-criticism were formulated within the social rank model (Gilbert, 1992; Price, 1967). Events, such as disagreement and being outperformed by a close friend, were conceptualized in terms of the potential threat that such events may represent regarding the individual's social rank or position within a social hierarchy.

One prediction from the model concerns the influence that changes in rank can have on mood. The model predicts that a loss of rank, such as being outperformed by another, will result in a negative mood, whereas a gain of rank, such as outperforming another, will lead to a positive mood. As predicted by the model, changes in social rank strongly influenced mood in both studies. Experiencing a gain of social rank elevated mood, whereas experiencing a loss of social rank depressed mood. These are the first studies demonstrating that changes in social rank do influence mood (Gilbert, 1994, personal communication).

However, results from these studies demand that certain aspects of the social rank model be elaborated and clarified. Although the social rank model predicts that a change in social rank can have strong effects on behaviour, the conditions under which specific responses, such as submissiveness and retaliation, will occur are unclear (Gilbert, 1992). The remaining sections of this discussion are devoted to providing a more explicit theory regarding social rank and addressing three specific issues, including (a) the influence that attachment concerns and differences in individual dispositions have in moderating the effects of changes in social rank, (b) the factors that may make an individual prone to yielding behaviour which proponents of the social rank model believe can dispose an individual to depressive experiences (Gilbert, 1992) and (c) the relation between social rank and control over resources.

Social Rank and Attachment. The first issue concerns the relation between attachment and social rank. Both attachment and social rank models claim to be ethological models accounting for fundamental domains of behavior. Attachment theory attempts to describe how infants respond to situations that threaten their security or separation from a care-giver and how infants maintain proximity to attachment figures (Bowlby, 1969). As a behavioural system, attachment governs an individual's proximity to an attachment figure and emotional experience when separated from an attachment figure. Research has also focused on how attachment theory can be used to understand adult relationships (Ainsworth, 1989; Shaver, Hazan,

& Bradshaw, 1988), as well as to understand how responses to loss can lead to depression (Bowlby, 1980). According to Bowlby (1980), attachment is fundamental to a number of behavioural systems, including care-giving, mating, affiliation, and exploration.

In contrast, the social rank theory attempts to describe how individuals organize themselves within a social hierarchy. The model proposes that the psychological well-being of an individual is largely dependent upon the position or rank the individual holds within a dominance hierarchy. The theory attempts to elucidate how individuals behave in ranking encounters, such as competition, and how individuals resolve changes and challenges to social rank. Social rank is about social control. It is a means of exerting social control over others, limiting combat among group members, and of allocating resources within a group of individuals.

Both attachment and social rank systems should influence how individuals act and feel in interpersonal situations. Issues relevant to both social rank and attachment needs may be present in many different relationships (e.g., parent-child, friendships, sexual relationships and work relationships). For some individuals, friendships and marriages may primarily represent an opportunity to acquire, maintain, or verify their own social rank. For others, work relationships may represent opportunities to meet attachment needs. Whether interactions are experienced as relevant to social rank or attachment needs likely depends on the extent to which individuals

are concerned with attachment issues, such as interpersonal relatedness, or with social rank issues, such as self-definition. Situational variables, such as an explicit ranking contest, will influence how individuals feel and behave; however, the essential feature is whether the individual perceives the situation as a potential threat to attachment or to social rank.

Clearly, attachment concerns can moderate how individuals respond to changes in social rank, particularly when changes in rank are experienced relative to a valued attachment figure, such as a close friend. Results of both studies demonstrated that attachment concerns, such as maintaining interpersonal relatedness, influenced how individuals responded to changes in social rank. Dependent women were more concerned with maintaining interpersonal relatedness than preserving or promoting social rank. In contrast, self-critical women seemed relatively unconcerned with attachment issues, such as interpersonal relatedness, even though the manner in which they responded to losses of rank could possibly have strained relationships with close friends.

One implication of this research is that personality dispositions like dependency and self-criticism can influence whether a gain or loss of rank is experienced as threatening. For dependent individuals, a gain of rank relative to a close friend was experienced as a threat to attachment needs, whereas a loss of rank, even to a close friend, was experienced as a threat to the social rank and self-definition needs for self-critical individuals. Research

from both studies suggests that it is not so much the event that individuals experience as threatening but the meaning with which events are imbued.

A second implication is that individuals may (mis)interpret situations and events depending on how dependent or self-critical they are. What for one individual is an attachment situation may be a rank situation for another. Discrepancies between how individuals appraise situations may contribute to misunderstandings or aggravate poor relationships. Including an appraisal component in the social rank model is essential. However, individuals may also estimate their own ideal level of rank, in addition to appraising situations and events. Social rank has been defined as the position an individual holds relative to others in a dominance hierarchy (Gilbert, 1992; Price, 1967). As a result, the value individuals place on a certain degree of social rank may also be crucial. Dependent and self-critical individuals may differ with respect to the degree of social rank they feel entitled to or strive towards; that is, the position they value relative to others may be quite different. Dependent individuals may value being allied with others who can protect them, whereas self-critical individuals may value being allied with others who are unlikely to challenge their rank by denigrating or competing with them. For dependent and self-critical individuals, a gain of rank and a loss of rank, respectively, may be perceived as a threat to their positions relative to close friends.

Depression and submissive behaviour. The second issue concerns the relation between depressive experiences and submissive behaviour. Gilbert

(1992) believes that a loss of rank can produce feelings of dysphoria and that the manner in which an individual responds to such a loss can increase the risk for the onset of a depressive episode. A loss of rank usually gives rise to a negative mood state (i.e., depressive affect) and may evoke a submissive response from the loser of the ranking encounter. Social rank theorists have argued that losses of rank can evoke an *involuntary subordinate subroutine* (Gilbert, 1992) or, more simply, an involuntary submissive response. Whether lost rank leads to depressive experiences depends on (a) the presence of a negative mood state and (b) the factors that contribute to and prolong submissive behavior.

Proponents of the model argue that, in some instances, a depressive or submissive response can be adaptive and serve the function of negotiating differences in rank, ensuring that individuals in groups or dominance hierarchies function effectively together. Submitting to a higher ranking individual following a defeat may represent a social strategy aimed at maintaining relatedness and reducing the likelihood of subsequent competition or attack. Submission from a loser prevents competition from escalating to a level at which the general well-being of the group and the physical well-being of the competitors may be at risk. Submission also permits the losing competitor to remain a member of the group. Depressive affect may inhibit an individual from competing further under conditions that do not benefit the loser, but individuals may be at risk for severe depressive experiences when submitting to others becomes involuntary,

prolonged, or automatic. Research supports the association between submissiveness and depressive symptomatology (Gilbert, Pehl, & Allen, 1994).

Social rank theorists have emphasized the factors they believe may delay the termination of an involuntary subordinate response which predisposes an individual to depression. Sloman and Price (1987) have highlighted two factors that may initiate a prolonged submissive response. One factor involves the belief that an opponent or competitor will continue to attack or compete. Individuals who experience an attack or defeat from an opponent and believe they are unable to compete effectively or ward off an attack may behave submissively in order to avoid further attack or prolonged competition. For example, abused children or battered spouses may feel unable to retaliate or halt an attack. In order to avoid prolonged abuse or further humiliation, a battered spouse may yield to the abusive spouse and not attempt to retaliate. Once the abusive spouse or parent has ceased the attack, individuals may still be prone to continued submissiveness out of fear of future attack. Feelings of powerlessness or helplessness associated with their subordinate position or inferior rank relative to the spouse may contribute to feelings of depression. Untrusting or traumatized individuals may be especially prone to submissiveness.

A second factor involves the degree to which individuals are able to tolerate or acknowledge a loss of rank. Individuals with extremely high standards for excellence who are unable to tolerate less than perfect results

may be prone to an involuntary response characterized by a cycle of submission/defeat and denial of submission/defeat. Professional athletes unable to acknowledge defeat may be prone to such a cycle. If resentment and frustration over a defeat or loss of rank are excessively high, the importance of contesting the loss, retaliating, or further competition may increase. Further losses may initiate a cycle of conflict between experiencing defeat and not accepting defeat, which could cloud judgement, impede ability, and lead to even more failures and losses. The professional athlete who is unable to acknowledge defeat may persist in competing beyond her ability to succeed and subsequently increase her experience of failure and submission. Continued competition under conditions in which failure is likely or even imminent could erode an individual's feeling of competence and self-worth by prolonging her experience of loss and submission to the successful competitor. Individuals preoccupied with attaining an ideal degree of social rank far in excess of the degree of social rank they are actually able to reach may be prone to this cycle of submission and denial. Narcissistic or grandiose individuals may believe they are capable of any challenge and be unwilling to acknowledge defeat.

In interpersonal environments an unwillingness to acknowledge defeat may also influence the quality of relationships and affect the effectiveness of the group as a whole. Ideally individuals will be afforded more or less rank depending on their abilities in a given situation and when necessary should be able to relinquish rank to more competent individuals in the interest of

others. Personality dispositions like self-criticism may upset this process. According to Blatt, self-critical individuals strive for "excessive achievement and perfection and are often highly competitive" (Blatt & Zuroff, 1992, p. 528). They desire respect and admiration, but fear disapproval and recrimination. A self-critical individual may be unwilling to acknowledge defeat and in some situations may be at risk for such a cycle of conflict if failure persists. In Study One, self-critical women contested lost rank and withheld praise from higher ranking friends following a loss of rank. Under some conditions, self-critical individuals may be unwilling to accept defeat or submission and respond by continuing to compete.

There may be other factors that influence whether or not individuals behave submissively (or aggressively) in ranking encounters. A third factor involves the capacity of individuals to accurately evaluate their own abilities and the abilities of their competitors. Individuals who fail to accurately appraise their own abilities and the abilities of their competitors may compete to their own detriment, or they may submit unnecessarily. Both may erode feelings of self-worth or competence. Narcissistic individuals who believe erroneously that they are capable of competing successfully even with the most skilled and intelligent competitors may submit themselves to narcissistic injuries. Self-critical individuals who underestimate their abilities and yield to competitors less skilled than they are themselves may deprive themselves of opportunities to experience a sense of competency. Self-critical individuals may contest losses and compete further only when they are certain of their

abilities or are assured of a victory. Although this hypothesis is speculative, it would explain why self-critical individuals did not contest lost rank in Study Two. Increased task difficulty in Study Two may have eroded judgements of ability for the self-critical individuals; they may not have felt as competent. This line of reasoning might also explain the results of longitudinal research showing that self-criticism at age 12 predicted fewer years of education and lower occupational status at age 31 (Zuroff, Koestner & Powers, 1994). Occupational and educational underachievement might be viewed as a kind of prolonged submissiveness in which an individual underestimates his own abilities and avoids challenges. Here as well, the individual's view of their ideal rank--what he feels entitled to or strives towards--may also be an important determinant of whether or not individuals submit themselves to further competition.

Most theorizing on social rank has focused on the effects and reactions of individuals to a loss of rank. Indeed, all of the previous proposals involve the activation of a submissive response following a loss of rank and the factors that may contribute to the prolongation of that submissive response. As formulated, the social rank model has not considered instances in which submissive behaviour may follow a gain in rank. However in both studies presented here, dependent women who experienced a gain of rank relative to a close friend were more likely to relinquish gains in rank than women low on dependency. That is, submissive behaviour by dependent women was strongest following a gain of rank relative to a close friend. To preserve the friendship and ensure the availability of the friend's support, dependent

women may be more agreeable and more likely to defer to and appease close friends.

Considerable research has examined the extent to which dependency constitutes a vulnerability to depressive experiences (see Barnett & Gotlib, 1988, for a review). Recently, Gilbert, Allen and Trent (in press) have argued that the essential features of dependency which constitute a vulnerability for depression involve an involuntary subordinate response. Many inventories of dependency distinguish one component reflecting nurturance and closeness needs, and a second component reflecting a fear of disapproval which Gilbert, Allen and Trent (in press) argue represent a proneness to submission. Results from the present studies demonstrate that dependent women may be prone to submissiveness but only following an event that threatens interpersonal relatedness. Although dependent women may be prone to submissiveness, it may be the need for closeness and nurturance that dictates the situations in which dependent individuals may be submissive. As suggested previously, submissiveness may represent a strategy that dependent individuals employ in the service of fostering and preserving interpersonal relatedness. Still, it may be the costs associated with prolonged submissiveness which predisposes dependent individuals to depression.

Social Rank and Control over Resources. The final issue concerns the relation between social rank and control over resources. Gilbert suggests that there is a reciprocal relationship between rank and control. Individuals acquiring high rank will typically have greater control over decisions and resources than individuals with low rank, but gaining or exerting control

over resources may afford the individual more respect and attention from others and result in a subsequent gain of rank. One problem with this view involves the apparent circularity between having high social rank and control over resources. High ranking individuals usually have greater control over resources, and acquiring control over resources usually increases one's level of social rank. Although social rank and control over resources can mutually influence one another, control over resources is not a definition of social rank. That is, it does not follow that a gain of rank necessarily provides one greater accesses to resources. Nor does it follow that access to and control over resources necessarily entails a gain of social rank.

Gilbert emphasizes that there are a number of factors that contribute to social rank, the most important of which is gaining the attention of others. The rank of an individual within a dominance hierarchy is largely determined by the individual's ability to hold the attention of other members in the social hierarchy, what Gilbert calls *social-attention holding power* (SAHP). We attempt to elicit the interest of others in us. To the extent that others become interested in us, we will acquire rank and influence relative to others in a social hierarchy. Gilbert speculates that in many ways being able to attract the attention of others is analogous to territorial control in animals. Gaining the attention of others is a resource that individuals will compete for.

The implication of this view is that social rank is determined interpersonally. However, intrapsychic factors influencing the individual's acknowledgment of that attention and rank is equally important. That is,

individuals must express interest in us, and we must accurately assess the extent to which individuals are interested in us. Winning a contest usually represents a gain of rank. But if it is not valued by others, does not elicit the attention of others, and cannot be acknowledged by the winning individual, the individual may not experience the benefits of the gain of rank acquired by winning the contest.

In summary, results from the two studies demonstrate the need to formally acknowledge the influence of attachment concerns, like interpersonal relatedness, and the role of individual dispositions, such as dependency and self-criticism, in understanding how individuals appraise events representing a change in rank and how individuals respond to changes in rank. Dependency and self-criticism may influence whether events and situations are viewed as a threat to social rank or as a threat to attachment with others. They may also influence how individuals evaluate their own rank, the attention individuals receive from others, as well as the individual's perception of their ideal rank, what they feel entitled to or strive towards. In addition, the relation among social rank, attention from others, and control over resources needs to be clarified. There are two important components to the model, one structural and one dynamic. The structural component concerns the various factors contributing to social rank. The dynamic component concerns the factors governing how individuals respond to changes in or threats to social rank.

The Social Rank Structural Model

Social rank refers to an individual's relative position and influence within a social hierarchy (Gilbert, 1992; Price, 1967). Factors believed to contribute to the degree of social rank an individual has within a hierarchy are presented in Figure 1. Factors portrayed in boxes represent features of the individual that may elicit the attention of others. These features include personal attributes, dispositions, and the resources the individual controls. Circular symbols represent the processes influencing the determination of social rank. These processes primarily involve the amount of attention conferred on an individual and the individual's appraisal of that attention.

Social Rank Structural Model

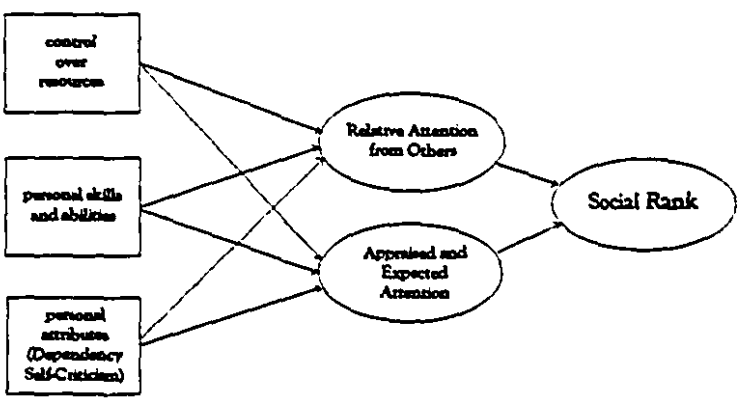

Figure 1. Factors contributing to social rank.

Gilbert (1992) emphasizes that social rank is determined by the extent to which an individual can elicit the attention of others. Attention may include the praise of a jubilant audience or deference of fanatical followers. The more willing others are to give of themselves, the more rank will be enjoyed by the individual who is the recipient of that attention. However, the attention of others is not the only determinant of rank. What is important is the amount of attention one individual has relative to another and the manner in which individuals appraise the attention that others have conferred upon them. The appraisal of rank is crucial.

The amount of attention the individual believes she has received and is entitled to receive is also important. If individuals do not believe or are unaware of the attention conferred on them by others, then the individual's rank or position in a social hierarchy may be diminished.

Control over resources and an individual's own attributes and abilities will influence the extent to which an individual can elicit the attention and deference of others. As mentioned previously, resources include diverse goals, such as having the attention of influential individuals, access to research funding and lab space, and use of the family car and television. To the extent that these resources are sought after or highly valued, other individuals are likely to attend to and confer rank on individuals who control such resources. Personal attributes and abilities include those features of an individual that are highly valued or praised, such as attractiveness, intelligence, or wealth. However, the nature of attention may be positive or

negative. Certain attributes, such as ruthlessness or callousness, may elicit the attention of others to the extent that these attributes of an individual represent a threat to someone else's rank.

Personality dispositions may influence social rank in many ways. Dependency and self-criticism, for example, may influence the manner in which individuals exert control over resources, moderate the nature of the attributes that others may come to value, or affect appraisals of social rank, both one's own as well as the social rank of others. In the two studies reported here, dependent women relinquished gains in rank and control over resources when interpersonal relatedness was threatened. It can be hypothesized that dependent individuals may be afforded less attention or social rank because they control fewer resources and are generally more submissive. In contrast, self-critical individuals tended to contest lost rank and exert control over resources. To the extent that they can contest loses effectively, they may elicit more attention and respect from others. Relative to others they may be granted more rank.

In interpersonal environments, there may be costs associated with certain responses to changes in social rank. As mentioned previously, contesting rank lost to a close friend or exerting control over resources shared with a close friend could possibly thwart the attention garnered from the close friends or even contribute to a dislike of the competitor. Competitiveness by itself may be insufficient to hold the interest of a close friend. Lost interest could result in a loss of rank.

Earlier it was suggested that a discrepancy among the different factors determining how much attention an individual garners from others and the amount of attention an individual believes she has acquired may be an important determinant of how an individual feels and behaves. A discrepancy between the ideal degree of social rank an individual feels entitled to or driven to achieve and the individual's actual level of rank may be problematic. Individuals who feel entitled to more rank than others are prepared to allot them may feel betrayed or threatened. If an individual's expected level of rank is greater than the level of rank actually acquired or if the amount of attention garnered from others is less than the degree of rank an individual has actually obtained, the individual may experience feelings of frustration or dysphoria.

The Social Rank Threat Model

Changes in rank may transpire for a number of reasons. One of the most dramatic changes in social rank will arise as the result of a ranking contest. A ranking contest exists when an individual competes for the attention of others, and it is characterized by the allocation of attention. Ranking contests may take the form of formal contests in which one individual competes for some highly valued mark of recognition or for control over a shared resource at the expense of an other. However, ranking contests may be far more informal, for example, when competing to become the object of someone else's affections. Even though there may be no other easily identifiable competitor, failing to elicit the attention of an other may

represent a loss of rank. The model proposed to account for the mood and behaviour effects following a change in rank, such as being outperformed by another, or a threat to rank, such as disagreement from another, is presented in Figure 2. This model is consistent with results of the two studies presented earlier. Events observed in the two studies are represented with boxes. Constructs moderating the influence of a ranking contest and the individual's responses are represented with circles.

Social Rank Threat Model

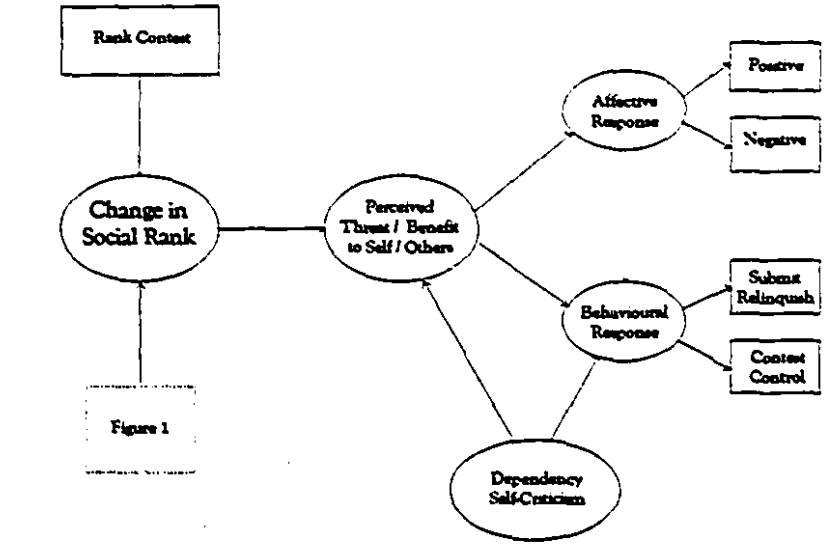

Figure 2. Factors influencing mood and behaviour following a change in social rank.

The model hypothesizes that rank contests can produce a change in an individual's level of social rank. As indicated in Figure 1 there are a number of other factors that may moderate the change in social rank following a rank

contest. The degree of change in an individual's social rank would depend on the nature of the ranking contest relative to all the other factors contributing to an individual's social rank that others may value highly, such as personal attributes and abilities, which were illustrated in Figure 1. Losing a sports competition would represent a far greater loss of rank to a professional athlete than to a writer. A change in rank can dramatically change the kinds of resources an individual controls, which may elicit the attention of others and contribute to an increase in rank, for example, taking office after a successful political campaign.

Following a change in rank, individuals must then appraise the extent to which the change benefits or threatens themselves and relationships with others. Results from the present studies suggest that the extent to which a change in rank is seen as a benefit or threat to self and others may be strongly influenced be personality dispositions, like dependency and self-criticism. Dependent individuals may perceive a gain in rank as a threat to relatedness, whereas self-critical individuals may perceive a loss of rank as a threat to self-definition. However, a change in rank may simultaneously be a benefit to one's self as well as a threat to others, particularly if the change in rank is experienced relative to a close friend or romantic partner. Results of both studies suggest that changes in mood and behaviour following a change may not be equally moderated by dependency and self-criticism. A gain of rank may lead to a positive affective experience irrespective of interpersonal costs which may only be acknowledged or expressed subsequently. To the

extent that a change in rank does represent a threat to relatedness, one would expect a corresponding change in affect to be observed in dependent individuals, who might experience worry or fear about being abandoned. The relation between affect and behaviour was not examined directly in the present studies and is represented with a broken line in Figure 2. Gilbert (1992) speculates that dysphoric mood may elicit submissive behaviour. This is an important theoretical link that should be investigated explicitly.

The model in Figure 2 also implies that how individuals behave towards others is moderated by individuals' dispositions, like dependency and self-criticism, which reflect the extent to which individuals overemphasize interpersonal relatedness or self-definition. Factors dictating whether individuals will behave submissively towards others or retaliate and contest the rank of others include the nature of the threat and the individual's perception of her ability to respond to the threat. Individuals who feel able to respond adequately to the threat facing them may be less likely to behave submissively. Both the feeling of competence and actual skill (cf. Bandura, 1977) are important in dictating whether individuals submit or attempt to retaliate. These factors were included among the abilities and attributes influencing social rank in Figure 1 .

Differences in perceived competence offer one hypothesis regarding the discordant results for Self-Criticism observed between Study One and Study Two. Self-critical women contested loss rank in Study One but not in Study Two. Following a loss of rank in Study Two, self-critical women did not

attempt to restore lost rank by contesting the loss. Perhaps, the increased difficulty of the task in Study Two may have undermined all participants' sense of competence. Self-critical women may not have felt sufficiently competent to contest the loss.

Clearly, there are a number of other factors that may influence these processes. The model depicted Figure 2 is not likely to be exhaustive. However, it is consistent with the results from the two studies represented earlier.

Methodological Strengths and Weaknesses

Strengths. The approach taken in both studies emphasizes the experimental investigation of personality and vulnerability factors, that is, how dependency and self-criticism may moderate responses to experimentally manipulated events that threaten interpersonal relatedness or self-definition. Experimental investigations of personality and vulnerability factors are important for a number of reasons. One reason concerns the conditions under which the effects of personality dispositions, such as dependency and self-criticism, may be at all observed. Some cognitive theorists have argued that the effects of possessing a vulnerability for depression can only be tested by examining how individuals respond to specific activating events (Segal & Ingram, 1995; Teasdale, 1983; 1988). Experimental designs which involve an "activating event" or "challenge" are an important component of understanding how personality dispositions may contribute to depressive processes.

A second reason concerns the degree to which effects of personality dispositions like dependency and self-criticism can be differentiated from effects due to situational events, such as disagreement from a close friend. Research on dependency and self-criticism investigating the quality of social environments has primarily examined the perceptions dependent and self-critical individuals hold towards naturally occurring events (cf. Zuroff et al, 1995). Critics of cognitive models of depression have argued that differences between dependent and self-critical individuals may reflect real differences in social environments, whereas proponents of cognitive models would argue that personality dispositions influence the perception of events. However, it is generally recognized that individuals influence the kinds of situations they enter, as well as the kinds of responses the evoke from others (Buss, 1987). Because of the lack of independence between personality and events, the unique contribution of each is difficult to ascertain and is often blurred. Consequently, it becomes unclear whether dependency and self-criticism, for example, reflect real differences in social environments or moderate the impact of social environments. This difference is important, because it reflects a fundamental philosophical difference between cognitive and interpersonal models. In the former case, personality is viewed as a concommitant of the social environment, whereas in the later case, personality moderates how individuals structure their own social environments. Only through observing the response of individuals to events that are truly independent of personality, that is, experimentally manipulated, can one begin to circumvent

the problem of interdependence between person and situational effects and understand the influence that personality exerts on mood and behaviour apart from the influence of events and situations.

A number of other features of the studies merit comment. First, the studies examined the joint influence of individual dispositions and interpersonal events in an integrated cognitive-interpersonal model. Second, events were formulated within an explicit theoretical framework, namely social rank, and were conceptualized on the basis of the individual needs they threaten or fulfill, rather than on the basis of the descriptive features they share in common. Third, the studies examined how individuals behaved in response to experimently manipulated events and examined both verbal (Study One) and nonverbal (Study Two) behaviour. Fourth, the methodology employed examined responses to a series of interpersonal events, and responses to events were aggregated across multiple trials. Lastly, the studies examined the interpersonal behaviour of individuals with close friends; no confederates were used.

Weaknesses. Several limitations were mentioned in both of the studies. One further issue concerns the relation between depressive affect and the kinds of strategies that dependent and self-critical individuals adopt. Although research has shown that dependency and self-criticism are related to depressive experiences, as well as daily occurrences of dysphoria in social environments (Mongrain & Zuroff, 1995; Zuroff et al., 1995), this link was not examined explicitly in the present research. Moreover, the degree to

which this model holds in clinically depressed populations in unclear and must be evaluated explicitly. In addition, a number of factors merit further investigation. Two issues concern how depressed individuals express depressive feelings and frustration and the manner in which depressed individuals elicit support and help from others. Based on the model presented in this thesis (a) differences in rank, (b) how individuals respond to changes in rank, (c) and the relative importance of social rank and attachment are likely to moderate both the expression of depressive symptoms and the manner in which depressed individuals elicit support.

Conclusion

The studies demonstrate how dependency and self-criticism moderate the effects of interpersonal events, such as changes in social rank and disagreement form close friends. Results suggest that maintaining a good interpersonal relationship may be more important to dependent women than maintaining gains in rank acquired at the expense of a friend, whereas contesting a loss of rank or disagreement from a close friend may be more important to self-critical women than fostering interpersonal relatedness, even with a close friend. Strategies adopted by dependent and self-critical individuals to deal with threats to interpersonal relatedness and self-definition offer an account of why dependent and self-critical individuals experience dysphoria in interpersonal environments. These differences may partly explain how interpersonal processes contribute to maladaptive interpersonal environments and subsequently make dependent and self-critical individuals

vulnerable to different dysphoric and depressive experiences. Findings demonstrate the utility of examining models in which events, cognitive vulnerabilities, and interpersonal processes are viewed as components of an integrated theory rather than as competing or alternative explanations.

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