SOCIOTROPY AND AUTONOMY AND THE INTERPERSONAL MODEL OF DEPRESSION: AN INTEGRATION

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Abstract
Researchers and theorists have suggested that two personality styles may serve as pathways for the development of depression. One personality style, sociotropy, involves intense needs for positive interchange with others, whereas the other style, autonomy, involves an excessive need for self-control and independence. These personality styles were investigated in the context of Coyne's (1976) interpersonal model of depression, which suggests that depressed persons are rejected by others. Research on this model has been equivocal, and it is possible that these two personality dimensions result in meaningful interpersonal differences within depressed persons. Depressed outpatients, (N=41) and non-depressed controls (N=41) were assessed on sociotropy and autonomy and then participated in a brief task in which a research assistant helped them plan adaptive life changes. These interactions were rated subjectively and utilizing behavioural coding. Results indicated that a combination of depression and autonomy were particularly likely to lead to rejection and less positive interpersonal behaviours. Sociotropy was related to perceptions of interpersonal deference, whereas depression was associated with self-orientation in the task. These results suggest that both depression and personality impact rejection and interpersonal behaviours in social interactions. Overall, this study represents a significant step toward greater specificity in the interpersonal model of depression, and clinical implications of these findings are described.
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Introduction

Scholars from a broad variety of psychological perspectives have examined personality patterns that may precipitate and mediate depression. Despite diverse backgrounds, the work of these theorists and researchers converges on two sets of personality features that are thought to serve as pathways for the development of depression. The first pathway, termed sociotropy, involves intense needs for positive interchange with others, dependency, and helplessness. The second pathway, termed autonomy, involves an excessive need for achievement, self-control, and independence from others (Arieti & Bemporad, 1980; Beck 1983; Blatt, 1974; Bowlby, 1977). These personality features are theorized to have distinct interpersonal components (eg. Beck, 1983; Blatt & Zuroff, 1992) that may be meaningful for both the onset and maintenance of depression.

Coyne (1976a) proposed an interpersonal model of depression which focuses on other's responses to depressives, and how such responses might exacerbate depression. However, empirical support for Coyne's model has been equivocal. One possible explanation for these conflicting findings is that research in this area has not taken into account meaningful interpersonal heterogeneity among depressed persons (Marcus & Nardone, 1992). Indeed, previous research has suggested that sociotropy and autonomy affect the social impact of individuals on others (Bieling & Alden, 1996). The current research examines the interpersonal impact of these personality features in interactions of depressed individuals. Toward this end, the theoretical evolution of
these personality features will be summarized, followed by a review of the empirical literature that examines the consequences of these features for depression.

**Theoretical Evolution of Sociotropy and Autonomy**

The involvement of sociotropy and autonomy in depression has been described by at least four groups of theorists, each from a different psychological perspective. Although there are differences in each of the four approaches, their commonality is more striking. The labels for these personality features vary considerably from one approach to another. Autonomy has been labeled self-criticism, dominant goal orientation, and self-definition. Sociotropy has been labeled dependency, dominant other orientation, and interpersonal relatedness (Blatt & Zuroff, 1992). Research indicates that, despite differences in terminology, sociotropy and dependency, as well as autonomy and self-criticism, are overlapping if not analogous constructs (Alden & Bieling, 1996; Blaney & Kutcher, 1991; Nietzel & Harris, 1990). The current work will use the terms sociotropy and autonomy to refer to these personality features except when referring to specific studies or specific theoretical approaches.

Writing from a developmental perspective, John Bowlby (1969, 1977, 1980) described "compulsively self-reliant" and "anxiously attached" individuals and how such individuals are prone to depression. Bowlby believed that excessive self reliance was a defensive reaction to early frustrated attachment needs and that anxious attachment was a reaction to unreliable caregiver response. These different patterns of early attachment behaviour were thought to result in internal "models" and expectations
regarding how other people behave. Such dysfunctional working models were hypothesized to be carried through until adulthood and to predispose an individual to the experience of depression.

Writing from a psychodynamic perspective, Sidney Blatt (1974) distinguished two subtypes of depression. The first, anaclitic depression, was characterized by feelings of helplessness, weakness, and depletion. Such individuals were theorized to have a strong need to be cared for by others and to value close social contact beyond all else. They were said to be fearful of losing the support of others, and thus to have trouble expressing dissatisfaction or anger. Blatt termed the second subtype introjective depression and characterized it by feelings of worthlessness, guilt, and a sense of having failed to live up to expectations or standards. Such individuals were described as highly competitive, demanding, and critical of others because of their intense competitiveness. Anaclitic depression was thought to develop in an individual who was excessively dependent whereas introjective depression was thought to develop because of excessive self-criticism.

Arieti and Bemporad (1980) made a similar bipartite distinction based on an examination of two decades of psychotherapy with approximately forty depressed patients. They pointed out that depression results when an individual relies excessively on external sources of support to maintain self-esteem and gratification (Arieti & Bemporad, 1980). They distinguished between two types of excessive reliance, "dominant other" and "dominant goal." Dominant other corresponds to excessive dependency and was described as a pattern of relating to others that begins
in childhood. Here, the person seeks rewards through some significant other(s) who is relied upon to bestow meaning, gratification and self-esteem (Arieti & Bemporad, 1980). Such persons are described as clingy, passive, manipulative, and anger avoidant. The other form of excessive reliance was termed dominant goal and corresponds to excessive autonomy. This pattern was said to be established in childhood if parents placed an excessive emphasis on achievement. Eventually, "the individual selects some fantastic goal for himself which he then pursues fanatically, apparently for its own sake" (Arieti & Bemporad, 1980; p 1361). Achievement of this goal has broad and unjustifiable meaning attached to it. In addition these individuals are reclusive, arrogant, and obsessive. Arieti and Bemporad argued that these patterns result in interpretations of specific life events that may lead to depression.

Writing from a cognitive perspective, Beck (1983) described personality "modes," which he called sociotropy and autonomy. Sociotropy (social dependency) was described as "the person's investment in positive interchange with others" (p. 272). Such individuals were described as dependent on social feedback for gratification and support. Autonomy was described as "the person's investment in preserving and increasing his independence, mobility, and personal rights" (p. 272). Such persons derive gratification from directing their own activities and attaining meaningful goals. Beck outlined symptom clusters which would be more frequently associated with one mode or the other, described events that would precipitate depression in one type or the other, and examined specific therapeutic foci for both modes.
Theoretical work regarding sociotropy and autonomy in depression has sparked numerous investigations examining the role of these personality features in depressive disorders. This research can be divided into several broad categories: (1) assessment of the personality features and development of standardized measures, (2) attempts to investigate vulnerability to depression by examining the specific interactions between negative life events and sociotropy or autonomy, and (3) attempts to identify individual differences between depressed individuals who are sociotropic or autonomous. Each of these three areas will be reviewed, beginning with the formal assessment of these personality features.

**Construct Assessment**

There have been three major attempts to formally measure sociotropy and autonomy. The first was made from a psychodynamic perspective by Blatt (Blatt, D'Affliti, & Quinlan, 1976) and the second attempt from a cognitive perspective by Beck and his colleagues (Beck, Epstein, Harrison, & Emery, 1983). The most recent measure was developed by Robins and his associates as a response to psychometric problems evident in the two previous measures (Robins, Ladd, Welkowitz, Blaney, Diaz, & Kutcher, 1994).

Blatt and his colleagues (1976) set out to assess dependency and self-criticism by examining a wide variety of experiences related to depression. Their scale, the Depressive Experiences Questionnaire or DEQ, was rationally constructed and assesses distorted or depreciated sense of self, dependency, helplessness,
egocentricity, fear of loss, ambivalence, difficulty in dealing with anger, self-blame, guilt, loss of autonomy, and distortions in family relations (Blatt et al., 1976). The scale was found to have three underlying factors. The first was called dependency and included fears of abandonment, loneliness, and helplessness. The second was called self-criticism and concerned feelings of guilt, hopelessness, life dissatisfaction, insecurity, and a sense of having failed to meet expectations. The third factor was called efficacy and concerned one's perceived resources and capacities. The DEQ is the oldest and most established measure of these personality features and as such has been used most frequently in research. However, it appears that significant problems exist in the scale's psychometric properties; the DEQ has been criticized for its lack of factor purity, particularly in clinical samples. Moreover, there are questions concerning the content validity of DEQ items and the method used for scale scoring (Viglione, Clemmey, & Cammenzuli, 1990; Welkowitz, Lish, & Bond, 1985).

A more recent attempt to measure the personality features of sociotropy and autonomy comes in the form of the Sociotropy and Autonomy Scale (SAS) which was developed by Beck and his associates (Beck, Epstein, Harrison, & Emery, 1983). Items to assess the personality features were drawn from patients' self-reports and clinical records. The items were factor analyzed and yielded two factors corresponding to sociotropy and autonomy. However, the SAS has also been criticized on psychometric grounds. The autonomy scale in particular is viewed as limited because its items load on both autonomy and sociotropy, the low inter-correlations between sub-factors on the
autonomy scale, and its negative correlation with depression (Robins, Block, & Peselow, 1989; Robins & Block, 1988).

In an attempt to rectify criticisms of both the DEQ and the SAS, Robins and his colleagues developed a sociotropy / autonomy scale, the PSI (Personal Style Inventory; Robins, et al., 1994). The PSI was created with items from the SAS and DEQ, as well as the Dysfunctional Attitude Scale and the Inventory of Interpersonal Problems (Horowitz, Rosenberg, & Baer, 1988). The scale consists of two 24-item sets, one measuring autonomy and the other sociotropy. Unlike its predecessors, the PSI demonstrates excellent reliability (i.e. high internal consistency and factor purity) and validity (i.e. appropriate patterns of convergent and discriminant correlations with other measures).

To summarize, three instruments are presently used to assess sociotropy and autonomy. The first evolved from Blatt’s psychodynamic perspective and the second from Beck’s cognitive perspective. The third measure evolved as a response to psychometric problems inherent with the two other available measures. Interestingly, results from research utilizing these different measures are often treated as if the three scales, and the constructs they are designed to measure, are analogous (e.g. Blatt & Zuroff, 1992; Nietzel & Harris, 1990). Such an approach seems warranted in light of recent research evidence which has found that the DEQ, SAS, and PSI appear to measure quite similar personality features (Alden & Bieling, 1996; Blaney & Kutcher, 1991). These findings offer some justification for treating studies that employ these different measures as a coherent body of empirical literature. Next, a summary of
research investigating these personality features and their role in depression will be presented.

Research Evidence

A meta-analysis completed by Nietzel and Harris (1990) examining the relationship between sociotropy, autonomy, and measures of depression found highly significant mean effect sizes in the studies sampled. For sociotropy, the mean effect size related to measures of depression (in terms of $r$) was computed to be $.28$, $p < .0001$. For autonomy, the mean effect size was $.31$, $p < .0001$. Studies investigating the role of these personality features are quite diverse, but have generally involved either an evaluation of diathesis-stress models of depression or the investigation of differences between sociotropic and autonomous individuals. Each of these areas will be examined in subsequent sections.

Diathesis-Stress Models of Depression

Perhaps the most concerted and coherent research efforts in this area have come in attempts to link sociotropy and autonomy, negative life events, and depression. Researchers examining life events and depression have suggested that specific depressogenic schemata may become activated when individuals are confronted with personally meaningful stressful life events (Hammen, Ellicott, & Gitlin, 1992; Hammen, Ellicott, Gitlin, & Jamison, 1989; Hammen, Marks, Mayol, & deMayo, 1985; Robins, 1990; Robins & Block, 1988; Segal, Shaw, & Vella, 1989). Moreover, this type of
diathesis-stress model incorporates the views of researchers who have emphasized the role of stressful events in depression (Billings & Moos, 1982; Coyne & Gotlib, 1983; Keller, Lavori, Rice, Cryell, & Hirschfeld, 1986). According to this diathesis-stress model, individuals who are sociotropic would be vulnerable to depression when they suffer a perceived loss within the interpersonal realm whereas individuals high in autonomy would be vulnerable if they experience an impediment to goal attainment in achievement realms (Beck, 1983; Hammen et al., 1989; Hammen et al., 1985; Robins, 1990; Robins & Block, 1988).

Studies in this area have used a variety of methods including cross-sectional, longitudinal, and laboratory analogue methods. They also differ in terms of the types of populations studied; some have used college students whereas others have used clinically depressed individuals. One recent study examined both symptom change and psychophysiological responses to different types of stressors (Allen, de L'Horne, & Trinder, 1996). Despite these different designs, populations, and measures, the results of this work are highly consistent. Most studies have been able to show a significant interaction of negative interpersonal events and sociotropy to predict symptoms of depression. However, these same studies do not support the interaction of negative achievement events and autonomy to predict depression (Allen et al., 1996; Hammen et al., 1985; Hammen et al., 1992; Robins & Block, 1988, Robins, 1990; Zuroff & Mongrain, 1987). It has been suggested that autonomous individuals are vulnerable to a broader range of negative events than previously thought (Blatt & Zuroff, 1992; Nietzel & Harris, 1990), but this notion has not yet been empirically examined. This as
yet unresolved issue concerning autonomy highlights the need to understand what these personality features measure and to identify their psychological correlates.

**Relationship of Sociotropy and Autonomy to Other Variables**

Researchers have sought to link a variety of variables to sociotropy and autonomy or to distinguish individuals who differ on these personality features. Unlike research that has sought to evaluate the diathesis-stress model, this work has not evolved as clearly. This seems largely due to the great variety of variables studied, the sometimes tenuous theoretical grounding of the work, and the fact that research is often not programmatic, resulting in isolated studies that are not replicated. These difficulties have led to equivocal findings that have not been followed by further investigation or refinements of methodology. Research on differences between sociotropic or autonomous individuals has examined familial background (Blatt, Wein, Chevron, & Quinlan, 1979; McCranie & Bass, 1984; Sadeh, Rubin, & Berman, 1993; Whiffen & Sasseville, 1991), differences in attributional style (Brewin & Furnham, 1987; Brown & Silberschatz, 1989), different symptom presentation (Robins, Block, & Peselow, 1989; Robins & Luten, 1991), treatment outcome (Blatt, 1992; Peselow, Robins, Sanfilipo, Block, & Fieve, 1992), and personality correlates (Cappeliez, 1993; Mongrain, 1993; Pilkonis, 1988; Riley & McCranie, 1990; Zuroff, 1994).
Parental Relationships.

Research on familial differences has evolved from the psychodynamic perspective of Blatt (1974), who emphasized the role of object relations and attachments to significant others in the etiology of sociotropy and autonomy. Blatt highlighted the role of a strict mother figure in the development of anaclitic (dependent) depression and described both parents as strict and demanding of achievement in introjective (self-critical) depression. However, empirical investigations have proven to be inconclusive. It would appear that the mother plays a larger role in the development of dependency, a conclusion which is congruent with Blatt's descriptions (McCranie & Bass, 1984; Sadeh, et al., 1993). However, these studies conflict in their conclusions regarding what types of maternal behaviour result in dependency. It is more apparent that self-criticism is related to parental strictness and an emphasis on achievement (Blatt, et al., 1979; McCranie & Bass, 1984; Sadeh, et al., 1993; Whiffen & Sasseville, 1991). However, studies in this area suffer from common methodological problems. First, this research is cross-sectional and thus biased recollections or reporting of information about parents cannot be ruled out. Second, measures examining these parental variables are typically not standardized; each study appears to use newly constructed measures. Interestingly however, these studies do demonstrate significant associations between family background and development of specific personality styles.
Attributional Research.

Both theory and research highlight the importance of internal, stable, and global attributions in depressives (Abramson, Seligman, & Teasdale, 1978). Studies have also been conducted to compare the attributional style of sociotropic and autonomous individuals (Brewin & Furnham, 1987; Brown & Silberschatz, 1988). Results of both studies suggested that level of depression, sociotropy, and autonomy were positively related to both internal and global attributions. These associations lend some support to the notion that sociotropy and autonomy may serve as vulnerability factors by influencing attributions. However, the results do not support the prediction that sociotropy and autonomy are associated with unique, differential attributional styles.

Gender Roles.

Commonalities between male and female gender role attributes and Blatt's descriptions of self-criticism and dependency have led researchers to examine the relationship between these personality features and gender role attributes (Chevron, Quinlan, & Blatt, 1978; Zuroff, Moskowitz, Wielgus, Powers, & Franko, 1983). These studies demonstrated that competency, considered a desirable male trait, was negatively related to dependency in both men and women. Furthermore, warmth, a desirable female trait, was related to dependency in men and unrelated to dependency in women (Chevron et al, 1978). Dependency has also been associated with low levels of masculinity and high levels of femininity (Zuroff et al., 1983). Thus, the
The construct of dependency seems to be linked to low levels of masculinity and warmth whereas self-criticism seems to be independent of gender role attributes.

**Differential Symptomatology.**

Another recent approach to validate the constructs of sociotropy and autonomy has been to differentiate symptoms postulated by Beck (1983) to occur in one subtype or another (Robins, Block, & Peselow, 1989; Robins & Luten, 1991). Robins and his colleagues (1989) studied depressed inpatients and outpatients who were classified as sociotropic or autonomous on the SAS. Based on theoretical descriptions of sociotropic and autonomous symptom patterns (Beck, 1983), the authors placed items from the BDI (Beck et al., 1961) and Hamilton Rating Scale for Depression (HRSD; Endicott, Nee, Cohen, Fleiss, & Sarantakos, 1981) into two clusters. Sociotropic symptoms were significantly related to sociotropy and negatively related to autonomy. Autonomous symptoms were negatively related to sociotropy, but they were not positively related to autonomy as had been predicted. The authors pointed out that problems with the autonomy subscale of the SAS may have been responsible for lack of findings with this subtype, a notion which was followed up in the second study.

The second study in this series utilized the PSI (Robins et al., 1994), and a more comprehensive assessment of symptoms postulated by Beck (1983) to be related to sociotropy or autonomy (Robins & Luten, 1991). These researchers found a significant relationship between sociotropic clinical features and sociotropy scores, as well as a relationship between autonomy clinical features and autonomy scores. The authors
pointed out that these results lend good support to the validity of the sociotropy / autonomy constructs and are in line with the findings of research that has linked specific life events to the experience of depression.

**Therapy Outcome.**

Researchers have also examined the relationship of sociotropy and autonomy to the outcome of psychotherapy. Blatt and his colleagues have reported a series of studies examining psychotherapy outcome and personality factors, and another group of workers examined response to medication in these personality styles (Blatt, 1995; Blatt, Zuroff, Quinlan, & Pilkonis, 1996; Peselow et al., 1992). Utilizing data collected in the NIMH Treatment of Depression Collaborative Research Program, Blatt examined the role of perfectionism (self-criticism) on both the treatment alliance and ultimate outcome in therapy (Blatt, 1995; Blatt et al., 1996). Perfectionism was negatively associated with therapeutic response in brief treatment for depression (Blatt, 1995). Moreover, subsequent analysis suggested that the quality of the therapeutic alliance in perfectionistic individuals was a significant predictor of improvement (Blatt et al., 1996). These findings have led Blatt to conclude that therapists need to be attentive to interpersonal aspects of the individual, and not allow diagnosis to dominate decisions about how therapy is conducted.

Another study which examined these personality factors and treatment response was performed by Peselow and colleagues (Peselow et al., 1992). These authors examined response to antidepressant medication in a large sample of outpatients who
were either sociotropic, autonomous, high on both these dimensions, or low on both dimensions. They identified a differential response rate in the autonomous vs. the sociotropic groups: 74% of the patients in the autonomous group responded to medication whereas only 39% of patients in the sociotropic group responded to antidepressants. Interestingly, the sociotropy / autonomy distinction was a better predictor of response to medication than the endogenous / non-endogenous distinction, previously thought to be predictive of response to anti-depressants (Peselow et al., 1992). These studies of personality and treatment, although diverse in their approaches, do suggest that sociotropy and autonomy have significant clinical implications. Moreover, this research highlights the potential role of interpersonal factors in therapy with these personality types (Blatt, 1995; Blatt et al., 1996).

**Psychological Correlates.**

A question left unanswered to this point concerns sociotropy and autonomy themselves: what, specifically, are these constructs all about? One pathway toward understanding the meaning of these personality features is to examine their relationship to established psychological measures. This research has examined numerous variables, with greater or lesser theoretical justification for doing so. As a direct result, conclusions are often clouded by inconsistent or contradictory results from one study to the next. Nonetheless, this research provides valuable insight into these personality features and their meaning in depression.
Some researchers have examined the association between sociotropy, autonomy, and established measures of psychopathology. Riley and McCranie (1990) found that self-criticism was associated with overt cognitive and affective signs of depression, and that dependency was associated with subtle behavioural manifestations such as passivity. Goldberg and his colleagues examined the relationship of personality disorders to sociotropy and autonomy (Goldberg, Segal, Vella, & Shaw, 1989). Autonomous individuals were found to have elevated scores on the negativism, anxiety, and dysthymia subscales of the MCMI (Millon, 1981) whereas sociotropic individuals were found to have elevated scores on the avoidant, dependent, anxiety, and dysthymia subscales. Another group of researchers has attempted to relate sociotropy and autonomy to personality disorders described in DSM-III-R (Ouimette, Klein, Anderson, Riso, & Lizardi, 1994). Sociotropy was most closely associated with histrionic, dependent, and avoidant diagnoses; however, autonomy showed a more complex pattern of associations with a number of continua, including, schizoid, obsessive-compulsive, passive-aggressive, and antisocial features. These studies suggest that sociotropy and autonomy do show relationships with various measures of psychopathology, but are not redundant with such measures. Moreover, they reinforce the complexity of the autonomy construct.

Sociotropy and autonomy may also be related to measures which have evolved from long-standing traditions within personality psychology. Thus, these constructs have been examined in the context of trait measures of the "big five" personality variables (i.e. neuroticism, extraversion, agreeableness, conscientiousness, and
openness to experience; Cappeliez, 1993; Mongrain 1993; Zuroff, 1994). Sociotropy was positively correlated with neuroticism, agreeableness, extraversion, and lack of openness. Autonomy had positive correlations with conscientiousness, neuroticism, lack of extraversion, and lack of agreeableness. Thus, in terms of the "big five" factors of personality, sociotropic individuals are anxious, vulnerable, and warm, whereas autonomous individuals are depressed, passive, lacking in positive emotion, and conscientious.

Taken together, studies examining the relationship of sociotropy and autonomy to established measures of psychopathology and personality suggest that sociotropic individuals can be described as dependent, anxious, passive, warm, agreeable, and non-assertive. Autonomous individuals tend toward hostility, passivity, negative affect, irritability, and insensitivity to others. Certainly one aspect of these descriptors which is very striking is the degree to which these characteristics fall into the interpersonal domain. Indeed, these empirical findings are entirely congruent with theoretical descriptions of sociotropy and autonomy which highlight interpersonal behaviours in such individuals. In the next section existing interpersonal models of depression are outlined and a potential integration of sociotropy and autonomy is described.

**Interpersonal Models of Depression**

The role of interpersonal factors in depression has received considerable theoretical and empirical attention. At least three different models concerning the interpersonal behaviour of depressed individuals have been described. The first
explicit model that linked interpersonal factors with depression evolved from the behavioural perspective of Lewinsohn and his colleagues. The main tenet of this model is that depressed individuals display a lack of social skills both prior to and during their depressive episode (Libet & Lewinsohn, 1973). Another perspective on interpersonal factors in depression comes from Beck's cognitive theory of depression. This theory suggests that depression is caused by negative schemata which bias and distort an individual's perceptions of external events. Depressives are thus subject to a variety of errors in thinking which lead them to negative evaluations of themselves and their relationships (Beck, 1983).

A third and more comprehensive interpersonal model of depression focuses on the response of others to the depressive, as well as the consequences of others' responses for the depressive. Coyne (1976) described a cyclical process in which the behaviour of the depressive elicits, over time, rejection from others. Coyne's model postulates that the depressed person is motivated to seek out reassurance and sympathy from others. Those in the environment of the individual respond to such concerns directly. That is, they are supportive, helpful, and reassuring. However, any supportive behaviour is simply met with further demands for reassurance. This communicates to the other that his or her response has not succeeded in the intended effect of assuaging the depressed person's request for help. What follows is a series of ambiguous communications. The non-depressed other, now frustrated by the lack of success of previous reassuring behaviour and the continuing demands of the depressive, may begin communicating at two, very different, levels. They may express
supportive content but do so in a rejecting tone, or signal rejection with non-verbal cues. The depressive, accurately perceiving the equivocal communications of the other, becomes even more eager to test the non-depressed person and displays more reassurance-seeking to test the relationship. At this point, it becomes highly likely that the other will disengage from the depressed person. This confirms the depressives' suspicion about the other's non-genuine communication, and plunges them into greater distress at the loss of an important social relationship. Such a rejection completes the feedback loop to the individual who now finds him or herself in a "depressive spiral" (Coyne, 1976a, p. 29).

**Depression and Interpersonal Rejection**

Unlike behavioural models which postulate a simple skill deficit in depression, Coyne's model involves a progression of events that are perhaps more difficult to capture with standard experimental methodology. Researchers have largely focused on the component of the model that is most easily tested; that depressed persons elicit rejection from others. However, a comprehensive review of studies examining rejection of depressives was unable to reach definitive conclusions. Although a rejection effect is sometimes found, many other times it is not (Marcus & Nardone, 1992). A meta-analysis which examined the literature on the interactional theory concluded that the depression-rejection correlation was .26 across all varieties of studies, though varying from .18 to .61 depending on methodological factors (Segrin & Dillard, 1992). These
reviewers concluded that methodological factors played an important role in determining whether or not depression is associated with rejection.

The strongest findings for rejection are made when long term interactions or relationships are studied (Marcus & Nardone, 1992; Segrin & Dillard, 1992). However, some of this work can be criticized on methodological grounds. First, studies of long term interactions usually involve married couples with a depressed member. Couples identified for such studies are likely to have an extensive previous history of negative interactions and a deteriorated relationship. Moreover, longitudinal studies such as these do not capture other very important events, including divorces and separations in couples with a depressed member. Finally, these studies usually do not measure rejection, per se, but rather satisfaction in the relationship (Marcus & Nardone, 1992).

Another paradigm investigating long term interactions has avoided some of these methodological confounds in a novel manner. Joiner and his colleagues have studied college roommates, who are unacquainted at the outset of the studies and who are followed longitudinally over the course of the academic year (Joiner & Metalsky, 1995; Joiner, Alfano, & Metalsky, 1992). This avoids the problems associated with a history of difficulties, and at the same time allows interpersonal patterns to develop naturalistically over time. This research has found that depression, and more specifically, reassurance-seeking by depressed individuals, predicts rejection by roommates. In addition, depressed individuals induced more negative moods in their roommates (Joiner & Metalsky, 1995; Joiner, et al., 1992). These studies offer strong
support for Coyne's model regarding rejection, and they also support the contention that reassurance-seeking may play a role in the depressive interpersonal cycle.

A final paradigm evaluating the interpersonal model involves measuring rejection of depressed persons after interactions with a stranger. Usually, these studies involve having depressed targets interact with non-depressed participants for a brief period and then assessing rejection of the targets. This paradigm has received some criticism for examining Coyne's model on a too simplistic level (Doerfler & Chaplin, 1985). These authors point out that the model is both cyclical and temporal; the rejection process may take time to develop and is most likely to emerge in ongoing relationships. However, Coyne (1985) has argued that a short-term paradigm does not suffer from the biases of a previous negative relationship history, and that this approach may capture the inception of an emerging social phenomenon.

The first study to examine rejection in this paradigm was carried out by Coyne (1976b). In that study, depressed female outpatients, non-depressed outpatients, and community volunteers were recruited to speak to female undergraduates on the telephone. Both targets and participants were told that the experiment was a study of the acquaintance process and that they would be conversing for twenty minutes. Participants were told to discuss whatever they wished, as long as this maintained anonymity. Coyne measured three participant responses to the conversation: induction of negative mood, evaluation of targets on bipolar adjectives (e.g., good-bad), and willingness to engage in future interactions. All three measures confirmed Coyne's hypotheses. Participants were more hostile, angry, and depressed after speaking to
the depressed patients, and evaluated the depressed patients more negatively than the community volunteers. Moreover, participants were less willing to engage in future activities with depressed individuals, specifically, asking them for advice and sitting next to them on a bus trip (Coyne, 1976b). Overall, the results from this study offered strong support for the interpersonal model.

Since the publication of this initial work, a number of researchers have attempted replications and modifications of this study (Borden & Baum, 1987; Dobson, 1989; Gotlib & Robinson, 1982; King & Heller, 1984; McNiel, Arkowitz, & Pritchard, 1987; Paddock & Nowicki 1986; Segrin, 1993; Strack & Coyne, 1983). Different populations have been used to test the model; some researchers have continued to use depressed patients (e.g. King & Heller, 1984; McNiel, et al., 1987) whereas others have used dysphoric student targets to assess levels of rejection by others (e.g. Borden & Baum, 1987; Dobson, 1989; Strack & Coyne, 1983). Methodological variations have included use of face to face conversations (e.g., Borden & Baum, 1987, McNiel et al., 1987) and telephone conversations (e.g. King & Heller, 1984). Finally, some studies have assessed others' perceptions and actual behaviours thought to be related to depression (Gotlib & Robinson, 1982; Paddock & Nowicki, 1986). Despite the numerous methodological changes and refinements, these studies have all investigated the basic rejection tenet of Coyne's model.

What conclusions can be drawn from the results of these studies? The most important issue, at least in terms of theoretical implications for Coyne's model, is whether or not depressed individuals elicit rejection in brief interactions with strangers.
Only two of the ten studies reviewed here found a rejection effect (Coyne, 1976b; Strack & Coyne, 1983). These two studies used different populations; one examined depressed outpatients and the other dysphoric undergraduates. In one study, participants and targets interacted face to face. In the other study, the interaction took place over the telephone. Thus, these two studies were somewhat diverse in their approaches yet they are the only studies to show a rejection effect. A second question in this research concerns negative mood induction. This variable was examined by all ten studies. Again, the same two studies that found a rejection effect, found significant differences in the mood of participants who interacted with depressed targets (Coyne 1976b, Strack & Coyne, 1983).

A third issue has to do with others' social perceptions of depressed individuals after a brief interaction. Seven of the ten studies located used a measure of social perception of target individuals. The Impact Message Inventory (IMI; Kiesler, et al., 1976) was used in three studies (Borden & Baum, 1987; Dobson, 1989; McNiel et al., 1987) and sets of bipolar adjectives assessing a positivity / negativity dimension were used in four studies (Coyne, 1976b; King & Heller, 1984; Rosenblatt & Greenberg, 1991; Strack & Coyne, 1983). One study using the Impact Message Inventory found that depressed individuals were seen as less sociable/warm than their non-depressed counterparts; however these depressed participants were also highly anxious (Dobson, 1989). Level of anxiety may have accounted for the differences in perception, a possibility which becomes more likely when one considers that the other two studies using the IMI had negative findings. Of the four studies using bipolar rating scales,
three found that depressed individuals were perceived more negatively (Coyne, 1976b; King & Heller, 1984; Strack & Coyne, 1983).

The final issue examined in these studies concerns the behaviour of depressed targets and the behaviour of participants with whom they interact. This issue was examined by four of these ten studies. Two studies examined behaviour in both participants and targets (Borden & Baum, 1987; Gotlib & Robinson, 1982), one study examined the behaviour of participants only (McNiel, et al., 1987), and one study examined the behaviour of targets only (Paddock & Nowicki, 1986). One of the three studies which examined behavioural variables in participants found differences between individuals who interacted with depressed versus non-depressed targets (Gotlib & Robinson, 1982). Participants who interacted with depressed individuals demonstrated less support, fewer positive conversation-maintenance statements, smiled less, and were less pleasant. Two of the three studies that examined behaviour of depressed targets found differences between these individuals and their non-depressed counterparts (Gotlib & Robinson, 1982; Paddock & Nowicki, 1986). Depressed targets showed less direct support to others, less conversation-maintenance, and engaged in more negative non-verbal behaviour and more negative paralinguistic behaviours.

Overall, findings in each of these categories of variables (rejection, social perception, and behaviour) are not particularly robust. The postulate that depressed persons are rejected is least supported by the results of these studies. There is somewhat more, but by no means overwhelming, evidence that depressed individuals
are perceived more negatively and that there are behavioural differences in dyadic interactions in which a depressed member is present. Overall, the studies reviewed showed significant differences on less than one third of the dependent variables examined. What factor(s) might account for these equivocal findings?

Several methodological possibilities have been suggested to explain these inconsistencies. First, reviewers have pointed out that "depression" is defined inconsistently from one study to the next (Marcus & Nardone, 1992). This results in studies using different, sometimes questionable, measures of depression. Future studies require well-defined criteria for depression and psychometrically sound measures of depressive symptomatology. Another possibility concerns the types of interactions generally studied. It has been suggested that the typical "getting acquainted" tasks require only well-practiced and rudimentary social skills that could be reasonably well-handled by almost anyone (Marcus & Nardone, 1992). Future studies would be better served by using a task that requires greater depth and less practiced modes of interaction.

Finally, it has been suggested that heterogeneity in depression may account for the inconsistent results in this research literature (Marcus & Nardone, 1992). In other words, individual differences in depressives may obscure the hypothesized rejection effect suggested by Coyne's model. Discovering the dimensions important to the process of rejection should clarify discrepant empirical findings and offer a further elaboration of Coyne's model. Marcus and Nardone suggest that the sociotropy / autonomy distinction may play an important role in interpersonal behaviour and "elicit
different types and degrees or rejection from others" (p. 443). Failure to consider this
distinction, and thus homogenizing depression, could result in large within-group
variances that might obscure any distinction between depressed and non-depressed
individuals. The following section explores both theoretical and empirical interpersonal
concomitants of sociotropy and autonomy, and then examines their implications for
Coyne's interpersonal model.

**Interpersonal Concomitants of Sociotropy and Autonomy**

Beck (1983) describes many attributes of the sociotropic or autonomous
depressive that fall within the interpersonal domain. The sociotropic person is
described as fearful of rejection, needy, and eager to give up control to others. Such
persons are thought to require continuous reassurance and to find such reassurance to
be gratifying. On the other hand, the autonomous individual's concerns with
preserving his or her independence, and defining his or her own boundaries also
influences the person's interactions with others. In particular, Beck noted that
autonomous individuals are not susceptible to social feedback, are decisive, and
reluctant to give up control to others. They are also described as oblivious to the effect
of their actions on other people and as non-empathic (Beck, 1983).

Beck theorized that these attributes were pervasive and highly salient to others.
He believed them to be exhibited both in the general social world and in the
patient/therapist relationship (Beck, 1983). In fact, these characteristics were thought
to have such a significant impact on the behaviour of the individual and subsequently in
the patient/therapist relationship, that clinicians were advised to tailor therapy for each subtype (Beck, 1983). Autonomous individuals were thought to require a collaborative relationship in which they are allowed to set goals. Beck suggested that the patient's underlying rigidity should only be examined in the latter stage of therapy, with a focus on creating an internal sense of freedom. For sociotropic individuals, it was recommended that therapy be more structured and that helping and guidance be emphasized. Explanations and clarifications by the therapist were thought to elicit a positive response (Beck, 1983). The dominant themes in therapy would appear to be "collaboration" for autonomous individuals and "guidance" for sociotropic individuals.

The writings of Blatt offer similar interpersonal descriptions. In anaclitic depression, the individual was described as having an intense need to be cared for, protected, and soothed (Blatt, 1974). There are "cries for love" (p. 116) and fears of abandonment by others. Social support can result in a temporary sense of comfort, but all satisfaction is seen as coming from external sources. This dependence on others results in great apprehension about being abandoned, leading to an inability to express anger or dissatisfaction for fear of losing this source of satisfaction. Introjective depression was characterized by strivings toward self-definition and autonomy. The relationships of these individuals were characterized by ambivalence or hostile feelings toward others. These interpersonal characterizations of Blatt and Beck, despite their evolution from two distinct theoretical approaches, share many attributes in common. Research suggests that the interpersonal concomitants of the two personality features are indeed similar (Alden & Bieling, 1996). The following section provides a summary
of this research and other studies examining interpersonal correlates of sociotropy and autonomy.

**Research Evidence**

A growing number of studies have examined the interpersonal correlates of dependency and self-criticism (Zuroff & deLorimier, 1989; Zuroff & Fitzpatrick, 1995; Zuroff & Stotland, 1995). In one study, dating preferences of undergraduate women who varied in dependency and self-criticism were examined (Zuroff & deLorimier, 1989). Dependency was associated with desiring a partner with a high need for intimacy and a low level of masculinity. Self-criticism was associated with desiring a partner with high need for achievement and high masculinity. In terms of relationship harmony, self-critical women were less satisfied with their current relationship than were dependent women (Zuroff & deLorimier, 1989). In another study, daily interactions of individuals who differed in dependency and self-criticism were examined. Dependency was associated with more frequent and intimate interactions, whereas self-criticism was associated with the lack of pleasure in social interactions (Zuroff & Stotland, 1995). Finally, adult attachment styles of individuals who differed in dependency and self-criticism have been examined (Zuroff & Fitzpatrick, 1995). Dependency was associated with an anxious attachment style, whereas self-criticism was associated with avoidant attachment concerns. Together, these results lend good support to the notion that sociotropic and autonomous individuals may have different
interpersonal concerns and needs in both intimate relationships and other social
contacts.

In order to further elucidate the interpersonal correlates of sociotropy and autonomy, Alden and Bieling (1996) sought to examine sociotropy and autonomy in an established interpersonal framework. Undergraduate volunteers completed measures of sociotropy and autonomy and the IIP-C, a circumplex-based measure of self-reported interpersonal problems (Alden, Pincus, & Wiggins, 1990). The results demonstrated that sociotropy was positioned in the octant of the interpersonal problem circle which reflects a combination of non-assertive and overly-nurturant interpersonal behaviour, generally labeled exploitable (Alden et al., 1990). Thus, high scores on sociotropy were associated with self-reported problems expressing anger towards others, asserting one's needs, and being taken advantage of by others. Autonomy was positioned in the Cold octant of the interpersonal problem circle. Thus, autonomy was associated with self-reported problems making long-term commitments, problems experiencing love and affection toward others, and distancing oneself from other people. Overall, this study also supported the notion that distinct interpersonal patterns are associated with sociotropy and autonomy. However, the findings are limited by exclusive reliance on self-report measures.

One study has examined the reactions of sociotropic and autonomous dysphorics to a controlled social interaction (Bieling & Alden, 1996). In this study, undergraduate women were selected for a dysphoric (BDI > 12) sociotropic, dysphoric autonomous, non-dysphoric (BDI < 7) sociotropic group, and a non-dysphoric
autonomous group. Subjects participated in a therapy analogue interaction with a confederate who acted either in a controlling or non-directive fashion throughout the interaction. Results showed clear interpersonal differences between the two personality style groups. The sociotropic and autonomous participants had different cognitive emotional concerns during the interpersonal task, perceived the same partner behaviour differently, and differed in liking for their partner. Specifically, sociotropic participants were more motivated toward maintaining interpersonal relatedness during the interaction, including getting along with and pleasing their partner. They also perceived their partner as more approving and supportive. On the other hand, autonomous individuals were more likely to be motivated by self-definitional concerns, such as their own objectives in the task, controlling the interaction, and separating themselves from their partner.

Most relevant to Coyne's model, results from this study showed differences in others' responses to each of the groups. The confederates, who were blind to the participant's condition, expressed less liking for the autonomous dysphoric group. Moreover, additional analyses suggested that a combination of dysphoria and personality resulted in less liking. This finding corroborates a similar study (Zuroff, Moskowitz, Wielgus, & Powers, 1983) examining differences between dependent and self-critical individuals participating in an interpersonal task. In this study, male and female college students participated in a variety of tasks with male and female peers (Zuroff et al., 1983). There was a significant negative relationship between task
leadership and dependency in men. Moreover, there was a trend toward a negative association between self-criticism and likability in women.

Results from these studies do suggest that there are two distinct interpersonal patterns associated with sociotropy and autonomy. Sociotropic and autonomous individuals differ in their self-reported interpersonal problems, romantic preferences, attachment styles, reactions to an interpersonal task, and in the responses they engender in others. Sociotropic persons, wishing to please others and concerned about approval, strive to get along well with others. They believe that they succeed in this regard, perceiving their partner as pleased with them and as evaluating them positively. Indeed, they are judged to be more likable than their autonomous counterparts. A different process seems to occur in autonomous individuals. Concerned about their own goals and about maintaining control of their environment, they see others as potentially aversive intruders who may seek excessive influence over them. Their behaviour culminates in expected rejection, confirming their original distrust of others and tendencies to distance themselves from others. One would expect that this process might lead to increased dysphoric affect.

The Present Study

The studies reviewed above suggest that not all depressives suffer similar levels of rejection from others. These data, though limited, imply that autonomous depressives would be particularly prone to elicit a negative reaction in others, whereas their sociotropic counterparts may be less susceptible to such negative responses.
This difference, if found to exist in depressed patients, may indeed constitute an explanation for previous discrepant findings. If individuals do respond differently to sociotropic and autonomous depressed individuals, the interpersonal model of depression proposed by Coyne (1976a) may require refinement.

To my knowledge, no studies have examined the responses of others to sociotropic and autonomous depressed patients. Previous research examining responses to sociotropy and autonomy has studied either non-depressed college students (Zuroff et al., 1983) or dysphoric students (Bieling & Alden, 1996). There is an ongoing debate over the adequacy of student samples as analogues for depressives. Whereas some have argued that most findings in analogue samples do appear to generalize to clinical samples (Vredenburg, Flett, & Krames, 1993), there are fundamental differences between a diagnosis of depression and self-reported symptoms of depression in students (Coyne, 1994). Populations of students are clearly distinct in any number of demographic ways from a community sample of clinically depressed individuals (Coyne, 1994). Whereas the former population may be prone to transient episodes of distress that are alleviated by the diminution of a stressor, the latter suffers from ongoing depressive disorders that deeply impair their psychosocial functioning. There is no debate that clinically depressed individuals are a preferable sample for research in depression. Clearly, the differences between dysphoric students and individuals with a depressive disorder necessitate studying the latter sample.
The current study utilized a clinical population and a well established measure of symptom severity. In addition, following the suggestions of Marcus and Nardone (1992), a more involving, novel conversational task was used to better engage all participants in a collaborative task. The task used for the study was a therapy analogue in which a confederate helped participants toward a defined goal, and was similar to one used in previous research (Bieling & Alden, 1996). Moreover, such a task is consistent with the theoretical descriptions provided by Beck (1983) that outline sociotropic and autonomous differences in response to therapy situations.

In order to provide a level of comparison with past research, measures similar to those employed in previous studies were utilized. Thus, three classes of variables were assessed. First, level of rejection of targets was assessed after the interaction task. Second, social perceptions of others that were relevant to this type of interpersonal task and sociotropy and autonomy were examined. Third, both verbal and non-verbal behaviours of targets relevant to likability were coded by independent raters. These behaviours, which were derived from testing in a pilot sample (described in the Dependent Measures section, p. 45), included attention to the task, difficulty in scheduling pleasant events, appearing relaxed and calm, speech intonation, smiling, cheerful appearance, suggesting options for scheduling, resistance to suggestions of assistant, and self-disclosure.
Hypotheses

Regarding rejection of target individuals, two specific hypotheses were made. First, I predicted that autonomy would be associated with rejection. This hypothesis is consistent with theoretical depictions, studies that have found an association between autonomy and rejection, and self report findings (Alden & Bieling, 1996; Beck, 1983; Bieling & Alden, 1996; Zuroff et al., 1983). Second, I predicted that depressed individuals would be rejected to a greater extent than non-depressed individuals. Such a prediction is consistent with Coyne’s model and at least some past research (Coyne, 1976a, 1976b; Strack & Coyne, 1983). With regard to sociotropy, previous findings suggest that it is associated with greater self-reported warmth, but not necessarily rejection (Alden & Bieling, 1996; Bieling & Alden, In press, Zuroff et al., 1983). However, some theorists have suggested that sociotropy may be associated with higher levels of support seeking, and excessive reliance on others that does, indeed, result in rejection (Blatt & Zuroff, 1992). Given these contradictory views, no specific prediction was made for sociotropy and rejection of target individuals.

In terms of others’ social perceptions, two hypotheses were made based on theoretical descriptions and previous research (Alden & Bieling, 1996; Beck, 1983; Bieling & Alden, In press). First, autonomy was hypothesized to be associated with insensitivity to others, negating other’s suggestions, being action-oriented, and having more rigid goals in the task. Second, I predicted that sociotropy would be associated with striving to garner others’ approval, trying to please others, deferring to other’s
decisions, and desiring reassurance. No specific predictions were made about how depressed targets, as a group, would be rated on the social perception measures.

With regard to behaviours in the task, two specific predictions were made. First, autonomy was predicted to be related to fewer positive social behaviours in the interaction task. Second, I hypothesized that depressed individuals would engage in fewer positive social behaviours than non-depressed individuals in the interaction. No specific prediction was made about associations of sociotropy with positive or negative interaction behaviours.

Method

Overview

Depressed outpatients and non-depressed controls were assessed on sociotropy and autonomy and then participated in a brief task in which a research assistant helped them plan adaptive life changes. Upon completion of the interaction, participants and the confederates completed measures in which they rated one another on a variety of dimensions. All participants were then administered a structured diagnostic interview, and debriefed.

Participants

Depressed Sample.

A total of 41 (29 women, 12 men) participants were recruited from two sources: an outpatient waiting list at the Health Psychology Clinic, Vancouver Hospital, UBC,
and a posting at the Mood Disorders Clinic in the Department of Psychiatry, Vancouver Hospital, UBC (see Table 1 for details). Potential wait-list participants were contacted by telephone and were told about the details of the study. A laboratory appointment was booked if they were interested in taking part in the study. Potential volunteers who telephoned based on the posting were asked about their current mood problems, and were then invited to participate if they seemed initially appropriate.

**Table 1 - Recruitment Sources**

<table>
<thead>
<tr>
<th>Source</th>
<th>Total Potential Volunteers</th>
<th>Not willing or able to Participate (at telephone contact)</th>
<th>Screened out by interview or BDI cutoff.</th>
<th>Total in Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depressives</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waiting List</td>
<td>42</td>
<td>4</td>
<td>4</td>
<td>34</td>
</tr>
<tr>
<td>Clinic Posting</td>
<td>14</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>51</td>
<td>2</td>
<td>8</td>
<td>41</td>
</tr>
<tr>
<td>Postings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>41</td>
</tr>
</tbody>
</table>
**Inclusion Criteria for Depressives.**

Participants were included in the final sample if they: (1) met DSM-III-R criteria for either a current major depressive episode or dysthymia according to the SCID interview, and (2) obtained a minimum score of 14 on the Beck Depression Inventory. Use of such a BDI cut-off is common in research on interpersonal factors in depression and the minimum score used here is similar to one used in previous research (e.g., King & Heller, 1984, McNiel, et al., 1987). In order for the sample to be representative, participants who met criteria for a concurrent anxiety disorder were also included in the sample, as were individuals currently using anti-depressant medication. Individuals with a diagnosis of bipolar disorder were not included. Detailed characteristics of the sample are displayed in Table 2.

**Control Sample.**

A total of 41 (29 women, 12 men) participants constituted the control sample. These individuals were recruited from posters placed in community centers and libraries in the Vancouver area. Potential volunteers were asked to contact the laboratory about a study on conversation. Individuals were screened over the telephone for potential difficulties with mood, or history of such problems. Individuals without such a history were invited to participate and were scheduled for an appointment.
### Table 2 - Sample Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Depressive</th>
<th>Control</th>
<th>( \chi^2 )</th>
<th>( t )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>37.34 (10.06)</td>
<td>35.10 (6.81)</td>
<td>1.18</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>44%</td>
<td>63%</td>
<td>3.81</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>37%</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>19%</td>
<td>12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education (Years)</td>
<td>14.37 (2.44)</td>
<td>15.07 (1.93)</td>
<td>-1.46</td>
<td></td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>71%</td>
<td>82%</td>
<td>1.71</td>
<td></td>
</tr>
<tr>
<td>Not Working</td>
<td>29%</td>
<td>18%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCID diagnosis (frequency)</td>
<td>MDE 61%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dysthymia 46%</td>
<td></td>
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<tr>
<td></td>
<td>GAD 12%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Phobia 5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Panic D/O 5%</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>OCD 2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of any previous psychiatric contact</td>
<td>83%</td>
<td>10%</td>
<td>44.14**</td>
<td></td>
</tr>
<tr>
<td>Antidepressant Usage</td>
<td>44%</td>
<td>0%</td>
<td>23.06**</td>
<td></td>
</tr>
<tr>
<td>BDI Score</td>
<td>23.44 (9.42)</td>
<td>3.95 (2.46)</td>
<td>12.82**</td>
<td></td>
</tr>
</tbody>
</table>

** \( p < .001 \)**
Inclusion Criteria for Control Group.

Volunteers were included in the final sample if they: (1) did not meet a diagnosis for either a mood or anxiety disorder, and (2) reported few depression symptoms (BDI < 07).

Experimenters

The primary experimenter was a male graduate student, with prior clinical training in assessment and diagnosis. The experimenter was responsible for carrying out the experimental procedures, including giving instructions for the task, administration of measures, screening interviews, and debriefing procedures. The experimenter was blind with regard to participants' scores on the BDI, sociotropy, or autonomy. A second graduate student with previous training in structured clinical interviews served as a reliability rater on the diagnostic interviews.

Confederates

Two graduate student research assistants served as confederates. A male confederate interacted with male participants and a female confederate interacted with female participants. Both confederates were trained to enact the same scripted behaviours in the interaction (see Appendix A for script), and the duration of the interaction was monitored. Also, deviations from the script were recorded by the experimenter to ensure that the task was carried out consistently by the confederates.
**Procedure**

Upon arrival at the laboratory, participants completed consent forms, a measure of depressive symptomatology, and a measure of sociotropy and autonomy. Participants were then given the following instructions:

This study concerns helping styles and the way in which people work together. What we would like you to do today is to talk with a research assistant, and the two of you will be working on pleasant events scheduling. Now, many people are very busy in their lives, and don't always do as many fun or interesting things as they might like to. The idea for the task today is to take a look at your schedule, and the kinds of things you like to do. Then you'll work on adding some things in that might be fun or pleasant for you. The overall idea is to reduce your level of stress and increase your general sense of satisfaction.

Participants were then informed that the interaction would be videotaped and that the experimenter would observe the conversation from behind a one-way mirror. After completion of the conversation, the confederate and participant were separated to complete the dependent measures.

After completing their scales, participants were interviewed using the Structured Clinical Interview for DSM-III-R (SCID; Spitzer, Williams, Gibbon, & First, 1990). Upon completion of the SCID, all participants were told the nature of the experiment and
received information about the purpose of the study. An opportunity for questions and feedback was given, and participants were then thanked and dismissed.

**Experimental Task**

The task was based on the pleasant events scheduling techniques developed by Lewinsohn for behavioural treatment of depression (Appendix B, MacPhillamy & Lewinsohn, 1971). Confederates worked with participants for the purpose of creating a schedule with increased frequency of pleasant events. This necessitated collaboration between participants and confederates toward a meaningful goal; participants were required to engage in active conversation, examine options, suggest potential solutions, and make personally relevant decisions. This type of task was selected because it seemed likely to elicit a variety of interpersonal behaviours from participants (Marcus & Nardone, 1992). A list of pleasant events and a weekly schedule were provided. The confederate then assisted participants in the selection of pleasant events and helped them in fitting these to their schedules.

**Diagnostic and Classificatory Measures**

**Structured Clinical Interview for DSM-III-R (SCID; Spitzer et al., 1990).**

The SCID is a diagnostic instrument that is consistent with criteria from the Diagnostic and Statistical Manual (DSM-III-R). The current study utilized the SCID-NP (Nonpatient edition) which allowed for the diagnosis of all Axis I disorders including: (1) mood syndromes (2) psychotic screening (3) mood disorders (4) psychoactive
substance use disorders (5) anxiety disorders (6) somatoform disorders (7) eating disorders and (8) adjustment disorder.

The SCID was administered by an experimenter with prior clinical experience and training in administration of structured interviews. In order to confirm diagnoses made by the experimenter, each interview was tape recorded and verified independently for diagnostic validity by a second rater. The overall inter-rater agreement (kappa) for diagnoses was .85.

Beck Depression Inventory (BDI: Beck, Ward, Mendelson, Mock, & Erbaugh, 1961).

The Beck Depression Inventory (Appendix C) is an efficient and widely used measure of depressive symptomatology, appearing in over 500 studies (Steer, Beck, & Garrison, 1986). It is a 21-item scale derived from clinical observations. The BDI has been shown to have high reliability and stability and has also been demonstrated to correlate highly with other self-report measures of depression and with clinicians' ratings of depression (Beck, Steer, & Garbin, 1988).

Personal Style Inventory. (PSI: Robins, Ladd, Welkowitz, Blaney, Diaz, & Kutcher, 1994).

The PSI consists of two 24-item sets, one measuring autonomy and the other sociotropy (Appendix D). Coefficient alpha for the autonomy scale is .86, and for sociotropy .90. Test-retest reliabilities for a period of between 5 and 13 weeks were .80 for the sociotropy scale and .70 for the autonomy scale (Robins et al., 1994). Each
scale contains three factors. These factors for sociotropy are: (1) Concern what others think (alpha .80), (2) Dependency (alpha .72), (3) Pleasing others (alpha .83). For autonomy the three factors are: (1) Perfectionism/Self-criticism (alpha .70), (2) Need for control (alpha .70), (3) Defensive Separation (alpha .80).

**Dependent Measures**

**Desire for Future Interactions (Coyne, 1976b; Dobson, 1989; Segrin, 1993)**

This scale consists of 9 items which reflect a desire to engage in future interactions with the target person. Items were answered on a seven point Likert type scale with affirmative (very much) and negative (not at all) anchors. Alpha reliabilities for this scale have ranged between .87 and .96 in other studies (Dobson, 1989; Segrin, 1993). The current study used nine items related to future interactions. Items were: (1) To what extent would you like to meet this person again, (2) To what extent would you like to spend more time with them in the future, (3) To what extent would you like to work with this person in the future, (4) To what extent would you like to sit next to this person on a three hour bus trip, (5) To what extent would you like to invite this person to visit you, (6) To what extent would you be likely to ask this person for advice, (7) To what extent would you like sharing an apartment with this person, (8) To what extent would you like eating lunch with him or her often, (9) To what extent would you like having this person as a friend. For the present study, alpha reliabilities for the DFI scale were .97 across the two confederates.
Confederate Perceptions of Participants.

Likert-type items were developed for rating participants intentions and perceived behaviour. Content for these 21 items included the types of behaviours believed to be associated with sociotropy and autonomy that would be relevant in an interpersonal cooperative helping task (Appendix E). Dimensions relevant to sociotropy and autonomy were derived from empirical and theoretical material (e.g., Beck, 1983; Blatt & Zuroff, 1992; Robins et al., 1994), and the interpersonal concerns of sociotropic and autonomous individuals identified in a previous study (Bieling and Alden, In press).

Themes for behaviours thought to be associated with sociotropy were: needing others' help, requiring reassurance, lack of assertion, deferring to others to maintain a positive relationship, fear of rejection, and being pleased with others' input. Together, these items were designed to assess the degree of the participants' interpersonal deference and the alpha reliability for this item set was .79. Themes for behaviours thought to be associated with autonomy were: having specific goals or standards, being less susceptible to others' feedback, being less sensitive to others' needs, being action oriented, and being dogmatic and decisive. Together, these item assessed the degree of self-orientation the participant displayed and the alpha reliability for this scale was .88. Overall, the interpersonal deference scale, and the self-orientation scales displayed a moderate negative correlation (r = -.39) suggesting that these scales were not assessing redundant interpersonal perceptions.
Participant Behaviour.

The conversations were videotaped and the behaviour of participants rated along a series of dimensions. The video camera was placed behind a one-way mirror, and the camera was focused on the participant throughout the pleasant events task. Behaviours related to liking of participants were identified rationally by three research assistants in a sample of undergraduates (N=30). Videotapes of pilot participants were subsequently coded by three trained raters along these rationally derived dimensions. Nine types of behaviours were found to be significantly related to liking (r's > .40) and could be coded with a high degree of inter-rater reliability (r's > .80) in the pilot sample. These dimensions were used in the present study and included: (1) attentiveness (2) ease of scheduling events, (3) smiling, (4) suggesting schedule options, (5) speech inflection, (6) resisting the confederate's suggestions, (7) appearing cheerful, (8) being disengaged from the task, and (9) self-disclosing.

Two undergraduate raters (who were not involved in the initial derivation of the coding system) were trained using the videotapes of the undergraduate pilot participants and found to have a high level of agreement on the nine items (all r's greater than .80). The two raters then viewed each videotape and independently coded each participant along these nine dimensions. The average inter-rater reliability (pearson r) was .84 for the nine behaviours with a range of .73 to .92. Across the nine behaviours, the two coders were within one point on the seven-point scale in 90% of
the cases. Thus, the behaviour ratings made by each coder were averaged for each of
nine behaviours.

These nine ratings were then submitted to a principal components analysis.
Although the ratio of the number of participants to the number of items was less than
ideal, this analysis suggested the presence of a single factor, with an eigenvalue of
4.01, that explained 40.1% of the variance. Items with positive loadings included
attentiveness, ease of scheduling, smiling, suggesting schedule options, speech
inflection, and appearing cheerful. Items with negative loadings included resisting the
confederate's suggestions, being disengaged from the task, and self-disclosing. These
nine items were used to create a single index of positive interactive behaviour, with a
higher score indicating more positive behaviours. The alpha reliability for this nine item
overall behaviour index was .81.

Results

Preliminary Analyses

Participant Characteristics.

The two groups, depressed and controls, were compared on a number of
demographic characteristics utilizing independent samples t-tests and chi-square
analyses where appropriate. The two groups did not differ on age, level of education,
employment status, or marital status (see Table 2 for statistical values). As expected,
participants differed markedly on psychiatric history, medication usage, and BDI score.
The overall BDI score in the depressed group was indicative of a moderate level of depression, whereas the BDI score in the controls indicated no depression.

Confederate Checks.

In order to insure that the two confederates carried out the task in a similar manner, a between groups (confederate identity) multivariate analysis of variance (MANOVA) was carried out on script deviations and duration of the interaction. There were no significant differences between the two confederates overall, $F(2, 79) = 1.69$, $p > .10$. Inspection of the mean number of script deviations showed that the first confederate included an average of 96.10% of the script content, and the second confederate included 95.89% of the content. Mean duration for the first confederate was 975s (sd=320s) compared to a mean of 830s (sd=340s) for the second confederate (this difference approached but did not reach statistical significance, $p > .07$). These analyses and inspections of the means suggest that confederates were largely equivalent in their presentation of the script to participants.

Participant Gender.

Correlations between participant gender and all of the major dependent and independent variables were calculated. With one exception, the correlations were non-significant and extremely low, ranging from .13 to .02, with a mean of .06. Gender did correlate with interpersonal deference ($r = .55$, $p < .001$), which suggested that women
were rated more highly on this measure. Thus the effect of gender on this variable is reported in the Perceptions of Participants section in the analysis.

**Description of Independent Variables.**

These analyses were conducted in order to examine levels of sociotropy and autonomy in the depressed and control groups and to insure that these independent variables were not redundant. A between groups multivariate analysis of variance (MANOVA) was carried out with sociotropy and autonomy as the dependent variables and depression status as the grouping variable. A main effect emerged for group, $F (2, 79) = 7.44, p < .01$. Examination of the univariate values indicated a significant difference for both sociotropy and autonomy, $F (1, 80) = 7.60, p < .01$ and $F (1, 80) = 12.65, p < .01$, respectively. The means for these measures in each group are displayed in Table 3. Further descriptive statistics are available in Appendix F.

Table 3. Means and standard deviations of sociotropy and autonomy scores in depressed and control groups.

<table>
<thead>
<tr>
<th></th>
<th>Depressed</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sociotropy</td>
<td>99.50 (19.36)</td>
<td>88.55 (16.5)</td>
</tr>
<tr>
<td>Autonomy</td>
<td>94.05 (18.69)</td>
<td>81.76 (11.85)</td>
</tr>
</tbody>
</table>

Inspection of the means demonstrated that the depressed group scored higher on both sociotropy and autonomy than controls. Such a result is not surprising given the
correlation between depressive symptoms and the PSI reported in validation work (Robins, et al., 1994).

In order to ensure that the personality variables were not redundant, correlations were computed between sociotropy and autonomy in the overall sample, and then in each of the two groups. Overall, sociotropy and autonomy were correlated at .44, \( p < .001 \). This correlation was .47, \( p < .001 \) in the control group, and .32, \( p < .05 \), in the depressed group. Though these personality dimensions should ideally be independent (Robins et al. 1994), these levels of correlations do not suggest a substantial redundancy.

**Main Analyses**

**Overview.**

For each of the major dependent variables described below, two types of analyses were used. First, correlations between the specific dependent measure and depression classification (depressed vs. control), sociotropy, and autonomy were calculated. Second, in order to simultaneously examine the role of mood and personality and to understand the unique contribution of each of these variables to variance explained in the dependent measures, regression equations were calculated. Order of entry for the predictors was based on theoretical considerations with the most powerful potential predictor entered initially to control for its effect, followed by the personality variables of interest. Thus, in all equations, depression was entered first,
followed by sociotropy, autonomy, the interaction of sociotropy and depression, and the interaction of autonomy and depression.

Desire for Future Interactions.

The correlations between the rejection measure (DFI), and the independent variables are displayed in Table 4. There was a significant negative relationship between DFI and depression, as well as autonomy. Thus, both autonomy and depression were associated with rejection.

**Table 4. Correlations between desire for future interactions (DFI), sociotropy, autonomy, and depression.**

<table>
<thead>
<tr>
<th></th>
<th>Sociotropy</th>
<th>Autonomy</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFI</td>
<td>-.13</td>
<td>-.35</td>
<td>-.51</td>
</tr>
<tr>
<td>ns</td>
<td>p &lt; .01</td>
<td>p &lt; .001</td>
<td></td>
</tr>
</tbody>
</table>

The results of the regression analysis for the DFI are displayed in Table 5. Depression status significantly, and negatively (beta = -.51) predicted desire for future interactions in this analysis, accounting for 26% of the variance. Autonomy added significantly (beta = -.23) to the prediction of DFI, accounting for a further 4% of the variance. Finally the interaction of autonomy and depression significantly predicted a further 4% of the variance in DFI scores (beta = -.24).
Table 5. Hierarchical regression analyses predicting rejection from depression, sociotropy, autonomy, and interactions.

<table>
<thead>
<tr>
<th>Step, and Entered Variable</th>
<th>R²</th>
<th>beta</th>
<th>df</th>
<th>F_{change}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire for Future Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Depression</td>
<td>.26</td>
<td>-.51</td>
<td>(1, 80)</td>
<td>28.79, p &lt; .001</td>
</tr>
<tr>
<td>2. Sociotropy</td>
<td>.27</td>
<td>.03</td>
<td>(2, 79)</td>
<td>.07</td>
</tr>
<tr>
<td>3. Autonomy</td>
<td>.31</td>
<td>-.23</td>
<td>(3, 78)</td>
<td>4.47, p &lt; .05</td>
</tr>
<tr>
<td>4. Socio, by Depression</td>
<td>.31</td>
<td>-.02</td>
<td>(4, 77)</td>
<td>.05</td>
</tr>
<tr>
<td>5. Auto, by Depression</td>
<td>.35</td>
<td>-.24</td>
<td>(5, 76)</td>
<td>4.54, p &lt; .05</td>
</tr>
</tbody>
</table>

The predictive utility of the interaction between depression and autonomy suggested that autonomy had different consequences for desire for future interactions (DFI) depending on depression status. Thus, in order to clarify the nature of the interaction, correlations between the DFI and autonomy were calculated in each of the two groups (depressed and controls). There was a significant correlation between autonomy and desire for future interactions in the depressed group, but not in the control group (r = -.39, p < .05 and r = .13, ns, respectively). Thus autonomy was significantly associated with rejection, but this was true only in the depressed group.
Confederate Perceptions of Participant

Interpersonal Deference.

As described earlier, there was a positive association between gender and perceptions of interpersonal deference ($r = .55$, $p < .01$). Because of this, partial correlations between the independent and dependent variables were computed, controlling for the effect of gender (see Table 6). There was a positive association between sociotropy and perceived interpersonal deference in the task.

Table 6. Partial correlations between interpersonal deference, sociotropy, autonomy, and depression.

<table>
<thead>
<tr>
<th></th>
<th>Sociotropy</th>
<th>Autonomy</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Deference</td>
<td>.31</td>
<td>-.01</td>
<td>-.02</td>
</tr>
<tr>
<td></td>
<td>$p &lt; .01$</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

The results of the regression equation for interpersonal deference are displayed in Table 7. Only sociotropy significantly predicted interpersonal deference ($\beta = .35$). The addition of sociotropy to the equation resulted in a multiple R of .33, indicating that sociotropy accounted for 11% of the variance in interpersonal deference. The results of these analyses suggested that increased levels of sociotropy were associated with greater perceived interpersonal deference.
Table 7. Hierarchical regression analyses predicting interpersonal deference from depression, sociotropy, autonomy, and interactions.

<table>
<thead>
<tr>
<th>Step, and Entered Variable</th>
<th>R²</th>
<th>beta</th>
<th>df</th>
<th>F_chang</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Deference</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Depression</td>
<td>.00</td>
<td>-.02</td>
<td>(1, 80)</td>
<td>.05</td>
</tr>
<tr>
<td>2. Sociotropy</td>
<td>.11</td>
<td>.35</td>
<td>(2, 79)</td>
<td>9.78, p &lt; .001</td>
</tr>
<tr>
<td>3. Autonomy</td>
<td>.13</td>
<td>-.15</td>
<td>(3, 78)</td>
<td>1.51</td>
</tr>
<tr>
<td>4. Socio, by Depression</td>
<td>.13</td>
<td>.08</td>
<td>(4, 77)</td>
<td>.62</td>
</tr>
<tr>
<td>5. Auto, by Depression</td>
<td>.15</td>
<td>.13</td>
<td>(5, 76)</td>
<td>1.02</td>
</tr>
</tbody>
</table>

**Self-Orientation.**

The correlations between the independent variables and self-orientation are reported in Table 8. There was a positive, significant association between depression and self-orientation. No such relationship was found for autonomy or sociotropy.

Table 8. Correlations between self-orientation, sociotropy, autonomy, and depression.

<table>
<thead>
<tr>
<th></th>
<th>Sociotropy</th>
<th>Autonomy</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-orientation</td>
<td>-.06</td>
<td>.16</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>ns</td>
<td>ns</td>
<td>p &lt; .001</td>
</tr>
</tbody>
</table>

In the regression analysis, only depression predicted self-orientation (beta=.41), accounting for 17% of the variance (see Table 9). There was a trend for sociotropy to
predict self-orientation in a negative direction (beta=-.20, p < .07). Overall, the regression and correlational analysis suggested that depression was associated with a greater self-focus in the task.

Table 9. Hierarchical regression analyses predicting self-orientation from depression, sociotropy, autonomy, and interactions.

<table>
<thead>
<tr>
<th>Step, and Entered Variable</th>
<th>R²</th>
<th>beta</th>
<th>df</th>
<th>F_{ch}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Depression</td>
<td>.17</td>
<td>.41</td>
<td>(1, 80)</td>
<td>16.43, p &lt; .001</td>
</tr>
<tr>
<td>2. Sociotropy</td>
<td>.21</td>
<td>-.19</td>
<td>(2, 79)</td>
<td>3.59</td>
</tr>
<tr>
<td>3. Autonomy</td>
<td>.21</td>
<td>.09</td>
<td>(3, 78)</td>
<td>.70</td>
</tr>
<tr>
<td>4. Socio. by Depression</td>
<td>.23</td>
<td>-.12</td>
<td>(4, 77)</td>
<td>1.54</td>
</tr>
<tr>
<td>5. Auto. by Depression</td>
<td>.24</td>
<td>.15</td>
<td>(5, 76)</td>
<td>1.56</td>
</tr>
</tbody>
</table>

Participant Behaviours.

Correlations between the dependent measures (the nine coded behaviours, and the overall index of behaviours) and independent measures (sociotropy, autonomy, and depressive classification) are displayed in Table 10. Given the exploratory nature of the coding system, examination of the pattern of correlations across behaviours was of considerable interest. However because the number of correlations to be examined was large, only those significant at the .01 level or better are described here. Depression was correlated with being less attentive, less smiling, suggesting fewer
Table 10. Correlations between rated behaviours and sociotropy, autonomy, and depression.

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Sociotropy</th>
<th>Autonomy</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attentive</td>
<td>-.12</td>
<td>-.30**</td>
<td>-.34**</td>
</tr>
<tr>
<td>Difficult to schedule</td>
<td>-.09</td>
<td>-.01</td>
<td>.27</td>
</tr>
<tr>
<td>Smiling</td>
<td>-.07</td>
<td>-.30**</td>
<td>-.53***</td>
</tr>
<tr>
<td>Suggested schedule options</td>
<td>-.12</td>
<td>-.30**</td>
<td>-.30**</td>
</tr>
<tr>
<td>Inflected speech</td>
<td>-.09</td>
<td>-.21</td>
<td>-.46***</td>
</tr>
<tr>
<td>Resisted assistant's suggestions</td>
<td>-.04</td>
<td>.03</td>
<td>.02</td>
</tr>
<tr>
<td>Cheerful</td>
<td>-.10</td>
<td>-.33**</td>
<td>-.55***</td>
</tr>
<tr>
<td>Disengaged</td>
<td>-.00</td>
<td>.09</td>
<td>.27</td>
</tr>
<tr>
<td>Self-disclosive</td>
<td>.07</td>
<td>.11</td>
<td>.33**</td>
</tr>
<tr>
<td>Positive Behaviour Index</td>
<td>-.07</td>
<td>-.29**</td>
<td>-.50***</td>
</tr>
</tbody>
</table>

Note, **p < .01, ***p < .001
schedule options, less voice inflection, appearing less cheerful, and being more
disclosive. Autonomy was correlated with being less attentive, smiling less, suggesting
fewer schedule options, and appearing less cheerful. Sociotropy displayed no
significant correlations with any of the nine behaviours.

The regression analysis for behaviours was performed with the overall behaviour
index as the criterion. This was done for reasons of parsimony and to control for the
Type I error associated with separate regression for each of the nine behaviours. The
results of this analysis are displayed in Table 11. Depression significantly and
negatively predicted the behaviour index, with a beta weight of -.50, accounting for 34%
of the variance. The only other significant predictor was the interaction between
depression and autonomy, with a beta weight of -.28, which accounted for an additional
unique 5% of the variance in the positive behaviour index.

Table 11. Hierarchical regression analyses predicting positive behaviors from
depression, sociotropy, autonomy, and interactions.

<table>
<thead>
<tr>
<th>Step, and Entered Variable</th>
<th>$R^2$</th>
<th>$\beta$</th>
<th>df</th>
<th>$F_{\text{change}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Behavior Index</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Depression</td>
<td>.25</td>
<td>-.50</td>
<td>(1, 80)</td>
<td>26.82, $p &lt; .001$</td>
</tr>
<tr>
<td>2. Sociotropy</td>
<td>.26</td>
<td>.08</td>
<td>(2, 79)</td>
<td>.66</td>
</tr>
<tr>
<td>3. Autonomy</td>
<td>.28</td>
<td>-.18</td>
<td>(3, 78)</td>
<td>2.66</td>
</tr>
<tr>
<td>4. Socio. by Depression</td>
<td>.29</td>
<td>.06</td>
<td>(4, 77)</td>
<td>.47</td>
</tr>
<tr>
<td>5. Auto. by Depression</td>
<td>.34</td>
<td>-.28</td>
<td>(5, 76)</td>
<td>6.16, $p &lt; .05$</td>
</tr>
</tbody>
</table>
The significant interaction suggested that the effect of autonomy on the positive behaviour index varied depending on whether or not an individual was depressed. In order to clarify the nature of the interaction, correlations between the positive behaviour index and autonomy were calculated in each of the two groups (depressed and controls). There was a significant negative correlation between autonomy and the positive behavior index in the depressed group, but not in the control group ($r = -0.37, p < 0.05$ and $r = 0.16, \text{ns}$, respectively). Thus, autonomy was associated with fewer positive interactive behaviors, but this association was significant only in the depressed group.

Discussion

Overview

These findings indicate that both depression and personality impact on rejection and interpersonal behaviours in social interactions. Consistent with Coyne's interpersonal theory, depression was associated with rejection and fewer positive social behaviours. However, autonomy modified these effects, influencing both rejection and social behaviours in depressed individuals. Personality and mood also influenced how participants were perceived. Sociotropy was associated with higher levels of interpersonal deference, whereas depression was associated with higher levels of self-orientation. Overall, data from both subjective (rejection, perceptions) and objective (coded behaviours) sources suggested that an interplay of personality and mood are
relevant to the interpersonal model of depression. Each specific hypothesis will now be discussed in turn.

**Rejection, depression, and personality**

Both depression and autonomy had been predicted to be associated with rejection, and this proved to be true. The correlation and regression analyses indicated that depression was strongly associated with rejection. In addition, levels of autonomy were associated with increased rejection, particularly when individuals were also depressed. Thus, a combination of low mood and a high level of autonomy seem particularly likely to lead to this type of negative interpersonal outcome. This result parallels findings made previously in a student sample (Bieling & Alden, 1996), and suggests that the consequences of autonomy may partially depend on other factors in the individual.

The robust rejection effect for depressed individuals found in the present study is highly consistent with Coyne's (1976a) theoretical model. Even after a relatively brief interaction (mean of approximately 14.5 minutes) there was clear evidence of rejection of depressed individuals. These results confirm the notion that differences between depressed individuals and normal controls are detectable upon an initial meeting and that the rejection effect postulated by Coyne does not require longer or repeated interactions. However, this finding is in the minority compared with the body of empirical findings described earlier. This leads to the question of why a rejection effect was found here and not in other studies (see Marcus & Nardone, 1992, for a review).
Most likely, methodological factors, both in the task and participant selection, account for this difference. Compared to the standard "getting acquainted" conversation, the helping task used in the present study was perhaps more involving and personal. Participants were required to collaborate with another person in a dynamic fashion that required self-reflection, expression of one's wishes, and compromise. Moreover, unlike the "getting acquainted" situation it is unlikely that participants had a set "script" that they could follow (Marcus & Nardone, 1992). Another strength of this study was the use of a clinical sample. All depressed participants had a current diagnosis of major depression or dysthymia, supported by a sufficient level of depressive symptoms. A number of past studies have used individuals who did not meet diagnostic criteria for a mood disorder or undergraduate students with mild levels of dysphoria (e.g. Borden & Baum, 1987; McNiel et al., 1987; Paddock & Nowicki, 1986). Such potentially heterogeneous groups may have obscured the depression effect.

**Depression, Personality, and Others' Perceptions**

The two hypotheses regarding the perceptions of participants in the task were partially supported. As expected, sociotropy was associated with greater perceived interpersonal deference. Thus, sociotropy was associated with appearing to be concerned about getting along in the interaction, and accommodating to the other person's wishes. This finding is highly congruent with descriptions provided by Beck (1983) regarding sociotropic individuals in a therapy context. However, despite this higher level of perceived interpersonal deference, sociotropy did not impact level of
rejection or behaviours. This is particularly interesting in light of some theoretical
descriptions which suggest that sociotropy does, eventually, result in rejection (Blatt &
Zuroff, 1992). It may be that excessive deference and dependency cause resentment
which ultimately lead to social rejection. However, such a process may take a greater
length of time, or a greater level of intimacy to emerge. This may explain why no
relationship was found here between sociotropy and rejection, and offers an interesting
avenue for research in long term interactions.

Contrary to the second perception hypothesis, autonomy was not associated
with self-orientation. However, there was a robust association between depression and
self-orientation. Thus, depressed individuals were seen as being less sensitive to
others and more self-focused. It is unclear why autonomy was not correlated with self-
orientation. It is possible that autonomy is not associated with salient differences in
perceived behaviours and motivations. However, this conclusion is inconsistent with
both the rejection and behavioural findings involving autonomy. Thus, the lack of
findings regarding perceptions and autonomy are likely due to insensitivity in the
particular measure used for this study.

**Depression, Personality, and Behaviour**

The two hypotheses regarding behaviour in the interaction were supported.
Consistent with predictions, depression was associated with fewer positive
interpersonal behaviours. Correlational evidence suggested that depressive status
was associated with many of the coded behaviours including less attention to the task,
smiling less, suggesting fewer schedule options, having less inflected speech, appearing less cheerful, and engaging in self-disclosure. As predicted, autonomy was also associated with fewer positive behaviours including being less attentive, smiling less, suggesting fewer schedule options, and being less cheerful. When a single, composite index of behaviour was examined, autonomy was found to interact with depression, so that autonomy led to fewer positive behaviours in the depressed group, but not in the control group. Interestingly this interaction mirrors the findings on desire for future interactions in which autonomy was associated with rejection, but only in the depressed group. These behavioural associations may well explain why autonomy was associated with rejection in the depressed group. The interaction may also explain why rejection was not associated with autonomy in the control group; in non-depressed participants, autonomy had no behavioural consequences. Moreover, the behavioural correlates of autonomy may explain previous findings in which autonomous dysphorics, and self-critical students were rejected more than other groups (Bieling, & Alden, 1996; Zuroff et al, 1983).

It is notable that the behavioural ratings were made independent of the interaction task. The behavioural coding was carried out by two independent raters whereas the desire for future interactions measure was completed by the confederates. Moreover, the behaviour coding was done using video tape, whereas the rejection data was taken from the interaction. That these two types of measures, from two distinct modalities, should conform to the same pattern of results is suggestive of a reliable and robust effect.
The present findings linking fewer positive interpersonal behaviours to depression are also consistent with at least some past studies of the interpersonal model of depression (e.g. Gotlib & Robinson, 1982; Paddock & Nowicki, 1986). In those studies, depressed participants who engaged in brief interactions with others showed less direct support to others, less conversation maintenance, and engaged in more negative non-verbal behaviour and more negative paralinguistic behaviours. These behaviours appear to be similar to those coded in the present study, although they are somewhat less specific. It seems that depression is associated with a variety of negative interpersonal behaviours, and that these associations may be quite broad. One potentially interesting avenue for further exploration may be to examine which of these types of behaviours is most related to rejection.

Implications for the Interpersonal Model

These results have substantive implications for the interpersonal model of depression. First, the results from the rejection, perceptions, and behaviour variables offer good support for Coyne's (1976) interpersonal model. Consistent with predictions made by this model, depressed individuals were more likely to be rejected, were perceived to be acting in a self-centered manner, and engaged in fewer positive verbal and non-verbal behaviours than non-depressed individuals. Interestingly, this pattern of behaviour is highly consistent with more recent theoretical formulations which highlight deficiencies in responsiveness and politeness that may occur in depressed individuals (Segrin & Abramson, 1994).
The present findings for the rejection and behavioural variables offer some degree of support for the inclusion of personality factors in the interpersonal model of depression. Autonomy, in particular, is likely to be a valuable addition. To the extent that a depressed individual is autonomous, they will engage in fewer positive interpersonal behaviours and experience a greater level of rejection. This increased ability to predict rejection within depressed individuals represents a significant step toward greater specificity in the model. However, this new specificity can best be regarded as an addition to the model rather than a revision.

These results also highlight the dynamic, cyclical nature of interpersonal behaviour. Some writers have emphasized the role of early learning experiences and relationships with attachment figures as foundations for excessive interpersonal relatedness and self-definition (Blatt, 1974; Blatt & Zuroff, 1992). Thus, over the course of the individual's development, the impact of these personality styles on depression "may be partially attributable to the interpersonal environments they seek, establish, and maintain" (Blatt & Zuroff, 1992, p. 538). In other words, early learning and subsequent expression of these personality patterns can result in a developing, evolving interaction cycle in which the individual's fears and concerns are reinforced by their own behaviours and resulting negative experiences. The results for sociotropy, autonomy, and depression in this interpersonal situation support the notion that the individual plays a role in the ongoing formation of their social context. Autonomous and depressed individuals are likely to create social situations in which their behaviour leads to rejection, resulting in further social isolation and mistrust. Sociotropy, and the
interpersonal deference associated with it, may result in an individual not having their own needs met, or placing an excessive burden on others.

To illustrate the potential impact of these personality styles in ongoing social relationships, comments made to the experimenter during the clinical interview and debriefing may offer some degree of insight. The first set of remarks were made by a 54-year old woman with an autonomy score of 115 (depressed mean 94) and a BDI of 23. During the SCID she was asked a standard question which was intended to screen for Generalized Anxiety Disorder:

I: In the last six months, would you say you've been particularly nervous or anxious?

P: I'd say that I've been easily irritable, not so much anxious but...people don't understand me. I don't suffer fools, and its like if somebody asks me something I'm quite willing to do it. But they start sort of, you know, what to me is a bunch of nonsense, and I..lose my patience. This has been a retreat from people; there are only certain people I want to be around. My tolerance level is not very high. I'd just as soon be alone.... So it has had an impact on my friendships, and I guess that if people are comfortable enough to want to do stuff again, they can contact me. I mean I have called people...there's no response.

This person's responses indicate considerable conflicts about relationships and limited motivation to be with others. There are concerns that others may take advantage, and lack of tolerance for others "nonsense." As a result, there is a protective withdrawal
and lack of contact. Once the person feels more motivated to be social, there is a lack of response from others. This rejection makes it difficult for this woman to have positive social contacts, confirming the belief that people “don’t understand.” A second illustration is drawn from a de-briefing with a 43-year old woman who scored 99 on autonomy and had a BDI of 27. In the informal discussion following the de-briefing, the interviewer and participant are discussing the causes of depression:

I: So what do you think caused your depression.

P: Well, I know what the cause is. I feel like a failure because I’m not achieving things. I get into great despair over that. And I am angry and frustrated with society.

I: Would you say that you feel lonely?

P: Sometimes I feel lonely but a lot of the time I prefer to be by myself. I'm furiously... I mean I wont even let my father come and visit me, or wont let anybody stay with me because I'm afraid they will take advantage of me. I just can't cope with that basically...I've noticed considerably, especially in the last six, seven years, that I don't want to do anything for anybody. I feel very protective about my energy and my space. So I'd say that I'm probably into extreme protectionism. Which has its dire consequences...of loneliness and ...a more shut down life.

Again, there is strong evidence of negative feelings about relationships, and a desire to protect limited energy for the self. However, there appear to be feelings of loneliness,
as well. These excerpts are brief, and non-systematic; however they offer some degree of illustration of these processes and their impact on the person's experience.

**Caveats**

Although the present study represents an advance over previous research, there are several methodological issues that may limit the study's generalizability. The first concerns the measurement of sociotropy and autonomy. As described in the introduction, at least three other measure of these constructs exist (DEQ, SAS, and the DAS). Though the measure used in the present study is thought to be psychometrically superior to these other measures, the majority of research completed in this area to date has used the DEQ. Whether or not findings for sociotropy and autonomy would parallel findings for dependency and self-criticism remains an empirical question. Inclusion of the DEQ would have provided such an answer and thus increase the generalizability of these findings. A second concern for the present study is the measurement of perceptions and behaviours. Although these measures were empirically derived and piloted, other commonly used measures of interpersonal perception (e.g. the IMI) would have resulted in additional information and generalizability. The final issue concerns gender effects. Although generally no significant gender effects were found, there was one exception which was controlled for in the subsequent analyses. However, because of the small percentage of men in the study, any between-groups comparisons would have been difficult to make. Future studies may wish to examine equal numbers of men and women.
Future Directions

The present results suggest a number of future directions for researchers examining the interpersonal model of depression. First, the present results suggest that the type of interaction in which participants are engaged may strongly influence the strength of findings on behaviour and rejection. Determining which aspects of an interaction (e.g. collaboration, personalized content) are germane to the rejection phenomenon may tell us more about the various everyday social contexts in which this effect is likely to arise. Overall, the results of this study serve to encourage greater creativity in designing interpersonal situations for laboratory study.

Outside of the interpersonal model, these findings may be of interest to clinicians and researchers examining process and outcome in psychotherapy. Some research examining sociotropy and autonomy and outcome, has suggested that autonomy is associated with response to antidepressant medication (Peselow et al., 1992). Beck (1983) also suggested that different forms of intervention might be required in sociotropic and autonomous depressives, and that the therapist's stance should be varied to suit the individual's personality style. The present findings reinforce these suggestions. In the structured helping task used in this study, sociotropy was associated with a greater perceived interpersonal deference. This might increase the level of rapport or therapeutic alliance, and ultimately impact the outcome of psychotherapy. Similarly autonomy, especially when combined with depression, may be associated with less positive interpersonal behaviours,
undermining the formation of a strong therapeutic alliance, and perhaps lessening the positive impact of therapy. Ultimately, psychotherapy with autonomous depressives may need to take into account the interpersonal style of the patient, and its consequent impact on the therapist. Thus, examining these personality variables in the context of process or outcome studies is of considerable interest and importance.

**Overall Summary**

Taken together, the results from this study offer clear support for the interpersonal model of depression. However, this study also supports the inclusion of sociotropy and autonomy as a step toward building a more comprehensive explanatory model of interpersonal behaviour in depression. These personality factors are particularly attractive to clinicians and researchers alike because they go beyond symptomatology to focus on the motivational aspects of depressive interpersonal behaviour. The personality variable of sociotropy, an investment in interpersonal relationships, is detectable by others in a theoretically consistent manner. Autonomy, investment in self-striving and achievement, is not only detectable by others, but leads to rejection and fewer positive social behaviours. Ultimately, these findings enhance our understanding of these personality constructs and their consequences.
Footnotes

1 Because of the correlation between interpersonal deference and gender the regression analysis was repeated with participant's gender entered as the first predictor. All other predictor variables were entered in the same order as in the main analysis. For the regression involving sociotropy, gender was a predictor of interpersonal deference (beta = .51, F(1, 80) = 27.81, p < .001) and accounted for 26% of the variance. However sociotropy continued to predict interpersonal deference (beta = .30, F(1, 78) = 9.31, p < .01), and accounted for a further 8% of the variance. Thus, women were rated as higher in interpersonal deference, but this did not negate or modify the effects of sociotropy on this variable.
References


So the idea here is for us to try to come up with some pleasant things that you could add in to your daily or weekly routine. These fun activities should be things that you think you could fit in your schedule without increasing your stress level, and you shouldn't feel that these are things you have to do. You should do these things just for fun and enjoyment, OK?

Sometimes it's really hard for people to come up with new ideas for interesting kinds of activities that they could do. So, I have a list of pleasant activities that we can use to help us along. Any questions?

I think that the best way to approach this task is to do it in a couple of steps. I guess the first thing we need to know is how your daily schedule looks, and what kinds of things you are already doing, including things like work or school, or any other activities that take up time in your day. Once we see what's already there, we can try to add some things that you might like to do. Does that seem ok?

All right, I guess first of all I'll give you this schedule, the times are along here and the days along here. Maybe you can just take a minute or two to cross off those times when you're already busy throughout the week.
Ok. So that helps us to get a feel for what times you have available. Now, the next thing I'd like for us to do is to go over this list of activities. The list is made up of a whole bunch of things that some people find to be enjoyable activities or pastimes. Not all of the things on here will appeal to you, but there are probably some things which you might find pleasant or enjoyable. I'd like to go over the list, I'll just give you each item, and maybe you can tell me whether that's something you might like to do or not. Once we've gone over the list we'll try to fit those things into your schedule.

How about [first through last item]?

[Check off items which are agreed to.]

[If they say "yes" to ten items stop.]

[If they say "yes" to less than five items on first list, go to second list and continue until you get five.]

So let's start with [first item]. Do you think that's something you could do or are there things that might interfere with [item one]?

When do you think would be a good time to do that?

What about [second item]. Do you think there's anything that might interfere with that or keep you from doing [second item]?

Where might that one fit on the schedule?
[Continue cycle through to last item, each time asking "What about...what could interfere...and when?"]

Ok, so that's all the things you picked out. Do you think that this is a reasonable plan, or are there some activities that you might not like to do or others that you would like to add?

Ok, great. So, now that we're done with that I'll go and get [experimenter]. It was nice meeting you.
Appendix B

1. Going to a movie
2. Listening to music
3. Going to a bookstore
4. Sleeping late
5. Planning a trip
6. Buying something for myself
7. Being at the beach
8. Redecorating my living space
9. Doing art work
10. Going to a sports event
11. Reading a novel or story
12. Going to a bar
13. Boating
14. Camping
15. Playing cards
16. Doing puzzles, crosswords
17. Playing tennis
18. Woodworking or carpentry
19. Writing stories, poems
20. Hiking or exploring
21. Learning a foreign language
22. Playing a musical instrument
23. Skiing
24. Taking a bath
25. Playing billiards or pool
26. Playing chess or checkers
27. Bowling
28. Going to a park
29. Buying something for my family
30. Photography
31. Being in the mountains
32. Seeing beautiful scenery
33. Eating good meals
34. Going to a museum or exhibit
35. Having peace and quiet
36. Visiting friends
37. Meditating or doing yoga
38. Running, jogging, or aerobics
39. Having coffee or tea with friends
40. Doing volunteer work
On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the PAST WEEK, INCLUDING TODAY! Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

<table>
<thead>
<tr>
<th>Group</th>
<th>Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0 I do not feel sad. 1 I feel sad. 2 I feel sad all the time and I can't snap out of it. 3 I am so sad or unhappy that I can't stand it.</td>
</tr>
<tr>
<td>2.</td>
<td>0 I am not particularly discouraged about the future. 1 I feel discouraged about the future. 2 I feel I have nothing to look forward to. 3 I feel that the future is hopeless and that things cannot improve.</td>
</tr>
<tr>
<td>3.</td>
<td>0 I do not feel like a failure. 1 I feel I have failed more than the average person. 2 As I look back on my life, all I can see is a lot of failures. 3 I feel I am a complete failure as a person.</td>
</tr>
<tr>
<td>4.</td>
<td>0 I get as much satisfaction out of things as I used to. 1 I don't enjoy things the way I used to. 2 I don't get real satisfaction out of anything anymore. 3 I am dissatisfied or bored with everything.</td>
</tr>
<tr>
<td>5.</td>
<td>0 I don't feel particularly guilty. 1 I feel guilty a good part of the time. 2 I feel quite guilty most of the time. 3 I feel guilty all of the time.</td>
</tr>
<tr>
<td>6.</td>
<td>0 I don't feel I am being punished. 1 I feel I may be punished. 2 I expect to be punished. 3 I feel I am being punished.</td>
</tr>
<tr>
<td>7.</td>
<td>0 I don't feel disappointed in myself. 1 I am disappointed in myself. 2 I am disgusted with myself. 3 I hate myself.</td>
</tr>
<tr>
<td>8.</td>
<td>0 I don't feel I am any worse than anybody else. 1 I am critical of myself for my weaknesses or mistakes. 2 I blame myself all the time for my faults. 3 I blame myself for everything bad that happens.</td>
</tr>
<tr>
<td>9.</td>
<td>0 I don't have any thoughts of killing myself. 1 I have thoughts of killing myself, but I would not carry them out. 2 I would like to kill myself. 3 I would kill myself if I had the chance.</td>
</tr>
<tr>
<td>10.</td>
<td>0 I don't cry any more than usual. 1 I cry more now than I used to. 2 I cry all the time now. 3 I used to be able to cry, but now I can't cry even though I want to.</td>
</tr>
<tr>
<td>11.</td>
<td>0 I am no more irritated now than I ever was. 1 I get annoyed or irritated more easily than I used to. 2 I feel irritated all the time now. 3 I don't get irritated at all by the things that used to irritate me.</td>
</tr>
<tr>
<td>12.</td>
<td>0 I have not lost interest in other people. 1 I am less interested in other people than I used to be. 2 I have lost most of my interest in other people. 3 I have lost all of my interest in other people.</td>
</tr>
<tr>
<td>13.</td>
<td>0 I make decisions about as well as I ever could. 1 I put off making decisions more than I used to. 2 I have greater difficulty in making decisions than before. 3 I can't make decisions at all any more.</td>
</tr>
<tr>
<td>14.</td>
<td>0 I don't feel I look any worse than I used to. 1 I am worried that I am looking old or unattractive. 2 I feel that there are permanent changes in my appearance that make me look unattractive. 3 I believe that I look ugly.</td>
</tr>
<tr>
<td>15.</td>
<td>0 I can work about as well as before. 1 It takes an extra effort to get started at doing something. 2 I have to push myself very hard to do anything. 3 I can't do any work at all.</td>
</tr>
<tr>
<td>16.</td>
<td>0 I can sleep as well as usual. 1 I don't sleep as well as I used to. 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep. 3 I wake up several hours earlier than I used to and cannot get back to sleep.</td>
</tr>
<tr>
<td>17.</td>
<td>0 I don't get more tired than usual. 1 I get tired more easily than I used to. 2 I get tired from doing almost anything. 3 I am too tired to do anything.</td>
</tr>
<tr>
<td>18.</td>
<td>0 My appetite is no worse than usual. 1 My appetite is not as good as it used to be. 2 My appetite is much worse now. 3 I have no appetite at all any more.</td>
</tr>
<tr>
<td>19.</td>
<td>0 I haven't lost much weight, if any lately. 1 I have lost more than 5 pounds. 2 I have lost more than 10 pounds. 3 I have lost more than 15 pounds. I am purposely trying to lose weight by eating less. Yes ☐ No ☐</td>
</tr>
<tr>
<td>20.</td>
<td>0 I am no more worried about my health than usual. 1 I am worried about physical problems such as aches and pains, or upset stomach, or constipation. 2 I am very worried about physical problems and it's hard to think of much else. 3 I am so worried about my physical problems, that I cannot think about anything else.</td>
</tr>
<tr>
<td>21.</td>
<td>0 I have not noticed any recent change in my interest in sex. 1 I am less interested in sex than I used to be. 2 I am much less interested in sex now. 3 I have lost interest in sex completely.</td>
</tr>
</tbody>
</table>
Appendix D

Here are a number of statements about personal characteristics. Please read each one carefully, and indicate whether you agree or disagree, and to what extent, by circling a number.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I often put other people's needs before my own.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>2. I tend to keep other people at a distance.</td>
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<tr>
<td>3. I find it difficult to be separated from people I love.</td>
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<td>6</td>
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<tr>
<td>4. I am easily bothered by other people making demands of me.</td>
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<td>2</td>
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<td>5</td>
<td>6</td>
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<tr>
<td>5. I am very sensitive to the effects I have on the feelings of other people.</td>
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<td>2</td>
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<tr>
<td>6. I don't like relying on others for help.</td>
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<tr>
<td>7. I am very sensitive to criticism by others.</td>
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<tr>
<td>8. It bothers me when I feel that I am only average and ordinary.</td>
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<tr>
<td>9. I worry a lot about hurting or offending other people.</td>
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<tr>
<td>10. When I'm feeling blue, I don't like to be offered sympathy.</td>
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<tr>
<td>11. It is hard for me to break off a relationship even if it is making me unhappy.</td>
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<td>12. In relationships, people are often too demanding of one another.</td>
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<td>13. I am easily persuaded by others.</td>
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<td>14. I usually view my performance as either a complete success or a complete failure.</td>
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<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Slightly Disagree</td>
<td>Slightly Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
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<td>15. I try to please other people too much.</td>
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<td>2</td>
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<tr>
<td>16. I don't like people to invade my privacy.</td>
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<td>2</td>
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<tr>
<td>17. I find it difficult if I have to be alone all day.</td>
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<tr>
<td>18. It is hard for me to take instructions from people who have authority over me.</td>
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<td>2</td>
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<tr>
<td>19. I often feel responsible for solving other people's problems.</td>
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<td>2</td>
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<tr>
<td>20. I often handle big decisions without telling anyone else about them.</td>
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<tr>
<td>21. It is very hard for me to get over the feeling of loss when a relationship has ended.</td>
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<td>2</td>
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<tr>
<td>22. It is hard for me to have someone dependent on me.</td>
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<tr>
<td>23. It is very important to me to be liked or admired by others.</td>
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<td>2</td>
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<tr>
<td>24. I feel badly about myself when I am not actively accomplishing things.</td>
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<tr>
<td>25. I feel I have to be nice to other people.</td>
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<td>2</td>
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<td>6</td>
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<tr>
<td>26. It is hard for me to express admiration or affection.</td>
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<tr>
<td>27. I like to be certain that there is somebody close I can contact in case something unpleasant happens to me.</td>
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<td>2</td>
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<tr>
<td>28. It is difficult for me to make a long-term commitment to a relationship.</td>
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<tr>
<td></td>
<td>Strongly Disagree</td>
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<td>Slightly Agree</td>
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</tr>
<tr>
<td>29. I am too apologetic to other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>30. It is hard for me to open up and talk about my feelings and other personal things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>31. I am very concerned with how people react to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>32. I have a hard time forgiving myself when I feel I haven't worked up to my potential.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>33. I get very uncomfortable when I'm not sure whether or not someone likes me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>34. When making a big decision, I usually feel that advice from others is intrusive.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>35. It is hard for me to say &quot;no&quot; to other people's requests.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>36. I resent it when people try to direct my behavior or activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>37. I become upset when something happens to me and there's nobody around to talk to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>38. Personal questions from others usually feel like an invasion of my privacy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>39. I am most comfortable when I know my behavior is what others expect of me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>40. I am very upset when other people or circumstances interfere with my plans.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>41. I often let people take advantage of me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Slightly Disagree</td>
<td>Slightly Agree</td>
<td>Agree</td>
<td>Strong Agree</td>
</tr>
<tr>
<td>---</td>
<td>-------------------</td>
<td>----------</td>
<td>-------------------</td>
<td>----------------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>42.</td>
<td>I rarely trust the advice of others when making a big decision.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>43.</td>
<td>I become very upset when a friend breaks a date or forgets to call me as planned.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>44.</td>
<td>I become upset more than most people I know when limits are placed on my personal independence and freedom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>45.</td>
<td>I judge myself based on how I think others feel about me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>46.</td>
<td>I become upset when others try to influence my thinking on a problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>47.</td>
<td>It is hard for me to let people know when I am angry with them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.</td>
<td>I feel controlled when others have a say in my plans.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix E

Perceptions of Participants

Self-orientation items

(All items rated on 1 [not at all] - 7 [very much] Likert scale)

My partner seemed to have their own objectives in this task.
My partner was more concerned about their own goals rather than mine in this task.
My partner didn't seem to respond to my suggestions.
I felt that my partner didn't want to take any direction from me.
My partner wasn't very sensitive to my efforts.
I found my partner irritating and hard to get along with.
My partner wanted to get through this task quickly.
My partner seemed somewhat brusque or abrupt.
My partner negated my suggestions.
My partner wanted to make their own decisions.
Interpersonal deference descriptors

(All items rated on 1 [not at all] - 7 [very much] Likert scale)

My partner needed help and encouragement.
I felt that my partner was trying hard to get along with me.
My partner wanted reassurance from me.
My partner looked to me for acceptance of their suggestions.
My partner did not assert their preferences but deferred to mine.
My partner didn't seem to want to take the initiative.
My partner wanted me to like them.
My partner was concerned about how I would evaluate them.
My partner took pains to be agreeable.
My partner greeted my suggestions with pleasure and approval.
My partner really appreciated my help.
Appendix F

Descriptive Statistics of Dependent Variables

Means and Standard Deviations of Dependent Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Entire Sample (N=82)</th>
<th>Depressed (n=41)</th>
<th>Controls (n=41)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFI</td>
<td>3.58 (1.19)</td>
<td>2.97 (1.11)</td>
<td>4.19 (.94)</td>
</tr>
<tr>
<td>Interpersonal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deference</td>
<td>41.94 (9.60)</td>
<td>41.71 (11.00)</td>
<td>42.17 (8.11)</td>
</tr>
<tr>
<td>Self-Orientation</td>
<td>32.01 (9.19)</td>
<td>35.78 (9.12)</td>
<td>28.24 (7.65)</td>
</tr>
<tr>
<td>Positive Behaviour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Index</td>
<td>16.42 (5.08)</td>
<td>13.89 (3.98)</td>
<td>18.95 (4.83)</td>
</tr>
</tbody>
</table>

Note. DFI=Desire for future interactions. Means are followed by standard deviations in brackets.
# Intercorrelations of Dependent Measures

<table>
<thead>
<tr>
<th>Variables</th>
<th>DFI</th>
<th>Interpersonal Deference</th>
<th>Self-Orientation</th>
<th>Positive Behaviour-Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal</td>
<td>.08</td>
<td></td>
<td>-.39**</td>
<td></td>
</tr>
<tr>
<td>Deference</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Orientation</td>
<td>-.72**</td>
<td></td>
<td>-.39**</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td></td>
<td></td>
<td></td>
<td>-.63**</td>
</tr>
<tr>
<td>Behaviour-Index</td>
<td>.71**</td>
<td>.04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. ** p < .001. DFI=Desire for future interactions