

Expanding the Depressive Schema/Stressor Congruency  
Hypothesis: Coping as a Mediating Variable

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**EXPANDING THE DEPRESSIVE SCHEMA/STRESSOR CONGRUENCY**

**HYPOTHESIS: COPING AS A MEDIATING VARIABLE**

**BY**

**TERESA I. SZTABA**

**A Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of**

**DOCTOR OF PHILOSOPHY**

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## Abstract

Recent research has indicated that depressogenic personality schemata (i.e., "dependency" or "sociotropy" and "self-criticism" or "autonomy") may interact with schema-congruent negative life events to induce depressive symptoms. However, the mechanism underlying this diathesis-stress interaction on depression is not yet understood. Given that certain coping strategies have been related to depression, the present study examined the possibility that such coping responses are more likely to be utilized among individuals with depressogenic personality schemata, in response to schema-congruent stressors. To test this diathesis-stress model, the following measures were administered to 192 male and female university students: (a) the Beck Depression Inventory, (b) the Personal Style Inventory, (c) the Coping Responses Inventory, and (d) a short adult form of the Coopersmith Self-Esteem Inventory. Subjects were categorized into one of four groups: high autonomy, high sociotropy, high both, or low both (nonschematic). It was expected that avoidance coping would increase in response to schema-congruent stressors and would be positively correlated with depression and perceived severity of the stressor. It was also predicted that overall patterns of coping response would differ in response to different types of stressors. Multivariate analyses of variance did not reveal an interaction effect to support the association of coping with the congruency

hypothesis. However, the type of coping response utilized did vary with stressor type and with personality schema. Some evidence for the congruency hypothesis was found following hierarchical multiple regressions on relative avoidance coping: Avoidance coping was predicted for autonomous individuals faced with schema-congruent stressors. Finally, individuals responded differentially in their overall patterns of coping responses according to the type of stressor faced. The present findings generally demonstrate that coping is associated in meaningful ways with cognitive personality schemata and with the congruency hypothesis, although methodological and measurement difficulties of the study are discussed. The investigation of coping in connection with the further elaboration of diathesis-stress models of depression is a promising avenue of study.

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## Introduction

"Diathesis-stress" models of depression (e.g., Abramson, Seligman, & Teasdale, 1978; Beck., 1976; Hirschfeld et al., 1976) are based on the assumption that depression results from an interaction between psychosocial stressors and stable cognitive or other vulnerability factors. The nature of the diatheses, or predisposing individual differences in depression, have been variously conceptualized: Whereas Beck hypothesized it to be a dysfunctional self-schemata, Abramson et al. assumed the vulnerability to be a self-deprecating attributional style and Hirschfeld et al. described it as a dependent type of personality. However, these theories all have in the common the belief that there are "stable aspects of personal functioning that predispose individuals to become depressed under certain conditions" (Barnett & Gotlib, 1988a, p. 98).

Although evidence exists that both negative self-schemata and attributional styles are concomitants rather than antecedents of depressed mood states rather, and thus not stable vulnerabilities, the study of personality traits as possible diatheses has been more promising (see Barnett & Gotlib, 1988a, for a review of this literature). Individual differences in personality dimensions labelled as "self-critical" or "dependent" do seem to interact with life stress to predict levels of depression (e.g., Hammen, Marks, Mayol, & deMayo, 1985; Robins, 1990; Robins & Block, 1988; Zuroff &

Mongrain, 1987). Because the related research has been initiated relatively recently, however, the interaction of other psychosocial or cognitive variables (in particular appraisal and coping) with the group of variables personality, life stress, and depression has not yet been investigated. The question of what processes mediate the possibly predictive association between personality type and stressors in the occurrence of depressive symptoms remains largely unanswered.

The present study will investigate the interaction of type of life stress and personality types on the coping of a sample of university undergraduates. Background conceptual and empirical research in each of these areas is reviewed in the next section.

#### Stressful Life Events and Depression

Much of the research in the area of stress and depression has focused on the role of stressful life events as precipitators of depressive episodes. There is substantial evidence that stress is indeed associated with the onset of depression (e.g., Billings, Cronkite, & Moos, 1983; Brown & Harris, 1978; Lloyd, 1980; Paykel, 1979; Tennant, Bebbington, & Hurry, 1981; Thoits, 1983).

In their seminal study of stress and depression, Brown and Harris (1978) interviewed 458 randomly selected women and selected those who had been depressed during the year prior to the interview. Results of retrospective reports by these



women indicated that the onset of depression was usually preceded by the occurrence of either a severely threatening acute event or by a chronic major difficulty lasting more than two years. During an average period of 38 weeks before the interview, only 30% of the non-depressed group had experienced this form of stressor. However, 89% of the depressed cases had suffered a negative life event involving health, interpersonal relationships, or finances during the 38 weeks prior to the onset of depression.

Similarly, Billings, Cronkite, and Moos (1983), in comparing a large group of depressed inpatients with socio-demographically matched community controls, found that depressed persons experienced significantly more negative life events as well as more severe life strains and "loss and exit events." In that study, however, cumulative exposure to negative life events appeared to be as critical a factor in the onset of depression as was the type or time of occurrence of these events.

Reviews of the relationship between stress and depression support the generalization that negative life events are associated with depression. Generally, depressed persons experience more negative stressful life events preceding the onset of depression than do non-depressed normal or psychiatric controls (Lloyd, 1980; Paykel, 1979; Tennant, Bebbington, & Hurry, 1981; Thoits, 1983). In fact, results from one of the rare prospective studies of risk

factors for depression (Lewinsohn, Hoberman, & Rosenbaum, 1988) indicated that the best predictors of a future episode of depression, in addition to a history of depression, are current life stressors.

Although significant, the associations between stressors and depression, however, typically are small (Brown, Bifulco, & Harris, 1987; Dohrenwend & Dohrenwend, 1981). Many individuals who experience severe stressors do not become clinically depressed (e.g., Brown & Harris, 1978; Hammen, Mayol, deMayo, & Marks, 1986). In fact, the correlation between life stress and dysfunction is generally below .30 (Holahan & Moos, 1986) and the standard deviation in illness scores is frequently larger than the mean (Rabkin & Struening, 1976). Thus, the ability to predict an individual's level of depression on the basis of stressful life events is limited. Relatively recently, research on stress and depression has been integrated with cognitive concepts of dysfunctional information-processing.

#### Cognitions and Depression

Throughout the 1970s, considerable research attention was focused on two major theories of depression: Abramson, Seligman, and Teasdale's (1978) reformulated learned helplessness theory and Beck's (1976) cognitive theory. Both theories involve the assertion that depressed persons have characteristically negative ways of assessing themselves, their degree of personal control, and their life situation.

According to these models, depression is associated with a stable vulnerability in the thinking patterns of at-risk individuals.

The reformulated learned helplessness model (Abramson, Seligman, & Teasdale, 1978) is based on the concept that the cognitive, emotional, and motivational deficits of depressed persons are a result of their having learned that outcomes of events are uncontrollable (Coyne & Gotlib, 1983). This belief in one's helplessness results in causal attributions for that helplessness. The tendency to make internal, stable, and global attributions for negative outcomes is a characteristic of individuals who are vulnerable to depression. Further, such attributions are associated with poor self-esteem and expectations for failure that are stable over time, persist across situations, and, in turn, sometimes lead to depressive symptoms.

Beck's model (Beck, 1976) also emphasizes the role of negative cognitions in depression. Critical to his model is the construct of depressive schemata. According to Beck, relatively stable cognitive patterns based on experience direct the interpretation of a particular set of current experiences (Beck, Rush, Shaw, & Emery, 1979). These stable assumptions, or schemata, about the self and the world are activated when a person faces a particular circumstance, and they serve as a framework against which to perceive and appraise incoming information. The matrix of schemata of

depressed persons tend to be dominated by idiosyncratic negative ideas that lead to distortions of reality and persistent errors in information processing. Depressed individuals selectively attend to negative details taken out of context; personalize external events; overgeneralize on the basis of isolated negative incidents; categorize the world in absolute, dichotomous terms; and characterize themselves most negatively.

The nature and stability of schemata have been measured in various ways. Markus (1977) identified students who were characterized by the presence or absence of schemata on an independence-dependence dimension. Based on self-ratings on a group of trait adjectives, participants were classified as either independent, dependent, or nonschematic on this particular dimension. The students then completed a variety of cognitive tasks "designed to assess the influence of self-schemata about independence on the processing of information about the self" (p. 66). It was demonstrated that self-schemata facilitated the making of judgements and decisions about the self (with respect to response latency), served as a basis on which individuals predicted their behaviour in schema-related situations, and increased resistance to counter-schematic information.

In order to investigate the role of schemata in depression, Derry and Kuiper (1981) created a depth-of-processing incidental learning task. Participants were

categorized as being either clinically depressed patients, normal nondepressives, or nondepressed psychiatric patients. Subjects made various ratings on depressive and nondepressive personal adjectives. Following these ratings, participants were asked to recall as many of the adjectives as they could. Consistent with the self-schema model, recall was facilitated by processing information as similar to the self. Furthermore, recall was specific to the hypothesized content of the schemata: Depressed persons displayed enhanced recall only for self-referenced depressed-content adjectives. The results supported Beck's (1976) theory that depressed persons possess an efficient negative self-schema.

Although research of this nature has generally supported the association of dysfunctional schemata and depression, it does not relate to the manner in which these schemata are activated (Hammen, Marks, deMayo, & Mayol, 1985). Diathesis-stress models of depression have arisen in order to address this issue and to increase the ability to predict when and for whom depression will occur.

#### Diathesis-Stress Models of Depression

The main premise of diathesis-stress models is that some stable vulnerability, activated by a psychosocial stressor, results in depressive symptomatology. There is, however, disagreement about the nature of this vulnerability, or diathesis. The attributional model of depression (Abramson, Seligman, & Teasdale, 1978), for example, states that self-

deprecating attributions occur in response to certain types of situations associated with those attributions. Beck, Epstein, and Harrison (1982) have asserted that dysfunctional self-schemata are the vulnerabilities that predispose individuals to becoming depressed when they encounter certain types of events. In particular, negative stressful events activate dysfunctional schemata.

If cognitive vulnerabilities are indeed the critical diathesis factors in the model, it must be assumed that these vulnerabilities will be present in some latent form, and measurable both before and following an episode of depression. Yet, a review of more recent research (Barnett & Gotlib, 1988a) indicated that self-deprecating attributional styles or dysfunctional negative cognitions are not characteristic of either premorbid or remitted depressives. Rather, self-defeating cognitive styles appear to be mood state dependent; when depression remits, they return to "normal" levels. Moreover, as discussed by Hammen et al. (1985), current cognitive approaches have not been applied to the pursuit of a link between vulnerability and stressors.

Although the theory that dysfunctional cognitions and attributions act as stable vulnerabilities has been generally unsupported, attention has been focussed on the possibility that certain personality traits may be stable aspects of personal functioning that act as diatheses in certain situations (Barnett & Gotlib, 1988a). One of the most

promising lines of inquiry has involved the dependent cognitive-personality schema.

### Interpersonal Dependency

#### Theoretical Considerations

For more than 60 years, the role of interpersonal dependency in depression has been emphasized in the theory and practice of psychoanalysis (Hirschfeld, Klerman, Chodoff, Korchin, & Barrett, 1976). According to the psychoanalytic theory of object relations, interaction with social "objects," such as the mother, leads to the attainment of instinctual goals (Freud, 1938). Freud believed that predisposition to depression results from the loss of a loved object; depressed persons actually identify with and "orally" incorporate this lost object into their own egos. Extreme dependency as well as obsessive behaviour have been associated with this orally fixated type of personality (Chodoff, 1972; Fenichel, 1945).

Similarly, dependency has been associated with attachment bonding between individuals, specifically between infants and their parents (Bowlby, 1969). Psychoanalytic theory (Fenichel, 1945) holds that infants develop mental representations of themselves and loved ones that are internalizations of attachment bonds. Although interpersonal dependency is considered to be a basic characteristic of humans, extreme levels of dependency may result from the

disruption of attachment bonds and the early frustration of dependency needs.

Interpersonal dependency is comprised of beliefs, feelings, and behaviours (Hirschfeld et al. 1976). According to psychoanalytic models, a dependent individual believes that the love, approval, and attention of others is necessary to maintain a sense of self-worth. Consequently, the goal of dependent behaviour is the maintenance of closeness and support, frequently sought by making demands on others or by attempting to be "perfect" (Barnett & Gotlib, 1988a). Although dependency may be associated with positive feelings of love, closeness, and warmth, the frustration of behaviour aimed at meeting dependent needs may lead to loss of self-esteem and subsequent depression.

Recently, psychologists have begun to integrate well-established psychoanalytic theories of dependency into empirical studies of depression. Barnett and Gotlib (1988a), in their review, note that most related research has been based on the premise that dependency and perfectionism both result from excessive dependency needs. Blatt (1974) referred to these traits as dependency and self-criticism. Dependency was characterized by feelings of helplessness, wishes to be loved and nurtured, and fears of being abandoned; self-criticism involved feelings of guilt, worthlessness, and failure. The frustration of dependency needs was hypothesized to result in an "anaclitic



depression"; an "introjective depression" was seen to result from excess self-criticism.

Beck (1983) has incorporated the traits of dependency and self-criticism into his theory of depression. According to him, these traits are dimensions of relatively stable cognitive-personality characteristics that (a) can dominate psychological functioning along a continuum of sociality and individuality, and (b) are associated with "distinguishable clinical presentations of depressed patients" (Segal, Shaw, & Vella, 1989). Dependency is described as a component of sociality, in which the individual believes that the help of others is required for most basic functions, the relief of pain or discomfort, and the achievement of goals. Individuality, or autonomy, refers to an individual's exclusive dependence or investment in him- or herself.

Beck (1983) hypothesized that sociotropy and autonomy are related to specific types of clinical presentations of depression. According to this point of view, as Robins and Luten (1991) explained,

...when a highly sociotropic person becomes depressed, he or she feels primarily deprived and exhibits clinical features...such as thoughts of loss, feeling lonely and unlikable, and crying; with attempt to gain social gratification and seek help; and with greater reactivity to the social environment such as more labile mood, response to reassurance,

optimism regarding treatment, and relief about being hospitalized. In contrast...when a highly autonomous person becomes depressed, he or she tends to feel primarily defeated and exhibits clinical features that...may protect him or her by withdrawal from the environment, such as not seeking help, pessimism regarding treatment, feeling like a failure, self blame, profound loss of interest or pleasure, avoidance of people,...a nonreactive, unremitting depressed mood...not crying, irritability, concern about one's inability to function, and agitation about being hospitalized (p. 3).

Beck further hypothesized that persons are particularly susceptible to becoming depressed when they encounter stressors that thwart the goals characteristic of their personality style or schema.

#### Measurement of Personality Schema

Two scales have been widely used in the study of these constructs of personality style: (a) The Sociotropy-Autonomy Scale (SAS; Beck, Epstein, Harrison, & Emery, 1983) which measures sociality and individuality, and (b) The Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) which measures dependency, self-criticism, and efficacy, and has been shown to be relatively stable across time (Zuroff, Moskowitz, Wielgus, Powers, & Franko, 1983). Another measure that has been used less frequently (e.g.,

Segal, Shaw & Vella, 1989) is comprised of two scales derived both logically and by a factor analysis (Cane, Olinger, Gotlib, & Kuiper, 1986) of the Dysfunctional Attitude Scale (DAS; Weissman & Beck, 1978). Both means of excerpting items resulted in two scales associated with generalized performance anxiety and need for approval by others.

Use of a fourth measure, the Interpersonal Dependency Inventory (IDI; Hirschfeld et al., 1977) has demonstrated that dependency (as well as low self-confidence) is positively correlated with severity of depression and is higher among remitted depressives (Barnett & Gotlib, 1988a), a group at increased statistical risk for recurrence of depressive symptoms (Beck, Rush, Shaw, & Emery, 1979). The IDI also has an autonomy subscale, but is based on the theory that dependency may be manifested in a denial of the need for others that is not a true autonomy, but rather a schizoid-like style (Nietzel & Harris, 1990). This pseudo-autonomy subscale does not appear to be correlated with measures of depression, and lack of face validity makes this negative result difficult to interpret.

Difficulties in measurement. Given that much of the research involving depression and dependency/self-criticism has utilized either the SAS or the DEQ, it should be expected that these two measures would be at least roughly comparable. However, comparisons between the two scales indicate that they may in fact measure different constructs (Barnett &

Gotlib, 1988a). For example, sociotropy (as measured by the SAS) is not only strongly related to dependency (as measured by the DEQ) but is also moderately related to self-criticism (as measured by the DEQ). However, according to Robins and Jacobson (1987), only two of the subfactors of Autonomy-- Freedom from Control and Preference for Solitude--are positively related to Self-Criticism. A third factor, Achievement, is negatively related to both Self-Criticism and Dependency and positively related, in fact, to Efficacy, a factor that is negatively correlated with depression.

Barnett & Gotlib (1988) also reported that the Self-Criticism factor of the DEQ has a stronger association with depression than does the Dependency factor. Furthermore, DEQ scores appear to fluctuate with depressive symptoms; both dependency and self-criticism scores decline with remittance (Klein, Harding, Taylor, & Dickstein, 1988). In contrast, the review by Barnett & Gotlib indicates that the Sociotropy, rather than the Autonomy, factor of the SAS has been consistently related to depression. Furthermore, sociotropy, but not autonomy, has been associated with its hypothesized clinical presentation of depressive symptoms (Robins, Block, & Peselow, 1989).

Others have raised similar concerns about correlations among subscales of the DEQ, SAS, and DAS (Blaney & Kutcher, 1991; Nietzel & Harris, 1990; Rude and Burnham, 1993). Overall, there seem to be small to moderate correlations

between different subscales within each measure. Correlations among the DEQ dependent, SAS sociotropic, and DAS anaclitic or need for approval by others scales are satisfactory, as should be expected if they indeed measure similar constructs. However, Blaney and Kutcher found the DEQ self-critical and DAS introjective scales to be moderately correlated with each other but not with the SAS autonomy scale; Rude and Burnham demonstrated very low intercorrelations between DEQ Self-criticism, SAS Autonomy, and DAS Performance Evaluation.

Given the disappointing performance of measures of self-criticism in predicting depression, the low correlations between various measures, and the apparent inclusion of interpersonal items into achievement scales, Rude and Burnham (1993) infer that achievement vulnerability is a less coherent construct than is dependency. Specifically, the SAS autonomy scale appears to be "a better inverse measure of dependent/anaclitic tendencies than it is a direct measure of self-critical/introjective tendencies" (Blaney & Kutcher, 1991, p. 509). The DEQ self-critical scale, which contains many items that measure manifest distress, may be less a measure of personality vulnerability to depression and more a measure of severity of depression or of different presentations of depression. Blaney and Kutcher suggest that "one might be wise to look elsewhere...for the measure both of dependency-related distress and of failure-related

vulnerability" (p. 510); Rude and Burnham also suggest that an appropriate and reliable measure to capture these constructs may not yet have been developed.

Robins and Jacobson (1987) raised a number of other concerns about the reliability and validity of both the DEQ and the SAS. They suggested that the items of the SAS may pull strongly for socially desirable responses: Sociotropy has been negatively related to Impression Management and Self-Deception scores on the Marlowe Crowne Social Desirability Scale (Crowne & Marlowe, 1964); the Achievement factor of the SAS has been positively related to both (Robins & Murrell, 1987). The Achievement factor also seems to be associated with a healthy, rather than dysfunctional, attitude. Further, the authors noted that the three factors comprising the Autonomy scale correlated only modestly with the total score and with each other.

With respect to the DEQ, Robins and Jacobson (1987) also believe that the Dependency and Self-Criticism scales are comprised of items that are strongly state-dependent. As well, they note that certain items of the DEQ appear to measure relatively stable traits whereas others seem to tap more transient states. Some of the items on the DEQ, based on psychodynamic theories, seem to lack face validity (e.g., "I grew up in an extremely close family") and may not assess the heart of the constructs of dependency and self-criticism. Lastly, Robins and Jacobson indicate that the DEQ does not

appear to assess either a need for freedom from control or a defensive separation, both of which have been associated with introjective depression.

To investigate the magnitude of the relationships between dependency and autonomy, as measured by the DEQ, IDI, and SAS, Nietzel & Harris (1990) conducted a meta-analysis of related literature published between 1976 and 1989. The effect size for the relationship between dependency and depression was  $r = .28$ ; for autonomy and depression, the  $r$  was  $.31$ . Effects were similar for males and females. As well, mean correlations were computed separately for the various subscales of these measures. Among the dependency measures, effect sizes were relatively similar, although somewhat lower for the SAS Sociotropy scale than for the others. For the autonomy scales, however, the effect size for DEQ Self-Criticism scale ( $r = .49$ ) was markedly greater than that for the IDI Autonomy scale ( $r = .06$ ) and the SAS Autonomy scale ( $r = .03$ ).

Robins and Luten (1991) have developed the Personal Style Inventory (PSI) in an attempt to create a more satisfactory measure of sociotropy and autonomy. In the PSI, the Sociotropy factor is comprised of three theoretically and empirically derived subfactors: (a) Concern About What Others Think, (b) Dependency, and (c) Pleasing Others. Similarly, the Autonomy factor includes three subfactors: (a) Perfectionism/ Self-Criticism, (b) Need for

Control/Freedom from Outside Control, and (c) Defensive Separation. The PSI will be utilized in the present study and will be described in detail later in this paper.

#### Summary

It is not surprising that the results of research utilizing current measures of dependency/self-criticism, as well as the conclusions that have been drawn from these results, have been inconsistent. Nonetheless, moderate support for the association between dependency, self-criticism, and depression has been found. Barnett & Gotlib (1988) concluded their review of this association by stating:

To summarize, theoretical formulations based primarily on clinical observations identify two personality styles that may predispose to depression: excessive dependency and autonomy. Cross-sectional research has generally supported the relationship of dependency, but not autonomy, with depression. Research with remitted depressives has shown that formerly depressed people report higher-than-normal levels of interpersonal dependency, a finding that suggests remitted patients may be unusually dependent on the positive emotional support of others for the maintenance of their self-esteem (p. 110).

These results suggest that interpersonal dependency is a stable, enduring predisposition to depression. However, only recently has prospective research been conducted to determine



if dependency (or self-criticism) is an antecedent of depression. This area of research has focused on the interaction of dependency, negative stressors, and the occurrence of depressive symptoms.

### Personality, Life Events, and Depression

#### Theoretical Background

Oatley & Bolton (1985) have suggested that "depression occurs with events that disrupt roles by which people define their worth, if these people lack alternative sources of self-definition." Therefore, cognitive-personality styles, which involve, to a great extent, an individual's definition of self-worth, may interact with disruptive events to play a major role in the onset of depression.

A number of researchers have hypothesized an association between dependent and self-critical personality styles and certain types of stressful life events (Arieti & Bemporad, 1980; Beck, 1982; Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982; Segal, Shaw, & Vella, 1989). These researchers have suggested that "depression is most likely to result from the experience of stressful life events that are congruent with the individual's depressive personality subtype" (Segal, Shaw, & Vella, 1989, p. 390). Thus, a dependent type of individual, for whom self-worth is derived from intimate relationships and the support and understanding of others, is more sensitive to negative interpersonal stressors such as perceived loss or rejection. For the self-critical

individual, whose sense of self-esteem is nourished by the attainment of achievement-related goals, perceived failure or frustration in the achievement domain may be most critical to the onset of depression (Hammen, Marks, Mayol, & deMayo, 1985).

Interest in the interaction of personality schemata and specific types of stressful life events is relatively new, and thus research is scarce. Nonetheless, several recently published studies have begun to open the door to understanding the nature of this interaction.

#### Major Empirical Studies

In one of the first studies integrating life-stress and cognitive approaches to depression, Hammen, Marks, Mayol, and deMayo (1985) followed 94 undergraduate psychology students for a four-month period. Participants were assessed for initial levels of depression with the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Two to three weeks after the initial screening, subjects were interviewed using the Schedule for Affective Disorders and Schizophrenia-Lifetime version (SADS-L; Endicott & Spitzer, 1978), in order to determine current diagnosis status. Subjects were assessed for depressive schema-type (either dependent or self-critical) at the beginning of the study and after two months, using a task designed to measure recall of schema-consistent information. Depression and stressful life events were assessed at one-

month intervals by the completion of a questionnaire, which included the BDI and a Life Events Survey developed for the study. Telephone interviews at one-month intervals were also conducted. These interviews included a diagnostic evaluation of depressive episodes occurring in the past month, using the Research Diagnostic Criteria (RDC; Spitzer & Endicott, 1975), and an assessment of the occurrence of life events and participants' subjective ratings of these threats.

Depression status was determined by three measures: (a) mean BDI scores, (b) number of interviews during which the BDI score was greater than 14, and (c) number of times that the participant met the RDC for major or minor depression. Life-events scores, assessed separately for interview and questionnaire data, were computed by totaling all events rated negatively by subjects. Events were classified a priori as either interpersonal or achievement-related.

Results indicated that the association between depression and congruent interpersonal events was greater for dependent types as compared to self-critical types. Dependent schematics were also less responsive to achievement events. However, the expected opposite pattern for self-critical types only occurred with the use of the interview data and on the measure of number of BDI elevations.

A second study tested the hypothesized match between dependent and self-critical personality types and congruent types of depression and stressors (Zuroff & Mongrain, 1987).

University students were classified as either self-critical or dependent, based on their scores on the DEQ. Several weeks after completing the DEQ, subjects listened to audiotapes and were asked to imagine that the speaker on the tape was addressing them and that they were in the situation described on the tape. The tapes either described a situation of personal rejection or of failure. Participants were then asked to choose from a pool of adjectives in order to describe what their feelings would be if the situation had happened in real life. These adjectives were classified as being characteristic of either anaclitic or introjective depression. As expected, dependent subjects chose anaclitic descriptors in response to the interpersonal rejection scenario. However, self-critical subjects' introjective depression was not specific to either failure and rejection.

In a cross-sectional study, Robins and Block (1988) tested Beck's hypothesized match between cognitive-personality types and congruent types of negative life events. Ninety-eight undergraduate students completed a battery of measures, including the SAS, the BDI, and the Life Events Inventory (LEI; Cochrane & Robertson, 1973). The LEI asks respondents to identify which of 55 events, both positive and negative, they experienced during a preceding period (three months in this case). Participants who experienced higher numbers of recent negative events, either social or achievement-related, were more likely to have

depressive symptoms if they were also high in sociotropy. Thus, sociotropy appeared to be a vulnerability factor associated with depression for any type of negative life event. Autonomy, however, was not significantly related either to level of depression or to achievement events. The authors hypothesized that "the lack of support for autonomy as a vulnerability factor may reflect a measurement problem" (p.851), because the Autonomy scale appeared to assess the two distinct constructs of need for achievement and need for control. Furthermore, they indicated that individual differences in perceptions of stressful events should be considered. In studies of this nature, an event judged to be achievement-related, "such as unemployment or dropping out of school, may be perceived by highly sociotropic individuals as having a greater impact on their social relationships (e.g., because of social censure)" (p. 850). Robins and Block recommended that subjects' perceptions of the impact of events on their lives should be incorporated into further studies in order to facilitate more direct matching between personality schema and life event type.

Robins (1990), tested the congruency hypothesis in two further studies. In the first, 78 clinically depressed individuals completed the SAS and an inventory of life events. Highly sociotropic participants reported more recent negative interpersonal events than negative achievement-related events. No similar congruence was demonstrated among

autonomous depressed patients. Results in the second of Robins' studies, using an undergraduate sample, were nonsignificant, but showed a trend toward support for the congruency hypothesis. This study was notable, however, in that subjects themselves, rather than independent raters, were asked to classify the events that they had experienced during the six months prior to the study as "either in the interpersonal or the achievement-autonomy domain" (p. 395).

Another study, conducted by Hammen, Ellicott, and Gitlin (1989), also tested the congruency hypothesis by following 27 unipolar depressed outpatients for periods of up to two years. Symptom status was assessed at regular intervals of 2 to 4 weeks by patients' psychiatrists and was plotted by dates of occurrence on a continuous time line. Interviews were conducted at 3-month intervals, and subjects were asked to report and describe the events that had occurred in the preceding three months, using an events list developed by Paykel and Mangen (1980). Events were classified according to whether they were either interpersonal or achievement-related and were also rated as to their "objective threat." Dependency and autonomy levels were determined by patients' completion of the SAS. In support of the congruency hypothesis, there was a positive correlation between the number of personality-congruent stressors (as compared to non-congruent stressors) experienced by patients and severity of depressive symptoms. In contrast to the results of Robins

and Block (1988), however, the severity of symptoms during a relapse was predicted by the interaction of achievement events and autonomy scores. Hammen et al. (1989) postulated that differences between the clinical population utilized in their study and the college student sample of the Robins and Block study may have partially accounted for these different outcomes.

Segal, Shaw, and Vella (1989) similarly tested the hypothesis that the interaction of negative life events with congruent personality vulnerabilities is associated with depression. Their sample was composed of 26 remitted depressives, whose last episode of Unipolar Major Depression had occurred within three months preceding the beginning of the study. Following administration of the Dysfunctional Attitude Scale, Form A (Weissman & Beck, 1978), subjects' scores on two factors, "need for approval" and "performance evaluation," were calculated. Using a median-split procedure, subjects who scored above the median on need for approval and below the median on performance evaluation were classified as "dependent." Those who scored above the median on performance evaluation and below the median on need for approval were labelled "self-critical." Participants were followed longitudinally for a 6-month period. At 2-month intervals, they completed three questionnaire packages, including the Psychiatric Epidemiology Research Inventory (PERI; Dohrenwend, Kransoff, Askenasy, & Dohrenwend, 1978)

and the BDI. The occurrences of 102 life events were assessed by the PERI and subjects were also asked to rate, on a Likert scale, the level of stress associated with each event that had occurred. Life events were classified into achievement or interpersonal concerns. The BDI was utilized to determine mean level of depression as well as level of relapse (indicated by a reported score of 16 or greater).

Although total number of life events experienced was not directly related to depression level, there was a significant association among dependency, number of interpersonal events, and depression. However, the expected correlation between self-criticism and achievement events was not found. Relapse was only marginally associated with number of congruent life events and then only for the dependent group.

In a similar study with a larger sample, remitted depressed individuals were followed longitudinally (Segal, Shaw, Vella, & Katz, 1992) to determine if the experience of schema-congruent life stressors was associated with relapse. In this study, 45 participants who had recently (within 3 months) recovered from a major depression were initially classified as dependent or self-critical based on factor scales of the DAS. They were followed for one year, during which time they completed six questionnaire packages containing the DAS, BDI, and the PERI. Prediction of relapse among the 30 subjects who did experience relapse was investigated by the use of hierarchical multiple regressions,



with number of reported previous depressive episodes entered first in order to control for this major factor on relapse prediction. Even with previous episodes accounting for considerable variance, congruency effects were found among self-critical individuals who were exposed to achievement-related stressors. Over the 12-month period, no similar effects were found for dependent subjects; these congruency effects were demonstrated, however, when data from only a two-month period prior to relapse was entered into the regressions. Although the authors describe a number of limitations of their study, it nonetheless demonstrates the complex nature of the relationships between personality variables, life events, and depression as well as the importance of longitudinal, multi-factorial research in this area.

Finally, 358 undergraduate students completed the DEQ, SAS, and the DAS (Rude and Burnham, 1993). Five to six weeks after administration of these measures, the students completed the Life Events Survey (Hammen, Marks, Mayol, & deMayo, 1985), and the BDI. Hierarchical regression analyses were conducted to determine whether the frequency of schema-congruent life events was associated with depressive symptoms. Separate analyses were performed for the DEQ, SAS, and DAS as well as a composite measure derived from a factor analysis of the items on all three scales combined. Congruency effects were demonstrated for the interpersonal

scales of the DEQ, SAS, and composite scale, but not the DAS Approval by Others scale. The prediction that self-criticism or achievement orientation would interact with congruent negative events was not supported with any of the achievement orientation scales.

Perfectionism, stressors, and depression. Hewitt and Flett (1991a, 1991b, 1993) have been similarly interested in the relationships among depression, stress, and certain personality variables. However, their research has focused on perfectionism, a characteristic that may be related to self-criticism and dependency. Hewitt and Flett presented some support for the notion that perfectionism is comprised of three components: self-oriented, other-oriented, and socially prescribed perfectionism. It is in these individual dimensions that similarities to self-criticism and dependency can be found.

According to Hewitt and Flett (1991a), self-oriented perfectionism involves setting unrealistic standards for one's performance, a significant discrepancy between the self and the ideal self, and self-critical reactions and selective attention to perceived failures. Self-oriented perfectionism, with its strong similarity to self-criticism, has been related to the presence of depression (Hewitt & Dyck, 1986; Hewitt, Mittelstaedt, & Flett, 1990; Hewitt & Flett, 1991b) and anxiety (Flett, Hewitt, & Dyck, 1989) in individuals.

Other-oriented perfectionism, which involves setting unrealistic standards for others, does not appear to be theoretically related to either dependency or self-criticism. However, socially prescribed perfectionism, as construed by Hewitt and Flett (1991a), may be somewhat related to the dependent self-schema, in which the approval of others is critical. Socially prescribed perfectionism involves both the perception that others have high standards and expectations for oneself and the belief that it is important to attain these standards. This component of perfectionism has been related to decreased levels of intrinsic motivation (Flett, Hewitt, & McGregor-Temple, 1990) which, Hewitt and Flett posit, may result from an excessive desire to please others and to avoid punishment. Further, socially prescribed perfectionism has been associated with both subclinical and clinical depression (Hewitt and Flett, 1991b) and with increased suicide potential (Hewitt & Flett, 1992).

A recent study (Hewitt & Flett, 1993) lent empirical support for these theoretical links among various personality variables. In order to investigate the associations among personality variables, depression, and daily life stressors, Hewitt and Flett administered a number of measures to 94 psychiatric inpatients. These measures included (a) the Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991a; Hewitt, Flett, Turnbull-Donovan, & Mikhail, 1991), designed to measure self-oriented, other-oriented, and

socially prescribed perfectionism; (b) the Beck Depression Inventory (Beck et al., 1961); (c) the Sociotropy-Autonomy Scale (Beck, Epstein, Harrison, & Emery, 1983); (d) the Self-Criticism/Dependency Scale, a new scale developed by Barnett and Gotlib (1988b); and (e) the Hassles Scale (DeLongis, Folkman, & Lazarus, 1988), a measure of daily stressors or "hassles."

Among psychiatric patients, self-oriented perfectionism was associated highly with self-criticism. Interestingly, socially prescribed perfectionism also correlated most highly with self-criticism, but was associated significantly with dependency and with Beck's concept of sociotropy (Beck, Epstein, Harrison, & Emery, 1983) as well. Patients' levels of autonomy were not significantly correlated with any of the personality variables measured. Female patients were higher in self-oriented and socially prescribed perfectionism, depression, self-criticism, and dependency than were males.

With respect to predicting increases in depression, achievement-related hassles interacted significantly with self-oriented perfectionism, autonomy, and socially prescribed perfectionism, and socially prescribed perfectionism also interacted with sociotropy. Finally, the results indicated that depression was associated with both sociotropy and autonomy, although the former association was considerably stronger than the latter.

Similar correlations between self- and socially oriented perfectionism, and the self-criticism scale of the DEQ were also found among university students (Hewitt & Flett, 1990); as were associations between socially prescribed perfectionism and dependency (Flett, Hewitt, Blankstein, & Koledin, 1991).

The relationship between perfectionism and perceived control and their interactive effect on levels of depression has also been investigated (Flett, Hewitt, Blankstein, & O'Brien, 1991). A sample of 103 undergraduate students completed the MPS, the Self-Control Schedule (SCS; Rosenbaum, 1980), the BDI, and the Rosenberg Self-Esteem Scale (Rosenberg, 1965). Regression analyses revealed that the interaction of lower perceived self-control and higher socially prescribed perfectionism contributed significantly to the prediction of depression. Self-oriented perfectionism was positively associated with perceived self-control, but not with depression or with self-esteem. The authors emphasized the need for investigation of the link between perfectionism and coping as a mediator in the development of depression.

#### Summary

In summary, there is relatively consistent support for the hypothesis that dependent personality styles interact in some uniquely pernicious way with stressful interpersonal life events to result in depression. However, the self-

critical or autonomy personality factor interaction with achievement-related stressors has only been reported in three studies (Hammen, Ellicott, & Gitlin, 1989; Segal, Shaw, Vella, & Katz, 1992; Hewitt & Flett, 1990). The nature of these interactions is still unclear, as results have varied considerably. Differences in methodology and measurement among the above studies make comparisons between them difficult. It can be tentatively stated, however, that Beck's hypothesis that cognitive-personality type influences an individual's responsiveness to personality-congruent stressors has modest empirical support. However, research that has utilized the SAS has more clearly demonstrated this relationship in the case of sociotropic, as compared to autonomous, individuals.

It has been noted that studies testing the interaction of depression with personality type and life events have not directly tested the mechanisms by which such an interaction is associated with depression (Hammen, Ellicott, & Gitlin, 1989). It is likely that the mechanisms moderating the interaction of personality type and stressors may involve characteristic cognitive and behavioural coping mechanisms, given the importance of coping responses as stress-moderating factors.

### Coping

#### Theoretical Influences

According to Moos and Billings (1982), current

conceptual frameworks of coping have been shaped by four antecedent theoretical perspectives: psychoanalytic theory, life cycle theory, evolutionary theory, and cultural and social-ecological approaches. Each theoretical perspective has pointed toward particular domains that should be considered in the development of models of coping.

Viewed from a psychoanalytic perspective, coping involves the use of defensive ego processes to resolve conflicts between the demands of the external world and individual sexual and aggressive impulses. These ego processes are primarily cognitive, serving to distort reality and to reduce tension (Moos & Billings, 1982). From psychodynamic formulations of coping have risen the concept of field dependence (Witkin & Goodenough, 1977) and a system of classifying ego processes as either coping, defending, or fragmentation (Haan, 1977).

Life cycle theories, such as Erikson's (1963) classification of eight life stages, emphasize the development of coping resources over time in response to the challenges of successive life stages. Successfully meeting the demands of each stage leads to the ability to cope with subsequent challenges, building a sense of self-esteem and of self-efficacy. Current concepts of coping involve the belief that such general coping resources as self-esteem, self-efficacy (Bandura, 1977), locus of control (Rotter, 1966), and sense of mastery (Pearlin & Schooler, 1978) can affect

the appraisal of stressful situations and, in turn, influence the choice of coping response (Moos & Billings, 1982).

Cognitive behaviourism, with its emphasis on problem-solving skills and cognitive appraisal of the meaning of events, may be seen as the current extension of the evolutionary perspective of adaptation. According to Guidano and Liotti (1983), patterns exist in the development of an individual's knowledge that are similar to the process of biological evolution: Knowledge acquired during human development is utilized and expanded during adulthood in response to environmental demands. Bandura's (1977) concept of mastery may also be considered to be a form of intellectual adaptation: The development of self-efficacy through mastery of threatening situations leads to stronger and more persistent efforts to cope with increasing challenges. Such comparisons of evolutionary and cognitive theories have helped lead the way to the investigation of individual coping responses to specific stressful events (Moos & Billings, 1982).

Finally, cultural and social-ecological perspectives emphasize the role of the community in cooperative efforts at adapting to environmental demands. From this perspective has emerged the study of social supports as well as culturally-accepted methods of coping and teaching adaptation skills (Moos & Billings, 1982).



### Current Conceptualizations of Coping

Attempts to define coping have been complicated by the use of several different terms, such as "coping responses," "coping resources," "coping mechanisms," "coping style", or simply "coping." Although there is some similarity among various definitions of coping, the definitions vary as to the assumed stability of coping behaviour. For example, Lazarus and Folkman (1984) view coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). Others regard coping behaviour to be relatively stable: Barnett & Gotlib (1988), in their review of coping as it relates to depression, describe coping style as "habitual cognitions and behaviors that an individual uses to minimize the impact of stressful circumstances" (p. 116).

A differentiation is frequently made between the resources available to the individual, which are relatively stable, and the coping behaviour, which may be changeable. For example, Moos & Billings (1982) refer to coping resources as "a complex set of personality, attitudinal, and cognitive factors that provide the psychological context for coping. Such resources are relatively stable characteristics that affect the coping process and are themselves affected by the cumulative outcome of that process." (p. 215). Resources can be either (a) personal, including self-concept, mastery,

social skills, and problem-solving abilities or (b) environmental, referring to the informational, material, and emotional support of others (Billings & Moos, 1985b). The concepts of self-efficacy (Bandura, 1977), sense of mastery (Pearlin & Schooler, 1978), and, to some extent, locus of control (Rotter, 1966) refer to individuals' appraisals of their coping resources that, in turn, influence their reactions to life events.

Lazarus and Folkman (1984) also emphasize the role of cognitive appraisal in coping. In their model, the type of coping response used is determined by an individual's appraisal of the meaning or significance of an event with respect to personal well-being. Two types of appraisals are made: (a) primary appraisal, the initial appraisal of the overall threat, importance, or potential pleasure of an event and (b) secondary appraisal, the assessment of the adequacy of one's coping resources to deal with the event.

A number of authors have attempted to classify coping responses (Folkman & Lazarus, 1984; Moos & Billings, 1982; Pearlin & Schooler, 1978). For instance, Folkman and Lazarus (1980) distinguish between problem-focused and emotion-focused coping. Problem-focused coping involves efforts to manage or to alter either one's behaviour or the environmental factors contributing to the problem. Attempts to regulate emotional reactions to a problem are categorized as emotion-focused coping.

Moos and Billings (1982) categorized coping responses into three domains: appraisal-focused coping, problem-focused coping, and emotion-focused coping. Appraisal-focused coping (similar to Lazarus and Folkman's, 1984, appraisal processes) involves attempts to define the meaning of an event by logical analysis, cognitive redefinition, or cognitive avoidance. Problem-focused coping includes active efforts to change one's behaviour and to seek alternate rewards, to seek information and guidance, and to take specific action to deal directly with an event. Finally, emotion-focused coping is directed either at affective regulation or emotional discharge; that is, verbal expressions of unpleasant emotions and indirect efforts to reduce tension. This tripartite classification of coping, similar to that of Pearlin and Schooler (1978), has been utilized frequently in research that measures coping among various groups of persons, including depressed and nondepressed comparison groups.

Recently, Moos (1988) modified his classification system as a result of research indicating the need for a more complex selection of coping behaviours. The new system differentiates between avoidance and approach forms of coping responses, with each of these categories further subdivided into two cognitive and two behavioural coping strategies (see Table 1). Approach coping strategies are: (a) logical analysis, (b) positive reappraisal, (c) seeking support and

information, and (d) taking problem-solving action. Avoidance coping responses are: (a) cognitive avoidance, (b) acceptance or resignation, (c) seeking alternative rewards, and (d) emotional discharge. There is some overlap between the avoidance and approach categories; for example, over-reliance on the approach strategy of seeking information and support may preclude taking action toward solving a problem and thus foster avoidance. Research utilizing this classification system has demonstrated differences in the characteristic coping patterns of various groups of individuals.

#### Coping and Depression

Empirical evidence indicates that depressed persons exhibit coping styles that are different from those of nondepressed persons. If coping styles serve to diminish potentially pathogenic effects of life events and stressors, then it follows that depressed persons may not be using effective methods of coping (Barnett & Gotlib, 1988a). A number of studies have compared depressed and nondepressed individuals on types of appraisals made in stressful events and on coping responses used. With respect to appraisal, depressed persons, as compared with nondepressed persons, assign more personal significance to events (Folkman & Lazarus, 1986) and perceive themselves as needing more information before acting (Coyne, Aldwin, & Lazarus, 1981).

Overall, the most frequent finding with respect to

Table 1

Coping Responses Inventory Subscales and Descriptions

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	Approach Coping Responses
1. Logical Analysis	Cognitive attempts to understand and mentally prepare for a stressor and its consequences
2. Positive Reappraisal	Cognitive attempts to construe and restructure a problem in a positive way, while still accepting the reality of the situation
3. Guidance/Support	Behavioural attempts to seek information, guidance, or support
4. Problem solving	Behavioural attempts to take action to deal directly with the problem

Table 1 (continued)

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	Avoidance Coping Responses
5. Cognitive Avoidance	Cognitive attempts to avoid thinking realistically about a problem
6. Resigned Acceptance	Cognitive attempts to react to the problem by accepting it
7. Alternative Rewards	Behavioural attempts to get involved in substitute activities and create new sources of satisfaction
8. Emotional Discharge	Behavioural attempts to reduce tension by expressing negative feelings

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Note. From "Coping Responses Inventory Manual" by R. H. Moos, 1987, Stanford University and Veterans Administration Medical Centers, Social Ecology Laboratory, Palo Alto, California. Copyright 1988 by Rudolf H. Moos. Reprinted by permission.

coping behaviour seems to be that approach coping is generally associated with good adaptation (Schaefer & Moos, 1991; Swindle, Cronkite, & Moos, 1989). Depressed persons are more likely to use avoidance coping and to seek help from others than are nondepressed persons (Billings, Cronkite, & Moos, 1983; Billings & Moos, 1985a; Coyne, Aldwin, & Lazarus, 1981; Folkman & Lazarus, 1986; Mitchell & Hodson, 1983). Moreover, remitted depressives appear to engage in more emotional-discharge coping when confronted with negative stressors than do individuals who have never been depressed (Billings & Moos, 1985a; Parker & Brown, 1982). Problem-solving behaviour does not appear to differentiate between depressed and nondepressed persons (Coyne et al., 1981; Folkman & Lazarus, 1986; Foster & Gallagher, 1986). However, chronicity of stressors affects the coping responses of both depressed and nondepressed individuals, but in different ways. For depressed persons, chronicity of severe stressors is associated with increased use of avoidance coping, particularly emotional discharge; among nondepressed persons, increases in chronic stressors are associated with decreases in problem-solving coping (Fondacaro & Moos, 1989).

Longitudinal studies that address the question of causal relationships between coping and depression are few, and many people suffer from the possible confounding of coping behaviour with initial levels of depression (Barnett & Gotlib, 1988a). Parker & Brown (1982), in one of the few

studies that controlled for initial level of depression, asked depressed patients to indicate their preferences from among the behaviour changes most commonly endorsed by nondepressed persons as means of coping with stressful interpersonal events. The depressed group were less likely to endorse socialization and distraction as means of coping with two hypothetical events. After remission, no differences were found between formerly depressed persons and nondepressed controls.

In a 2 1/2-month prospective study, Lakey (1988) utilized a sample of college undergraduates to assess the relationships among self-esteem, personal control beliefs, and cognitive problem-solving skills. After controlling for initial symptom levels, Lakey found that lower levels of subsequent dysphoria were associated with higher beliefs in internal personal control, due to the moderating influences of these beliefs on the effects of negative stressors. Depressive symptomatology was associated with low levels of problem-solving and high levels of advice-seeking.

Billings, Moos, and Cronkite (1983), controlling for initial levels of depression, demonstrated that depressed patients at intake reported less use of problem-solving in response to a recent stressful event and more use of emotional-discharge coping than did nondepressed case controls. Patients were also more likely to seek information and support. At a 1-year follow-up, non-remitted patients



continued to rely more on emotional-discharge coping and less on problem-solving coping than did nondepressed individuals. Remitted patients, however, did not differ from nondepressed controls on problem-solving or appraisal-focused coping but continued to report more emotional-discharge coping than did the controls, despite a significant decrease in absolute use of that behaviour (Billings & Moos, 1985a). Thus, it appears that emotional-discharge coping in response to stressful events may either be a stable vulnerability factor in the development of depression or an enduring consequence of having been depressed.

#### Coping and Personality

Given that the tendency to employ certain coping behaviours in response to certain stressors may be relatively stable, it seems natural to question whether this tendency may be associated with relatively stable personality attributes or traits. Different types of people may use different types of coping behaviours, that in turn may influence the degree of depression or distress that results from stressful encounters (Fleishman, 1984).

The relationships among coping and such individual variables as sociodemographic factors, alcoholism, illness, interpersonal skills, and personal resources have been investigated in several studies (e.g., Billings & Moos, 1981; Pearlin & Schooler, 1978; Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). However, relatively little empirical work

has focused on the association between more general personality traits and types of coping responses. Nonetheless, there does exist some evidence that certain aspects of personality are related to the tendency to utilize particular coping methods.

One of these personality constructs, self-esteem, has had a well-documented association with depression and beliefs in external control, which are negatively related to self-efficacy (see Lakey, 1988). In a series of studies in which the Coping Response Inventory (Billings & Moos, 1984) was employed, self-esteem and self-confidence also appeared to be predictors of coping behaviour among various populations. Alcoholic patients who relied on problem-solving coping tended to be higher in self-confidence and were less likely to be depressed than were alcoholic patients who utilized cognitive avoidance, resigned acceptance, or emotional discharge (Cronkite & Moos, 1980). Similarly, depressed patients who did not tend to use problem-solving coping reported lower self-confidence, more severe depression, and a greater number of physical symptoms than did those who did use this type of coping (Billings & Moos, 1984). Support-seeking, as well, was associated with increased self-confidence, but was also related to more severe depression among men. In another study, among a sample of men with AIDS, self-confidence was positively associated with both active behavioural coping and number of close friends (Namir,

Wolcott, Fawzy, & Alumbaugh, 1987). In contrast, the use of avoidance coping was associated with lower self-esteem, fewer close friends, and increased depression. Self-esteem also had a more direct link to depression: Persons with high self-esteem generally feel less depressed than do those with low-self-esteem (Cronkite & Moos, 1984).

Similarly, Holahan & Moos (1987) reported that people who have a higher sense of internal control and self-reliance tend to use more approach than avoidance coping, although the choice of coping responses and subsequent depression may depend on an appraisal of the degree to which the stressor can be controlled or changed (Peacock & Wong, 1993; Vitaliano, DeWolfe, & al., 1990). Finally, self-confidence, in conjunction with an "easygoing" personality, family support, and a lower tendency to rely on avoidance coping, seemed to act as a buffer against distress for individuals experiencing subsequent life stressors (Holahan & Moos, 1986).

Related personality constructs--internal locus of control and sense of environmental mastery--also appear to be associated with coping. According to Bandura's model of adaptational behaviour (1977), internal locus of control and perceived mastery (or self-efficacy) are related to the expectancy of being able to successfully cope with stress. Persistence in active coping methods results from high self-efficacy, whereas low self-efficacy is associated with the

use of avoidance coping. Persons high in mastery tend to reject the use of acceptance or resignation, and emotion-focused coping. Mastery may be related to the "development and use of social-environmental resources" (Billings & Moos, 1985b, p. 946) that play a role in determining choice of coping response and resulting levels of depression.

Several other personality variables have been studied with respect to their relationship with coping. Utilizing Eysenck's Personality Questionnaire (Eysenck, 1959) as well as various measures of coping, Rim (1986, 1987) found associations between coping styles and neuroticism, extroversion, and psychoticism. Neuroticism correlated negatively with problem-focused coping and positively with cognitive reappraisal and avoidance coping (i.e., wishful thinking, self-blame, tension-reduction, and keeping to oneself). In contrast, extroversion was associated with problem-focused coping, support-seeking, and cognitive reappraisal. Among men, extroversion was negatively correlated with avoidance coping (i.e., wishful thinking). With respect to psychoticism, problem-focused coping, seeking support, and cognitive reappraisal (focusing on the positive) were negatively correlated with psychoticism among women; this correlation was mildly positive among men.

Ego strength, as well, appears to influence coping style (Schill & Tata, 1988). Scores on Barron's Ego Strength Scale (Barron, 1953), a measure of latent ego strength and

potential for personality integration, were correlated with a measure of coping styles. In general, persons high in ego strength were less likely to seek support than were persons low in ego strength. Some gender differences were found: For women, ego strength was positively correlated with behavioural forms of avoidance coping, such as watching television, taking a trip, or going to a movie. Women low in ego strength were more likely to engage in cognitive forms of avoidance coping such as daydreaming or rumination. Among men, ego strength was positively correlated with cognitive analysis and active behavioural coping.

Fleishman (1984) investigated a number of personality variables in conjunction with coping responses. Subjects completed measures of mastery, self-esteem, denial, nondisclosure of problems, stressors, and coping. The choice of coping method was influenced by type of stressful life event and by general personality variables. In achievement areas such as work and finances, mastery was associated with active problem-focused coping responses; this relationship was not found, however, in the interpersonal domain. Mastery was also negatively related to the use of emotion-focused coping and cognitive avoidance. As in other research, self-esteem was again positively associated, although weakly, with problem-focused coping, and negatively associated with avoidance coping.

To investigate the relationships among sense of personal control or mastery, coping responses, and depression, Ross & Mirowsky (1989) surveyed a random sample of 809 respondents. Their telephone questionnaire included the CES-D, used to measure current level of depression; as well as questions that assessed (a) perceived control and social support in life, and (b) self-reported use of problem-solving and talking to others when faced with a problem. A series of regression analyses yielded interesting and mixed results: Persons who felt in control of their lives were more likely to use problem-solving coping; perceived control and problem-solving were, in turn, negatively associated with depression. Perceived social support was also associated with lower depression; however, talking to others when faced with a stressor was correlated with increased depression. These results appear to be consistent with previous research that indicated that depressed individuals were less likely to use positive approach coping and more likely to seek help from others than were non-depressed persons.

Finally, some research has suggested that coping responses mediate between certain personality characteristics in predicting depression. A random sample of 424 respondents completed a number of measures at the beginning and end of a 4-year interval (Holahan & Moos, 1991). Using LISREL modelling, the researchers demonstrated that, under highly stressful situations, self-confidence, an easy-going

disposition, and positive family support predicted reduced levels of depression (when prior levels of depression were controlled). This predictive relationship was mediated by higher percentages of reported approach coping in an individual's repertoire of coping strategies.

It seems logical that characteristic coping styles would be related, perhaps to a significant extent, to stable personality traits. Empirical evidence has begun to lend support to this reasoning. Such factors as self-esteem, mastery, ego strength, neuroticism, and extroversion have been demonstrably linked with the tendency to utilize certain coping behaviours. Given these findings involving individual personality variables, it is reasonable to expect that depressogenic personality schemata such as dependency and self-criticism may also influence coping, and thereby level of depression, particularly in the face of schema-congruent stressors. The present study was concerned with the association between coping styles and the dependent and self-critical personality schemata.

#### The Present Study

As discussed earlier, there is evidence for an interaction between depressive personality types and personality-congruent stressors on the onset and maintenance of depression. Although both self-critical and dependent cognitive-personality styles have been related to depression in this diathesis-stress model, the empirical evidence most

consistently supports the relationship of dependent personality, stress, and depression (although problems with self-criticism/autonomy measures may have masked some associations). However, no research to date has investigated the factors that mediate this interactive association between personality schema, negative life events, and depression.

Given the complex nature of depression, it is likely that both cognitive and behavioural factors are involved in making dependent or self-critical individuals more vulnerable to depression when they encounter certain types of stressors. Certainly, dependency has been associated with specific classes of behaviours that have as their goal the maintenance of self-esteem through the seeking interpersonal support, closeness, affection, and attention. Self-critical persons, on the other hand, are more likely to direct their behaviour toward building self-esteem through instrumental goal attainment. Further, when faced with setbacks in their respective domains of self-definition, dependent and self-critical individuals may make cognitive appraisals of events that involve perceptions of threat to their self-esteem and personal control. Thus, it is likely that these depressogenic effects of personally threatening life events are significantly modulated by individual differences in both cognitive appraisal and coping responses.

The present study was designed to characterize differences in coping style among dependent and self-critical



individuals. Moos' (1988) eight dimensions of coping were investigated: (a) logical analysis, (b) positive reappraisal, (c) seeking support and information, (d) taking problem-solving action, (e) cognitive avoidance, (f) acceptance or resignation, (g) seeking alternative rewards, and (h) emotional discharge. The first four dimensions (a-d) are labelled "approach coping responses" and the last four (e-h) are labelled "avoidance coping responses" (see Table 1).

As has been discussed, both depressogenic personality schemata and less effective coping strategies--in particular avoidance--have been associated with depression. Further, depressogenic personality schemata appear to interact with schema-congruent stressors in making individuals particularly vulnerable to depression. Therefore, it was hypothesized that individuals would exhibit more avoidance coping strategies when confronted with schema-congruent as opposed to schema-incongruent stressors.

It seems reasonable to assume that a deficiency in effective (i.e., approach) coping behaviour might mediate the associations among depressogenic personalities, stressors, and depression. However, it is also possible that dependent and self-critical persons, when faced with schema-congruent as compared to schema-incongruent stressors, may react with characteristic coping patterns involving both approach coping and avoidance coping. As has been noted, an over-reliance on any approach strategy may reflect a stereotypic and perhaps

ineffectual or avoidant way of dealing with the stressor. This perseverative phenomenon may account for the association between approach strategies such as support- and information-seeking and depression (e.g., Billings, Cronkite, & Moos, 1983).

The theoretical and empirical rationale for predicting an approach/avoidance pattern of coping appears to be most strong when considering dependent individuals. For these persons, the support and approval of others is paramount in the maintenance of self-esteem. Thus, it could be expected that such individuals would seek the help and approval of others through constant support- and advice-seeking or through increasing their demands on others. Although this behaviour may be effective in some situations, the personal threat posed by a schema-congruent stressor, particularly if perceived as being severe, may lead to an over-dependence on support-seeking and result in significant interpersonal difficulties. In this vein, it has been suggested that chronic advice-seeking "acts to initiate a depressive social process in which such behavior alienates significant others and leads to impaired social relations" (Lakey, 1988, p. 418). The withdrawal of the very help and support originally sought by the dependent individual may well be associated with diminished self-esteem and depression, and perhaps even with an increased need for emotional discharge as a result of feeling abandoned or helpless. Further, it has been shown

that formerly depressed persons, although having greater dependency needs, actually participate less in social situations than do never-depressed individuals, thus diminishing their chances for social support (Barnett & Gotlib, 1988a). In other words, these individuals may be sabotaging their chances of gaining the support that they desire.

In contrast to the hypothesized pattern of coping for dependent individuals, self-critical persons, who tend to focus on instrumental attainment of goals, could be expected to engage in more active, problem-solving behaviour when faced with stressors. Further, their self-oriented perfectionism might be associated with a reluctance to admit to a need for support or information from others. However, when faced with a schema-congruent stressor, particularly if the stressor is considered to be severe, a self-critical individual may react with feelings of guilt, worthlessness, or failure. Such feelings may be associated with a characteristic pattern of avoidance coping that is related to depression.

In these ways, personality schemata may be related to specific coping responses. To begin to investigate coping as a mediating factor, the present study explored the relationships among dependent (sociotropic) and self-critical (autonomous) personality types, coping responses to schema-congruent and schema-incongruent stressful events, and

current levels of depression among a group of university students. Given its association with depression and coping, self-esteem was also measured and included in additional analyses.

### Hypotheses

Hypothesis 1. It was hypothesized that perceived severity of a stressor would be positively correlated with individuals' use of increased avoidance coping strategies relative to other strategies used.

Hypothesis 2. It was expected that the reported use of avoidance coping relative to other strategies would be positively correlated with current levels of reported depressive symptoms.

Hypothesis 3. It was hypothesized that sociotropic and autonomous individuals would report having used proportionally more avoidance coping strategies than approach coping strategies in response to schema-congruent stressors (i.e., "dependent stressors" and "self-critical stressors," respectively), as compared to schema-incongruent stressors, than would nonschematic individuals.

Hypothesis 4. It was expected that sociotropic and autonomous individuals would report having used differential patterns of the eight measured coping strategies in response to dependent as compared to self-critical stressors.

The literature provided no basis for hypotheses concerning the coping responses of individuals who were high

in both autonomy and sociotropy. Although it was expected that this "high both" group, as well as "nonschematics" who were low in both schemata, would not contribute significantly to the predicted interactions, it could also have been predicted that the high both group would have reported using more avoidance coping in general. Further, it was acknowledged that a possible alternative empirical outcome in the present study would have had sociotropic individuals reporting the utilization of more support- and information-seeking strategies in response to schema-congruent stressors, given that such behaviour has been associated both with depression and with dependency. Finally, the possibility that the perceived severity of a stressor may be associated with a decrease in support-seeking and an increase in emotional discharge was investigated.

## Method

### Subjects

The subject sample consisted of 192 students, male and female, enrolled in Introductory Psychology courses at the University of Manitoba. Subjects were approached during a class period and asked to participate in a questionnaire study about stress and coping, for experimental credit.

### Materials

#### The Personal Style Inventory

The Personal Style Inventory (PSI; Robins & Ladd, 1987) is a 60-item scale that measures the constructs of sociotropy and autonomy (see Appendix B). The Sociotropy scale was designed to assess three theoretically related constructs: concern about what others think of one, dependency on others for material or emotional support, and pleasing others (Robins & Luten, 1991). The Autonomy scale was also designed to measure three related constructs: perfectionism or self-criticism; need for control or freedom from the control of others; and avoidance of intimacy, or defensive separation from others. Each of the six constructs of Sociotropy and Autonomy are measured by 10 items on the questionnaire.

The PSI was developed with the intention of avoiding problems that have been encountered with other measures of dependency and self-criticism. Each item was worded to assess only one construct; to be simple, to be unambiguous, and not to be extreme; to assess core as opposed to

peripheral features of constructs; and not to measure possible Axis I symptoms (Robins & Luten, 1991 ). Items are scored on a 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree). Each of the six subscales are scored separately, with possible scores ranging from 10 to 60. Sociotropy scores are calculated by adding the scores on the subscales "Concern about what others think," "Dependency," and "Pleasing Others." Autonomy scores are derived by adding the scores on the subscales "Perfectionism/Self-criticism," "Need for control/freedom from outside control," and "Defensive separation." The range for sociotropy and autonomy scores is from 30-180.

In a sample of undergraduate students, the internal consistency of the Autonomy scale was  $\alpha = .88$  and that of the Sociotropy scale was  $\alpha = .82$  (Robins & Luten, 1991). The scales were moderately correlated at  $.33$ . Over 5 to 13 weeks, test-retest reliabilities were  $.76$  for Autonomy and  $.80$  for Sociotropy. In a sample of depressed patients, the internal consistency for Autonomy ( $\alpha = .83$ ) and for Sociotropy ( $\alpha = .88$ ) was respectable. The correlation between the scales was  $.58$ . In a study of pre- and post-natal women, internal consistency reliability was  $\alpha = .81$  for the autonomy scale and  $\alpha = .90$  (pre-natal) and  $.92$  (post-natal) for the sociotropy scale (Graff, 1993). Test-retest reliabilities (from pre- to post-natal periods) among this sample were  $.72$  for Autonomy and  $.83$  for Sociotropy.

Construct validity for the PSI was indicated in a study of depressed patients (Robins & Luten, 1991), in which sociotropy as measured by the PSI was significantly related to the hypothesized sociotropic clinical presentation of depression but unrelated to the autonomous presentation. This relationship, however, was significant only among male patients. In the Sociotropic clinical feature composite, depressive symptoms included feelings of loneliness, crying, and mood lability. Autonomy was similarly correlated with its expected clinical presentation, but unrelated to the sociotropic presentation. The autonomous clinical feature composite includes self-blame, loss of interest or pleasure, irritability, concern about inability to function, and loss of interest in people.

#### The Coping Responses Inventory

The Coping Responses Inventory (CRI; Moos, 1988) is designed to measure both the focus and the method of coping utilized in response to stressful life events (see Appendix C). The CRI is composed of 48 items, divided into eight subscales reflecting eight types of coping. Four of the subscales represent approach coping; four represent avoidance coping. In each of these sets of four responses, two reflect cognitive coping strategies and two measure behavioural coping strategies. The Approach subscales are labelled as follows: (a) logical analysis, (b) positive reappraisal, (c) seeking support and information, and (d) taking problem-



solving action. Avoidance subscales are labelled: (a) cognitive avoidance, (b) acceptance or resignation, (c) seeking alternative rewards, and (d) emotional discharge (see Table 1). Moos states:

In general, approach coping is problem focused; it reflects cognitive and behavioral [sic] efforts to master or resolve life stressors. In contrast, avoidance coping tends to be emotion focused; it reflects cognitive and behavioral [sic] attempts to avoid thinking about a stressor and its implications, or to manage the effect associated with it. (p. 2)

Each subscale is composed of six items. Also included in the CRI are 10 items that measure subjects' appraisals of the stressor and its outcome. Subjects are asked to choose an important problem or stressful circumstance that they have encountered during the past 12 months. They then indicate the degree to which they used each of 48 specific coping responses in dealing with the problem and rate their reliance on each of the strategies on a 4-point scale from 1 (not at all) to 4 (fairly often). Prior to computing overall scores, item scores are transformed so that they range from 0 to 3. Thus, the possible score on each subscale ranges from 0 to 18.

In the present study, instructions on the CRI were modified in order to tap two types of stressful situations, either dependent-schema stressors or self-critical-schema

stressors (permission to utilize the scale with this modification has been obtained from R. Moos). In counterbalanced order, subjects were asked to complete the inventory twice, each time relating to a different highly stressful situation that they had experienced during the 12 months prior to their session. In order to obtain reports of stressors that were more directly related to dependent or self-critical schemata, participants were not asked to describe an achievement or interpersonal stressor, as has been done in other studies. Rather, in the first case, respondents were asked to think about the most stressful situation they had experienced during the last 12 months, in which they had "felt helpless, dependent on others, or worried about what others thought or felt." In the second case, respondents were asked to think of a situation in which they had "felt guilty, critical of themselves, out of control, or as if they needed to get away from others." These instructions were designed to elicit descriptions of stressful situations involving threats to the various components of sociotropy and autonomy derived by Robins and Ladd (1987). In addition, using a protocol employed by Cochran and Hammen (1985), participants rated the degree of upset that they had experienced as a result of the stressors reported. Participants were asked to rate both of the events described, on a scale from 1 (not at all upsetting) to 7 (extremely upsetting).

The CRI is an expanded version of a widely used inventory that is included in the Health and Daily Living Form (Moos, Cronkite, Billings, & Finney, 1984). Moos (1987) reported psychometric data for the expanded version based on two field trials: One involved more than 1,800 adults who participated in a study of normal and problem drinking; the other involved alcoholic and depressed patients, arthritic patients, and healthy adults.

Among the individuals in these samples, the CRI appeared to have adequate reliability and stability. The eight coping indices were moderately stable over a 12-month interval (average  $r_s = .44$  for men and  $.36$  for women). Tendencies to utilize approach or avoidance coping were moderately stable after a 3-year period, with stability coefficients of between  $.34$  and  $.48$  for emotional discharge, information seeking, and problem solving coping among depressed patients.

Internal consistencies (Chronbach's alpha) of the eight subscales ranged from  $.58$  to  $.71$  for women and from  $.62$  to  $.74$  for men. The subscales are moderately positively correlated (average  $r_s = .25$  for women and  $.29$  for men), with correlations ranging from  $.03$  to  $.51$  for women and from  $.03$  to  $.48$  for men. Correlations among the approach strategies were higher than those among the avoidance strategies.

High correlations have been found between conceptually comparable indices in earlier versions of the coping inventory and the current version. Moos (1987) concludes,

therefore, that results of studies based on the earlier versions are likely to generalize to the 48-item CRI.

#### The Beck Depression Inventory

The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a widely-used self-report measure of the severity of depressive symptoms and attitudes (see Appendix E). Each item in the 21-item inventory is comprised of four self-evaluative statements. Subjects are asked to circle the number beside the statement that best describes the way they have been feeling during the past week. Numbers range from 0 to 3, with higher numbers representing greater severity of depression. Total scores, ranging from 0 to 63, are derived by adding scores on all responses. An item dealing with weight loss is not included in final scoring if the subject indicates that he or she has been trying to lose weight. Levels of depression based on BDI scores are usually determined as follows: 0 to 9 reflects a normal nondepressed state, 10 to 15 indicates mild depression, 16 to 23 indicates moderate depression, and 24 to 63 reflects severe depression (Shaw, Vallis, & McCabe, 1985).

Shaw, Vallis, and McCabe (1985), in their review of the psychometric properties of the BDI, indicate that the internal consistency of the scale has been extensively reported. Item-total correlations have been reported in the range of .22 to .86, with an average of .68. Split-half reliability has ranged from .58 to .93. Test-retest

reliability in the range of .69 to .90 has been reported, although this measure can be expected to fluctuate with symptom severity.

Concurrent validity of the BDI has been good. Correlations between the BDI and clinician's ratings of severity of depression have ranged from .62 to .77. Further, according to Shaw, Vallis, and McCabe (1975), correlations with other depression scales has been moderate to good.

#### The Coopersmith Self-Esteem Inventory

Although a number of scales have been developed for measuring self-esteem in children, few reliable and valid adult self-esteem inventories are available. In the present study, a short adult form (Bagley, 1989) of the widely-used Coopersmith Self-Esteem Inventory (Coopersmith, 1967) was used (see Appendix D).

Factor analysis of the Coopersmith Self-Esteem Inventory (CSI), generally used with children and adolescents, has demonstrated that the scale is not homogeneous. In addition to measuring self-evaluation or self-disparagement, factors traditionally associated with self-esteem, the CSI appears to measure general social confidence or extroversion as well (Ahmed, Valliant, & Swindle, 1985; Bagley & Evan-Wong, 1975). In developing his own short scale, Bagley dropped those items associated with sociability from the CSI, in order to attain a more pure measure of self-evaluation (Bagley, 1989). His adaptation of the CSI for use with adults involved a minor

change of wording on two items, as well as the expansion of response format to four categories from three.

Bagley's revised CSI is comprised of 22 items that identify both positive and negative attitudes or feelings about oneself. Participants are asked to circle a number from 1 (Often) to 4 (Never) to indicate how often they feel the way that the question describes. Items reflecting positive self-esteem are scored in reverse; the higher the total score on the scale, the poorer the self-esteem.

The scale has been shown to have good internal consistency reliability (average alpha .92), significant correlations with other scales of demonstrated reliability and validity, and a test-retest correlation of .58 over a 14-month period (Bagley, 1991; Bagley & King, 1989; Bagley & MacDonald, 1984; Bagley & Ramsay, 1986; Bagley & Young, 1989; Ramsay & Bagley, 1985). The Bagley scale correlates well (.77) with a 47-item adult version of the CSI developed by Coopersmith at a later date. Factor analysis of the longer version resulted in two higher-order components, "self-evaluation" and "social competence" (Bagley, 1989). The Bagley version correlated .92 with the self-evaluation component.

#### Procedure

Questionnaire booklets were completed in small University of Manitoba classrooms. Subjects were run in groups of 15 to 30 students. Participants were greeted by

the female experimenter, given a questionnaire booklet, and asked to take a seat at a desk. The experimenter explained subject rights and assured subjects of anonymity and the right to leave the room at any time. Participants were asked to raise their hands if they had any questions or concerns about the questionnaire. They were also asked to return their completed booklets to the experimenter and to sign their name, address, and phone number on a sheet of paper in order that they might receive written feedback about the results of the study. As the students returned their questionnaires, the experimenter provided them with written information about various counselling services available either at no charge or for a small fee, for those who might have wished to speak with a professional about some of the issues raised by the questionnaire (see Appendix G). General information about the purpose of the study was also provided in the same letter.

The questionnaire booklet (see Appendices A-F) contained the following: (a) cover page with instructions, (b) demographic questions regarding age and sex of participants, (c) two copies of the Coping Responses Inventory (Moos, 1988), each with different instructions aimed at focusing on either self-critical or dependency schema-relevant stressors, (d) the Personal Style Inventory (Robins & Ladd, 1987), (e) the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), and (f) a short adult form of the

Coopersmith Self-Esteem Inventory (Bagley, 1989). For the purpose of minimizing order effects, two different forms of the questionnaire booklet, each with a different arrangement of the scales, were distributed randomly to students. In the first form, the questionnaires were ordered as follows: instruction sheet, background information, Personal Style Inventory, Coping Responses Inventory (dependency-schema stressor), Coping Responses Inventory (self-critical schema stressor), modified Coopersmith Self-Esteem Inventory, and the Beck Depression Inventory. Questionnaires in the second form were ordered in this way: instruction sheet, background information, Coping Responses Inventory (self-critical schema stressor), Coping Responses Inventory (dependency schema stressor), modified Coopersmith Self-Esteem Inventory, Beck Depression Inventory, and the Personal Style Inventory.



## Results

The 192 participants in the present study (100 male, 90 female, 2 unidentified) ranged from 17-36 years; most were between the ages of 18 and 21 (mean age = 19.8).

Prior to statistical analyses, the data were examined for outliers and missing data. Less than 0.5% of the respondents were outliers on any measure and a number of these outliers were found in the BDI responses, which would not be expected to be distributed normally. Based on this information, it was decided that all scores would be entered without alteration in the analyses. Participants were generally thorough in completing the questionnaire: Missing data represented less than 0.5% of all possible data points. For a particular individual, missing data were estimated by the mean of that individual's responses on the scale for which he or she had failed to complete an item.

Prior to conducting multivariate analyses, the data were examined to determine whether assumptions of normality, homogeneity of variance, and linearity were met. In general, responses on each scale were distributed within normal limits. The sole exception was the BDI, which, as expected for a non-clinical sample, was positively-skewed.

Bartlett's Box F was used to test for homogeneity of variance. In general, homogeneity could be safely assumed. However, the multivariate test on the 16 coping response scales of the CRI (eight for each type of problem), was

significant,  $F(680, 29494) = 1.09$ ,  $p < .045$ , which, when the univariates were considered, reflected a marginally significant effect on emotional discharge coping with the dependent schema-congruent problem,  $F(7, 28356) = 1.99$ ,  $p = .052$ .

Tabachnik and Fidell (1989) indicate that normality and homoscedasticity are related. Further, with grouped data, the assumption of normality concerns the sampling distribution of means and is predicted by the central limit theorem. Given that a minor violation of these assumptions on only one of the 16 scales (Emotional Discharge) was unlikely to weaken the analyses, the subscale data were not transformed prior to further analyses.

The assumption of linearity with these data was explored by examination of Pearson product-moment correlations among all subscales (point-biserial correlations involving gender). Tabachnik and Fidell (1989) state that multicollinearity exists when correlations are .90 and above. However, they also suggest that two variables correlated .70 or more should not be included in the same analysis. In the present study, no correlations were greater than .70.

As a prelude to examination of the hypotheses, data were tested for gender effects with analyses of variance (ANOVAS) and multivariate analyses of variance (MANOVAS). Probability of significance was set at .05, two-tailed, for these and all subsequent analyses. There was no effect of gender on

relative coping in response to either the self-critical or dependent problem. In this analysis, relative coping was defined as a proportion of the items endorsed on each of the eight coping subscales relative to total number of items endorsed on the CSI. Gender effects were not found on the PSI Autonomy scale, but were found on the Sociotropy scale,  $F(1, 188) = 7.39, p = .007$ ; the BDI  $F(1, 188) = 12.59, p < .001$ ; and the CSI,  $F(1, 188) = 10.45, p = .001$ . Females were lower in self-esteem and higher in depression and sociotropy than were males.

Similar analyses were performed, with order rather than gender as the independent variable, to determine if the two different orders of scales within the questionnaire booklets were associated with different results. No significant order effects were found.

Internal consistency (Cronbach's alpha) was determined for each scale. The eight subscales of the Coping Responses Inventory were found to demonstrate moderate internal consistency (Table 2) with the range of alphas (.55 to .77) similar to that reported by Moos (1988; .58 to .74). The range of alphas for approach coping (.69 for the dependent and .77 for the self-critical problem) and avoidance coping (.65, dependent, and .78, self-critical) was somewhat more satisfactory, but still moderate. Internal consistency on the CRI was generally unaffected by stressor type, with the exception of the Emotional Discharge scale, which tended to

Table 2

Internal Consistency Reliabilities (Cronbach's Alpha)  
for Subscales of the Coping Resources Inventory

Stressor Type	CRI Subscale				
	App.	Avoid.	Log.An.	Pos.App.	Support
Self-critical	.77	.78	.69	.69	.62
Dependent	.69	.65	.65	.69	.63

Stressor Type	CRI Subscale				
	Prob.Sol.	Cog.Av.	Accept.	Seek Rwd.	Emot.Dis.
Self-critical	.74	.77	.64	.71	.67
Dependent	.75	.73	.64	.71	.55

Note. App.= Approach; Avoid.= Avoidance; Log.An.= Logical Analysis; Pos.App.= Positive Appraisal; Support = Seeking Support; Prob.Sol.= Problem Solving; Cog.Av.= Cognitive Avoidance; Accept.= Acceptance or Resignation; Seek.Rwd.= Seeking Alternative Rewards; Emot.Dis.= Emotional Discharge.

be less internally consistent under the dependent (alpha = .55) than under the self-critical (alpha = .67) stressor.

According to Moos, the merely moderate internal consistencies found on the CRI may be related to attempts to minimize item redundancy, resulting in each subscale being comprised of relatively independent coping responses. Moos also posits that the use of a particular coping response may reduce stress and, in turn, reduce the use of alternative responses in the same category.

The BDI and CSI demonstrated good internal consistency with alphas of .87 and .72, respectively. Internal consistencies of the Autonomy and Sociotropy scales were moderate to good (.63 and .72, respectively), although slightly lower than those reported by Robins and Lutten (1991).

Finally, subjects were categorized according to personality schema type, based on a median-split procedure: (a) high sociotropy/low autonomy (sociotropic;  $n = 42$ ), (b) low sociotropy/high autonomy (autonomous;  $n = 43$ ), (c) high sociotropy/high autonomy (high both;  $n = 53$ ), and (d) low sociotropy/low autonomy (low both;  $n = 54$ ). Of the sociotropic group, 15 were males and 27 were females; of the autonomous group, 26 were males and 16 were females; of the high both group, 25 were males and 27 were females; and of the low both group, 34 were males and 20 were females.

## Hypotheses

### Hypothesis 1: Stressor Severity and Coping

As postulated, the proportion of avoidance coping strategies used ( $\bar{r} = .24$ ,  $p = .001$ ) was positively associated with the reported severity of a stressor (Table 3). Other associations were found among several individual coping responses and stressor severity (Table 4). Specifically, increased emotional discharge coping ( $\bar{r} = .26$ ,  $p < .001$ ) and resignation ( $\bar{r} = .17$ ,  $p < .05$ ) and decreased positive appraisal ( $\bar{r} = -.18$ ,  $p < .05$ ) and problem solving ( $\bar{r} = -.24$ ,  $p = .001$ ) were associated with increased stressor severity. As well, sociotropy ( $\bar{r} = .16$ ,  $p < .05$ ) autonomy ( $\bar{r} = .18$ ,  $p < .05$ ) and depressive symptoms ( $\bar{r} = .42$ ,  $p < .001$ ) were positively correlated with the reported severity of the stressor. Finally, point-biserial correlations with gender (male = 1, female = 2) and both severity and duration were significant in a positive direction.

In order to assess whether the type of stressor was associated with severity or duration, two  $t$ -tests were conducted. Duration was scaled in the following manner: 1 = one week or less, 2 = one month or less, 3 = six months or less, 4 = more than six months. Both duration,  $t_{(177)} = 2.12$ ,  $p < .05$ , and severity,  $t_{(191)} = 2.50$ ,  $p = .01$ , differed with problem type. Investigation of the means showed that duration was longer for the dependent problem (mean = 2.57, s.d. = 1.03) as compared to the self-critical problem (mean =

Table 3

Correlations Among Relative Avoidance Coping and Other Measures

	Dur.	Sev.	Soc.	Aut.	CSI	BDI	Avoid.
Gender <sup>a</sup>	.23**	.31***	.19**	-.03	-.23**	.25***	.09
Dur. <sup>b</sup>		.30***	.08	.10	-.15*	.20**	.23***
Sev. <sup>c</sup>			.16*	.18*	-.35***	.42***	.24***
Soc. <sup>c</sup>				.18*	-.56***	.45***	.24***
Aut. <sup>c</sup>					-.37***	.35***	.16*
CSI <sup>c</sup>						-.65***	-.47***
BDI <sup>c</sup>							.38***

Note. Dur.= Duration; Sev.= Severity; Soc.= Sociotropy; Aut.= Autonomy; CSI = Coopersmith Self-Esteem Inventory; BDI = Beck Depression Inventory; Avoid.= Relative Avoidance Coping.

<sup>a</sup> point-biserial correlations,  $N = 190$

<sup>b</sup>  $N = 191$

<sup>c</sup>  $N = 192$

\*  $p \leq .05$     \*\*  $p \leq .01$     \*\*\*  $p \leq .001$

Table 4

Correlations Among the Eight Relative Coping Subscale Scores and Other Measures

	Log. An.	Pos. App.	Seek Sup.	Prob. Sol.	Cog. Av.	Accept. Resign.	Seek Rwd.	Emot. Dis.
Gender <sup>a</sup>	-.17*	-.02	-.08	-.11	.03	.00	-.05	.22**
Dur. <sup>b</sup>	-.19**	-.16*	-.05	-.14	.15*	.06	.16*	.11
Sev. <sup>c</sup>	-.10	-.18*	.00	-.24***	.12	.17*	-.07	.26***
Soc. <sup>c</sup>	-.16*	-.01	-.03	-.33***	.24***	.10	.01	.12
Aut. <sup>c</sup>	.09	-.10	-.24***	-.09	.10	.00	.05	.19**
CSI <sup>c</sup>	.23***	.25***	.20**	.38***	-.38***	-.23**	.03	-.35***
BDI <sup>c</sup>	-.10	-.34***	-.09	-.31***	.28***	.17**	-.05	.37***

Note. Dur.= Duration; Sev.= Severity; Soc.= Sociotropy; Aut.= Autonomy; CSI = Coopersmith Self-Esteem Inventory; BDI = Beck Depression Inventory; Log.An.= Logical Analysis; Pos.App.= Positive Appraisal; Seek Sup.= Seeking Support; Prob.Sol.= Problem Solving; Cog.Av.= Cognitive Avoidance; Accept. Resign.= Acceptance or Resignation; Seek Rwd.= Seeking Alternative Rewards; Emot.Dis.= Emotional Discharge.

<sup>a</sup> point-biserial correlations, N = 190

<sup>b</sup> N = 191

<sup>c</sup> N = 192

\*  $p \leq .05$     \*\*  $p \leq .01$     \*\*\*  $p \leq .001$



2.37, s.d. = 1.09). Similarly, perceived severity (rated in increasing order on a scale from 1 to 7) was greater for the dependent stressor (mean = 5.73, s.d. = 1.27) than for the self-critical stressor (mean = 5.42, s.d. = 1.34).

#### Hypothesis 2: Depressive Symptoms and Coping

In accordance with Hypothesis 2, an association was observed between relative avoidance coping and current level of depressive symptoms, as measured by the BDI ( $r = .38$ ,  $p < .001$ ). The specific coping strategies that were positively correlated with higher BDI scores were cognitive avoidance ( $r = .28$ ,  $p < .001$ ), acceptance or resignation ( $r = .17$ ,  $p < .05$ ), and emotional discharge ( $r = .38$ ,  $p < .001$ ). Negative correlations were found among BDI scores and two approach coping measures, positive reappraisal ( $r = -.34$ ,  $p < .001$ ), and problem solving ( $r = -.31$ ,  $p < .001$ ).

Table 3 shows a number of other significant associations. Sociotropy, autonomy, and female gender were positively correlated with the BDI. In addition, both sociotropy and autonomy were positively correlated with reported use of avoidance coping. Finally, self-esteem, as measured by the CSI, was negatively correlated with stressor duration and severity as well as sociotropy, autonomy, depression, avoidance coping, and female gender.

#### Hypothesis 3: Schema-Stressor Congruency and Coping

Hypothesis 3 anticipated an interaction between personality schema and congruence of the stressor on coping

strategy. Specifically, it was hypothesized that sociotropic and autonomous individuals would report using relatively more avoidance than approach coping strategies in response to schema-congruent as compared to schema-incongruent stressors. Because the hypothesis focuses on the congruency between stressor and schema, the high both and low both groups were excluded from this test of the hypothesis. Also, to correct for base-rate differences in the frequency of endorsing coping strategies, proportional indices of coping were computed and analyzed (see Holahan & Moos, 1990; Vitaliano, DeWolfe, Maiuro, Russo, & Katon, 1990; Vitaliano, Maiuro, Russo, & Becker, 1987; Vitaliano, Maiuro, et al., 1990).

The hypothesis was first tested on relative avoidance coping. This proportional score was based on each participant's total score on the four avoidance coping subscales over the total scores on all eight approach and avoidance scales. A mixed design analysis of variance (ANOVA) with personality schema (sociotropic versus autonomous) and stressor type (dependent versus self-critical) revealed no significant effects on relative avoidance coping.

The congruency hypothesis was next tested by analyzing the individual relative avoidance and approach coping subscale scores. Two mixed design, repeated measures multivariate analyses of variance (MANOVAS) were performed. In the first analysis, the dependent variables were the four

individual relative avoidance coping subscale scores; the second MANOVA used the four individual relative approach coping scores as the dependent variables. The relative avoidance scores represent each participant's score on an avoidance coping subscale over his/her total for all eight approach and avoidance subscales. Similarly, the individual relative approach scores represent each participant's score for a specific approach coping subscale over his or her total for all eight subscales. The multivariate analyses included schema type as the between-subject variable and stressor type as the within-subject variable. The Pillai multivariate  $F$ , the most robust of available multivariate test statistics to assumption violations (Olsen, 1976), will be reported here.

As with the MANOVA using the composite measure of relative avoidance, the MANOVA on the individualized relative avoidance strategies also did not support the congruency hypothesis. The analysis revealed only a significant main effect for problem type,  $F(4, 80) = 4.99, p = .001$ . Univariate tests (Table 5) indicated that problem type was associated with differential responding on relative cognitive avoidance,  $F(1, 83) = 5.45, p < .05$ , and on relative use of acceptance and resignation,  $F(1, 83) = 6.26, p < .05$ . Although differences between means (Table 6) were small, the relative use of cognitive avoidance was reported to be higher on the self-critical as compared to the dependent problem, while resignation was used relatively more often on the dependent

Table 5

Significant Univariates Following MANOVA of Relative Avoidance  
Coping Strategies by Personality Schema and Problem Type

	MAIN EFFECT — PROBLEM TYPE			
	Hypothesis MS	Error MS	F	Sig.
Cognitive Avoidance	47.57	8.74	5.45	.022
Acceptance or Resignation	55.47	8.87	6.26	.014

Note. Problem Type = Self-critical or dependent stressor; Sig.=  
Significance

Table 6

Mean Proportional Scores and Standard Deviations of Relative Coping Strategies as a Function of Problem Type and Personality Schema

Problem Type	CRI Subscale					
	Seeking Support		Cognitive Avoidance		Acceptance or Resignation	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Self-critical Stressor	.113	.027	.136	.036	.112	.033
Dependent Stressor	.124	.028	.126	.037	.124	.035

Personality Schema	CRI Subscale			
	Logical Analysis		Problem-Solving	
	Mean	S.D.	Mean	S.D.
Sociotropic	.140	.020	.134	.021
Autonomous	.150	.020	.147	.028

Note. Means reflect proportion of total coping scores.

problem.

On the analysis of the relative approach strategies, significant main effects were found for problem type,  $F(4, 80) = 3.80$ ,  $p < .01$ , and personality group (autonomous or sociotropic),  $F(4, 80) = 3.68$ ,  $p < .01$ . However, once again, there was no significant interaction effect. Univariate tests (Table 7) indicated that the stressor or problem type was associated with proportionally different levels of coping by seeking support,  $F(1, 83) = 12.31$ ,  $p = .001$ . Participants reported seeking support more in response to the dependent as compared to the self-critical problem (Table 6).

There were two significant univariates for the group effect, found with logical analysis,  $F(1, 83) = 5.51$ ,  $p < .05$ , and problem solving strategies  $F(1, 83) = 5.42$ ,  $p < .05$ . Mean differences were small but significant (Table 6): The autonomous group relative to the sociotropic group reported using more logical analysis and problem solving coping responses.

#### Hypothesis 4: Effects of Personality Schemata on Coping Profiles

Hypothesis 4 stated that sociotropic and autonomous individuals would report using different patterns of coping strategies in response to the type of stressor faced. Given that this hypothesis referred to group differences in overall pattern of responding, profile analysis (Groff, 1983; Tabachnik & Fidell, 1989) was used. Although not

Table 7

Significant Univariates Following MANOVA of Relative Approach  
Coping Strategies by Personality Schema and Problem Type

Main Effect – Problem Type				
	Hypothesis MS	Error MS	F	Sig.
Seeking Support*	57.38	4.66	12.31	.001
Main Effect – Personality Schema				
	Hypothesis MS	Error MS	F	Sig.
Logical Analysis*	43.46	7.88	5.51	.021
Problem Solving*	64.75	11.94	5.42	.022

Note. Sig.= Significance; Problem Type = Self-critical or dependent stressors; Personality schema = Sociotropic or autonomous.

\* Coping Resources Inventory

specifically designed to test schema-stressor congruence, the profile analysis permits an evaluation of whether the type of stressor differentially influences overall coping patterns for sociotropic and autonomous individuals. Thus, the profile analysis was used, not only to examine the impact of personality schema on coping, but as an additional test of the congruency hypothesis.

Profile analysis is a multivariate test in which the pattern of responding to several scales is compared to assess (a) if the lines are parallel, (b) if the groups are equal (are the lines the same level?), and (c) if the scale means are equal (if the lines are parallel, are the profiles flat?). This type of analysis, which utilized absolute scores on each coping subscale, allowed for examination of the relationships among all coping scores taken together.

The following comparisons were made with profile analyses: (a) sociotropic group on self-critical as compared to dependent stressors, (b) autonomous group on self-critical as compared to dependent stressors, (c) high both group on self-critical as compared to dependent stressors, (d) low both group on self-critical as compared to dependent stressors, (e) males compared with females on dependent stressors, (f) males compared with females on self-critical stressors, (g) four schema groups compared on dependent stressors, and (h) four schema groups compared on self-critical stressors.

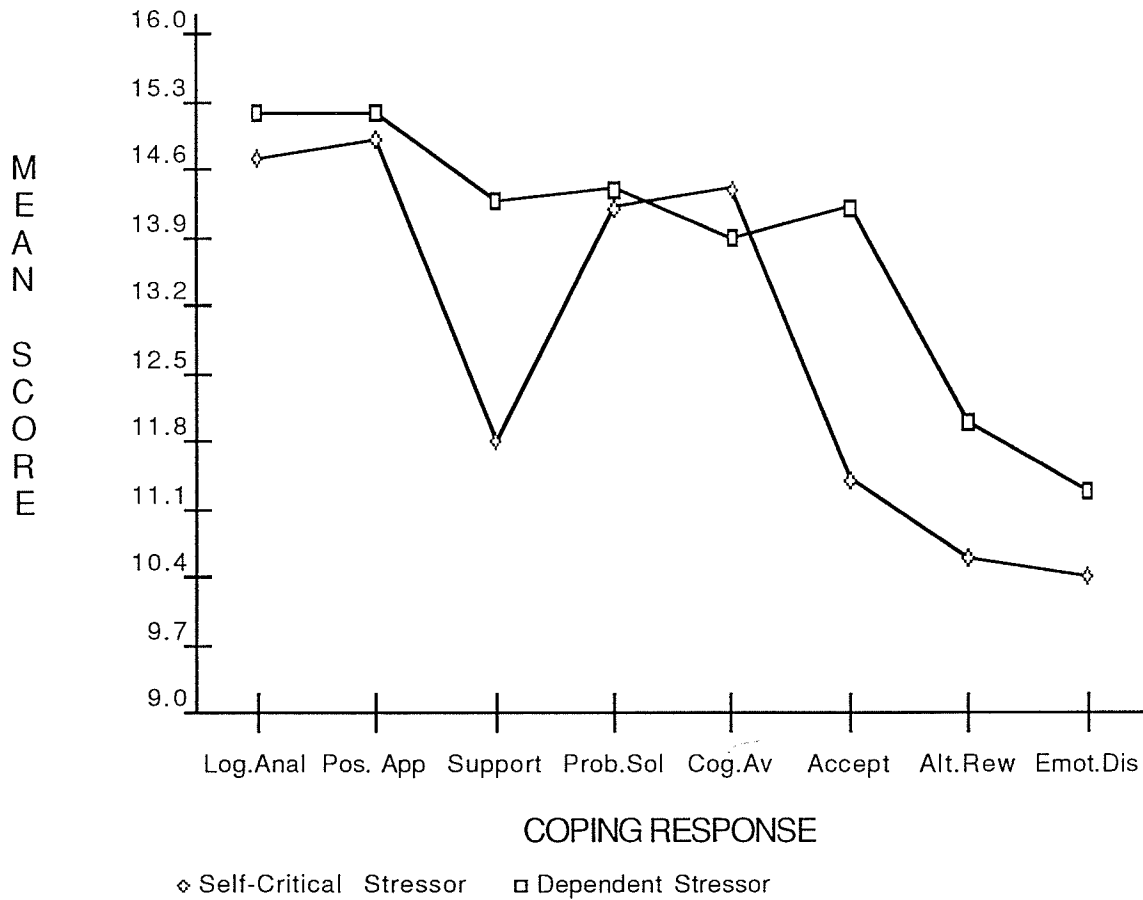


The first analysis revealed that the sociotropic group's overall pattern of responding was significantly different when faced with self-critical as compared to dependent stressors: Tests of parallelism,  $F(7, 35) = 2.68, p < .05$ , and levels,  $F(1, 41) = 10.82, p < .01$ , were significant. Sociotropic individuals had a significantly different profile of using the eight coping strategies in response to each of the two stressor types. As well, their overall coping score was higher for the dependent than for the self-critical problem, suggesting that they tended to use more coping strategies when faced with a schema-congruent than with an incongruent problem. Figure 1 illustrates graphically the profiles for the sociotropic group.

Visual inspection suggests that the differences in profiles under the two stressor conditions seem to have resulted from elevations on three avoidance strategies (acceptance or resignation, seeking alternative rewards, and emotional discharge) and one approach strategy (seeking support). Therefore, it appears from the graph that differences in avoidance coping were more related to schema-congruence among sociotropic individuals than were differences in approach coping. However, separate profile analyses conducted for approach and avoidance coping were both significant, indicating that meaningful differences in coping profiles involved overall patterns of coping including both approach and avoidance strategies.

Figure 1

Coping Profiles of Sociotropic Individuals in Response to  
Dependent as Compared to Self-Critical Stressors



Note. Log.Anal = Logical Analysis; Pos.App = Positive Appraisal; Sup = Seeking Support; Prob.Sol = Problem Solving; Cog.Av = Cognitive Avoidance; Accept = Acceptance or Resignation; Alt.Rew = Seeking Alternative Rewards; Emot.Dis = Emotional Discharge.

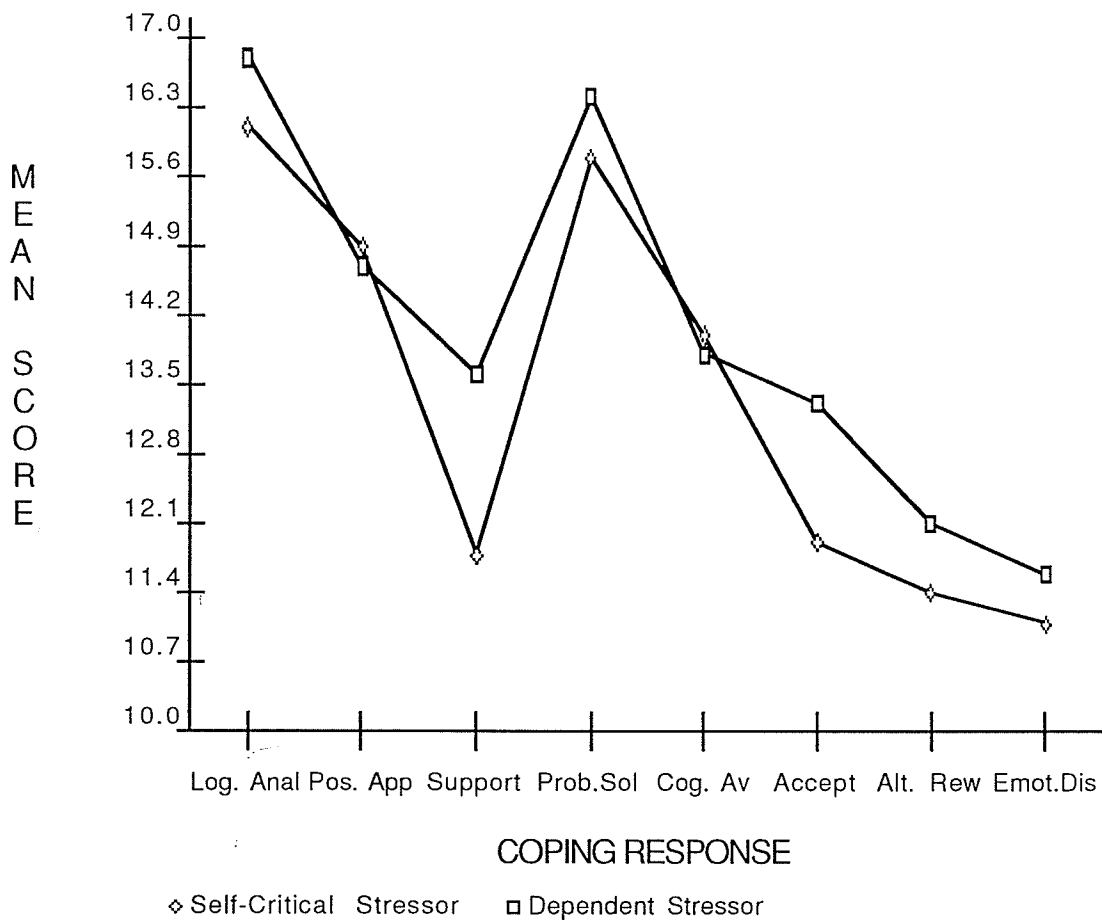
For the second profile analysis, with the autonomous group, the test of parallelism was not significant, indicating that their overall pattern of responses did not differ according to type of stressor. However the levels test indicated that the average mean across all eight coping responses did differ in response to self-critical as compared to dependent stressors,  $F(1, 42) = 5.62, p < .05$ . Visual inspection of Figure 2 shows that autonomous individuals, like the sociotropic group, used more coping strategies in response to dependent stressors than they did when faced with self-critical ones.

Although the high both group did not differ in either the pattern or level of their coping profiles of all eight strategies, it is noteworthy that the levels (but not the patterns) of the low both group coping profiles did differ in response to self-critical as compared to dependent stressors  $F(1, 53) = 4.14, p < .05$ . Separate analyses of both approach and avoidance coping profiles resulted in significant differences in avoidance coping  $F(1, 53) = 4.45, p < .05$ . Figure 3 indicates that the low both group also responded with more avoidance coping when faced with the dependent stressor.

Profiles within stressor type as a function of gender were also examined by profile analyses. Parallelism as well as levels effects for gender ( $F(7, 182) = 2.17, p < .05$  and  $F(1, 188) = 12.05, p = .001$ , respectively) were observed on

Figure 2

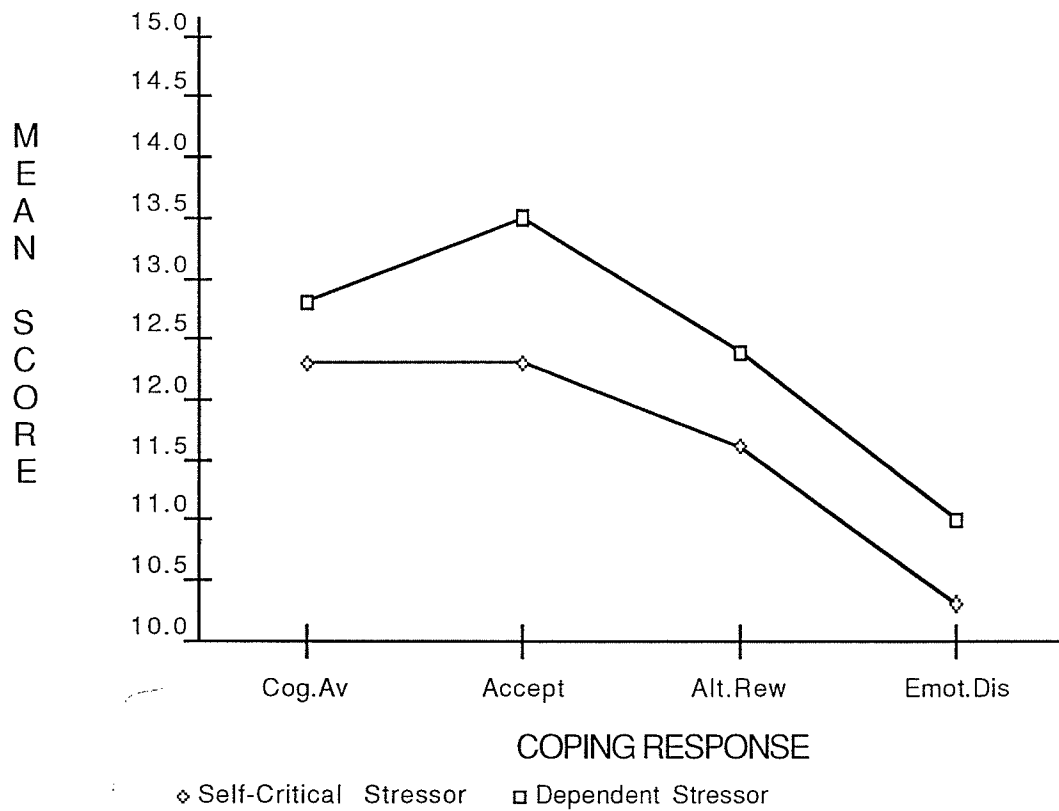
Coping Profiles of Autonomous Individuals in Response to  
Dependent as Compared to Self-Critical Stressors



Note. Log.Anal = Logical Analysis; Pos.App = Positive Appraisal;  
 Sup = Seeking Support; Prob.Sol = Problem Solving; Cog.Av =  
 Cognitive Avoidance; Accept = Acceptance or Resignation; Alt.Rew =  
 Seeking Alternative Rewards; Emot.Dis = Emotional Discharge.

Figure 3

Avoidance Coping Profiles of Low Both Individuals in Response to Dependent as Compared to Self-Critical Stressors



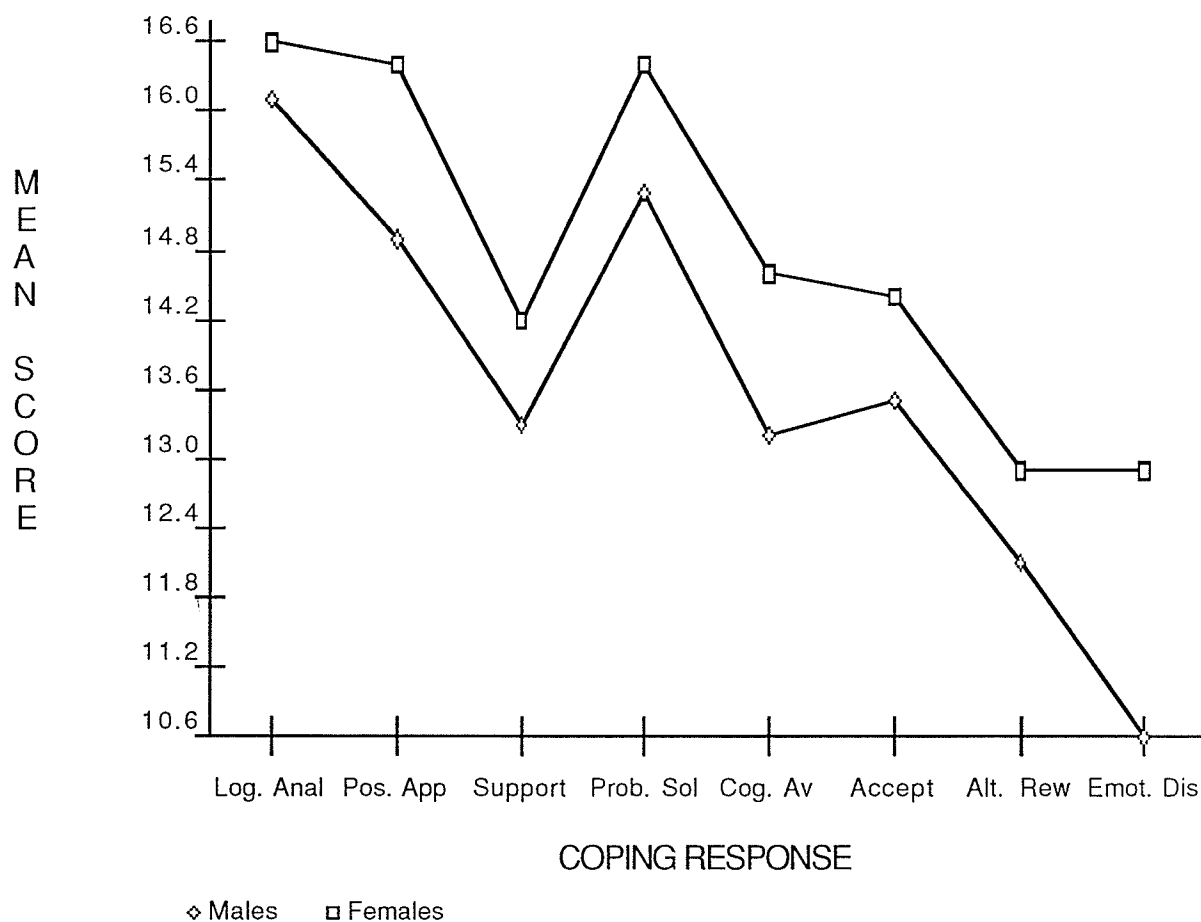
Note. Cog.Av = Cognitive Avoidance; Accept = Acceptance or Resignation; Alt.Rew = Seeking Alternative Rewards; Emot.Dis = Emotional Discharge.

the dependent stressor. Female gender was independently associated with elevated usage of coping strategies on the dependent stressor (Figure 4). The difference in profile patterns appears from visual inspection to be associated primarily with the tendency of females to have used more emotional discharge coping than did the males in this sample. Although male and female profile patterns do not appear visually to be parallel on the self-critical stressor (Figure 5), the test of parallelism was not significant. However, overall levels of responding did differ,  $F(1, 188) = 15.84$ ,  $p < .001$ , with females once again having used more coping responses in general than did males (with one specific exception, as suggested by the graph, on acceptance or resignation).

As well, both dependent and self-critical stressors were associated with different patterns of absolute responding (Figures 6 & 7) in the four different personality groups when compared with one another ( $F(21, 552) = 2.08$ ,  $p < .005$  for dependent;  $F(21, 552) = 1.65$ ,  $p < .05$  for self-critical). The overall level of responding for these four groups differed only for the self-critical problem,  $F(3, 188) = 3.75$ ,  $p < .05$ . Visual inspection of Figure 7 indicates that persons high in both sociotropy and autonomy (high both) appear to respond to self-critical stressors with higher overall usage of coping strategies (except on problem solving and seeking alternative rewards) than do the sociotropic, autonomous, or low both

Figure 4

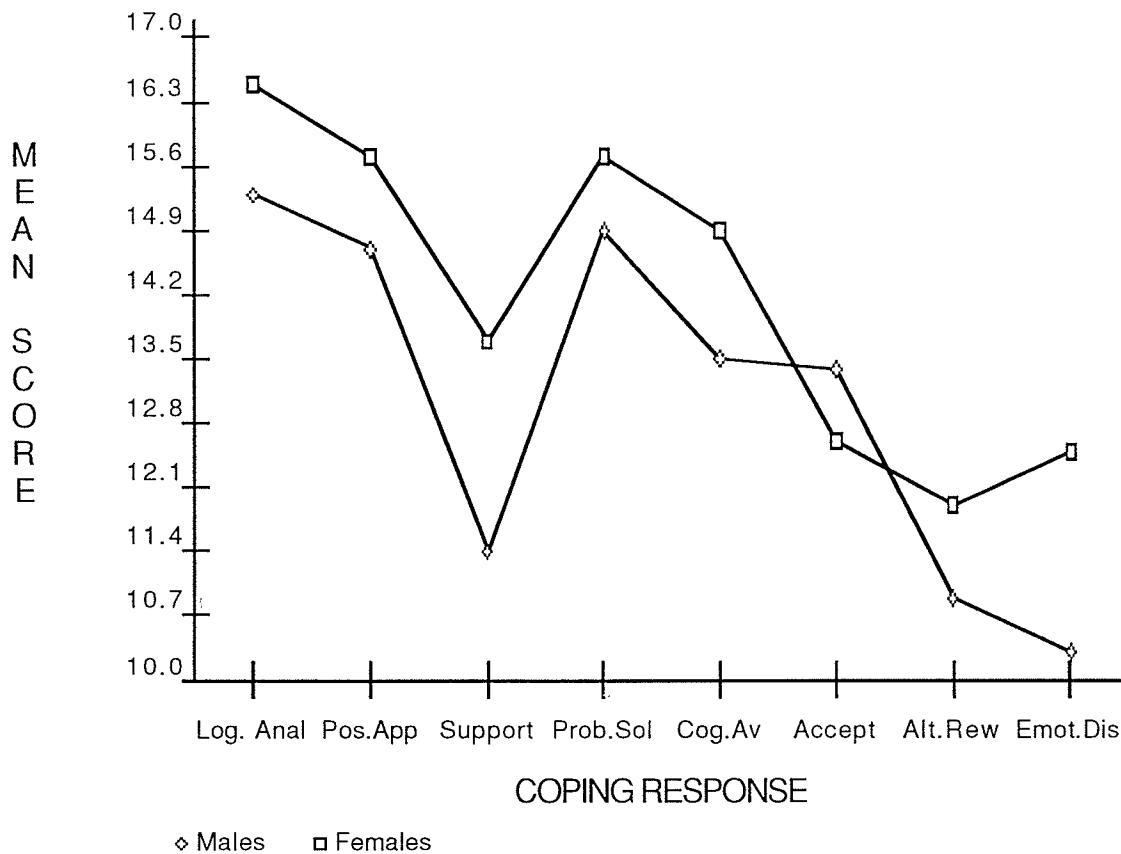
Coping Profiles of Males and Females in Response to Dependent Stressors



Note. Log.Anal = Logical Analysis; Pos.App = Positive Appraisal; Sup = Seeking Support; Prob.Sol = Problem Solving; Cog.Av = Cognitive Avoidance; Accept = Acceptance or Resignation; Alt.Rew = Seeking Alternative Rewards; Emot.Dis = Emotional Discharge.

Figure 5

Coping Profiles of Males and Females in Response to Self-Critical Stressors

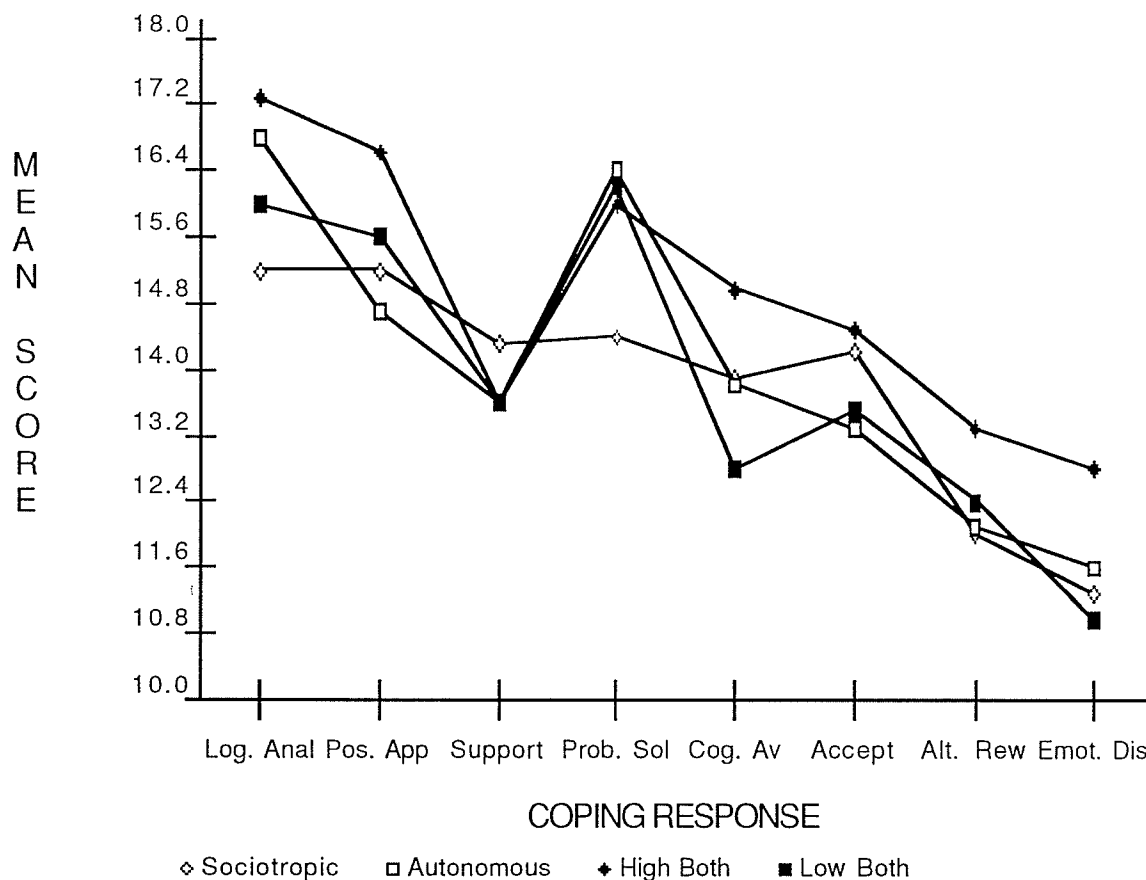


Note. Log.Anal = Logical Analysis; Pos.App = Positive Appraisal; Sup = Seeking Support; Prob.Sol = Problem Solving; Cog.Av = Cognitive Avoidance; Accept = Acceptance or Resignation; Alt.Rew = Seeking Alternative Rewards; Emot.Dis = Emotional Discharge.



Figure 6

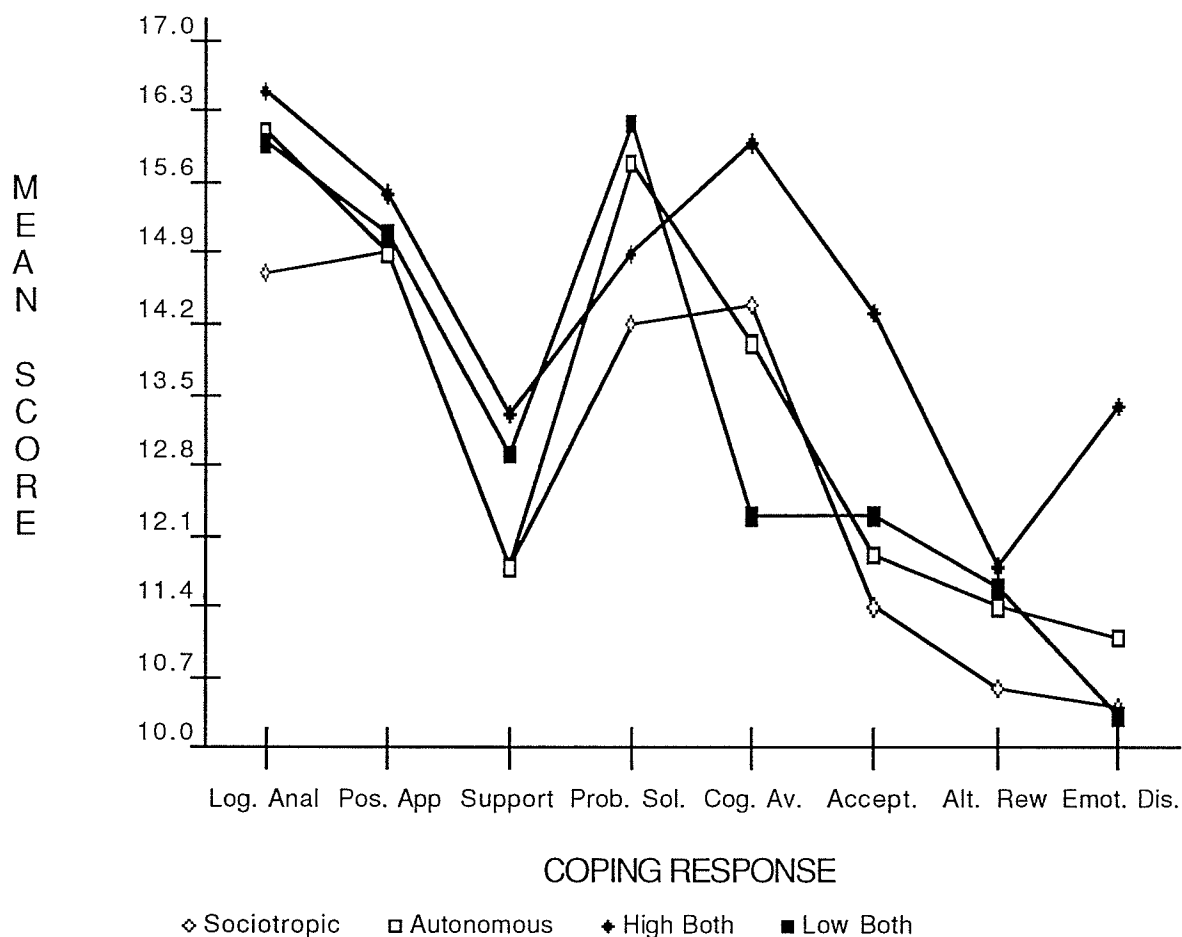
Coping Profiles of Four Personality Schema Groups in Response to Dependent Stressors



Note. Log.Anal = Logical Analysis; Pos.App = Positive Appraisal; Sup = Seeking Support; Prob.Sol = Problem Solving; Cog.Av = Cognitive Avoidance; Accept = Acceptance or Resignation; Alt.Rew = Seeking Alternative Rewards; Emot.Dis = Emotional Discharge.

Figure 7

Coping Profiles of Four Personality Schema Groups in Response to Self-Critical Stressors



Note. Log.Anal = Logical Analysis; Pos.App = Positive Appraisal; Sup = Seeking Support; Prob.Sol = Problem Solving; Cog.Av = Cognitive Avoidance; Accept = Acceptance or Resignation; Alt.Rew = Seeking Alternative Rewards; Emot.Dis = Emotional Discharge.

groups. Post-hoc interaction contrasts confirmed that the mean level of coping of the high both group did differ from the mean of the other three groups combined,  $F(7, 192) = 3.03$ ,  $p < .005$ . This difference was primarily associated with a higher level of responding for the high both as compared to the low both group,  $F(7, 99) = 4.22$ ,  $p < .001$ .

In summary, Hypothesis 4 was partially confirmed. Sociotropic individuals showed differential patterns of reported use of the eight coping strategies in response to dependent (schema-congruent) as opposed to self-critical (schema-incongruent) stressors. Persons high in sociotropy tended in general to report elevated use of coping strategies in response to schema-congruent as opposed to schema-incongruent stressors. However, counter to the congruency hypothesis, the autonomous group also responded with elevated use of coping in response to the dependent (schema-incongruent) stressor. Low both or non-schematic individuals also appeared to increase their avoidance coping to dependent stressors. Female gender also was associated with higher utilization of coping strategies than males on both the self-critical and dependent problems. Finally, the four personality schema groups responded with differential coping profiles when faced with either dependent or self-critical stressors.

### Multiple Regressions

In order to more fully appreciate the significance of the associations among coping, personality, and depression, several hierarchical multiple regression analyses were conducted. In the first of these analyses, an attempt was made to identify significant predictors of relative avoidance coping; the purpose of the second was to identify predictors of depressive symptomatology, as reflected by BDI scores. Separate regression analyses were performed for each of the two stressor types, dependent or self-critical, and also across stressor types.

#### Avoidance coping

The first regression analysis was conducted using relative avoidance coping as the dependent variable. The independent variables were (a) level of sociotropy, (b) level of autonomy, (c) current level of depression, (d) self-esteem, (e) perceived severity, and (f) duration of the problem. Because no differences had been found between males and females in their relative use of avoidance coping, gender was not entered as a variable. Order of entry of the various predictor variables was determined in the following manner: Sociotropy and autonomy were entered first because they were assumed to be stable characteristics and were of primary theoretical interest in the present study. The BDI scores were entered next because of their theoretical link to avoidance coping. The CSI scores, perceived severity, and

duration were entered next, in that order. Finer decisions of order of entry were determined by entering the variables with the highest correlations to the criterion variable first. As a result, sociotropy was entered prior to autonomy, CSI before severity, and severity before duration.

The prediction of relative avoidance coping differed for self-critical as compared to dependent stressors, but was modest in each regression. As can be seen in Table 8, in the regression for self-critical stressors, the overall model was significant at each step. Both sociotropy and autonomy contributed .05 of the variance accounted for by the model,  $F(1, 181) = 9.09, p = .003$ ; and  $F(2, 180) = 8.92, p = .003$ , respectively. A further change in  $R^2$  of .04 was contributed by the BDI,  $F(3, 179) = 8.98, p = .003$ . The final significant contribution,  $R^2_{ch} = .05, F(4, 178) = 11.18, p = .001$ , resulted from the entry at Step 4 of the CSI. Severity and duration, entered next, made no significant change in the  $R^2$ .

Thus, the best regression model appeared to be that found at Step 4, in which sociotropy, autonomy, level of depressive symptoms, and self-esteem each contributed significantly to predicting relative avoidance coping. This model accounted for 19.5% of the variance in prediction,  $F(4, 178) = 10.25, p < .001$ .

An identical series of steps in a hierarchical regression analysis was performed for the prediction of relative avoidance coping in response to dependent stressors

Table 8

Summary of Hierarchical Multiple Regression to Predict Relative Avoidance Coping with Self-Critical Stressors

Step	Variable	R <sup>2</sup>	F model	R <sup>2</sup> ch <sup>a</sup>	Fch	Beta <sup>b</sup>
1.	Sociotropy	.05	9.09*	.05	9.09*	.22
2.	Autonomy	.09	9.21**	.05	8.92*	.22
3.	BDI	.14	9.40**	.04	8.98*	.24
4.	CSI	.19	10.25**	.05	11.18**	-.33
5.	Severity	.19	8.44**	.01	1.16	.08
6.	Duration	.19	7.10**	.00	.52	.05

Note. Sociotropy = PSI: Sociotropy; Autonomy = PSI: Autonomy; BDI = Beck Depression Inventory; CSI = Coopersmith Self-Esteem Inventory. Degrees of freedom for overall model are (6, 176).

<sup>a</sup> R<sup>2</sup>ch = squared semi-partial correlation

<sup>b</sup> Beta = standardized regression coefficient

\* p ≤ .01      \*\* p ≤ .001

(Table 9). Sociotropy, entered first, contributed an  $R^2$  of .05 to the model,  $F(1, 184) = 8.66$ ,  $p = .004$ . Unlike in the first regression with self-critical stressors, autonomy made no further significant contribution to the model. In Step 3, the entry of BDI scores added .07 to the  $R^2$ ,  $F(3, 182) = 13.5$ ,  $p < .001$ ; the  $R^2$ ch associated with CSI at Step 4 was .06,  $F(4, 181) = 13.39$ ,  $p < .001$ . Finally, severity contributed a further .02 to the variance accounted for,  $F(5, 180) = 5.44$ ,  $p < .05$ . Duration added no additional information to the model.

The best overall model (not including Step 6) accounted for a modest, but significant, proportion of variance,  $R^2 = .20$ ,  $F(5, 180) = 8.80$ ,  $p < .001$ . Although this proportion was the same as that found in the prediction of relative avoidance coping to self-critical stressors, the variables that contributed to the model differed in a meaningful way. It appears that the best predictors of relative avoidance coping as a response to dependent stressors are sociotropy, depressive symptomatology, self-esteem, and severity of the stressor.

Thus, although autonomy appears to influence avoidance coping with schema-congruent self-critical stressors but not with dependent problems, sociotropy seems to be a more general, cross-situational predictor. As well, increased severity appears to be associated with increased avoidance in situations that threaten dependent needs.

Table 9

Summary of Hierarchical Multiple Regression to Predict Relative Avoidance Coping with Dependent Stressors

Step	Variable	R <sup>2</sup>	F model	R <sup>2</sup> ch <sup>a</sup>	Fch	Beta <sup>b</sup>
1.	Sociotropy	.05	8.66**	.05	8.66**	.21
2.	Autonomy	.05	4.32*	.00	.03	.01
3.	BDI	.11	7.58***	.07	13.50***	.30
4.	CSI	.17	9.42***	.06	13.39***	-.36
5.	Severity	.20	8.81***	.02	5.44*	.17
6.	Duration	.20	7.53***	.01	1.11	.07

Note. Sociotropy = PSI: Sociotropy; Autonomy = PSI: Autonomy; BDI = Beck Depression Inventory; CSI = Coopersmith Self-Esteem Inventory. Degrees of freedom for overall model are (6, 179).

<sup>a</sup> R<sup>2</sup>ch = squared semi-partial correlation

<sup>b</sup> Beta = standardized regression coefficient

\* p ≤ .05      \*\* p ≤ .01      \*\*\* p ≤ .001



Beck Depression Inventory

The next hierarchical regression analyses conducted were attempts to predict BDI scores. These analyses were utilized to assess the significance of the overall model and the contribution of the variables (a) level of sociotropy, (b) level of autonomy, (c) relative avoidance coping, (d) self-esteem, (e) perceived severity, and (f) duration of the problem in predicting the variance in BDI scores. Order of entry was determined in a similar manner to that used for the predictions on avoidance coping, except that, instead of BDI scores, relative avoidance was entered after sociotropy and autonomy. As well, the variable gender was dummy-coded (male = 1, female = 0) and entered in the first step, to control for its association with depressive symptoms. The variable was and entered into the equations first. Therefore, the order of entry was gender, sociotropy, autonomy, avoidance coping, CSI, severity, and duration.

Separate equations were run for the two stressor types, either self-critical or dependent. The results of these equations did not differ from the same equations run across problems; therefore, only the across-problem solutions are reported here.

At each step of the regression, the overall model was significant (Table 10). After controlling for gender, the inclusion of sociotropy added an additional 17% to the variance accounted for by the model,  $F_{(2,186)} = 41.47$ ,

Table 10

Summary of Hierarchical Multiple Regression to Predict  
Beck Depression Inventory Scores Across Stressor Type  
Using Relative Avoidance Coping

Step	Variable	R <sup>2</sup>	F model	R <sup>2</sup> ch <sup>a</sup>	Fch	Beta <sup>b</sup>
1.	Gender	.06	12.60*	.06	12.60*	-.25
2.	Sociotropy	.23	28.40*	.17	41.47*	.42
3.	Autonomy	.31	27.46*	.07	19.84*	.28
4.	Avoidance	.38	28.16*	.07	21.23*	.28
5.	CSI	.47	33.04*	.09	32.98*	-.44
6.	Severity	.50	30.68*	.03	10.40*	.19
7.	Duration	.50	26.16*	.00	.01	.01

Note. Sociotropy = PSI: Sociotropy; Autonomy = PSI: Autonomy;  
BDI = Beck Depression Inventory; CSI = Coopersmith Self-Esteem  
Inventory. Degrees of freedom for overall model are (7, 181).

<sup>a</sup> R<sup>2</sup>ch = squared semi-partial correlation

<sup>b</sup> Beta = standardized regression coefficient

\* p ≤ .001

$p < .001$ , the largest contribution of any variable. Autonomy, at Step 3, had an  $R^2_{ch}$  of .07,  $F(3,185) = 19.84$ ,  $p < .001$ . Avoidance coping, entered next, also contributed significantly,  $R^2_{ch} = .07$ ,  $F(4,184) = 21.23$ ,  $p < .001$ , as did the CSI,  $R^2_{ch} = .0.09$ ,  $F(5,183) = 32.98$ ,  $p < .001$ . The final significant predictor was severity, which added .03 to the  $R^2$ ,  $F(6,182) = 10.40$ ,  $p = .001$ . Duration, included in the last step, did not add significantly to the variance.

Thus, hierarchical regression analysis indicated that a significant proportion of variance in predicting BDI scores ( $R^2 = .50$ ) could be accounted for by the variables gender, sociotropy, autonomy, avoidance coping, self-esteem, and severity of the stressor.

To summarize the results of the three hierarchical analyses, the variables measured in the present study were able to account for 20% of the variance in relative avoidance coping. With self-critical stressors, sociotropy, autonomy, BDI, and CSI, but not severity or duration, contributed to the prediction of avoidance. Sociotropy, as well as BDI, CSI, and severity, again predicted avoidance coping in response to dependent stressors. Autonomy appeared to influence coping behaviour only in response to schema-congruent stressors, while sociotropy predicted avoidance coping to both types of problems.

The variables included in the regression analyses were better able to predict level of depressive symptoms as

measured by the BDI: The regression model accounted for 50% of the variance. After controlling for gender, sociotropy, autonomy, relative avoidance coping, CSI, and severity formed the final regression model.

## Discussion

In an attempt to refine diathesis-stress models of depression, the relationship between certain personality schemata, schema-congruent life events, and depression has received a great deal of attention in recent literature. The congruency hypothesis predicts that stressors congruent with existing depressive personality schemata or vulnerabilities will be more likely to trigger a depressive episode than will non-congruent stressors. Given that such effects on the occurrence of depression are reflected, and perhaps even mediated, by coping responses, the present study evaluated the congruency hypothesis by assessing coping outcomes. More specifically, the hypothesized tendency for persons with sociotropic or autonomous personality schemata to use relatively more avoidance coping responses when faced with schema-congruent as compared with incongruent stressors was investigated.

The results provided only modest support for a congruency hypothesis incorporating coping. The multivariate analysis did not show that the proportion of avoidance coping responses was different for schema-congruent and incongruent stressors. However, the profile analysis provided some support for the idea that coping patterns among sociotropic individuals were influenced by stressor congruence. Further, although the pattern of coping was similar for males and females, women exhibited an elevated profile relative to men.

Other results indicated that personality vulnerability and coping contributed to the prediction of depressive symptoms and that sociotropy and autonomy were among predictors of avoidance coping. Although the evidence for schema congruence was modest, the present results indicate that in order to predict coping patterns, it may be useful to incorporate measurement of schema-stressor congruence.

The findings relevant to the major hypotheses will be examined first and articulated within the current literature. As well, although not associated with one of the major hypotheses, the impact of gender on coping and depression will be discussed. This discussion will be followed by an examination of more general issues raised by the present results, including implications for the role of stress and coping factors in the conceptualization and treatment of depression. Finally, the limitations of the present study will be discussed, as well as directions for future study.

#### Findings Relevant to the Congruency Hypothesis

As already noted, although the analysis of composite and individual relative avoidance coping responses by univariate and multivariate analyses failed to reveal any interaction effects between personality schemata, coping, and stressors, the profile analyses, which used the absolute number of responses to compare overall patterns or profiles of coping, provided partial support for the congruency hypothesis. In these latter analyses, sociotropic individuals displayed a

different coping response pattern when faced with schema-congruent as compared to incongruent stressors. Among sociotropic individuals, situations that were designed to engender feelings of dependency, helplessness, or concern about external approval elicited more coping responses overall than did "self-critical" situations. In particular, it appeared that sociotropic persons particularly increased support seeking, acceptance or resignation, seeking alternative rewards, and emotional discharge coping responses in response to schema-congruent stressors.

This result is consistent with Lakey's (1988) suggestion that dependent individuals tend to be over-reliant on the advice and support of others, and to expend considerable effort discussing their problems and emotions with others. As a result, sociotropic individuals may alienate significant others with their dependency and disrupt the very social support on which they depend. Such withdrawal of help and support may partially account for the association between sociotropy and depression, and the finding that formerly depressed persons (although having strong dependency needs) actually participate less in social situations than do individuals who have not been depressed previously (Barnett & Gotlib, 1988a).

Consistent with the results of a number of previous studies (e.g., Hammen, Marks, Mayol, & deMayo, 1985; Robins & Block, 1988; Rude & Burnham, 1993; Segal, Shaw, & Vella,

1989; Zuroff & Mongrain, 1987), in which sociotropy but not autonomy was consistently associated with congruency effects, autonomous individuals responded to the schema-incongruent dependent stressor with an elevated pattern of coping responses, as did sociotropic persons. An additional unexpected result was that non-schematic individuals, as well, increased their avoidance coping when faced with dependent stressors.

These stressor-specific patterns of coping strategies are consistent with the findings of Vitaliano, et al. (1990), who demonstrated different coping profiles for groups confronting different types of stressors. The present results indicate that increased coping responses, including avoidance, are associated with schema-congruency only for the sociotropic group. The results also suggest that elevated levels of coping may be a more general response to facing stressors that threaten interpersonal needs.

However, this latter result may be related more specifically to the nature of the sample. Given their developmental stage, this student group may be more generally focused on interpersonal relationships than on achievement as a source of self definition. The sense of helplessness and neediness that participants associated with "dependent" stressors may have resulted in increased attempts to initiate coping responses to master them. Consistent with this explanation of the relative significance of interpersonal



events, participants' ratings of both duration and severity were greater for the dependent than for the self-critical stressor.

In addition, as Hammen, Marks, Mayol, and deMayo (1985) noted in their study with students, academic/achievement events may be both highly salient and normative for a university student population. Further, the range of students' achievement concerns may be smaller than those of a more heterogeneous group of persons whose sense of self is tied more centrally to a variety of achievement-oriented events. The importance of the type of population is further emphasized by the fact that studies that have supported the congruency hypothesis for autonomy (e.g., Hammen, Ellicott, & Gitlin, 1989; Segal, Shaw, Vella & Katz, 1992) have tended to use clinical samples with a wider age range than that in the present sample

#### Gender Effects

Although none of the analyses that had relative coping as the dependent variable yielded gender differences, the profile analyses that used absolute levels of coping utilization as the dependent variable revealed differences in the coping profiles of males and females, when faced with either dependent or self-critical stressors. Although the profiles with absolute levels of coping strategies of men and women are similar in shape, females tended to use more of all eight types of coping, in particular emotional discharge.

Given that stressor severity and duration were positively associated with both female gender and increased avoidance coping, the elevated coping profile among females may reflect heightened appraisal of the severity of the stressor or actual differences in the severity of stressors faced by men and women.

Although there were gender differences in absolute levels of coping, the overall pattern of coping between men and women was not different with the self-critical stressor. Thus, in this sample, men and women differed primarily in the amount, rather than the overall pattern of their coping, although, among depressed individuals in one study (Billings, Cronkite, & Moos, 1983), the pattern of coping responses differed for men and women. The relatively high use of emotional-discharge coping in women as compared to men is particularly interesting, given that Billings and Moos (1985a) found increased levels of this type of coping with depressed patients at intake and with remitted depressed individuals. If emotional-discharge coping is either a stable vulnerability factor for depression or an enduring consequence of prior depression, then women's increased use of such coping may be an important contributor to their higher prevalence of depression (Amenson & Lewinsohn, 1981).

#### Additional Findings

Although persons high or low in both sociotropy and autonomy have generally been excluded from related studies of

congruency effects, it is noteworthy that there were significant profile differences when the four personality schema groups were compared. The four groups used differential patterns of coping in response to both self-critical and dependent stressors. As well, the high both group had elevated levels of coping relative to the other three groups when faced with a self-critical stressor. Thus, it appears that individuals who score high on both sociotropy and autonomy differ, both in the pattern and amount of coping utilization, from sociotropic and autonomous individuals, as well as those participants who are nonschematic.

The emphasis in this study was on evaluating the effects of congruency between personality schema and stressor on coping, but the results also contained information on stressor-specific coping strategies. In a number of instances, the type of stressor to which the participants were responding influenced the utilization levels of a specific type of coping strategy. For example, when responding to the self-critical stressor, participants tended to more frequently utilize cognitive avoidance than they did when responding to the dependent stressor. In contrast, when faced with the dependent stressor, participants tended to rely more on seeking support and advice (often associated with high levels of advice and support-seeking; Lakey, 1988) and acceptance/resignation than they did in response to the self-critical stressor. Although speculative, it is

conceivable that these forms of coping in response to self-critical or dependent stressors reflect characteristic ways of attempting to avoid external disapproval, reestablish approval, and avoid further perceived rejection.

In addition to stressor-specific coping effects, personality-specific effects were found among the study sample. In this regard, autonomous individuals were more likely than were sociotropic individuals to use logical analysis and problem solving, regardless of the type of stressor with which they were faced. These aforementioned approach coping strategies have been positively associated with good adjustment and negatively associated with depression (e.g., Billings, Cronkite, & Moos, 1983; Schaefer & Moos, 1991; Swindle, Cronkite, & Moos, 1989) and low levels of problem-solving have been correlated with depressive symptoms (Lakey, 1988). These results suggest that dependent persons may be vulnerable to depression because they are relatively less able to rely on effective approach coping strategies across a variety of stressful situations than are more autonomous individuals.

#### Correlates of Avoidance Coping

Given the significant relationships between avoidance coping and depression in the literature (e.g., Billings, Cronkite, & Moos, 1983; Coyne, Aldwin, & Lazarus (1981; Mitchell & Hodson, 1983), some discussion of the variables associated with avoidance coping is warranted. Consistent

with the initial hypothesis, the perceived intensity or severity of a stressor was related to an increase in avoidance coping. Moos and his colleagues (e.g., Holahan & Moos, 1987; Moos, Brennan, Fondacaro, & Moos, 1990; Fondacaro & Moos, 1989) demonstrated similar results, although they found that severe stressors initially mobilized more of both approach and avoidance coping responses. However, when severe stressors persisted, individuals in these studies appeared to decrease their use of problem-solving coping and to increase avoidance coping.

A more interesting finding was that ratings of stressor severity were positively correlated with sociotropy, autonomy, BDI scores, and emotional discharge coping. Conversely, ratings of stressor severity were negatively correlated with self-esteem, the use of problem-solving, positive appraisal, and acceptance or resignation. Although correlational, these results are consistent with the notion that as the actual or appraised stressor increases, people tend to feel overwhelmed (i.e. reduced efficacy), dysphoric, think less highly of themselves, and adopt less effective coping strategies. Bandura's model of adaptation (1985) suggests that self-efficacy is related to the expectancy of being able to cope successfully with stressors, and Lazarus and Folkman (1984) emphasized the importance of appraisals in stress reactions. Low self-efficacy, associated with chronic

and severe stressors, could result in diminished efforts to reduce stress and increased avoidance coping.

Although the correlational data and cross-sectional design preclude a directional interpretation, the finding that sociotropy and autonomy were positively associated with both stressor severity ratings and depressive symptoms is consistent with the idea that these vulnerability factors are associated with depressogenic stressor appraisal processes (i.e., sociotropic and autonomous persons appraise stressors as more intense or threatening than do others). Both groups of individuals, by definition, tend to over-invest their self-esteem in a restricted range of roles or relationships (i.e., interpersonal or achievement oriented focus). As Barnett and Gotlib (1988) have discussed, this tendency may be associated with a vulnerability to depression. In this view, if the number of one's roles and/or relationships is narrow and other sources of esteem poorly developed, then stressors that challenge or diminish these sources of self-esteem may well be appraised as highly threatening or severe.

Research shows that depressed individuals demonstrate a tendency to be sensitive to, and selectively attend to, negative events (Barnett, 1990). The present findings are consistent with Barnett's emphasis on the reactive and dynamic nature of the depressive process. He suggests that when individuals at risk of depression are exposed to stressors they begin to display the symptoms of depression,

many of which, in turn, elicit negative responses or rejection from others. Because these negative responses from others further activate depressive personality schemata, these at-risk individuals react particularly strongly to them and find it difficult not to attend to these negative situations at the exclusion of more positive events.

The present findings also indicated a clear association between coping and depression. Relative avoidance coping was generally associated with increased self-reported depression levels. In particular, depression was associated with increased acceptance or resignation, cognitive avoidance, and emotional discharge coping; and decreased use of positive reappraisal and problem-solving. Sociotropy and being female were also correlated with depression levels. These findings related to coping and depression fit with a cognitive model of depression that emphasizes negative, dysfunctional thinking and accompanying behaviour that reinforces negative cognitions (Beck, 1967). Further, the association of gender and depression and sociotropy is consistent with the greater incidence of depression among females (Amenson & Lewinsohn, 1981) and the finding that sociotropy is more strongly associated with depression than is autonomy (see review by Barnett & Gotlib, 1988).

#### Prediction of Avoidance Coping and Depression

Some support for the congruency hypothesis was found in the regressions predicting avoidance coping: The variables

that predicted avoidance strategies differed in self-critical as compared to dependent situations. In particular, autonomy contributed to the prediction of avoidance coping in the self-critical but not the dependent problem condition. This finding is, of course, consistent with the schema congruence hypothesis. Sociotropy, on the other hand, was a predictor of avoidance coping in response to both types of stressors. Therefore, in the present study, sociotropy appeared to be a more general, cross-situational predictor of coping than did autonomy, just as sociotropy relative to autonomy has been shown to be a more powerful predictor of depression. Given that avoidance coping and depression appear to be associated (e.g., Billings, Cronkite, & Moos, 1983; Coyne, Aldwin, & Lazarus, 1981; Mitchell & Hodson, 1983), it is not surprising that sociotropy is associated with both of these outcomes.

Although the regressions to predict relative avoidance coping appear to be consistent with the literature, the amount of variance accounted for by the predictor variables was modest: about 20% in both stressor situations. In contrast, with the exception of the BDI and CRI switch, the same set of predictor variables was able to account for almost 50% of the variance in BDI scores. Measurement differences and reliabilities between the CRI and the BDI may account partially for this difference. As well, an individual's selection of coping responses, although associated with cognitive traits, situational demands, and



mood states, may well be mediated, in turn, by other factors such as more transient cognitive appraisals. The process of predicting use of avoidance coping clearly is a complex one, as indicated by the fact that no one factor in either equation predicted more than 7% of the variance (the BDI in the dependent stressor situation).

The attempt to predict depression scores with the variables measured here was more successful than the prediction of avoidance coping in that, as mentioned, almost 50% of the variance was predicted. Depression, as measured by the BDI, was best predicted by a cognitive personality schema (i.e., sociotropy) and by self-esteem. Once again, autonomy appeared to be a less powerful of depression than was sociotropy. Both avoidance coping and perceived severity were also modest but significant predictors of depression. The interpretation of this result must, however, be tempered by the recognition that in a cross-sectional study, this prediction does not imply causality or uni-directionality: Depression may affect perceptions of the intensity and negativity of problems (Barnett, 1990), result in mood-biased ratings of stress (Segal, Shaw, Vella, & Katz, 1992), and influence the choice of avoidance coping strategies.

#### Self Esteem, Depression, and Coping

Given that low self-esteem is a characteristic of dysfunctional cognitions in depression (negative view of self), it would be expected to be associated with, or even

predictive of, depression, as was found in the regressions. This result, as well as the strong negative correlation between the self-esteem and depression measures, is consistent with the literature that suggests that, even after controlling for stressful events and other predisposing factors, persons with high self-esteem tend to feel less depressed than do those with low self-esteem (Cronkite & Moos, 1984). If, congruent with cognitive theories, depression is associated with a belief that the future is hopeless and the self-worthless, then it is understandable that self-esteem may play a critical role in depression. As Brown and Harris (1989) suggest, a person's self-esteem, sense of ability to control his or her world, and confidence that there will be other sources of self-worth may underlie the sense of hopelessness that leads to depression. Thus, self-esteem may be intrinsically related to self-efficacy, which influences the coping appraisals and strategies.

Although there is empirical as well as theoretical support for the association between low-self esteem and self-efficacy and depressive symptoms, the directionality of this association or the manner in which the variables interact has not been determined. For example, self-esteem may be both maintained and influenced by an individual's sense of mastery: Events that precipitate depression tend to be those that would lower self-esteem, such as experiences of failure (or loss of mastery) in interpersonal or achievement spheres.

At the same time, persons' positive appraisals of their ability to cope with events may lead to more effective coping strategies, to more successful experiences, and, in turn, to higher self-esteem. It may be likely that, as Barnett & Gotlib (1988) propose, persons who tend to become depressed have labile self-esteem, that both reacts to and exacerbates interpersonal stress. Future research may further elucidate the nature of these effects.

#### Lack of Interaction Effect

The lack of an interaction among type of stressor, personality schema, and avoidance coping in the MANOVAS, the most direct test of the congruency hypothesis, was unexpected. If taken at face value, this lack of support argues against a clear connection among these variables. However, there are a number of other possible reasons that an interaction was not found.

As Segal et. al (1992) have reported, the principle of congruency generally has been supported in recent investigations, but the evidence supporting the effect of congruency on the prediction of depression is meager. These authors suggest that the univariate focus of this research and "the lack of integration of constructs that fall outside the confines of the specific theory being tested" (p. 26) may partially account for the limited predictive power of the model. As well, the nature of the matching of stressor, personality schema, and depression, has often varied across

and even within studies. For example, the relative contributions of sociotropy and autonomy have varied with the type of design and sample used in the research.

Distinct differences between university student and clinical samples seem to account for some of these variations. Yet, although sampling differences clearly do exist, they should not preclude the use of student samples: Hammen et. al. (1985) noted that university populations experience a wide range of stressors and clinical problems, as well as higher-than-average rates of reported depressive symptoms. Nonetheless, as noted in cognitive theory as well as research, clinical samples differ in the ways in which they view the world, process information, and react to stressors. Although cognitions of remitted depressed individuals are more similar to those of people who have not been depressed than to those who are (Barnett & Gotlib, 1988), the experience of having been depressed does appear to lead to a susceptibility or vulnerability to relapse (Lewinsohn, Hoberman, & Rosenbaum, 1988) that could certainly be associated with characteristic and possibly ineffective ways of coping with stressors.

As discussed earlier, this area of research has been rife with measurement difficulties. It is a difficult decision, when testing hypotheses based on the culmination of a line of research, whether to maintain uniformity and repeat the successes as well as the problems of past studies or to

try to improve methodology. The measures and methods used here were selected in an attempt to avoid past difficulties. However, without more research utilizing similar measures, the generalizability of the present findings and their association with the results of other studies is unclear.

As Segal and his colleagues (1992) suggest, discrepancies in the nature of congruency effects may reflect "content-specific variance" associated with a range of interrelations among measures. Also, the internal consistency reliabilities of some of the scales of the CRI, although considered satisfactory by the author of the scale, are still less than desirable and may have minimized effects. Particular difficulty has been associated with the measurement of autonomy: Autonomy scales have been "more variously conceptualized, have not correlated highly with each other, and have performed disappointingly as predictors of depression in the presence of life stress" (Rude & Burnham, 1993, p. 545). Although the Personal Style Inventory utilized in the present study was designed to circumvent these problems, its relationship to other scales has yet to be determined.

Classification schemes have also differed among studies. The median-split method utilized here may less clearly distinguish between individuals than would one based on arbitrarily high or low cut-off scores. Further, the classification of events into the achievement or

interpersonal domain based on respondents' perceptions of the meaning of these events is relatively rare compared to ratings by independent judges. The distinction between the impact of two separate events that participants were asked to make may have been more blurred than it would have been for independent raters. In fact, a number of subjects described similar events for both completions of the CRI: Similar situations seemed to elicit helpless and dependent as well as self-critical and guilty feelings for some persons.

Self-report measures based on retrospective recollection over an extended period may be coloured by a number of factors, including recall ability and current levels of depression. Individuals may not be the most accurate raters of their own behaviour and, therefore, self-report measures may need to be augmented by behavioural observation or reports by family members. Finally, diathesis-stress models are complex and we should not assume that either the conceptualization or measurement is uncomplicated. Monroe and Simons (1991) discussed several inherent difficulties in the conceptualization and measurement of diathesis-stress interactions. For example, a cognitive diathesis may influence the perception of stress--that is, what events are recalled, what experiences are considered to be stressful, and the level of stress associated with the experience. Cognitive vulnerability may lead to the creation of stressful situations in the following manner: An individual sensitized

to interpersonal relationships may make constant demands for support and reassurance (consistent with the results described here). "Relatively benign" events may acquire deep personal meaning and be associated with needy or demanding behaviour that may actually precipitate rejection and stress. The authors suggest that the dependence or independence of stress and cognitive vulnerabilities is then intricately related to whether a diathesis-stress model is viewed as additive or interactive. Monroe and Simons also discuss the discrepancies between a respondent-based definition or rating of stress and more objective or investigator-based ratings and conclude that definitions of stress should be more standardized to enhance reliability. They emphasize their belief that respondent-based procedures inevitably are influenced by an "uninterpretable blend" of both subjective perception and environmental circumstances.

Monroe and Simons (1991) also raise other interesting issues in the conceptualization and measurement of these models. They present evidence that the impact of one stressor of sufficient severity seems to be critical in the onset of depression (e.g., Brown & Harris, 1986) and they assert that, given increasingly severe levels of stressors, many people become depressed. They suggest that, as people in the general population have relatively infrequent exposure to the type of major stressor that elicits depression, and as

cognitive vulnerability is fairly common, "life stress may be the more 'prevalence-limiting'" (p. 419) of the two.

With respect to the present study, it appears that, just as personality styles and stressors appear to be associated with characteristic coping patterns, the use of certain kinds of coping may lead to an increase in the number or severity of stressors, and to changes in self-esteem and cognitions. The investigation of mediating variables in the congruency hypothesis would be assisted by increased knowledge of the interaction between life stress, cognitions, and coping measures.

#### Coping as A Mediating Variable in the Congruency Hypothesis

The present study suggests a link between personality schemata based on sociotropic and/or autonomous characteristics and a wide range of coping behaviours. Hammen (1990) proposed that stressful events or circumstances result in appraisal directed by cognitive schema. The interpretation, significance, and coping responses that are activated are based on the available self-schema. The resulting behaviours may have profound implications for an individual's self-esteem and sense of self-efficacy, as well as critical effects on the reactions of others in the environment. Given that certain coping behaviours such as emotional discharge have been more frequently associated with poorer adjustment or adaptation, including depression, the



results of the present study may add to explanations of the processes that mediate congruency effects.

Consistent with the related research in this area, the influence of sociotropy-stressor congruence appears to be more profound or broader than that of autonomy. Dependent individuals, as expected, respond by increasing virtually all of their available methods of coping when faced with a stressor that threatens their dependency needs. This behaviour may initially increase the support of others but eventually elicits withdrawal or other negative responses, the opposite of what the sociotropic individual seeks. In turn, as their dependent cognitive schema is activated and results in loss of self-esteem and depression, sociotropic individuals (as Gotlib, 1990, suggests) may focus inward on negative self-cognitions and alienate others even further with their depressive behaviours and affect.

It also seems that sociotropic persons' apparent unwillingness to "give up" results, not only in greater use of coping responses, but in more self-defeating responses as well. Dependency may be associated with a rigid or even desperate responding to schema-congruent problems; the results found here indicate that both avoidance and approach coping are increased. The fact that interpersonal setbacks may involve more people and therefore be more public than are personal achievement difficulties could well exacerbate this differential responding.

The findings of the present study also suggest that autonomous individuals may be more flexible and able to change their focus when faced with negative stressors, although autonomy did predict avoidance coping in response to self-critical as opposed to dependent stressors and autonomous individuals also increased their coping levels in response to dependent stressors. In our society, aspects of autonomy - need for achievement, perfectionism, and even high needs for independence - seem to be generally valued more than is dependency on others. A high need for achievement may serve an individual well and only become depressogenic when it leads to unrelenting self-criticism and impossibly high self-standards (e.g., Hewitt & Flett, 1991a, 1991b). Research on perfectionism may continue to yield clearer associations with depression than studies using the often-problematic measures of autonomy (Hewitt & Flett, 1993)

The various branches of depression research seem to be attempts to "tease apart" combinations of the many variables that have been associated with depression. The present study extends the research on the congruency hypothesis by integrating a number of constructs and examining two additional factors, coping responses and self-esteem, that may be part of a multifactorial model of psychological health.

Cognitive appraisal, as well, was examined indirectly in this study. Researchers have fairly consistently commented

that an event that is interpreted as being related to interpersonal needs by one person, may be considered by another person to be achievement-related. With the methodology used here, participants were asked to choose the meaning that highly stressful events held for them. This procedure allowed for the possibility that individuals may differ in their appraisals of events in a manner that may not be anticipated in an arbitrary classification of events as either interpersonal or achievement-oriented.

Examination of coping responses allows for a sampling of a wide range of both effective and less effective coping behaviours. The use of coping profiles, which provide a more global perspective of an individual's behaviour, may prove to be particularly useful. Coping profiles in this study were associated differentially with gender, type of problem, and personality schema. Although the use of individual types of coping strategies is clearly informative, the use of one sort of coping may interact with the need or desire to use another. Coping profiles allow us to view separate coping behaviours as part of a group of behaviours that more accurately reflect an individual's coping repertoire. As well, as Vitaliano et al. (1990) stated, we can compare the coping profile of a certain individual or group to that of another group in order to make predictions for behaviour or other responses to stress.

The use of coping profiles also accentuates another manner in which the present study extends current research: the use of the "high both" and "low both" groups. Virtually all studies of the congruency hypothesis (partially out of necessity, given the paradigms used), have ignored or eliminated these two groups. The profile analyses indicated that the coping of persons high in both sociotropy and autonomy as well as those low in both differs in significant ways from that of "purely" sociotropic and autonomous individuals. The multiple regressions also demonstrated that sociotropy and autonomy each contribute uniquely to the use of avoidance coping and to BDI scores (although the influence of sociotropy appears to be greater). These analyses did not indicate more specifically the nature of these differences, yet it appears reasonable to assume that the combination of high dependent and self-critical personality schemata may be even more pernicious than is either style individually.

#### Implications for Treatment

The present study adds to our knowledge of the manner in which cognitive vulnerabilities may interact with potentially stressful situations to lead to depression. For the clinician, increased knowledge of vulnerability to certain events may facilitate (as Hammen, 1990, proposed) the anticipation of clients' reactions to upcoming events. Clinicians may also gain further awareness of the ways in which clients' attempts to protect their dependency or

autonomy needs may actually contribute to, or interact with, the occurrence of problems.

Gotlib (1990) emphasized that the therapist must be aware of interpersonal, cognitive, and social/environmental aspects of depression. As well, he stated that "the clinician must be sensitive to the reactive and dynamic nature of depression" (p. 145). Prediction of coping responses based on personality schemata may help the therapist comprehend the factors that influence clients' environments and the reactions of others. In turn, clinicians may become more cognizant of the circular nature of stressor-appraisals and coping reactions that maintain and exacerbate depression.

A clearer understanding of the coping behaviors associated with personality styles, stressors, and their interactions should allow for the development of more effective coping-skills assessment and interventions. For example, knowing that the client is "high" on autonomy might direct the therapist's exploration of particular dysfunctional coping strategies to be manifested in situations that are likely to occasion self-criticism. On the other hand, knowing that the person is high on sociotropy might lead to a broader exploration of potentially troublesome coping situations, although likely beginning with an investigation of interpersonal problems. (Of course, the therapist must be aware that sociotropy and autonomy are

continuous variables and that they can both be found to varying extents within one individual).

Understanding the fit between person and environment on coping can provide the impetus for exploring the significance of troublesome events for a client and the types of positive events that may be particularly helpful in enhancing the client's self-esteem. Such understanding can also prompt the therapist to explore the ways in which interpretations of events are related to dynamic influences: For example, how is loss or abandonment related to interpersonal relationships of the past?

The use of coping profiles may prove to be particularly helpful in treatment: Therapy may be more effective if it is congruent with the coping profile of an individual or of a particular client group. Awareness of the coping patterns associated with certain personality schemata can help clinicians to anticipate typical ways in which people may deal with their problems. Clinicians can formulate treatment plans with the awareness that clients' coping repertoires are likely to differ in certain situations and in concert with certain ways of viewing the self and the world. In this way, therapists can help individuals not only to gain insight but to predict and modify their behaviour in a manner that decreases exposure to, and interpretation of, negative events.

### Limitations of the Study

There are several factors that temper the results and conclusions of this study. First, the university sample was relatively homogeneous with respect to age and level of education. Although we could assume that patterns of coping may be well-entrenched by the age of 18 (the average age of this sample) future learning, experience, developmental changes, and life passages could be expected to influence coping behaviour. As well, the ability to cope with life stressors in effective ways and the opportunities to do so likely are influenced by the number of stressors with which an individual is faced. A relatively more ethnically diverse or economically disadvantaged sample than that used in the present study may have been exposed to more and different forms of stressors and, in response, developed correspondingly different coping profiles than those found among this sample.

It is also reasonable to assume that this group of university students may also differ in significant ways from a clinical sample, given the disparities between studies using one or the other population. Differences between studies involving clinical as compared to non-clinical samples may be partially explained by the means used to measure depression. High BDI scores, although reflecting genuine and significant distress, are not necessarily the same as major depression diagnosed with clinical measures.

The generalizability of the findings of this study should not be assumed until similar studies with clinical as well as more diverse non-clinical populations are completed.

Second, all of the data in this study were obtained from self-report measures and were not corroborated by collateral interviews or observation. Subjects' perceptions of their own behaviour and personality as well as subjective levels of distress are clearly important. However, the accuracy of self-report, particularly of the dependent variable coping, requires independent validation, at least for some of the more readily verifiable behavioral coping strategies. The potential for bias in self-report is compounded when retrospective self-reporting of behaviour is used, as it was in the Coping Resources Inventory and, as Monroe and Simons (1991) suggested, when respondent-based ratings of stress are utilized. Thus, the possibility of response bias on the coping and personality measures exists, particularly among persons with significant levels of current depression (Barnett & Gotlib, 1988).

Due to the cross-sectional design, the significant positive correlation found between the BDI and perceived severity and duration of the problem cannot be assumed to be unidirectional. Even the association between sociotropy and depressive symptomatology may be an artifact of depressive bias, as depressed subjects may view themselves incorrectly as being more dependent than do nondepressed subjects.



Finally, the correlations among self-report measures may also reflect a bias in reporting rather than, or as well as, genuine relationships among the variables measured.

A third major limitation to the interpretability of these findings is the cross-sectional nature of the study. The BDI was used to measure levels of depressive symptoms at the time of the study, which, in many cases, may have followed temporally the stressful events described by participants. Prospective research employing both self-report and observation procedures will be needed before causal statements about the role of coping in depression can be made.

Two final limitations of the present study require discussion. The amount of variance accounted for in the regressions on avoidance coping was modest (20%). As well, differences between the means examined following the analyses of variance were also often small. Given the large, homogenous sample and the number of measures used, even small differences suggest the presence of some phenomenon associated with the variable studied. However, there is always the need to differentiate between statistically significant and clinically meaningful results. Finally, differences in methodology and measures used between this study and previous ones make comparison of results difficult. It is hoped that both of these concerns will be alleviated by replication of these results, and that some of the changes

utilized in this study will be viewed as potential improvements upon past methodology.

#### Directions for Future Research

Most current research on depression is guided by diathesis-stress models. However, as noted by Monroe and Simons (1991), such models are not precise either in their conceptualization or in their operationalization. The schema-congruency hypothesis may be regarded as a specific form of diathesis-stress model, in which the congruence or match of the stressor to a pre-existing vulnerability plays a critical role in the development of depressive symptoms. Although this approach has much to recommend it, in an attempt to validate the hypothesis, researchers have typically confined themselves to identifying narrowly defined groups (i.e., sociotropic and autonomous groups). As a consequence, a large number of persons--those high and those low on both measures--have routinely been deleted from study. The results of the present study, which included the high and low both groups in the profile analysis, suggested the possibility that the combined presence of sociotropy and autonomy may amplify attempts to cope with stressors. Future studies may offer interesting results if they include individuals high in both sociotropy and autonomy in their analyses. As well, given that the low both group also responded differentially to dependent as compared to self-critical stressors, it may be useful to include them in

future studies as a comparison group, in order to judge if coping responses are associated more with stressor type than with personality schema.

As well, further research utilizing coping profiles and relative (as opposed to absolute) coping should be undertaken. As investigators have emphasized the fact that an individual's interpretation of events as either interpersonal or achievement-oriented may be quite idiosyncratic, future research comparing self-reported interpretations of stressors to objective ratings would be useful. Other personal appraisals of these events (including degree of stress or upset, perceived threat, and perceived ability to cope) should also be considered.

The measurement of sociotropy and autonomy as well as coping responses could be enhanced in future work by the development of behavioural and/or observable measures. Coping responses, in particular, may be one form of behaviour than can be measured and shown to be associated with certain personality schemata. Behavioural validation of coping measures such as the CRI could increase their objectivity and reliability and, therefore, their effectiveness in empirical research.

The question of whether dependency and self-criticism are uniquely associated with depression or are also associated with other emotions or disorders such as anger or anxiety is also unanswered. Neither has it been determined

if sociotropy is a general, cross-situational vulnerability to depression. Finally, we do not know if personality schemata represent a subclinical manifestation of depression and if they are altered by depression in such a way that they increase relapse. Future research may provide the answers for these fascinating and critical questions.

Although the present study did not strongly support the schema congruency hypothesis, coping was affected by individual differences in cognitive vulnerability schemata and the type of stressor to which participants responded. In view of these results, the further investigation of coping in relation to the schema-congruency hypothesis, with improved methodology and measurement, is a promising avenue of study. The road for future research may lie in further efforts to integrate the many psychological, biological, social, and environmental factors involved in the development of depression.

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## Appendix A

Questionnaire (Form One): Introduction

This questionnaire is designed to gather information about the types of coping that different types of people have used in response to stressful situations. Please answer each of the questions frankly and honestly. Your name is not required on this booklet and confidentiality will be maintained.

While your participation is voluntary, it is important that you try to answer all of the questions as best as you can. Please begin with the following page and complete each page in order.

## Background Information

What is your age? \_\_\_\_\_ Sex (circle one) M F

## Appendix B

Personal Style Inventory

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.

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Strongly Agree	Agree
1. I am very sensitive to criticism by others.	1	2	3	4	5	6
2. I often find that I don't live up to my own standards and ideals.	1	2	3	4	5	6
3. I find it difficult to be separated from people I love.	1	2	3	4	5	6
4. I resent it when people try to direct my behavior or activities.	1	2	3	4	5	6
5. I often put other people's needs before my own.	1	2	3	4	5	6
6. I don't like relying on others for help.	1	2	3	4	5	6
7. I worry a lot that people may criticize me.	1	2	3	4	5	6
8. The standards and goals I set for myself are usually higher than those of other people.	1	2	3	4	5	6
9. It is hard for me to break off a relationship even it is making me unhappy.	1	2	3	4	5	6
10. I rarely trust the advice of others when making a big decision.	1	2	3	4	5	6
11. I am very sensitive to the effects I have on the feelings of other people.	1	2	3	4	5	6
12. When I'm feeling blue, I don't like to be offered sympathy.	1	2	3	4	5	6

	<u>Strongly</u> <u>Disagree</u>	<u>Disagree</u>	<u>Slightly</u> <u>Disagree</u>	<u>Slightly</u> <u>Agree</u>	<u>Agree</u>	<u>Strongly</u> <u>Agree</u>
13. I am very sensitive to signs of possible rejection by others.	1	2	3	4	5	6
14. It is hard for me to accept my own weaknesses and limitations.	1	2	3	4	5	6
15. It is hard for me to take charge of my own affairs without help from other people.	1	2	3	4	5	6
16. I am very upset when other people or circumstances interfere with my plans.	1	2	3	4	5	6
17. I worry a lot about hurting or offending people.	1	2	3	4	5	6
18. I don't like people to invade my privacy.	1	2	3	4	5	6
19. I am easily persuaded by others.	1	2	3	4	5	6
20. I tend to be very self-critical.	1	2	3	4	5	6
21. I need other people's help in order to cope with life's problems.	1	2	3	4	5	6
22. I try to maintain control over my feelings at all times.	1	2	3	4	5	6
23. I try to please other people too much.	1	2	3	4	5	6
24. It is hard for me to have someone dependent on me.	1	2	3	4	5	6
25. It is very important to me to be liked or admired by others.	1	2	3	4	5	6
26. I believe in doing something well or not doing it at all.	1	2	3	4	5	6

	<u>Strongly</u> <u>Disagree</u>	<u>Disagree</u>	<u>Slightly</u> <u>Disagree</u>	<u>Slightly</u> <u>Agree</u>	<u>Agree</u>	<u>Strongly</u> <u>Agree</u>
27. I never really feel secure in a close relationship, because I am concerned that I might lose the other person.	1	2	3	4	5	6
28. I am easily bothered by other people making demands of me.	1	2	3	4	5	6
29. I often feel responsible for solving other people's problems.	1	2	3	4	5	6
30. I can be completely independent of other people.	1	2	3	4	5	6
31. I am very concerned with how people react to me.	1	2	3	4	5	6
32. I should be able to excel at anything if I try hard enough.	1	2	3	4	5	6
33. I find it difficult if I have to be alone all day.	1	2	3	4	5	6
34. I often try to change other people's behaviour.	1	2	3	4	5	6
35. I feel I have to be nice to other people.	1	2	3	4	5	6
36. I tend to keep other people at a distance.	1	2	3	4	5	6
37. I get very uncomfortable when I'm not sure whether or not someone likes me.	1	2	3	4	5	6
38. I usually view my performance as either a complete success or a complete failure.	1	2	3	4	5	6
39. It is very hard for me to get over the feeling of loss when a relationship has ended.	1	2	3	4	5	6

	<u>Strongly</u> <u>Disagree</u>	<u>Disagree</u>	<u>Slightly</u> <u>Disagree</u>	<u>Slightly</u> <u>Agree</u>	<u>Agree</u>	<u>Strongly</u> <u>Agree</u>
40. It is hard for me to take instructions from people who have authority over me.	1	2	3	4	5	6
41. I am too apologetic to other people.	1	2	3	4	5	6
42. It is hard for me to open up and talk about my feelings and other personal things.	1	2	3	4	5	6
43. I often censor what I say because the other person may disapprove or disagree.	1	2	3	4	5	6
44. I judge myself as a person based on the quality of the work I do.	1	2	3	4	5	6
45. I like to be certain that there is somebody close I can contact in case something unpleasant happens to me.	1	2	3	4	5	6
46. When making a big decision, I usually feel that advice from others is intrusive.	1	2	3	4	5	6
47. It is hard for me to say "no" to other people's requests.	1	2	3	4	5	6
48. It is hard for to express admiration or affection.	1	2	3	4	5	6
49. It is hard for me to be a nonconformist.	1	2	3	4	5	6
50. It bothers me when I feel that I am only average and ordinary.	1	2	3	4	5	6
51. I become upset when something happens to me and there's nobody around to talk to.	1	2	3	4	5	6

	<u>Strongly</u> <u>Disagree</u>	<u>Disagree</u>	<u>Slightly</u> <u>Disagree</u>	<u>Slightly</u> <u>Agree</u>	<u>Agree</u>	<u>Strongly</u> <u>Agree</u>
52. I become upset more than most people I know when limits are placed on my personal independence and freedom.	1	2	3	4	5	6
53. I often let people take advantage of me.	1	2	3	4	5	6
54. It is difficult for me to make a long-term commitment to a relationship.	1	2	3	4	5	6
55. I am most comfortable when I know my behaviour is what others expect of me.	1	2	3	4	5	6
56. I feel bad about myself when I am not actively accomplishing things.	1	2	3	4	5	6
57. I become very upset when a friend breaks a date or forgets to call me as planned.	1	2	3	4	5	6
58. I resent it when others assume responsibility for my plans.	1	2	3	4	5	6
59. It is hard for me to let people know when I am angry with them.	1	2	3	4	5	6
60. In relationships, people are often too demanding of one another.	1	2	3	4	5	6

## Appendix C

Coping Resources Inventory

(Instructions adapted by permission of Rudolph Moos)

In the next two questionnaires, you will be asked to answer questions about two different stressful situations or problems that you have experienced during the last 12 months. These two situations will be chosen and described by you. One of the situations should be the most stressful situation that you have experienced, during the last 12 months, that made you feel helpless, dependent on others, or worried about what others thought or felt. The other situation should be the most stressful situation that you have experienced, during the last 12 months, that made you feel guilty, critical of yourself, out of control, or as if you needed to get away from others.

Please choose these two different stressful situations before continuing the questionnaire booklet. You will be asked to complete the same questions about both situations.

DEALING WITH A PROBLEM OR SITUATION

Please think about the most important problem or stressful situation you experienced DURING THE LAST 12 MONTHS, that made you feel helpless, dependent on others, or worried about what others thought or felt.

DESCRIBE THE PROBLEM OR SITUATION \_\_\_\_\_

How long did the problem last? (days, months) \_\_\_\_\_

How upsetting did you find the problem or situation? (Circle one)

Not at all upsetting				Moderately upsetting			Extremely upsetting
1	2	3	4	5	6	7	

PART I

Please answer the following questions about the problem you have just described. Place an "X" in the appropriate box:

	Definitely No	Mainly No	Mainly Yes	Definitely Yes
1. Have you ever faced a problem like this before? . . . . .	—	—	—	—
2. Did you know this problem was going to occur? . . . . .	—	—	—	—
3. Did you have enough time to get ready to handle this problem? . . .	—	—	—	—
4. When this problem occurred, did you think of it as a threat? . . .	—	—	—	—
5. When this problem occurred, did you think of it as a challenge? . .	—	—	—	—
6. Was this problem caused by something you did? . . . . .	—	—	—	—
7. Was this problem caused by something someone else did? . . . .	—	—	—	—



	Definitely No	Mainly No	Mainly Yes	Definitely Yes
8. Did anything good come out of dealing with this problem? . . . .	—	—	—	—
9. Has this problem or situation been resolved? . . . . .	—	—	—	—
10. If the problem has been worked out, did it turn out all right for you?	—	—	—	—

PART II

Please think again about the problem you described; indicate which of the following you did in connection with that situation.

<u>DID YOU:</u>	<u>NO</u>	<u>YES, once or twice</u>	<u>YES, some- times</u>	<u>YES, fairly often</u>
1. think of different ways to deal with the problem? . . . . .	—	—	—	—
2. tell yourself things to make yourself feel better? . . . . .	—	—	—	—
3. talk with a relative or spouse about the problem? . . . . .	—	—	—	—
4. make a plan of action and follow it?	—	—	—	—
5. try to forget the whole thing? . . .	—	—	—	—
6. feel that time would make a difference--the only thing to do was wait? . . . . .	—	—	—	—
7. try to help others deal with a similar problem? . . . . .	—	—	—	—
8. take it out on other people when you felt angry or depressed? . . . .	—	—	—	—
9. try to step back from the situation and be more objective? . . . . .	—	—	—	—
10. remind yourself how much worse things could be? . . . . .	—	—	—	—

Questions about how you handled the problem you described on page 9 (cont.)

<u>DID YOU:</u>	<u>NO</u>	<u>YES,</u> <u>once or</u> <u>twice</u>	<u>YES,</u> <u>some-</u> <u>times</u>	<u>YES,</u> <u>fairly</u> <u>often</u>
11. talk with a friend about the problem? . . . . .	—	—	—	—
12. know what had to be done and try hard to make things work? . . . . .	—	—	—	—
13. try not to think about the problem? . . . . .	—	—	—	—
14. realize that you had no control over the problem? . . . . .	—	—	—	—
15. get involved in new activities? . . . . .	—	—	—	—
16. take a chance and do something risky? . . . . .	—	—	—	—
17. go over in your mind what you would say or do? . . . . .	—	—	—	—
18. try to see the good side of the situation? . . . . .	—	—	—	—
19. talk with a professional person (e. g., doctor, lawyer, clergy)? . . . . .	—	—	—	—
20. decide what you wanted and try hard to get it? . . . . .	—	—	—	—
21. daydream or imagine a better time or place than the one you were in? . . . . .	—	—	—	—
22. think that the outcome would be decided by fate? . . . . .	—	—	—	—
23. try to make new friends? . . . . .	—	—	—	—
24. keep away from people in general? . . . . .	—	—	—	—
25. try to anticipate how things would turn out? . . . . .	—	—	—	—
26. think about how you were much better off than other people with similar problems? . . . . .	—	—	—	—

Questions about how you handled the problem you described on page 9 (cont.)

<u>DID YOU:</u>	<u>NO</u>	<u>YES, once or twice</u>	<u>YES, some- times</u>	<u>YES, fairly often</u>
27. seek help from persons or groups with the same type of problem? . . . . .	—	—	—	—
28. try at least two different ways to solve the problem? . . . . .	—	—	—	—
29. try to put off thinking about the situation, even though you knew you have to at some point? . . . . .	—	—	—	—
30. accept it; nothing could be done? . . . . .	—	—	—	—
31. read more often as a source of enjoyment? . . . . .	—	—	—	—
32. yell or shout to let off steam? . . . . .	—	—	—	—
33. try to find some personal meaning in the situation? . . . . .	—	—	—	—
34. try to tell yourself that things would get better? . . . . .	—	—	—	—
35. try to find out more about the situation? . . . . .	—	—	—	—
36. try to learn to do more things on your own? . . . . .	—	—	—	—
37. wish the problem would go away or somehow be over with? . . . . .	—	—	—	—
38. expect the worst possible outcome? . . . . .	—	—	—	—
39. spend more time in recreational activities? . . . . .	—	—	—	—
40. cry to let your feelings out? . . . . .	—	—	—	—
41. try to anticipate the new demands that would be placed on you? . . . . .	—	—	—	—
42. think about how this event could change your life in a positive way? . . . . .	—	—	—	—

Questions about how you handled the problem you described on page 9 (cont.)

<u>DID YOU:</u>	<u>NO</u>	<u>YES, once or twice</u>	<u>YES, some- times</u>	<u>YES, fairly often</u>
43. pray for guidance and/or strength? .	—	—	—	—
44. take things a day at a time, one step at a time? . . . . .	—	—	—	—
45. try to deny how serious the problem really was? . . . . .	—	—	—	—
46. lose hope that things would ever be the same? . . . . .	—	—	—	—
47. turn to work or other activities to help you manage things? . . . . .	—	—	—	—
48. do something that you didn't think would work, but at least you were doing something? . . . . .	—	—	—	—

Please think about the most important problem or stressful situation you experienced DURING THE LAST 12 MONTHS, that made you feel guilty, critical of yourself, out of control, or as if you needed to get away from others.

DESCRIBE THE PROBLEM OR SITUATION \_\_\_\_\_

\_\_\_\_\_

How long did the problem last? (days, months) \_\_\_\_\_

How upsetting did you find the problem or situation? (Circle one)

Not at all upsetting			Moderately upsetting			Extremely upsetting
1	2	3	4	5	6	7

PART I

Please answer the following questions about the problem you have just described. Place an "X" in the appropriate box:

	Definitely No	Mainly No	Mainly Yes	Definitely Yes
1. Have you ever faced a problem like this before? . . . . .	—	—	—	—
2. Did you know this problem was going to occur? . . . . .	—	—	—	—
3. Did you have enough time to get ready to handle this problem? . . .	—	—	—	—
4. When this problem occurred, did you think of it as a threat? . . .	—	—	—	—
5. When this problem occurred, did you think of it as a challenge? . .	—	—	—	—
6. Was this problem caused by something you did? . . . . .	—	—	—	—
7. Was this problem caused by something someone else did? . . . .	—	—	—	—
8. Did anything good come out of dealing with this problem? . . . .	—	—	—	—

	Definitely No	Mainly No	Mainly Yes	Definitely Yes
9. Has this problem or situation been resolved? . . . . .	—	—	—	—
10. If the problem has been worked out, did it turn out all right for you?	—	—	—	—

PART II

Please think again about the problem you described; indicate which of the following you did in connection with that situation.

<u>DID YOU:</u>	<u>NO</u>	<u>YES, once or twice</u>	<u>YES, some- times</u>	<u>YES, fairly often</u>
1. think of different ways to deal with the problem? . . . . .	—	—	—	—
2. tell yourself things to make yourself feel better? . . . . .	—	—	—	—
3. talk with a relative or spouse about the problem? . . . . .	—	—	—	—
4. make a plan of action and follow it?	—	—	—	—
5. try to forget the whole thing? . . .	—	—	—	—
6. feel that time would make a difference--the only thing to do was wait? . . . . .	—	—	—	—
7. try to help others deal with a similar problem? . . . . .	—	—	—	—
8. take it out on other people when you felt angry or depressed? . . . . .	—	—	—	—
9. try to step back from the situation and be more objective? . . . . .	—	—	—	—
10. remind yourself how much worse things could be? . . . . .	—	—	—	—
11. talk with a friend about the problem? . . . . .	—	—	—	—

Questions about how you handled the problem you described on page 15 (cont.)

<u>DID YOU:</u>	<u>NO</u>	<u>YES, once or twice</u>	<u>YES, some- times</u>	<u>YES, fairly often</u>
12. know what had to be done and try hard to make things work? . . . . .	—	—	—	—
13. try not to think about the problem? . . . . .	—	—	—	—
14. realize that you had no control over the problem? . . . . .	—	—	—	—
15. get involved in new activities? . . . . .	—	—	—	—
16. take a chance and do something risky? . . . . .	—	—	—	—
17. go over in your mind what you would say or do? . . . . .	—	—	—	—
18. try to see the good side of the situation? . . . . .	—	—	—	—
19. talk with a professional person (e. g., doctor, lawyer, clergy)? . . . . .	—	—	—	—
20. decide what you wanted and try hard to get it? . . . . .	—	—	—	—
21. daydream or imagine a better time or place than the one you were in? . . . . .	—	—	—	—
22. think that the outcome would be decided by fate? . . . . .	—	—	—	—
23. try to make new friends? . . . . .	—	—	—	—
24. keep away from people in general? . . . . .	—	—	—	—
25. try to anticipate how things would turn out? . . . . .	—	—	—	—
26. think about how you were much better off than other people with similar problems? . . . . .	—	—	—	—
27. seek help from persons or groups with the same type of problem? . . . . .	—	—	—	—

Questions about how you handled the problem you described on page 15 (cont.)

<u>DID YOU:</u>	<u>NO</u>	<u>YES, once or twice</u>	<u>YES, some- times</u>	<u>YES, fairly often</u>
28. try at least two different ways to solve the problem? . . . . .	—	—	—	—
29. try to put off thinking about the situation, even though you knew you have to at some point? . . . . .	—	—	—	—
30. accept it; nothing could be done? . . . . .	—	—	—	—
31. read more often as a source of enjoyment? . . . . .	—	—	—	—
32. yell or shout to let off steam? . . . . .	—	—	—	—
33. try to find some personal meaning in the situation? . . . . .	—	—	—	—
34. try to tell yourself that things would get better? . . . . .	—	—	—	—
35. try to find out more about the situation? . . . . .	—	—	—	—
36. try to learn to do more things on your own? . . . . .	—	—	—	—
37. wish the problem would go away or somehow be over with? . . . . .	—	—	—	—
38. expect the worst possible outcome? . . . . .	—	—	—	—
39. spend more time in recreational activities? . . . . .	—	—	—	—
40. cry to let your feelings out? . . . . .	—	—	—	—
41. try to anticipate the new demands that would be placed on you? . . . . .	—	—	—	—
42. think about how this event could change your life in a positive way? . . . . .	—	—	—	—
43. pray for guidance and/or strength? . . . . .	—	—	—	—



Questions about how you handled the problem you described on page 15 (cont.)

<u>DID YOU:</u>	<u>NO</u>	<u>YES,</u> <u>once or</u> <u>twice</u>	<u>YES,</u> <u>some-</u> <u>times</u>	<u>YES,</u> <u>fairly</u> <u>often</u>
44. take things a day at a time, one step at a time? . . . . .	—	—	—	—
45. try to deny how serious the problem really was? . . . . .	—	—	—	—
46. lose hope that things would ever be the same? . . . . .	—	—	—	—
47. turn to work or other activities to help you manage things? . . . . .	—	—	—	—
48. do something that you didn't think would work, but at least you were doing something? . . . . .	—	—	—	—

## Appendix D

Coopersmith Self-Esteem Inventory (Modified Short Form for Adults)

This part of the questionnaire is about general self-concept, or self-evaluation. Circle the number that corresponds to the answer that describes how often you feel this way about yourself: Often, sometimes, rarely, never?

	<u>Often</u>	<u>Sometimes</u>	<u>Rarely</u>	<u>Never</u>
1. I wish I were someone else .....	1	2	3	4
2. I'm proud of the things I have achieved .....	1	2	3	4
3. I generally feel confident .....	1	2	3	4
4. I'm pretty happy .....	1	2	3	4
5. I feel my family expects too much of me .....	1	2	3	4
6. I feel ashamed of myself .....	1	2	3	4
7. I understand myself .....	1	2	3	4
8. It seems things are all mixed up in my life .....	1	2	3	4
9. I feel no one takes much notice of me .....	1	2	3	4
10. I can make up my mind and stick to it .....	1	2	3	4
11. I have a low opinion of myself....	1	2	3	4
12. I would like to leave everything .....	1	2	3	4
13. I feel upset at work or at home...	1	2	3	4
14. I feel other people pick on me ...	1	2	3	4
15. I think my partner (boyfriend, girlfriend, husband, wife) understands me .....	1	2	3	4
16. I care what happens to me .....	1	2	3	4
17. I feel I'm a failure .....	1	2	3	4
18. I get easily upset when criticized .....	1	2	3	4

	<u>Often</u>	<u>Sometimes</u>	<u>Rarely</u>	<u>Never</u>
19. I get fed up .....	1	2	3	4
20. I'm a lot of fun to be with .....	1	2	3	4
21. I spend a lot of time daydreaming .....	1	2	3	4
22. I can be depended on .....	1	2	3	4

## Appendix E

Beck Depression Inventory

On this part of the 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. Be sure to read all the statements in each group before making your choice.

1. 0 I do not feel sad.  
1 I feel sad.  
2 I am 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 0 I don't feel disappointed in myself.  
1 I am disappointed in myself.  
2 I am disgusted with myself.  
3 I hate myself.
8. 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.
9. 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.

10. 0 I don't cry anymore 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.
11. 0 I am no more irritated now than I ever am.  
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.
12. 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.
13. 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 anymore.
14. 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.
15. 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.
16. 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.
17. 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.
18. 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 anymore.
19. 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 \_\_\_

20. 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.
21. 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.

## Appendix F

Concluding Instructions

Please make sure that you have completed all parts of this questionnaire by checking now to see if all pages and items have been finished. Return the questionnaire to the researcher once you have done so. Please leave your name and address in order that written feedback about collective results of this survey can be mailed to you after the completion of the study. Thank you for your participation!

## Appendix G

Take-Home Letter for Participants

Dear Participant,

Thank you for helping with this project. Researchers have found that people who have certain personality traits have a tendency to experience sad and despondent feelings when they encounter certain types of stressful situations. In general, people who are very self-critical are especially prone to sadness when they experience failure. People who are dependent on the approval of others tend to become sad or despondent when they have difficulties in interpersonal relationships. However, these relationships between personality, stress, and depressed mood have not been consistently found in the literature.

In this study, we are asking the question, "Do dependent and self-critical people tend to use certain types of coping when they are faced with certain types of stressors?" We hypothesize that people's coping style might be related to their personality style and their emotional reactions in certain stressful situations. Thus, the purpose of the study is to investigate whether the ways in which people cope with stressful events are associated with several factors: (a) type of personality (b) type of stressor, (c) the match between type of stressor and personality type, (d) self-esteem, and (e) sad feelings.



Once the data from the questionnaires has been analyzed, collective results will be mailed to you. Because your answers were confidential and no names were written on the answer booklets, individual results will not be available.

Sometimes, after completing this sort of questionnaire, people realize that they would like to talk to someone about problems or issues that are bothering them. Often, it helps to talk to friends or parents about your problems. Other times, however, you may feel the need to talk to a professional. The following places provide free or reasonably-priced counselling services:

University of Manitoba	Psychological Service Centre
Student Counselling Service	Fletcher Argue Building
University Centre 474-8592	474-9222

Klinic Community Health Centre	Interfaith Pastoral Institute University of Winnipeg
870 Portage Avenue 786-6943	786-9251
24-hour Crisis Line: 786-8686	

If you have any questions about this study, you can reach me by leaving a note in the student mailboxes, slot "S", on the fourth floor of the Duff Roblin Building. Thanks again!

Sincerely,

Teresa Sztaba, M.A.