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Dependency Autonomy Stress and Depression: A Test of an Interactive Model

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DEPENDENCY, AUTONOMY, STRESS, AND DEPRESSION:

A TEST OF AN INTERACTIVE MODEL

by

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ABSTRACT

Dependency, Autonomy, Stress, and Depression:

A Test of an Interactive Model

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Two diathesis-stress models were used to predict depression. The additive model combined dependency and autonomy (dependency-autonomy) as the diathesis and also combined dependent and autonomous hassles or life events as stressors. The congruent model used either dependency and dependent stressors or autonomy and autonomous stressors. Ninety-seven female and 42 male undergraduate students completed self-report measures of dependency and autonomy, hassles and life events, and depression at three testing sessions one week apart. Hierarchial multiple regressions -- with prior depression entered first and followed by dependency and/or autonomy, stress, and their interaction -- indicated that additive models with a significant interaction accounted for more variance in predicting depression than did the only congruent model that produced a significant interaction. These results suggest that dependency and autonomy may be non-orthogonal and even components of the same larger construct. Tentative empirical evidence was also found to support

Beck's (1983) notion that an individual's predominant personality mode may change over time.

DEDICATION

To my husband Bill and my daughters Kitty and Jennifer, whose understanding and encouragement have helped make this possible

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TABLE OF CONTENTS

PAGE

LIST OF TABLES

PAGE

LIST OF FIGURES

DEPENDENCY, AUTONOMY, STRESS, AND DEPRESSION: A TEST OF AN INTERACTIVE MODEL

The National Institute of Mental Health has described depression as a "whole-body" illness (National Institute of Mental Health [NIMH], 1991) as this disorder affects not only mood but also thought, motivation, behavior, and body. Estimates are that 5% to 10% of patients seen by primary care physicians suffer from major depression and an additional 20% have depressive symptoms that are clinically significant (Zisook, 1992). Unfortunately the effects of depression are often not limited to the initial episode; approximately half of all individuals who suffer a major depression will have a recurrence within two years of recovery (Belsher & Costello, 1988; NIMH, 1985) and 15% of depressed persons end their lives by suicide (Teuting & Koslow, 1981). Society suffers also; the cost of depression to the economy in 1989 was estimated at $27 million -- $17 million due to absenteeism and $10 million for medical care (Jefferson, 1992).

Over the past four decades, biochemical and psychological research on depression has burgeoned and 80% of those who suffer from this disorder can now be helped with appropriate treatment (NIMH, 1991). Much current research focuses on the etiology of depression in the hope that a greater understanding of causes may allow future caregivers to move beyond treating symptoms and toward prevention of both recurrences and initial episodes. Research is aimed at learning which

individuals are vulnerable to depression and under what circumstances these persons will become depressed.

In much of the etiological research, scientists conceptualize the development of depression in terms of a diathesis-stress model wherein individuals with predisposing factors or vulnerability (diathesis) will become depressed if exposed to precipitating factors (stress) to which they are specifically vulnerable. It is also theorized that, in the absence of an interaction between the diathesis and specific stress, these persons remain vulnerable but do not become depressed. The role of a potential diathesis in the etiology of depression may be evaluated by how well the interaction of this variable and stress predict subsequent depression. This study was conducted to assess the role of potential variables as diatheses in a diathesis-stress model of depression.

Personality Traits as Diatheses: Dependency and Autonomy

A large body of recent psychological research on the etiology of depression focuses on personality traits as diatheses. Both cognitive (Beck, 1983) and psychodynamic (Blatt, 1974; Blatt, D'Affliti, & Quinlan, 1976b; Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982) theorists describe two personality variables that are present in clinically depressed patients and suggest that these personality traits exist as antecedents in the premorbid personalities of patients who may later become depressed. Beck's (1983) sociotropic or socially dependent individual looks to others for a sense of well-being. "Needing" others for gratification, help, and safety, this person operates in a "receiving" mode. Greatly fearing rejection, this

individual seeks constant reassurance and is unwilling to take risks or to do anything that might result in alienation (like being assertive with an important other). For the sociotropic or socially dependent individual, specific precipitating factors for depression involve the loss or perceived loss of others on which to depend for gratification, help, or safety -- the lack of or diminution of necessary "receiving."

Beck describes a second type, the autonomous individual, whose sense of well-being is derived from "doing." Judging self-worth by attainment of goals, this individual has stringent internal criteria for achievement and success. The autonomous person does not like to ask others for help and dislikes others making demands or offering directives. Preferring to keep options open, this individual wants the freedom to do whatever is desired at a particular moment. The autonomous person fears being "trapped" and is usually not very sensitive to the needs of others. Specific precipitating factors for depression in the autonomous person involve an interference with "doing" or an inability to reach goals and achieve desired success, a situation that may be due to either internal or external causes.

Beck's (1983) sociotropic and autonomous personalities closely parallel Blatt's (1974; Blatt et al., 1976b; Blatt et al., 1982) anaclitic (dependent) and introjective (self-critical) personality types respectively. The anaclitic (dependent) personality style is characterized by helplessness, weakness, and extraordinary desires for care and protection. This individual fears abandonment and is desperate to keep in contact with the one or ones who provide gratification. In contrast, the introjective

(self-critical) personality style exhibits feelings of inferiority, worthlessness, guilt, and a need to compensate for not having lived up to standards. This individual is apprehensive about loss of approval and acceptance and strives excessively for perfection and achievement (Blatt, 1974; Blatt et al., 1976b; Blatt et al., 1982).

Since both theorists use different names for the two personality styles, it seemed appropriate to use one name for each type and thereby eliminate confusion. The terms dependent and self-critical appear most often in the literature, but the latter is inappropriate for referring to one of Beck's (1983) personality styles since he has described both types as vulnerable to self-criticism. Consequently, the terms dependency and autonomy were adopted for the current research -- not because they embody all that Beck and Blatt have described but for the sake of clarity. Their use implies that it is a lack of moderation in dependency and autonomy that is problematic and not the traits themselves. Afterall, every social being is necessarily interdependent to some extent and a functional being is necessarily autonomous to some degree. Although both Beck (1983) and Blatt and colleagues (Blatt et al., 1982) have indicated that their hypothesized personality traits are similar, no claim is made here that they are identical.

Measures of Dependency and Autonomy

In previous studies, one of three different self-report instruments were used to measure dependent and autonomous personality traits: the Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976a), the Sociotropy-Autonomy Scale (SAS;

Beck, Epstein, Harrison, & Emery, 1983), and two subscales of the Dysfunctional Attitude Scale (DAS; Weissman & Beck, 1978).

The DEQ is a 66-item questionnaire that was designed to measure anaclitic and introjective depressive experiences and assess how the respondent feels about interpersonal relationships and the self. Respondents use a 7-point scale to indicate agreement or disagreement with each statement. The DEQ yields three factors: Dependency ("I often think about the danger of losing someone who is close to me"), Self-criticism ("There is a considerable difference between how I am now and how I would like to be"), and Efficacy ("I have many inner resources"). Only the first two factors are subjects of interest in this paper. The DEQ appears to have adequate test-retest reliability over a 13-week period (Zuroff, Moskowitz, Wielgus, Powers, & Franko, 1983). Reported correlations for the Dependency and Self-criticism factors vary, however. In undergraduate samples, correlations of -.18 (Blaney & Kutcher, 1991) and .05 (Zuroff, Quinlan, & Blatt, 1990) were reported. In clinical samples, correlations of .81 (Franche & Dobson, 1992) and .51 (Brown & Silberschatz, 1989) were found. Blatt et al. (1982) reported correlations of .10 and .28 in female normals and patients, respectively, and .11 and .35 in male normals and patients, respectively. Thus, it is unclear to what degree the DEQ-Dependency and DEQ-Self-criticism factors are related.

The SAS consists of two 30-item scales, Sociotropy and Autonomy, each having three subscales. Respondents use a 5-point scale to rate the degree to which each statement applies to them. Sociotropy subscales are Concern about

Disapproval ("When I am with other people, I look for signs of whether or not they like being with me"), Attachment/Concern about Separation ("I find it hard to be separated from people I love"), and Pleasing Others ("I am afraid of hurting other people's feelings"). Autonomy subscales are Autonomous Achievement ("When I achieve a goal, I get more satisfaction from reaching the goal than from any praise I might get"), Mobility/Freedom from Control by Others ("It is very important that I feel free to get up and go wherever I want"), and Preference for Solitude ("I like to take long walks by myself"). According to Robins, test-retest reliabilities over a 4 to 6-week period have been adequate for Sociotropy and Autonomy and internal consistency has been demonstrated (cited in Robins & Block, 1988). Correlations of Sociotropy and Autonomy have been reported as -.18 by Beck et al. (1983) and as -.09 by Robins (cited in Robins & Block, 1988), suggesting the independence of these constructs.

The DAS-Form A, created from clinical material, contains 40 statements which the respondent rates on a 7-point scale. Internal consistency coefficients have been adequate in both a college student population (Dobson & Breiter, 1983) and an adult population (Oliver & Baumgart, 1985). Kuiper and colleagues (cited in Cane, Olinger, Gotlib, & Kuiper, 1986) reported acceptable test-retest reliability for a 3-month period. Cane et al. (1986) identified two subscales by factor analysis, Approval by Others ("My value as a person depends greatly on what others think of me") and Performance Evaluation ("If I do not do as well as other people I am an inferior human being"), that are thought to measure dependency and autonomy

respectively. Adequate alpha coefficients (Cane et al., 1986) and test-retest reliability (Segal, Shaw, Vella, & Katz, 1992) have been reported for these subscales.

Examination of the monotrait-multimethod intercorrelations of these measures of dependency and autonomy raises some interesting questions. With regard to dependency, the correlations are what might be expected for measures assessing the same general construct:

DEQ and SAS .51 (Blaney & Kutcher, 1991)

DEQ and DAS .52 (Cane & Gotlib [cited in Segal et al., 1992])

DAS and SAS .71 (Barnett & Gotlib [cited in Segal et al., 1992])

The correlations for autonomy are somewhat puzzling, however:

DEQ and SAS .21 (Blaney & Kutcher, 1991)

DEQ and DAS .50 (Cane & Gotlib [cited in Segal et al. 1992])

DAS and SAS - .25 (Barnett & Gotlib [cited in Segal et al., 1992])

The SAS autonomy measure does not appear to have the expected relationship with either of the other two measures of autonomy; DEQ and SAS autonomy measures are only moderately correlated, while -- surprisingly -- the DAS and SAS autonomy measures are inversely related. Some researchers who have used the SAS-Autonomy scale have suggested that it is problematic. Robins and Block (1988) found that autonomy as measured by the SAS was not a vulnerability factor for depression. Robins (cited in Robins & Block, 1988) reported that the three SAS-Autonomy factors were not strongly correlated and suggested that several constructs might be confounded in the scale. Furthermore, Robins, Block, and Peselow (1989)

reported that clinical patients identified as autonomous by the SAS-Autonomy scale did not have the specific depressive symptoms characteristic of autonomous depressives. Such was not the case for those clinical patients identified as dependent by the SAS-Dependency scale; their symptoms were the specific ones predicted.

Previous Research: Congruency of Personality Style and Stress

To date, the majority of research linking dependency and autonomy personality traits with depression focuses on the congruency of diathesis and stress: that is, depression is related to the interaction of either dependency and stress of an interpersonal nature or autonomy and stress of an achievement nature. The research questions most frequently tested are these: Is an individual high in dependency more likely than an individual high in autonomy to become depressed after experiencing interpersonal-related stress, and is this individual less likely than an individual high in autonomy to experience depression after experiencing achievement-related stress? Parallel research questions are posed for testing of congruency of diathesis and stress with autonomous individuals.

Hammen, Marks, Mayol, and deMayo (1985) classified college students as dependent or autonomous on the basis of self-schema rather than one of the instruments described above. After following these students prospectively for four monthly assessments, they reported that 9 of the 12 correlations of interpersonal events and depression for dependent individuals were significant. Only 2 of the 12 correlations of achievement events and depression for autonomous individuals were significant, however. After alpha was reduced to offset the effect of 24 tests of

significance, support for congruency of personality style and stress remained only for dependent participants and then only for the interview, rather than questionnaire, method of assessing stress. Interestingly, 32% of the student sample were classified as "mixed" dependent and autonomy on the basis of the first schema assessment. A second schema assessment two months later provided additional data points and so ultimately only 13% were finally classified as "mixed" dependent and autonomous. These "mixed" individuals were omitted from data analysis.

Using the DEQ, Zuroff and Mongrain (1987) classified female college students as dependent if they scored in the upper 30% on dependency and lower 30% on autonomy. By the same scheme, participants were classified as self-critical if they scored in the lower 30% on dependency and upper 30% on autonomy. Control participants were those who scored in the lower 30% on both dependency and autonomy. Apparently 75% of the initial participant pool could not be classified by these methods as either dependent or autonomous; unclassified participants -- those who were neither dependent nor autonomous but rather "mixed" dependent and autonomous -- were subsequently dropped from the study.

Dependent, autonomous, and control participants listened to audiotapes portraying rejection and failure episodes and then responded to general, dependent, and autonomous measures of depression. For the rejection episode, dependent participants responded with significantly more general and dependent symptoms of depression than both autonomous and control participants. For the failure episode, however, both dependent and autonomous participants responded with significantly

more general and autonomous depressive symptoms than did the control participants. Like the previous study, this one revealed only partial support for congruency. While congruency was supported for dependent participants, it was not supported for autonomous participants, who were apparently no more vulnerable to the failure episode than were dependent students. Another way of looking at these results, however, would be to say that congruency for dependent participants was not supported either since these participants were vulnerable to both rejection and failure episodes.

Zuroff, Igreja, and Mongrain (1990) used the DEQ dependency and autonomy scores of female students at Time 1 to predict retrospective dependency and autonomy depression scores at Time 2. These were measured by participants' responses on a 7-point scale to adjectives thought to reflect either dependency or autonomy. After controlling for depression at Time 1, adding either the dependency scores or the autonomy scores to the regression equation resulted in $\underline{R}^2$ increases when predicting dependent or autonomous depression respectively, thus lending support to congruency hypotheses. These researchers identified a "mixed" group of participants who were high in both dependency and autonomy on the DEQ, but no mention is made of how these scores were treated during regression analyses.

Other researchers used the SAS to measure dependency and autonomy. In a cross-sectional study, Robins and Block (1988) treated personality style measurements of college students as continuous variables in predicting depression by hierarchial multiple regression. Results showed that individuals high in

dependency were more likely to experience depression in association with high stress of either an interpersonal or achievement nature than were individuals lower in dependency. Participants high in autonomy, however, were not more vulnerable to depression regardless of type of stress; in fact, autonomy appeared to serve as a "buffer" against depression. This study provides only limited support for congruency hypotheses.

Robins (1990) used z scores derived from SAS measures to identify four groups: high dependency/low autonomy, high autonomy/low dependency, high on both dimensions, and low on both dimensions. Analyses of variance revealed that depressed patients high in dependency experienced significantly more negative interpersonal events than negative achievement events and significantly more negative interpersonal events than depressed patients high in autonomy. There was no evidence for congruency in four other groups of participants: depressed patients high in autonomy, depressed patients high on both dimensions, depressed patients low on both dimensions, and schizophrenic patients regardless of their personality style classification. Robins also found that neither dysphoric nor non-dysphoric undergraduates exhibited significant congruency effects although there were trends toward congruency for dysphoric participants with high dependency and high autonomy. Since no results were reported, there were presumably no significant differences in the number of interpersonal and achievement events for the participants either high on both dimensions or low on both dimensions.

In a prospective design, Hammen, Ellicott, Gitlin, and Jamison (1989) used the SAS to classify unipolar and bipolar outpatients as dependent or autonomous. In the interest of simplicity, two of each depressive group were dropped from the study because they had "mixed" personality styles: that is, their predominant personality trait as measured by the SAS did not exceed the alternative trait by at least 3 points. Analyses of variance indicated that autonomous unipolar patients experiencing achievement stress were significantly more symptomatic than were those experiencing interpersonal stress. Likewise, dependent unipolar patients were more symptomatic following interpersonal stress than achievement stress, but the differences were not significant. Support for congruency of stress and depression was stronger for autonomous unipolars than dependent unipolars. There were no significant differences for the two bipolar groups.

Also using the SAS to measure dependency and autonomy, Hammen, Ellicott, and Gitlin (1989) followed unipolar outpatients prospectively for up to two years. Hierarchial multiple regression analyses revealed strong support for congruency of stress and autonomy in the prediction of depression. In fact, autonomy, achievement stress, and their interaction accounted for 54% of the variance in predicting depression. It is important to note, however, that, due to small sample size, initial depression scores were not entered as the first step in the regression and, consequently, there was no control for initial levels of depression. There was no support for congruency of dependency and interpersonal events in predicting depression.

Using the DAS subscales, Segal, Vella, and Shaw (1989) classified remitted depressives as dependent if they were above the median on dependency and below the median on autonomy and as autonomous by a similar but reversed process. Forty percent of the participants were "mixed" dependent and autonomous and were thus dropped from the study (Segal et al., 1992). After following these clinical patients prospectively for six months, multivariate analyses of variance revealed that dependent depressives relapsed significantly more often after experiencing congruent interpersonal stress than after non-congruent achievement stress. There was no such differentiation for autonomous participants whose relapses occurred after either type of stress. An overall hierarchial multiple regression analysis was performed by entering the total number of stressful events followed first by personality variable type and then by the interaction of these two. Results indicated that the strongest predictor of depression was the interaction of personality trait and congruent stress. The researchers reported congruency for both dependent and autonomous participants; relapses followed stress of an interpersonal and achievement nature respectively.

Segal, Shaw, Vella, and Katz (1992) also used the DAS subscales to measure dependency and autonomy in remitted depressives. Scores on these traits were treated as continuous variables in hierarchial multiple regressions. Significant congruent interactions for both dependency and interpersonal stress and autonomy and achievement stress in prediction of relapse were reported. The researchers controlled for number of prior episodes of depression, allowing for a very

conservative test of the interaction effect. Time spans for measurement of stress varied, however. The interaction of dependency and severity of interpersonal stress was significant when stress was very recent (overall $\underline{R}^2 = .42$) and the interactions of autonomy and both severity and frequency of achievement stress were significant when stress was measured over a longer time span ($\underline{R}^2$s = .33 and .34, respectively).

Methodological Issues

Though the results of these studies are interesting and quite promising in some respects, the evidence is difficult to interpret and even appears to conflict. It is possible that the variety of research designs, participant populations, personality and stress measures, depression inventories, and statistical analyses accounts for this lack of consistency. Both cross-sectional and longitudinal designs have been used with both clinical and college student populations. Dependency and autonomy have been measured by the DEQ, SAS, and DAS subscales and stress has been gauged by adaptations of three different life event inventories. While some studies have treated dependency and autonomy as continuous variables, most have regarded these personality traits as discrete variables. And, only a few studies have controlled for prior depression, the strongest predictor of subsequent symptoms.

Despite these inconsistencies, however, there may be alternative explanations for the conflicting results of past studies. Both Beck (1983) and Blatt and colleagues (Blatt, 1974; Blatt et al., 1976b; Blatt et al., 1982) have suggested phenomena that apparently have not been taken into account in previous research.

First, while both Beck and Blatt suggested that congruent personality traits and stress precipitate depression in the vulnerable individual, both also suggested that individuals are "mixed" dependent and autonomous. Beck stated that "depending on the context and other factors, an individual may shift from one mode to another" (Beck, 1983, p. 272). Having attributes of both personality styles, the vulnerable individual might evince autonomy in a negative achievement-related situation and dependency in a negative interpersonal-related situation. Blatt (1974) suggested a similar phenomenon when he described dependent and autonomous depression as being "probably interrelated on a continuum" (Blatt, 1974, p. 114).

It is certainly easy to understand how fluctuation between predominance of dependency or autonomy might present difficulties for congruency research. For example, research participants in a cross-sectional study might be classified as dependent on the basis of a median split for analyses of variance and yet "spoil" congruency effects either by reacting to both interpersonal and achievement stress or by interpreting stress in an opposite manner from what is intended by the researcher (e.g., regarding a failed promotion at work as a failure of an interpersonal relationship with the boss). On the other hand, in a prospective design that predicts depression at Time 2 as a function of participants' dependency or autonomy score at Time 1, participants' predominant personality mode might have changed by Time 2 when interpersonal stress and achievement stress are measured.

Second, both Beck (1983) and Blatt and colleagues (Blatt et al., 1982) have suggested that individuals with "mixed" dependent and autonomous personality traits

are the ones whose clinical symptoms are most severe if they become depressed. Beck (1983) suggested that the greater inner turmoil of these individuals is due to conflict between their dependent and autonomous tendencies. Blatt and colleagues (Blatt et al., 1982) have theorized that these "mixed" individuals experience a serious dilemma that is extremely difficult to resolve because striving to compensate for weakness and failure felt as a result of dependency conflicts with longings for interpersonal gratification.

While both Beck (1983) and Blatt (Blatt, 1974; Blatt et al., 1976b; Blatt et al., 1982) implied that all individuals are "mixed" dependent and autonomous, there is converging evidence that this is true. First, there have been virtually no reports of an individual having either no dependent or no autonomous personality traits. Second, as was pointed out earlier, as many as 75% of the potential participants in one study did not "fit" appropriately in either the dependency or autonomy category because they were "mixed." Third, Goldberg, Segal, Vella, and Shaw (1989, p. 197) reported that "the majority of the participants in the current study were mixed types" and that there were "very small numbers of 'pure' cases." Furthermore, Segal and colleagues (1992) reported that they found it necessary to drop 40% of potential participants in an earlier study (Segal et al., 1989) because they were elevated on both dependency and autonomy.

Since "mixed" individuals cannot be classified as either dependent or autonomous personality types by a median split, most of the studies described above have excluded these participants. "Mixed" individuals could easily have been

included in earlier research if dependency and autonomy had been treated as continuous rather than discrete variables, but few of the studies conducted so far have done so.

Consistent with the idea that dependency and autonomy are "mixed" in all individuals, Franche and Dobson (1992) found that depressives' scores on the dependency and autonomy scales of the DEQ correlated at .81 while Brown and Silberschatz (1989) reported a correlation in a psychiatric population of .51. Although such high positive correlations have not been found in college populations (cf. Blaney & Kutcher, 1991; Zuroff et al., 1990), Franche and Dobson (1992) suggested three explanations for "mixed" dependency and autonomy: the two personality styles may co-occur in the same individual, the two personality styles may be interdependent constructs, or the two personality styles may even be the same construct. Additionally, Robins and Luten (1991) suggested that it may be inappropriate to consider dependency and autonomy as orthogonal personality variables in predicting depression.

Two other research teams have reported interesting findings that may be relevant. Mongrain and Zuroff (1989) measured autonomy with the DEQ and found that it accounted for a small but significant amount of variance in predicting the level of dependency as measured by a DAS subscale similar to the DAS-Excessive dependency one identified by Cane et al. (1986). It should be noted, however, that Mongrain and Zuroff's (1989) scales comprised only seven items each and were created by interrater agreement rather than by factor analysis. Additionally,

Goldberg et al. (1989) reported significant correlations between the Millon Clinical Multiaxial Inventory-Dependent subscale (MCMI; Millon, 1981) and the DAS-Dependency subscale (r = .54) and the DAS-Autonomy subscale (r = .31).

Consistent with the idea that dependency and autonomy are overlapping dimensions, Brewin and Furnham (1987) reported that both dependency and autonomy in normal undergraduate students were significantly and positively correlated with internal and global attributional styles for hypothetical negative outcomes. For psychiatric patients, the results were similar (Brown & Silberschatz, 1989).

One group of researchers asked whether participants high in both dependency and autonomy resemble only one or both of the personality styles (Zuroff, Moskowitz, Wielgus, Powers, & Franko, 1983). They concluded that dependency and autonomy are additive because undergraduate student "participants who scored high on both scales displayed the correlates of both scales" (Zuroff et al., 1983, p. 239). Blatt et al. (1982, p. 120) also reported this phenomenon in depressed patients: those high in both dependency and autonomy were "characterized by features common to each." And, both Beck (1983) and Blatt and his colleagues (Blatt et al., 1982) suggested that individuals high in both dependent and autonomous traits exhibit more severe symptoms if they become depressed than do individuals high in only one of these traits.

Converging evidence seems to suggest that dependent and autonomous personality styles may indeed be non-orthogonal. Perhaps, then, an additive

measure of dependency and autonomy, one in which both personality styles are free to vary as activated, might provide a more accurate description of an individual's true diathesis. Likewise, an additive measure of both interpersonal-related and achievement-related stress might allow a more accurate assessment of an individual's experienced stress. Consistent with this idea, Arieti and Bemporad (1980) theorized that the depressed individual is one who relies to a dangerous degree on external means for self-esteem and gratification. It may well be that vulnerability to depression is better defined by whether an individual excessively seeks gratification beyond the self than by whether the individual seeks to find it in interpersonal relationships or in achievement. Dependency and autonomy may actually be the extremes of a single continuum.

For the most part, the research conducted so far has not included participants who are "mixed" dependent and autonomous. Additionally, previous research has not investigated whether individuals actually change between predominant dependent and predominant autonomous personality styles as suggested directly by Beck (1983) and implied by Blatt (1974). Neither has prior research investigated whether individuals high in both dependency and autonomy have more severe symptoms if they become depressed. Perhaps the greatest void, however, is research designed to be a true test of the diathesis-stress model of depression. Only one of the previous studies (Segal et al., 1992) followed participants prospectively and, using hierarchial multiple regression analyses, predicted depression at Time 2 as a function of the interaction of personality traits at Time 1 and stress at Time 2 after first

controlling for prior depressive episodes. Previous depression is known to be the best predictor of subsequent depression (Hammen, Mayol, deMayo, & Marks, 1986); therefore, it must be allowed to capture the maximum amount of variance in the first step of a regression if the variance accounted for by the interaction of personality style and stress is to be an appropriately conservative estimate.

Current Study

The goal of the current research was to investigate further the relationship of dependent and autonomous personality styles and how these styles may work together to predict depression. Since individuals appear to have both dependent and autonomous traits, it was thought that an additive measurement of dependency and autonomy would be a better indicator of an individual diathesis than would be either dependency or autonomy alone. Likewise, since it is probable that there are both interpersonal aspects of achievement events and achievement aspects of interpersonal events, it was believed that an additive measurement of interpersonal and achievement stress would be a better indicator of individual stress than would be either type of stress alone. And, it was thought that the interaction of additive dependency and autonomy and additive interpersonal and achievement stress would account for more variance in predicting depression than would interactions of single variables (i.e., dependency and interpersonal stress or autonomy and achievement stress).

A prospective longitudinal design has been suggested as the appropriate choice for testing a diathesis-stress model of depression in a non-clinical population

because statistical control of depression at Time 1 is particularly important (Barnett & Gotlib, 1988). Such a design would also provide measurements of dependent and autonomous personality traits over testing sessions and allow evaluation of Beck's (1983) suggestion that individuals fluctuate in predominant personality trait over time. Furthermore, treating dependency and autonomy as continuous rather than discrete variables would make it possible to study a "mixed" dependent-autonomous personality style and also evaluate Beck's (1983) and Blatt's (Blatt et al., 1982) suggestions that individuals with high levels of both dependency and autonomy exhibit more severe depressive symptoms if they become depressed.

No prospective longitudinal study has yet been conducted using college students as participants and treating dependency and autonomy as continuous variables. While a college student population may not include a large number of individuals with severe depressogenic symptoms, this population is believed to exhibit a wide range of depressive symptoms, even those in the clinical range (Hammen, 1980; Hammen & Cochran, 1981; Hammen et al., 1986; Monroe, Imhoff, Wise, & Harris, 1983). Also, Blatt and colleagues (Blatt et al., 1976) have expressed the belief that the depressive experience may be effectively studied as a continuum ranging from a normal population through a clinical population, and that subtle aspects of depression may even be evident in the normal population which are masked by severe symptoms in the clinical population. Brief reporting periods have been recommended (Hammen et al., 1986), especially when there is a need for the greater sensitivity provided by recall accuracy and detection of short term effects.

Hammen, Ellicott, and Gitlin (1989) even suggested that weekly symptom review is ideal.

Subscales of the Dysfunctional Attitude Scale (DAS) identified by Cane et al. (1986) appear to offer several advantages as measures of dependency and autonomy. The only previous study that both treated dependency and autonomy as continuous variables and was longitudinal and prospective in design was that of Segal and his colleagues (1992) who also used the DAS subscales to measure dependency and autonomy. Even though the earlier study was conducted with a clinical population and the current study used college student participants, the use of identical scales for measuring dependency and autonomy provides a desirable basis for comparison of the two studies.

Further, the DAS and its dependency and autonomy subscales have been reported to be gender invariant (Dobson & Breiter, 1983; Beck, Brown, Steer, & Weissman, 1991) -- a particularly important quality for a measure used in depression research since the incidence of depression often differs by sex (cf. Nolen-Hoeksema, 1987). Additionally, participant measurements on the DAS subscales have been found to be similar to measurements attained on a theory neutral personality measure (Goldberg et al., 1989).

As mentioned earlier, DAS-Dependency correlates positively with two other measures of dependency, DEQ-Dependency (.52) and SAS-Dependency (.71). And, while DAS-Autonomy correlates positively with DEQ-Autonomy (.50), it is inversely

related to SAS-Autonomy (-.25), a scale that some have suggested is problematic (cf. Robins et al., 1989).

Lastly, use of the DAS and its dependency and autonomy subscales allows comparison between the effectiveness of general dysfunctional attitudes and specific personality variables in predicting depression. Segal et al. (1992) reported that neither general dysfunctional attitudes -- as measured by the 40-item DAS -- nor their interaction with stress accounted for significant portions of variance in predicting depression but that dependent and autonomous personality subscales of the DAS and their interactions with stress did account for significant portions of such variance.

Specific hypotheses tested in the current study were:

1) The additive diathesis-stress model will account for more variance in the prediction of depression than will the congruent model. In the additive model, the diathesis is combined dependency and autonomy and stress is combined interpersonal and achievement stress. In contrast, the congruent model utilizes either dependency and interpersonal stress or autonomy and achievement stress.

2) Predominant personality mode will be dynamic rather than static. That is, some individuals predominant in dependency at Time 1 will be predominantly autonomous at Time 2 and/or Time 3. Likewise, some individuals predominant in autonomy at Time 1 will be predominantly dependent at Time 2 and/or Time 3.

Method

Participants

Participants were 139 (97 female and 42 male) undergraduate students at Old Dominion University who volunteered to participate in the current study and received psychology course credit for their participation. The students ranged in age from 18 years of age to 59 (M = 22.46), but 89% were 18 to 25 years of age. Fifteen percent of the participants indicated they were Black, 71% were White, and the remaining 14% stated they were members of other races. Of the initial participant pool of 149 students, 6 participants failed to report for the second session and 3 for the third session. These participants, along with one who inadvertently began the study a second time after completing it earlier, were dropped from the study. Only 1 of the 10 students dropped from the study had a CES-D depression score above the cut-off score of 16; this female participant's score of 44 indicated acute depression.

Measures

Participants completed the same five self-report measures, arranged in random order, at each of three sessions.

Depression. The Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977) was used to measure depression (see Appendix A). The CES-D is a 20-item inventory designed to be responsive to changes occurring during the

preceding week. Radloff (1977) reported coefficient alphas of .85 in a normal adult population and .90 in a patient population. Radloff (1991) also reported the CES-D's internal consistency coefficient in a college population as .87. Test-retest reliability ranged from .45 to .70 for 2 to 8-week periods (Radloff, 1977); on average, the larger correlations were for the shorter time periods. Respondents indicate the frequency of depressive symptoms on a scale ranging from rarely or none of the time (0) to most or all of the time (3). Scores range from 0 to 60, with higher scores indicating more severe symptoms. An arbitrary cut-off of 16 is usual and a score of 28 is indicative of acute depression (Radloff, 1991).

Dependency and Autonomy. Dependency and autonomy were measured with subscales of the DAS (see Appendix B) identified by factor analysis (Cane et al., 1986) and believed to measure personality styles analogous to those described by Beck (1983) and Blatt (1974). Segal et al. (1992) reported that, with one exception, the DAS subscales for measuring dependency and autonomy did not correlate significantly with depression measurements over a 12-month period. This finding suggests that the DAS subscales are not mood dependent.

Internal consistency coefficients for the DAS were reported as .88 to .90 in college students (Dobson & Breiter, 1983) and .85 in an adult population (Oliver & Baumgart, 1985). Alpha coefficients for the DAS subscales were reported as .76 for the DAS-Excessive dependency subscale and .84 for the DAS-Excessive autonomy subscale; coefficients of congruence for split-halves were .974 for DAS-Dependence and .987 for DAS-Autonomy (Cane et al., 1986). Cane and Gotlib (cited in Segal

et al. 1992) reported DAS test-retest reliability as .84 over a 8-week period and Kuiper and colleagues (cited in Cane et al., 1986) reported .74 for a 3-month period. Test-retest reliability for the DAS subscales ranged from .47 to .88 for the DAS-Dependency at 2-month time points over a year and .47 to .77 for DAS-Autonomy over the same period.

Participants rate DAS items from totally disagree (1) to totally agree (7). Scores range from 10 to 70 on the DAS-Dependency subscale and from 15 to 105 on the DAS-Autonomy subscale. With both subscales, higher scores indicate higher dependency or autonomy.

Mongrain and Zuroff's (1989) DAS-Dependency and DAS-Autonomy subscales were also used to predict depression so that a comparison of subscales mentioned in the literature could be made. While a pilot study suggested that the two subscales for dependency were very similar and that the two for autonomy were also very similar, it was believed important to determine if they are similar with regard to test/retest reliability and tests of the interactive model.

The Forced Choice Dependency/Autonomy Scale (FCDAS), a new personality style scale created for this study, consists of two parts (see Appendix C). Part I forces respondents to choose either a dependent or autonomous personality style description as the one which best fits them and Part II asks respondents to rate how well each personality style description fits them on a 7-point scale ranging from not at all like me (1) to very much like me (7).

An additional dependency/autonomy personality style scale, the Dependency

and Autonomy Trait Scale (DATS) was created for this study (see Appendix D). This scale includes 29 items taken directly from Beck's (1983) description of the two personality modes that respondents rate on a 7-point scale from Totally disagree (1) to Totally agree (7). Possible scores range from 29 to 203 with higher scores indicating higher dependency and/or autonomy.

Stress. Stress was measured by The Hassles Scale (Kanner, Coyne, Schaefer, & Lazarus, 1981), a measure composed of 117 items ("Friends or relatives are too far away" "Concerns about getting ahead") that respondents rate as None or not applicable (0), Somewhat severe (1), Moderately severe (2), or Extremely severe (3). Foreseeing that all possible hassles could not be included in the Hassles Scale, Kanner and colleagues (1981) included a write-in item at the end of the scale so that respondents could add hassles they experienced but which were not listed. Consistent with this approach, dependent and autonomous life event items adapted from the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978), the Psychiatric Epidemiologic Research Inventory (PERI; Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978), or the Life Events Inventory (LEI; Cochrane & Robertson, 1973) were added to the Hassles Scale (see Appendix E for the Hassles Scale and added life event items). Like many of the Hassles Scale items, these additional items were formulated as "concerns about ..." (e.g., "Concerns about not graduating as planned").

The Hassles Scale may be scored several ways. Frequency is the number of items rated as (1), (2), or (3). Cumulated Severity is the sum of the 3-point ratings.

Intensity is Cumulated Severity divided by Frequency (Lazarus & Folkman, 1989). Since Frequency and Cumulated Severity usually correlate highly, only Frequency and Intensity are normally reported (Kanner et al, 1981).

For purposes of testing additive and congruency hypotheses, some items of the augmented Hassles Scale were categorized as indicative of dependency-related stress and some as indicative autonomy-related stress. The validity of these categorizations was established by interrater agreement. Eighteen graduate students currently enrolled in a psychopathology class and familiar with Beck's (1983) description of dependency and autonomy rated the proposed items as "more stressful for the dependent person" or "more stressful for the autonomous person." Items ultimately included were agreed upon by at least 16 of the 18 raters.

Procedure

Participants were tested at weekly intervals over a 3-week period. For the 417 individual tests (139 participants X 3 sessions each), there were only 11 exceptions to the weekly interval standard: three students completed Session 2 on the 6th day after Session 1 and then completed Session 3 on the 8th day after Session 2; one student completed Session 3 six days after Session 2; and seven students completed Session 3 eight days after Session 2. These exceptions were made necessary by illness or class conflicts.

At the initial session, participants were told that the purpose of the study was "to learn more about the attitudes, experiences, and feelings of normal young adults" and each participant signed an informed consent (see Appendix F) before reading

instructions and completing a short demographic questionnaire (see Appendix G) and the five self-report inventories. Testing was done by groups in a classroom.

So that participants could be guaranteed complete anonymity, they were asked to write on their first session test booklets several pieces of personal information (father's middle name, city where born, and a favorite pet's name) that were then placed into a database along with the participant number on the test booklet each had received randomly at the first session. At the second and third sessions, participants privately identified their combination of these pieces of personal information (and, thereby, their participant number) on a computer printout and then selected their correct second or third session test booklets from a stack of test booklets that had been previously numbered. At the end of each session, participants placed their test booklets in a large envelope along with those of other participants. Each student was presented a written debriefing sheet at the end of testing sessions (see Appendix H).

Results

This study was designed to test the hypothesis that prior depression, additive dependency and autonomy (herein referred to as Dependency-Autonomy [Dep-Aut]), additive dependent-autonomous stress, and their interactions account for more variance in predicting depression than prior depression and either dependency, dependent stress, and their interactions or autonomy, autonomous stress, and their interactions. That is, an additive diathesis-stress model was hypothesized to be a better predictor of subsequent depression than is a congruent diathesis-stress model.

This study was also designed to test Beck's (1983) suggestion that predominant personality mode is not static but rather dynamic. In other words, individuals were thought to change in predominant personality mode (from dependency to autonomy or from autonomy to dependency) over time.

Data analyses focused initially on psychometrics, the reliability and validity of the various measures used, and then on descriptive information. Predictive equations for depression were then examined, followed by an assessment of personality mode change over time of the study.

Psychometric Information

Even though only Time 1 scores for depression, Time 2 scores for Dependency-Autonomy, and Time 3 scores for stress were used in the regression analyses for

predicting Time 3 depression, all measures were included in the test booklet completed by participants at each of the three testing sessions.

Table 1 displays the Cronbach alpha coefficients for all measures at Times 1, 2, and 3. All alpha coefficients were acceptable with the exception of Hassles-Autonomy (Hass-Aut) at Time 1 and Life Events-Autonomy (LifeEvt-Aut) at Times 1, 2, and 3. When the items in these measures were combined with dependency items for the additive hassles and life events measures (Hassles-DepAut and Life Events-DepAut), however, coefficient alphas were acceptable. Additive dependency-autonomy alpha coefficients were always stronger than sole dependency or autonomy measures regardless of whether the scale measured a personality variable or stress. Coefficient alphas for the Dependency-Autonomy Trait Scale (DATS) created for use in this study were acceptable for dependency (.70, .77, and .80 at Times 1, 2, and 3 respectively) but unacceptable for autonomy (.57, .66, and .70 at Times 1, 2, and 3 respectively) and additive dependency-autonomy (.39, .49, and .52 at Times 1, 2, and 3 respectively). Consequently, this scale was not used in data analyses.

In Table 2, test-retest results are displayed for all measures across sessions. The first two columns include correlations for one-week intervals and the third column for the two-week interval.

One premise of this study was that dependency and autonomy may be non-orthogonal personality traits. Table 3 reveals that dependency and autonomy scales were highly correlated at each of the three sessions. This was true whether scales were those identified by Cane et al. (1986) or Mongrain and Zuroff (1989).

Table 1

Cronbach Alpha Coefficients for Measures

Measure	Time 1	Time 2	Time 3
DAS-Form A (all 40 items)	.91	.93	.94
DAS-Dep-Cane	.81	.83	.88
DAS-Dep-Mong	.79	.80	.83
DAS-Aut-Cane	.89	.91	.92
DAS-Aut-Mong	.83	.85	.87
DAS-DepAut-Cane	.90	.92	.93
DAS-DepAut-Mong	.86	.88	.89
CES-D	.88	.91	.90
Hassles-Tot	.93	.95	.95
Hassles-Dep	.70	.73	.75
Hassles-Aut	.62	.76	.72
Hassles-DepAut	.74	.81	.82
LifeEvt-Tot	.84	.85	.86
LifeEvt-Dep	.80	.77	.80
LifeEvt-Aut	.58	.68	.65
LifeEvt-DepAut	.81	.81	.83

Dep = Dependency
Aut = Autonomy
DepAut =Additive Dependency and Autonomy
Cane = Cane et al. (1986)
Mong = Mongrain & Zuroff (1989)
Tot = Total
LifeEvt = Life Event

Table 2

Test/Retest Correlations of Measures

Measure	Times 1/2	Times 2/3	Times 1/3
DAS-Form A	.86	.89	.83
DAS-Dep-Cane	.76	.85	.79
DAS-Dep-Mong	.76	.86	.75
DAS-Aut-Cane	.85	.88	.81
DAS-Aut-Mong	.80	.84	.77
DAS-DepAut-Cane	.84	.88	.82
DAS-DepAut-Mong	.83	.88	.78
CES-D	.75	.73	.65
Hassles-Tot-Freq	.79	.86	.75
Hassles-Tot-Int	.76	.70	.66
Hassles-Dep-Freq	.69	.80	.65
Hassles-Dep-Int	.57	.60	.35
Hassles-Aut-Freq	.62	.76	.62
Hassles-Aut-Int	.60	.58	.43
Hassles-DepAut-Freq	.67	.83	.66
Hassles-DepAut-Int	.68	.68	.50
LifeEvt-Tot-Freq	.72	.82	.70
LifeEvt-Tot-Int	.67	.63	.56
LifeEvt-Dep-Freq	.69	.73	.57
LifeEvt-Dep-Int	.52	.44	.33
LifeEvt-Aut-Freq	.71	.77	.73
LifeEvt-Aut-Int	.67	.59	.65
LifeEvt-DepAut-Freq	.73	.81	.73
LifeEvt-DepAut-Int	.72	.60	.61

Dep = Dependency
Aut = Autonomy
DepAut = Additive Dependency and Autonomy
Cane = Cane et al. (1986)
Mong = Mongrain & Zuroff (1989)
Tot = Total
LifeEvt = Life Event
Freq = Frequency
Int = Intensity

Table 3

Correlations of Dependency and Autonomy Measures

Measure	Time 1	Time 2	Time 3
Cane et al. (1986)	.55	.61	.62
Mongrain & Zuroff (1989)	.54	.55	.55

all ps = .0001, df = 137

Descriptive Information

Table 4 displays means and standard deviations for each measure at Times 1, 2, and 3. Additive measures of dependency and autonomy (DAS-DepAut, Hassles-DepAut, and LifeEvt-DepAut) were obtained by computing z scores for both dependency and autonomy measures and then adding the two z scores to combine dependency and autonomy. Since the additive dependency-autonomy scores are the result of two added z scores, they differ from ordinary z scores in that their standard deviations are not 1.00.

The means and standard deviations reported in Table 4 are similar to those reported in the literature for college student populations. Olinger, Kuiper, and Shaw (1987) and Kuiper, Olinger, and Martin (1988) reported DAS-Form A means of 116.83 and 117.98 and standard deviations of 24.28 and 23.27 respectively. The means of Cane et al.'s (1986) DAS-Dependency and DAS-Autonomy scales when Segal and colleagues (1992) measured remitted clinical patients were 38.00 and 42.00 respectively, somewhat higher than those reported here. Radloff (1991) reported a CES-D mean of 15.46 and a standard deviation of 9.67 for college students. For the 117-item Hassles Scale (Hassles-Tot) in a college student population, Kuiper et al. (1988) found a frequency (Freq) mean of 36.19 (SD = 17.73) while MacPhee (cited in Lazarus & Folkman, 1989) reported a frequency mean of 27.60 (SD = 14.30) and an intensity (Int) mean of 1.65 (SD = .38).

Segal and his colleagues (1992) reported that Cane et al. (1986) DAS-Dependency and DAS-Autonomy scores for their 59 participants were not

Table 4

Means (and Standard Deviations) of Measures

Measure	Time 1	Time 2	Time 3
DAS-Form A	117.17 (28.85)	116.47 (30.26)	116.94 (32.99)
DAS-Dep-Cane	35.09 (9.65)	35.36 (10.02)	34.60 (11.17)
DAS-Dep-Mong	20.27 (7.11)	20.54 (7.21)	20.93 (7.73)
DAS-Aut-Cane	37.24 (13.68)	37.01 (13.52)	37.73 (14.20)
DAS-Aut-Mong	19.08 (7.59)	19.15 (7.47)	19.14 (7.72)
DAS-DepAut-Cane	0.00 (1.76)	0.00 (1.80)	0.00 (1.80)
DAS-DepAut-Mong	0.00 (1.75)	0.00 (1.76)	0.00 (1.76)
CES-D	15.27 (9.41)	14.43 (10.36)	14.14 (10.32)
Hassles-Tot-Freq	41.93 (14.57)	36.68 (16.88)	33.09 (17.78)
Hassles-Tot-Int	1.53 (.36)	1.45 (.34)	1.43 (.39)
Hassles-Dep-Freq	3.61 (2.07)	3.17 (2.11)	2.94 (2.09)
Hassles-Dep-Int	1.40 (.60)	1.30 (.60)	1.33 (.64)
Hassles-Aut-Freq	3.09 (1.64)	2.67 (1.84)	2.38 (1.87)
Hassles-Aut-Int	1.48 (.62)	1.29 (.67)	1.26 (.75)
Hassles-DepAut-Freq	0.00 (1.64)	0.00 (1.73)	0.00 (1.72)
Hassles-DepAut-Int	0.00 (1.58)	0.00 (1.70)	0.00 (1.71)
LifeEvt-Tot-Freq	5.78 (3.29)	5.29 (3.52)	4.85 (3.62)
LifeEvt-Tot-Int	1.62 (.53)	1.53 (.57)	1.49 (.68)
LifeEvt-Dep-Freq	2.36 (2.03)	2.20 (1.94)	1.78 (1.87)
LifeEvt-Dep-Int	1.27 (.80)	1.13 (.76)	1.11 (.83)
LifeEvt-Aut-Freq	2.25 (1.08)	2.02 (1.25)	1.86 (1.30)
LifeEvt-Aut-Int	1.72 (.73)	1.65 (.79)	1.52 (.90)
LifeEvt-DepAut-Freq	0.00 (1.61)	0.00 (1.69)	0.00 (1.71)
LifeEvt-DepAut-Int	0.00 (1.68)	0.00 (1.67)	0.00 (1.64)

Dep = Dependency
Aut = Autonomy
DepAut = Additive Dependency and Autonomy
Cane = Cane et al. (1986)
Mong = Mongrain & Zuroff (1989)
Tot = Total
LifeEvt = Life Event
Freq = Frequency
Int = Intensity

significantly correlated with depression scores over sessions (rs ranged from .12 to .34) except for one occasion ($r = .49$, $p < .001$). In the current study, however, Cane et al. (1986) DAS-Dependency and DAS-Autonomy scores were correlated with CES-D depression scores for the 139 participants at each testing session (rs ranged from .28 to .36, $p < .001$). In fact, at all three testing sessions, the CES-D depression score was also correlated with Cane et al. (1986) DAS-Dependency and DAS-Autonomy scores at the other two testing sessions (rs ranged from .21 to .34, $ps < .05$).

None of the dependency, autonomy, or depression measures listed in Table 4 were gender variant except the CES-D at Time 1, t (137) = 2.45, $p < .05$. With regard to stress scales, all Hassle and Life Event frequency (Freq) measures were gender invariant. Three measures of Hassles intensity (Int) and three of Life Event intensity (Int) did vary by gender, however. At Time 1, female participants' scores were higher than male participants' scores for Hassles-Tot Int (t [137] = 2.08, $p < .05$), Hassles-Dep Int (t [137] = 2.40, $p < .05$), and LifeEvt-Dep Int (t [137] = 2.10, $p < .05$). At Time 2, female participants also scored higher on Hassles-Dep Int (t [137] = 2.62, $p < .05$), LifeEvt-Tot Int (t [137] = 2.33, $p < .05$), and LifeEvt-Aut Int (t [137] = 2.33, $p < .05$). No stress measures at Time 3 nor any additive measures of dependent-autonomous stress -- the stress scores of interest for predicting depression in this study -- were gender variant, however.

Regression Analyses

To test the study's hypothesis that an additive diathesis-stress model would be a better predictor of depression than would a congruent diathesis-stress model, depression at Time 3 was regressed on prior depression, dependency and/or autonomy, stress, and the interaction of stress and dependency and/or autonomy. In order to allow only the most conservative estimate of the predictive strength of these variables, depression at Time 1 was entered at Step 1 of the regression. The dependency and/or autonomy score at Time 2 was used in order to separate depression and personality mode measurements by one week; this score was entered at Step 2. The dependent and/or autonomous stress score at Time 3 was entered at Step 3 and the interaction of personality mode at Time 2 and stress at Time 3 was entered at Step 4. A significant increase in $\underline{R}^2$ after entry of the interaction at Step 4 was deemed necessary to provide support for the diathesis-stress model, whether additive or congruent.

Since participants differed by gender on the CES-D at Time 1 (see above), it was important to determine whether scores on this measure at Time 1 affected the outcome of regressions. Analyses were therefore conducted wherein sex of participant was entered at Step 1 ahead of depression at Time 1. There were no main effects for sex of participant nor any effects for its two-way interaction with DAS-Dependency and/or DAS-Autonomy or additive or congruent hassles or life events. Neither were there three-way effects for the interaction of sex, personality trait, and stress in predicting depression at Time 3. Subsequent regressions

therefore omitted sex of participant. Since participants' ages ranged from 18 years to 59 years, similar analyses were conducted wherein age of participant was entered first in the regression. As with gender, there were no main or interaction effects so subsequent regressions omitted age of participant.

As predicted, additive measures of dependency-autonomy, additive measures of dependent-autonomous stress, and their interactions were better predictors of depression than were congruent variables (i.e., dependency and dependent stress and their interaction or autonomy and autonomous stress and their interaction). Table 5 summarizes the results of the regression using the prior depression score, the additive score of Cane et al.'s (1986) DAS-Dependency and DAS-Autonomy measures, the frequency of additive dependent and autonomous hassles, and their interaction. Entries of all four predictors were significant and the resulting $\underline{R}^2$ equalled .53.

Table 6 displays results of a regression that also included the prior depression score and the additive score of Cane et al.'s (1986) DAS-Dependency and DAS-Autonomy measures but used for the stress measurement frequency of additive dependent and autonomous life events rather than hassles. Again, entries of all four predictors were significant and the resulting $\underline{R}^2$ for this regression was .50.

In Tables 7 and 8, summaries of regressions using additive scores on Mongrain and Zuroff's (1989) DAS-Dependency and DAS-Autonomy scales are displayed. After entering prior depression at Step 1, additive dependency and autonomy at Step 2, frequency of additive dependent and autonomous hassles (Table 7) or life events

Table 5

Additive Model Hierarchial Multiple Regression of Depression T3 on Depression T1, Cane et al. Dependency-Autonomy Scales, Frequency of Dependent-Autonomous Hassles, and the Interaction of Dependency-Autonomy and Dependent-Autonomous Hassles

Step	Variable entered	R^2	R^2 change	F	b
1	DepressionT1	.42	.42	98.79***	0.512469
2	DepAutT2	.44	.02	4.02*	0.347683
3	DepAutHassT3	.51	.07	21.01***	2.109065
4	DepAutT2 X DepAutHassT3	.53	.02	4.75*	- 0.486135

*** $p < .0001$, * $p < .05$
Constant = 6.868999
Overall F (4, 134) = 37.534, $p < .0001$
df for F change: Step 1 (1, 137), Step 2 (1, 136), Step 3 1, 135), Step 4 (1, 134)

Intercorrelations

	DprT1	DprT3	D-AT2	HasT3	Inter
DprT1	1.0000	0.6473	0.2856	0.5074	0.1216
DprT3		1.0000	0.3086	0.5877	- 0.0020
D-AT2			1.0000	0.3748	0.1314
HasT3				1.0000	0.1845
Inter					1.0000

Dpr = Depression
D-A = Dependency-Autonomy
Has = Dependent-Autonomous Hassles
Inter = Interaction

Table 6

Additive Model Hierarchial Multiple Regression of Depression T3 on Depression T1, Cane et al. Dependency-Autonomy Scales, Frequency of Dependent-Autonomous Life Events, and the Interaction of Dependency-Autonomy and Dependent-Autonomous Life Events

Step	Variable entered	R^2	R^2 change	F	b
1	DepressionT1	.42	.42	98.79***	0.581018
2	DepAutT2	.44	.02	4.02*	0.446619
3	DepAutLfEvT3	.48	.04	11.92**	1.591793
4	DepAutT2 X DepAutLfEvT3	.50	.02	4.46*	- 0.508251

*** $p < .0001$, ** $p < .001$, * $p < .05$
Constant = 5.666238
Overall F (4, 134) = 33.26, $p < .0001$
df for F change: Step 1 (1, 137), Step 2 (1, 136), Step 3 (1, 135), Step 4 (1, 134)

Intercorrelations

	DprT1	DprT3	D-AT2	LEvT3	Inter
DprT1	1.000	0.6473	0.2856	0.4075	0.0917
DprT3		1.0000	0.3086	0.4761	- 0.0435
D-AT2			1.0000	0.2608	- 0.0819
LEvT3				1.0000	0.1781
Inter					1.0000

Dpr = Depression
D-A = Dependency-Autonomy
LEv = Dependent-Autonomous Life Events
Inter = Interaction

Table 7

Model Hierarchial Multiple Regression of Depression T3 on Depression T1, Mongrain and Zuroff Dependency-Autonomy Scales, Frequency of Dependent-Autonomous Hassles, and the Interaction of Dependency-Autonomy and Dependent-Autonomous Hassles

Step	Variable entered	R^2	R^2 change	F	b
1	DepressionT1	.42	.42	98.79***	0.511103
2	DepAutT2	.43	.01	1.83	0.229574
3	DepAutHassT3	.51	.08	22.85**	2.162030
4	DepAutT2 X DepAutHassT3	.53	.02	5.25*	- 0.498599

*** $p < .0001$, ** $p < .001$, * $p < .05$
Constant = 6.8114334
Overall F (4, 134) = 37.51, $p < .0001$
df for F change: Step 1 (1, 137), Step 2 (1, 136), Step 3 (1, 135), Step 4 (1, 134)

Intercorrelations

	DprT1	DprT3	D-AT2	HasT3	Inter
DprT1	1.000	0.6473	0.2362	0.5074	0.0806
DprT3		1.0000	0.2383	0.5877	- 0.0361
D-AT2			1.0000	0.3219	0.1954
HasT3				1.0000	0.1610
Inter					1.0000

Dpr = Depression
D-A = Dependency-Autonomy
Has = Dependent-Autonomous Hassles
Inter = Interaction

Table 8

Additive Model Hierarchial Multiple Regression of Depression T3 on Depression T1, Mongrain and Zuroff Dependency-Autonomy Scales, Frequency of Dependent-Autonomous Life Events, and the Interaction of Dependency-Autonomy and Dependent-Autonomous Life Events

Step	Variable entered	R^2	R^2 change	F	b
1	DepressionT1	.42	.42	98.79***	0.581357
2	DepAutT2	.43	.01	1.05	0.351651
3	DepAutLfEvT3	.48	.05	12.79**	1.603948
4	DepAutT2 X DepAutLfEvT3	.49	.01	3.92*	- 0.455352

*** $p < .0001$, ** $p < .001$, * $p < .05$
Constant = 5.551097
Overall F (4, 134) = 32.346, $p < .0001$
df for F change: Step 1 (1, 137), Step 2 (1, 136), Step 3 (1, 135), Step 4 (1, 134)

Intercorrelations

	DprT1	DprT3	D-AT2	LEvT3	Inter
DprT1	1.000	0.6473	0.2362	0.4075	0.0427
DprT3		1.0000	0.2383	0.4761	- 0.0592
D-AT2			1.0000	0.2157	0.0350
LEvT3				1.0000	0.1493
Inter					1.0000

Dpr = Depression
D-A = Dependency-Autonomy
LEv = Dependent-Autonomous Life Events
Inter = Interaction

(Table 8) at Step 3, and the interactions of dependency-autonomy at Step 4, resulting $\underline{R}^2$s were .53 (Table 7) and .49 (Table 8). The additive scores of Mongrain and Zuroff's (1989) DAS-Dependency and DAS-Autonomy were not significant on entry at Step 2 in either of these regressions, but their interactions with the stress measurement were significant on entry at Step 4.

Table 9 summarizes the results of the only congruency model regression that evidenced a significant entry of the interaction variable in Step 4. After entering prior depression at Step 1, the score on Mongrain and Zuroff's (1989) DAS-Autonomy measure was entered at Step 2 followed by frequency of autonomous hassles at Step 3 and the interaction of autonomy and autonomous stress at Step 4. The resulting $\underline{R}^2$ for this regression was .46. Congruent model regressions using both Cane et al. (1986) and Mongrain and Zuroff (1989) DAS-Dependency subscales with dependency hassles or life events revealed no significant interactions. Similarly, neither regressions for the Cane et al. (1986) DAS-Autonomy subscales with autonomous hassles and life events nor the Mongrain and Zuroff (1989) DAS-Autonomy subscale and autonomous life events revealed significant interactions.

Depression at Time 1 was allowed to capture a maximum amount of the variance ($\underline{R}^2$ = .42) in all regressions by entering it at Step 1. Subsequently, variance accounted for in the prediction of depression at Time 3 was stronger in the additive model regressions summarized in Tables 5, 6, 7, and 8 (cumulative $\underline{R}^2$s = .53, .50, .53, and .49 respectively) than in the only congruent model regression that

Table 9

Congruent Model Hierarchial Multiple Regression of Depression T3 on Depression T1, Mongrain and Zuroff Autonomy Scale, Frequency of Autonomous Hassles, and the Interaction of Autonomy and Autonomous Hassles

Step	Variable entered	R^2	R^2 change	F	b
1	DepressionT1	.42	.42	98.79***	0.633720
2	AutT2	.42	.00	.42	0.302011
3	AutHassT3	.44	.02	4.75*	3.215425
4	AutT2 X AutHassT3	.46	.02	4.53*	- 0.112991

*** $p < .0001$, * $p < .05$
Constant = -3.431901
Overall F (4, 134) = 28.398, $p < .0001$
df for F change: Step 1 (1, 137), Step 2 (1, 136), Step 3 (1, 135), Step 4 (1, 134)

Intercorrelations

	DprT1	DprT3	Aut2	HassT3	Inter
DprT1	1.000	0.6473	0.2229	0.3164	0.3069
DprT3		1.0000	0.1853	0.3435	0.2923
AutT2			1.0000	0.2541	0.5812
HassT3				1.0000	0.8951
Inter					1.0000

Dpr = Depression
Aut = Autonomy
Hass = Autonomous Hassles
Inter = Interaction

had a significant interaction at Step 4 which is summarized in Table 9 (cumulative $\underline{R}^2 = .46$).

In regressions using the FCDAS scales created for this study, there were neither main effects nor interaction effects for these measures of dependency and autonomy. This was the case whether personality and stress variables were combined additively or congruently. This is probably not surprising since the FCDAS-Dependency scale correlated positively with both Cane et al.'s (1986) DAS-Dependency scale and Mongrain and Zuroff's (1989) DAS-Dependency scale (rs ranged from .44 to .57, ps < .0001) but tended to correlate negatively with both Cane et al.'s (1986) and Mongrain and Zuroff's (1989) DAS-Autonomy scales (rs ranged from -.11 to -.18, n.s.)

Figures 1 through 5 display the nature of the interactions reported in Tables 5 through 9. The b weights for the various regression equations were used to calculate predicted depression scores at Time 3 for individuals two standard deviations above and below the mean for additive dependency-autonomy (Figures 1-4) and two standard deviations above and below the mean for autonomy (Figure 5). For all cases in additive models (see Tables 5-8 and Figures 1-4), increasing stress had less effect on high dependent-autonomous individuals than on those participants with low dependency-autonomy. For the only congruent model with a significant interaction (see Table 9 and Figure 5), high autonomy individuals were less affected by increasing stress than those with low autonomy.

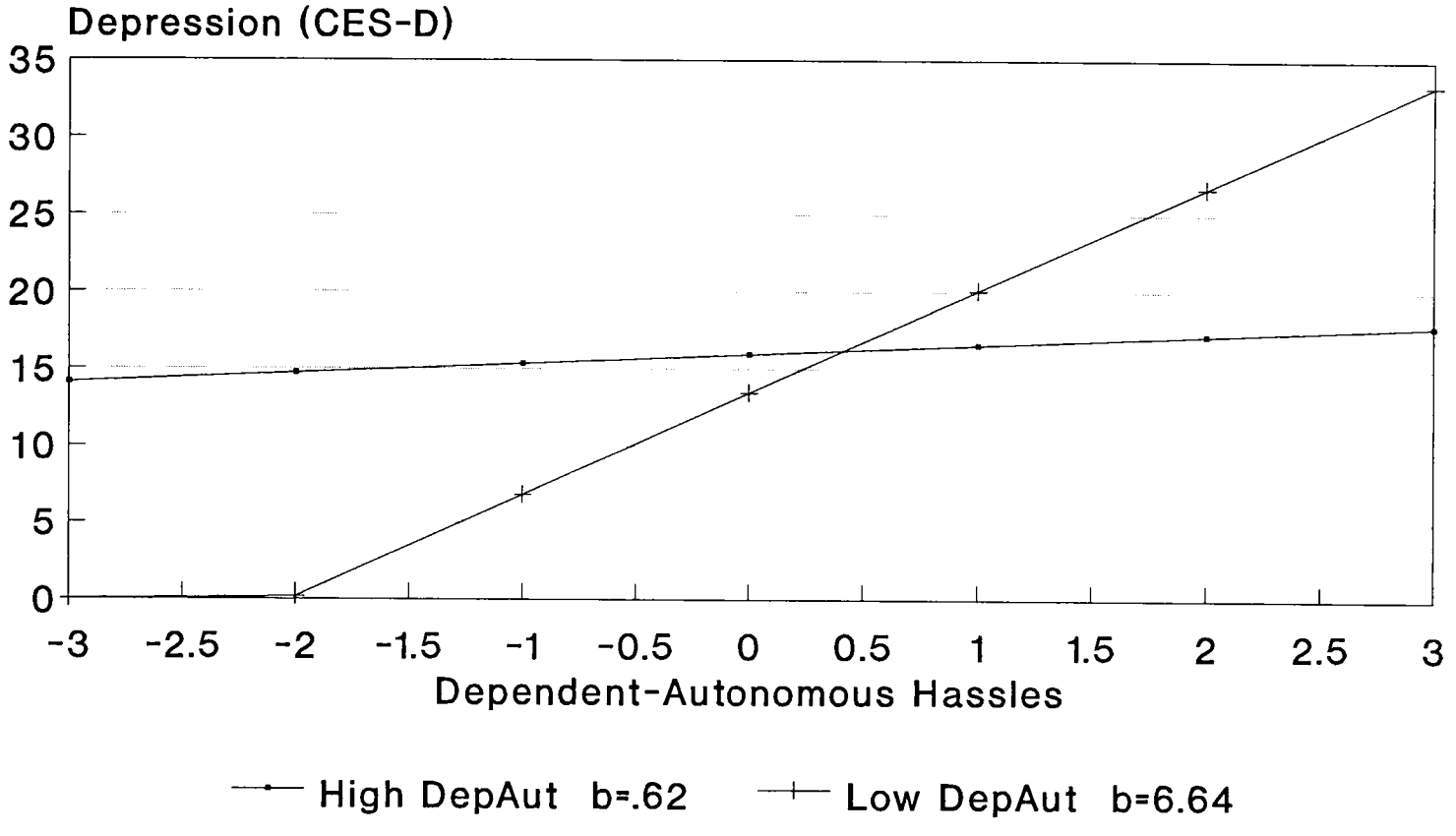

Figure 1. Additive Model: Interaction of Cane et al. Dependency-Autonomy and Dependent-Autonomous Hassles

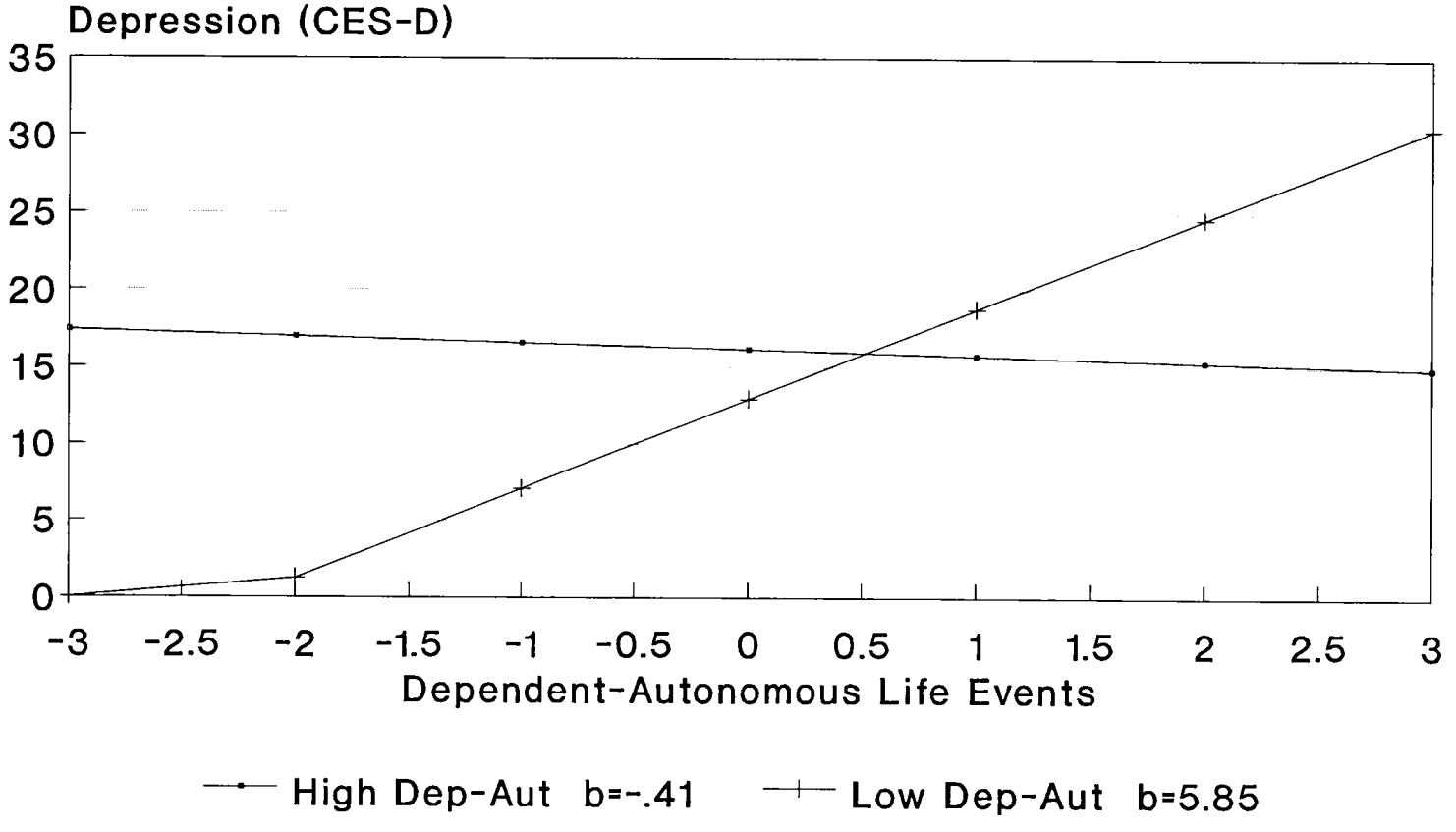

Figure 2. Additive Model: Interaction of Cane et al. Dependency-Autonomy and Dependent-Autonomous Life Events

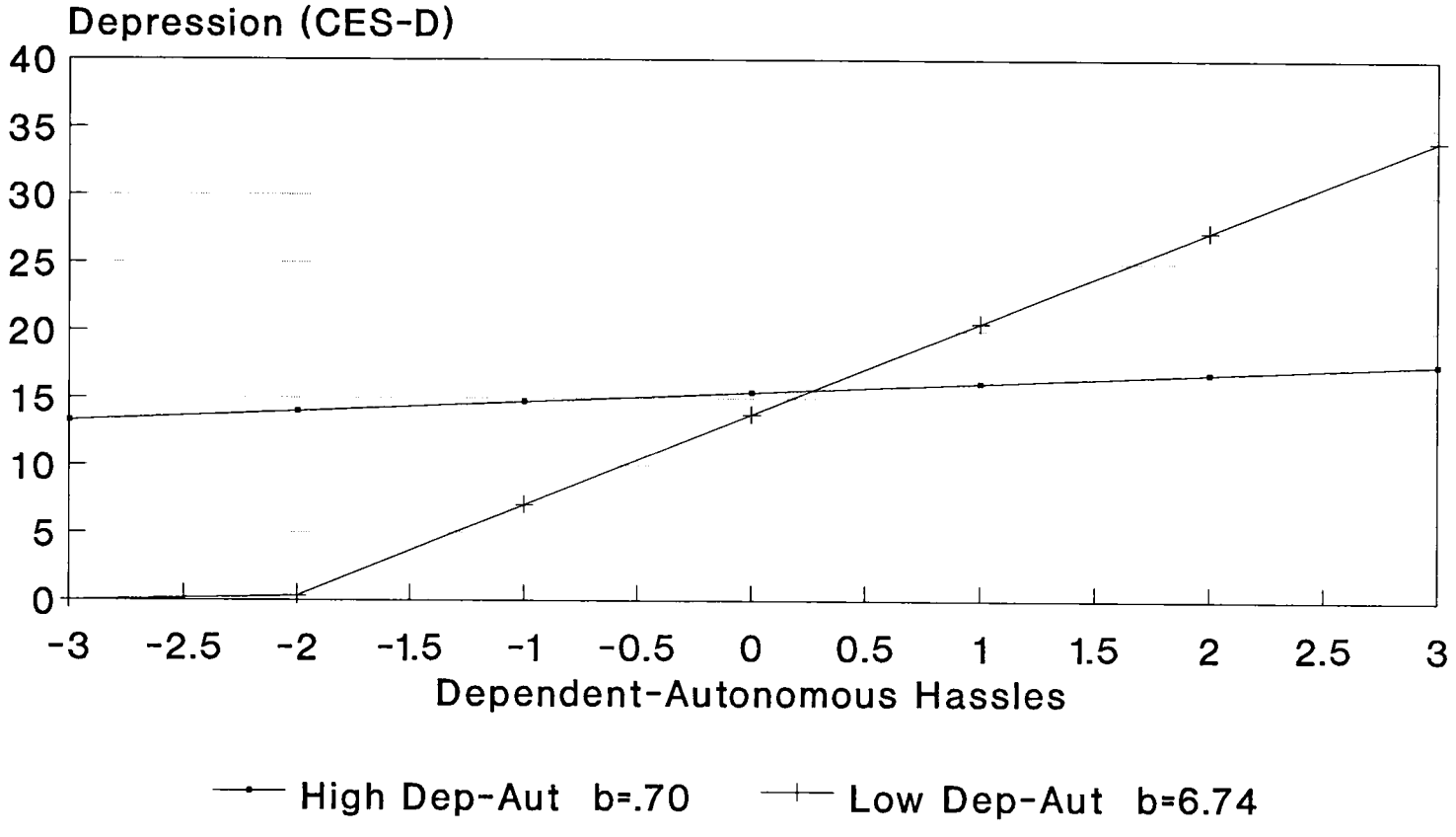

Figure 3. Additive Model: Interaction of Mongrain & Zuroff Dependency-Autonomy and Dependent-Autonomous Hassles

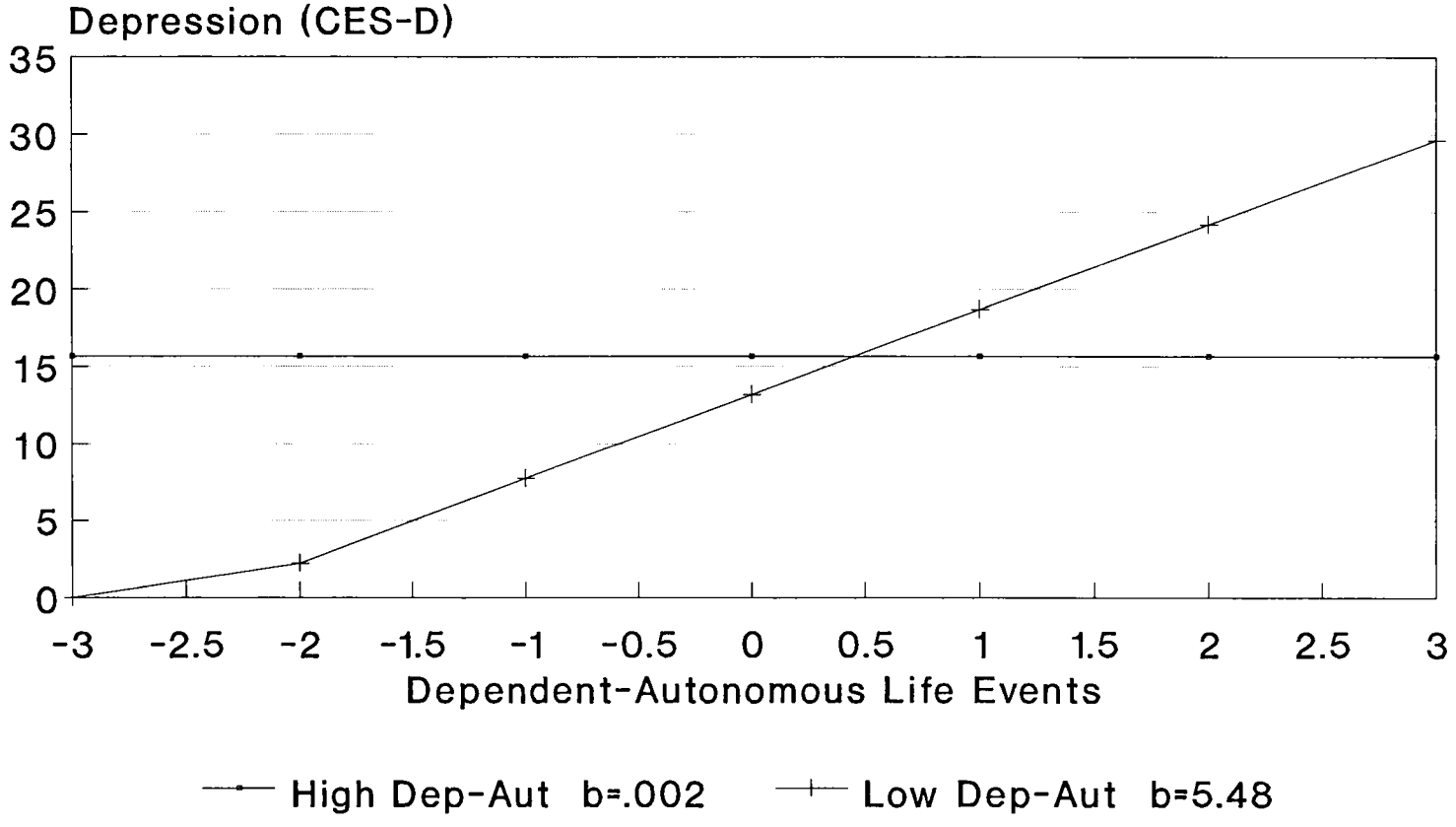

Figure 4. Additive Model: Interaction of Mongrain & Zuroff Dependency-Autonomy and Dependent-Autonomous Life Events

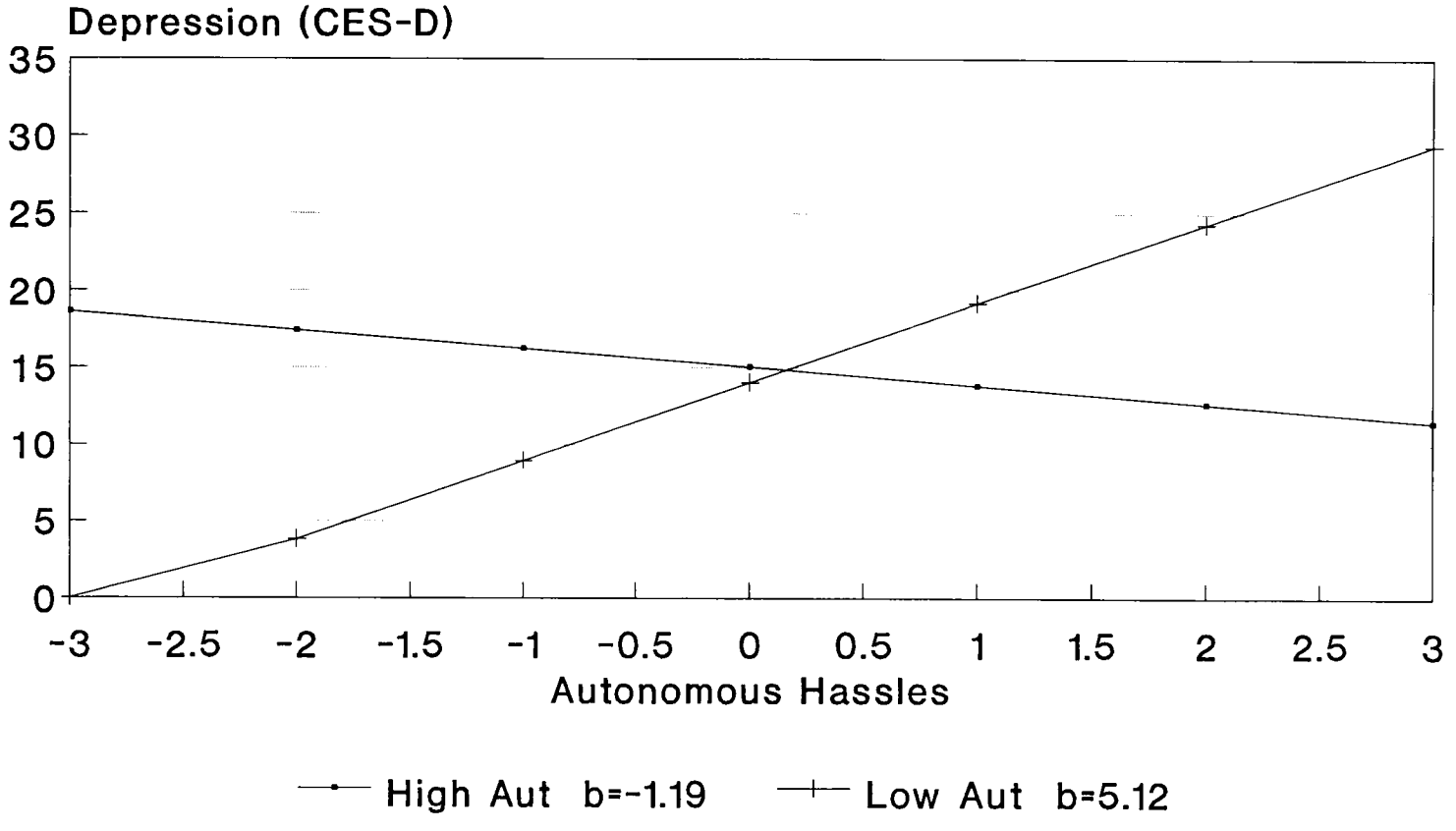

Figure 5. Congruent Model: Interaction of Mongrain & Zuroff Autonomy and Autonomous Hassles

Personality Mode Change

This study's second hypothesis stated that predominant personality mode would be dynamic rather than static. On examination of each participant's Cane et al. (1986) DAS-Dependency and DAS-Autonomy scores at Times 1, 2, and 3, it appeared that two kinds of change occurred. In some instances, participants remained predominantly dependent or autonomous from one time to the next time even though both their dependency and autonomy scores fluctuated. In other instances, participants' dependency and autonomy scores also fluctuated but, in addition, predominant mode also changed. For example, a participant whose dependency score exceeded the autonomy score at one time would have an autonomy score that was greater than the dependency score at another.

Since the current study included the first known research on personality mode change, there was no precedent nor obvious means of operationalizing "change." After examination of the data, change was defined as an increase or decrease in score greater than one standard deviation. A "change within personality mode" occurred when a participant's predominant personality mode (either dependency or autonomy) remained the same but the score itself increased or decreased by more than one standard deviation from one measurement time to the next (e.g., percentage of dependency at Time 2 of .5892146 and at Time 3 of .6577552). A "change between personality modes" occurred when there was both a change greater than one standard deviation and a concomitant change in predominant personality

mode (e.g., percentage of dependency at Time 1 of .5674523 and at Time 2 of .4892457).

In order to allow the most lucid presentation of these phenomena, personality mode was conceptualized in terms of percentage of dependence at a particular testing session. (The decision to use percentage of dependence rather than percentage of autonomy was an arbitrary one; either choice would have served the same function). A participant's percentage of dependency score was calculated by dividing the dependency z score at a particular testing session by the sum of dependency and autonomy z scores at that same session. Percentage of dependency scores ranged from .34 to .63 (M = .50, SD = .0586113) at Time 1, from .33 to .62 (M = .50, SD = .0553826) at Time 2, and from .32 to .66 (M = .50, SD = .0536741) at Time 3.

Table 10 displays changes that occurred both during the one-week intervals from Time 1 to Time 2 and from Time 2 to Time 3 and during the two-week interval from Time 1 to Time 3. There were no differences in frequency of within mode changes (χ^2 [2, N = 417] = 2.16, n.s.) or between mode changes (χ^2 [2, N = 417] = 1.30, n.s.) among the three intervals. Likewise, there were no differences in frequency over the three intervals of within mode dependency and autonomy changes (χ^2 [2, N = 31] = 4.89, n.s.) nor dependency to autonomy or autonomy to dependency changes (χ^2 [2, N = 43] = .77, n.s.).

Although there were a total of 44 changes (27 between mode and 17 within mode) for the two one-week intervals, these changes only involved 38 of the

Table 10

Changes in Personality Mode from Time 1 to Time 2, Time 2 to Time 3, and Time 1 to Time 3

	No Change	Change Between Modes	Change Within Modes
Time 1 to Time 2	114	16	9
Time 2 to Time 3	120	11	8
Time 1 to Time 3	109	16	14

N = 139

participants. That is, 6 of the participants changed twice, once from Time 1 to Time 2 and again from Time 2 to Time 3. For 3 of these 6 participants, both changes were between mode; for 2, both were within mode changes. The remaining participant had 1 between mode and 1 within mode change. Of the 32 participants who experienced only 1 change for the two one-week intervals, 20 had between mode and 12 had within mode changes. Table 11 displays this data.

Table 11

Prevalence of Change for the Two One-Week Intervals: Time 1 to Time 2 and Time 2 to Time 3

Number of Changes	Participants	Between Modes	Within Modes	Between/Within Modes
None	101			
One	32	20	12	0
Two	6		2	1

Discussion

The current study was designed to test two hypotheses. The first stated that an additive diathesis-stress model, in which combined dependency and autonomy interacted with combined interpersonal and achievement stress, would account for more variance in predicting depression than would a congruent diathesis-stress model in which dependency or autonomy interacted with interpersonal or achievement stress respectively. The second hypothesis predicted that, consistent with Beck's (1983) suggestion, predominant personality mode would be dynamic rather than static: that some individuals who were predominantly dependent at the first measurement time would be predominantly autonomous at a later measurement time and, likewise, some who were initially predominantly autonomous would later be predominantly dependent.

The Additive vs. the Congruent Model

Hierarchial multiple regressions conducted to test the first hypothesis indicated that four additive model interactions were significant. Additive scores of DAS-Dependency and DAS-Autonomy subscales identified by Cane et al. (1986) and Mongrain and Zuroff (1989) interacted significantly with additive frequency of dependent and autonomous hassles or dependent and autonomous life events to account for between .49 and .53 of the variance when these variables were used to predict depression. Only one congruent model interaction was significant, however,

and this model using Mongrain and Zuroff's (1989) DAS-Autonomy subscale and autonomous hassles accounted for only .46 of the variance when predicting depression.

These results appear to add converging evidence that dependency and autonomy may not be orthogonal personality traits but rather components of the same construct as suggested by Franche and Dobson (1992). Such an overall construct might embody, for example, the tendency of some individuals described by Arieti and Bemporad (1980) to search for self-esteem and gratification outside the self. Earlier studies, like the current one, reported strong positive correlations for dependency and autonomy, and earlier researchers questioned the orthogonality of these personality traits (Robins & Luten, 1991). Now there is tentative evidence that these traits may be more similar than different, for it seems unlikely that their additive measure and the additive measure of their associated stressors could interact to account for more variance in depression if the traits were truly orthogonal.

Nevertheless, the current research is only a beginning. Future research must determine if these results can be replicated in other student populations and in clinical populations. This study was conducted over a three-week period with weekly testing sessions. Research that follows should lengthen the time of the study so that effects of longer intervals on prediction of depression can be examined.

Though data analyses supported predictions of the first hypothesis, there was an unexpected finding with regard to the nature of the interaction for both the additive and congruent models. It had been expected that a significant interaction

of diathesis and stress would indicate a greater effect for increasing stress on individuals high in dependency-autonomy than on those low on this dimension. Just the opposite was true, however. Those high in dependency-autonomy had higher levels of depression at low levels of stress, but in all five instances, increasing stress had less effect on individuals high in dependency-autonomy than on those who were low. In one case (displayed in Figure 2), depression levels for those high in dependency-autonomy even decreased as stress increased.

One explanation for this surprising finding may be that individuals low in additive dependency-autonomy are actually more emotionally labile than those who are high -- that they simply experience more mood change over time. Or, to express this possibility conversely, individuals high in additive dependency-autonomy may be less emotionally labile. Both Beck (1983) and Blatt (1974) have suggested that increased dependency and autonomy are associated with increased depression. Might it also be possible that increased dependency and autonomy also function as "buffers" against stress and depression? Such a phenomenon might explain the three less positive and one negative plotted slopes for high dependent-autonomous individuals.

Consistent with the possibility of dependency and autonomy serving as buffers against stress, Beck (1983, p. 273) described those with autonomy traits as "less influenced by praise or criticism." While this tendency apparently causes the autonomous person to "proceed in counterproductive ways -- oblivious to the effect of his actions on other people," it might also serve as a buffer by moderating

interpersonal stress. Additionally, Beck (1983, p. 273) states that the autonomous personality is "action-oriented" and "less reflective." According to Morrow and Nolen-Hoeksema (1990), remediation of depressed mood is greatest for individuals who take action and who do not ruminate or reflect on their condition.

For the individual with dependency traits, Beck (1983, pp. 274-275) described an inclination to depend "on relationships ... to prevent pain of social isolation" and "to take out insurance" in the form of a "wide circle of friends, acquaintances, associates ..." in order "to protect against alienation, isolation ..." It is conceivable that these dependent tendencies might also function as coping mechanisms that moderate stress by assuring interpersonal support.

Can the same personality traits that are associated with increased depression also serve as buffers against depression? Is there then "good" dependency and "bad" dependency or "good" autonomy and "bad" autonomy? If so, is it still possible to measure dependency or autonomy along a continuum? If these personality traits also serve as buffers, there may be an indication of this phenomenon in Figure 5 where the slope for high autonomy individuals reveals a decrease in depression as stress increases whereas the slope for low autonomy individuals indicates an increase in depression as stress increases.

Predominant Personality Mode Change

Analyses of data regarding predominant personality mode revealed that change, defined in this study as an increase or decrease of one standard deviation from score at first measurement to score at second measurement, occurred for a

small percentage of the student population studied. These results provide a modicum of support for Beck's (1983) suggestion that individual predominant personality modes may change over time. Change occurred both within mode and between modes (the change of interest in the second hypothesis). Furthermore, direction of change varied. Within mode, there were increases and decreases for both dependency and autonomy from first measure to second. Between modes change occurred both from dependency to autonomy and from autonomy to dependency.

Since apparently no previous research has been conducted on change of personality mode over time, an increase or decrease of one standard deviation seemed an appropriate benchmark for change in this initial study. It could certainly be argued, however, that change could -- or should -- be operationalized differently.

In this study, there were no differences in type or direction of change for the one-week and two-week intervals. Further research must be conducted, however, to learn both if changes in predominant personality mode are greater in magnitude over intervals longer than two weeks and if a greater number of individuals experience change when intervals are longer.

If predominant personality mode changes over time, how can dependency and autonomy be regarded as stable personality traits? The answer to this question may depend on whether dependency and autonomy are considered to be orthogonal or non-orthogonal traits. If the two are regarded as non-orthogonal components of a single construct (e.g., the tendency to seek self-esteem and gratification outside the

self) then changes of predominance within additive dependency-autonomy would present no problem as long as there were no significant increases or decreases in additive dependency-autonomy over long intervals. On the contrary, if dependency and autonomy are thought to be separate orthogonal variables, then significant increases or decreases in either would bring into question their stability. Here again, further research over longer intervals may provide some answers.

Conclusion

Use of an additive diathesis-stress model to predict depression accounted for more variance -- even after controlling for prior depression at Step 1 of the regressions -- than has heretofore been reported in the literature. These results, coupled with tentative evidence that dominant personality mode is dynamic for some individuals over a short interval, appear to justify further investigation of the additive dependency-autonomy personality dimension and its effectiveness in predicting depression along with related dependent-autonomous stress and their interaction. Several approaches seem indicated.

While coefficient alphas for Cane et al. (1986) DAS-Dependency and DAS-Autonomy were high, they tended to increase when the two subscales were combined to form the additive dependency-autonomy. The two subscales were also highly correlated at each measurement time, so it might prove advantageous to conduct a factor analysis of the DAS-Form A (the one that includes both subscales) using an oblique rather than orthogonal solution. The objective would be to produce an additive dependency-autonomy subscale that would reduce error even further.

Identification of such a subscale might also clarify the nature of the construct that appears to comprise both dependency and autonomy.

Since personality traits are expected to remain relatively stable over time and the CES-D and Hassles Scale with added life events are believed to be sensitive to changes during the week prior to measurement, separating the dependency-autonomy measure from the other two by one week --as was done in this study -- should be adequate. However, longer intervals (e.g., one month) between control for prior depression at Time 1, the dependency-autonomy measure at Time 2, and then both stress and the final depression measure at Time 3 may improve variance accounted for simply by lowering the intercorrelation of the various measures that appears to be inevitable in any case but more problematic over short intervals like one week.

Measures for additive dependent-autonomous stress need to be refined. The autonomy component of these measures was particularly weak in the current study. New items will need to be designed and tested.

It is important to examine more closely the surprising nature of the interaction of dependency-autonomy and dependent-autonomous stress in predicting depression. Future studies should include additional measures (e.g., a coping scale) that might clarify what appear to be buffering effects of high dependency-autonomy for stress and depression.

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Appendix A

Center for Epidemiologic Studies Depression Scale (CES-D)

Circle the number for each statement which best describes how often you felt or behaved this way - DURING THE PAST WEEK.

---

0 = Rarely or none of the time (less than 1 day)
1 = Some or a little of the time (1-2 days)
2 = Occasionally or a moderate amount of time (3-4 days)
3 = Most or all of the time (5-7 days)

DURING THE PAST WEEK:

---

1. I was bothered by things that usually don't bother me.

0 1 2 3

2. I did not feel like eating; my appetite was poor.

0 1 2 3

3. I felt that I could not shake off the blues even with help from my family or friends.

0 1 2 3

4. I felt that I was just as good as other people.

0 1 2 3

5. I had trouble keeping my mind on what I was doing.

0 1 2 3

6. I felt depressed.

0 1 2 3

0 = Rarely or none of the time (less than 1 day)
1 = Some or a little of the time (1-2 days)
2 = Occasionally or a moderate amount of time (3-4 days)
3 = Most or all of the time (5-7 days)

DURING THE PAST WEEK:

7. I felt that everything I did was an effort.	0	1	2	3
8. I felt hopeful about the future.	0	1	2	3
9. I thought my life had been a failure.	0	1	2	3
10. I felt fearful.	0	1	2	3
11. My sleep was restless.	0	1	2	3
12. I was happy.	0	1	2	3
13. I talked less than usual.	0	1	2	3
14. I felt lonely.	0	1	2	3
15. People were unfriendly.	0	1	2	3
16. I enjoyed life.	0	1	2	3
17. I had crying spells.	0	1	2	3
18. I felt sad.	0	1	2	3
19. I felt that people disliked me.	0	1	2	3
20. I could not get "going."	0	1	2	3

Appendix B

Dysfunctional Attitude Scale (DAS)

This inventory lists different attitudes or beliefs which people sometimes hold. For each of the following attitudes or beliefs, show your answer by circling the number in the column that best describes how you think MOST OF THE TIME.

---

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

---

1. It is difficult to be happy unless one is good looking, intelligent, rich, and creative.

A-CANE 1 2 3 4 5 6 7

2. Happiness is more a matter of my attitude toward myself than the way other people feel about me.

1 2 3 4 5 6 7

3. People will probably think less of me if I make a mistake.

A-CANE 1 2 3 4 5 6 7

4. If I do not do well all the time, people will not respect me.

A-CANE, A-MONG 1 2 3 4 5 6 7

5. Taking even a small risk is foolish because the loss is likely to be a disaster.

1 2 3 4 5 6 7

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

6. It is possible to gain another's respect without being especially talented at anything.

1 2 3 4 5 6 7

7. I cannot be happy unless most people I know admire me.

D-CANE 1 2 3 4 5 6 7

8. If a person asks for help, it is a sign of weakness.

A-CANE 1 2 3 4 5 6 7

9. If I do not do as well as other people, it means I am an inferior human being.

A-CANE, A-MONG 1 2 3 4 5 6 7

10. If I fail at my work, then I am a failure as a person.

A-CANE, A-MONG 1 2 3 4 5 6 7

11. If you cannot do something well, there is little point in doing it at all.

A-CANE, A-MONG 1 2 3 4 5 6 7

12. Making mistakes is fine because I can learn from them.

A-CANE 1 2 3 4 5 6 7

13. If someone disagrees with me, it probably indicates he does not like me.

A-CANE 1 2 3 4 5 6 7

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

14. If I fail partly, it is as bad as being a complete failure.

A-CANE, A-MONG 1 2 3 4 5 6 7

15. If other people know what you are really like, they will think less of you.

A-CANE 1 2 3 4 5 6 7

16. I am nothing if a person I love doesn't love me.

D-MONG 1 2 3 4 5 6 7

17. One can get pleasure from an activity regardless of the end result.

1 2 3 4 5 6 7

18. People should have a reasonable likelihood of success before undertaking anything.

1 2 3 4 5 6 7

19. My value as a person depends greatly on what others think of me.

D-CANE, D-MONG 1 2 3 4 5 6 7

20. If I don't set the highest standards for myself, I am likely to end up a second-rate person.

A-MONG 1 2 3 4 5 6 7

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

21. If I am to be a worthwhile person, I must be truly outstanding in at least one major respect.

A-CANE 1 2 3 4 5 6 7

22. People who have good ideas are more worthy than those who do not.

A-CANE 1 2 3 4 5 6 7

23. I should be upset if I make a mistake.

A-MONG 1 2 3 4 5 6 7

24. My own opinions of myself are more important than other's opinions of me.

1 2 3 4 5 6 7

25. To be a good, moral, worthwhile person, I must help everyone who needs it.

1 2 3 4 5 6 7

26. If I ask a question, it makes me look inferior.

A-CANE 1 2 3 4 5 6 7

27. It is awful to be disapproved of by people important to you.

D-CANE 1 2 3 4 5 6 7

28. If you don't have other people to lean on, you are bound to be sad.

D-CANE, D-MONG 1 2 3 4 5 6 7

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

29. I can reach important goals without slave driving myself.

1 2 3 4 5 6 7

30. It is possible for a person to be scolded and not get upset.

1 2 3 4 5 6 7

31. I cannot trust other people because they might be cruel to me.

A-CANE 1 2 3 4 5 6 7

32. If others dislike you, you cannot be happy.

D-CANE, D-MONG 1 2 3 4 5 6 7

33. It is best to give up your own interests in order to please other people.

D-MONG 1 2 3 4 5 6 7

34. My happiness depends more on other people than it does on me.

D-CANE, D-MONG 1 2 3 4 5 6 7

35. I do not need the approval of other people in order to be happy.

D-CANE 1 2 3 4 5 6 7

36. If a person avoids problems, the problems tend to go away.

1 2 3 4 5 6 7

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

37. I can be happy even if I miss out on many of the good things in life.

1 2 3 4 5 6 7

38. What other people think about me is very important.

D-CANE 1 2 3 4 5 6 7

39. Being isolated from others is bound to lead to unhappiness.

D-CANE, D-MONG 1 2 3 4 5 6 7

40. I can find happiness without being loved by another person.

D-CANE 1 2 3 4 5 6 7

D-CANE = Dependency (Cane et al. [1986])
D-MONG = Dependency (Mongrain & Zuroff [1989])
A-CANE = Autonomy (Cane et al. [1986])
A-MONG = Autonomy (Mongrain & Zuroff [1989])

Appendix C

Forced Choice Dependency/Autonomy Scale (FCDAS)

1. **Below are descriptions of two (2) general styles that people often report. Please place a checkmark next to the letter corresponding to the style that best describes you or is closest to describing you.**

Please check only one (1) of the two styles.

_____ **A) I am happiest when I feel close to others who understand me. It's important to me that others like me and like what I think and do. I usually try very hard not to anger others.**

_____ **B) I am happiest when I feel free to make my own decisions about what I will do. It's important to me to attain goals that are meaningful to me. I would prefer not to ask others for help.**

2. **Now please rate both of the styles above according to how well each one describes you.**

	Not at all like me			Somewhat like me			Very much like me
Style A	1	2	3	4	5	6	7
Style B	1	2	3	4	5	6	7

A = Dependency
B = Autonomy

Appendix D

Dependency and Autonomy Trait Scale (DATS)

Circle the number for each statement which best describes how much you agree with each statement.

---

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

---

1. I have my own set of standards and goals and these are higher than those conventionally set.

AUT 1 2 3 4 5 6 7

2. I don't really need people for safety, help, and gratification.

DEP 1 2 3 4 5 6 7

3. I judge myself more stringently than I do others.

AUT 1 2 3 4 5 6 7

4. I need stability and predictability in interpersonal relationships.

DEP 1 2 3 4 5 6 7

5. I am relatively uninfluenced by external feedback like the praise or criticism of others.

AUT 1 2 3 4 5 6 7

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

6. I depend on interpersonal relationships to ensure safety and prevent the pain of social isolation.

DEP 1 2 3 4 5 6 7

7. I am action-oriented, emphasizing DOING rather than THINKING.

AUT 1 2 3 4 5 6 7

8. I have few concerns regarding health.

DEP 1 2 3 4 5 6 7

9. I am relatively unreflective; that is, I do not tend to spend much time thinking about my thoughts, feelings, or actions.

AUT 1 2 3 4 5 6 7

10. I don't really fear aloneness and/or rejection.

DEP 1 2 3 4 5 6 7

11. I focus on getting positive results and place less emphasis on possible negative consequences of actions.

AUT 1 2 3 4 5 6 7

12. I need continual reassurance ("Can I call you when I need you?" "Do you love me?").

DEP 1 2 3 4 5 6 7

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

13. I am direct, decisive, and positive; others may even see me as dogmatic or authoritarian.

AUT 1 2 3 4 5 6 7

14. For me, the most common "cause" for a break in interpersonal relationships has been the belief that I was trapped or forced to do something against my will.

AUT 1 2 3 4 5 6 7

15. Usually, my self-confidence and self-esteem are low.

AUT 1 2 3 4 5 6 7

16. My self-esteem is based on personal qualities that make me independent, action-oriented, and versatile.

AUT 1 2 3 4 5 6 7

17. I want freedom to initiate action and I dislike being held back, blocked, or deterred from doing what I want to do.

AUT 1 2 3 4 5 6 7

18. I judge my own worth by my success in fulfilling specific role expectations (e.g., student, employee).

AUT 1 2 3 4 5 6 7

19. I prefer to keep my options open rather than to make permanent commitments.

AUT 1 2 3 4 5 6 7

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

20. I do not cope well with unexpected eventualities so I usually avoid taking chances like going to strange places or asserting myself.

DEP 1 2 3 4 5 6 7

21. I adapt easily to situations or relationships in which there is a good deal of variability and/or ambiguity.

AUT 1 2 3 4 5 6 7

22. I obtain my greatest pleasure from receiving from others.

DEP 1 2 3 4 5 6 7

23. I don't mind externally imposed directives, deadlines, demands, or pressures.

AUT 1 2 3 4 5 6 7

24. I do not take risks that might alienate others (like asserting myself or expressing hostility).

DEP 1 2 3 4 5 6 7

25. I don't mind asking for help.

AUT 1 2 3 4 5 6 7

26. I feel that rejection by another person leads to loss of self-confidence and self-esteem.

DEP 1 2 3 4 5 6 7

---

1 = Totally disagree
2 = Disagree very much
3 = Disagree slightly
4 = Neutral
5 = Agree slightly
6 = Agree very much
7 = Totally agree

---

27. Unless I have a serious physical illness, I am relatively unconcerned about physical illness or death.

AUT 1 2 3 4 5 6 7

28. I feel that having a wide circle of friends, acquaintances, and associates who are pledged to come to my assistance protects me from alienation, isolation, and sickness.

DEP 1 2 3 4 5 6 7

29. I obtain my greatest pleasure from "doing" and reaching goals.

AUT 1 2 3 4 5 6 7

AUT = Autonomy
DEP = Dependency

Appendix E

Hassles Scale with added Life Events

Listed on the left side of the following pages are a number of ways in which a person can feel hassled. Decide whether you experienced each hassle DURING THE PAST WEEK. On the right you will see 4 numbers. Please circle 0 if you did not experience the hassle DURING THE PAST WEEK. Please circle 1, 2, or 3 (depending on the severity of the particular hassle) if you did experience the hassle DURING THE PAST WEEK.

---

0 = None or not applicable
1 = Somewhat severe
2 = Moderately severe
3 = Extremely severe

---

1. Misplacing or losing things	0	1	2	3
2. Troublesome neighbors	0	1	2	3
3. Social obligations	0	1	2	3
4. Inconsiderate smokers	0	1	2	3
5. Troubling thoughts about your future	0	1	2	3
6. Thoughts about death	0	1	2	3
7. Health of a family member	0	1	2	3
8. Not enough money for clothing	0	1	2	3
9. Not enough money for housing	0	1	2	3
10. Concerns about owing money	0	1	2	3
11. Concerns about getting credit	0	1	2	3

0 = None or not applicable
1 = Somewhat severe
2 = Moderately severe
3 = Extremely severe

12. Concerns about money for emergencies	0	1	2	3
13. Someone owes you money	0	1	2	3
14. Financial responsibility for someone who doesn't live with you	0	1	2	3
15. Cutting down on electricity, water, etc.	0	1	2	3
16. Smoking too much	0	1	2	3
17. Use of alcohol	0	1	2	3
18. Personal use of drugs	0	1	2	3
19. Too many responsibilities	0	1	2	3
20. Decisions about having children	0	1	2	3
21. Non-family members living in your house	0	1	2	3
22. Care for pet	0	1	2	3
23. Planning meals	0	1	2	3
24. Concerned about the meaning of life	0	1	2	3
25. Trouble relaxing	0	1	2	3
26. Trouble making decisions	0	1	2	3
27. Problems getting along with fellow workers	0	1	2	3
28. Customers or clients give you a hard time	0	1	2	3
29. Home maintenance (inside)	0	1	2	3

0 = None or not applicable
1 = Somewhat severe
2 = Moderately severe
3 = Extremely severe

30. Concerns about job security	0	1	2	3
31. Concerns about retirement	0	1	2	3
32. Laid-off or out of work	0	1	2	3
33. Don't like current work duties AUT	0	1	2	3
34. Don't like fellow workers	0	1	2	3
35. Not enough money for basic necessities	0	1	2	3
36. Not enough money for food	0	1	2	3
37. Too many interruptions AUT	0	1	2	3
38. Unexpected company	0	1	2	3
39. Too much time on my hands	0	1	2	3
40. Having to wait AUT	0	1	2	3
41. Concerns about accidents	0	1	2	3
42. Being lonely DEP	0	1	2	3
43. Not enough money for health care	0	1	2	3
44. Fear of confrontation DEP	0	1	2	3
45. Financial security	0	1	2	3

0 = None or not applicable
1 = Somewhat severe
2 = Moderately severe
3 = Extremely severe

46. Silly practical mistakes	0	1	2	3
47. Inability to express yourself	0	1	2	3
48. Physical illness	0	1	2	3
49. Side effects of medication	0	1	2	3
50. Concerns about medical treatment	0	1	2	3
51. Physical appearance	0	1	2	3
52. Fear of rejection DEP	0	1	2	3
53. Difficulties with getting pregnant	0	1	2	3
54. Sexual problems that result from physical problems	0	1	2	3
55. Sexual problems other than those resulting from physical problems	0	1	2	3
56. Concerns about health in general DEP	0	1	2	3
57. Not seeing enough people DEP	0	1	2	3
58. Friends or relatives too far away DEP	0	1	2	3
59. Preparing meals	0	1	2	3
60. Wasting time AUT	0	1	2	3

0 = None or not applicable
1 = Somewhat severe
2 = Moderately severe
3 = Extremely severe

61. Auto maintenance	0	1	2	3
62. Filling out forms	0	1	2	3
63. Neighborhood deterioration	0	1	2	3
64. Financing children's education	0	1	2	3
65. Problems with employees	0	1	2	3
66. Problems on job due to being a woman or man	0	1	2	3
67. Declining physical abilities	0	1	2	3
68. Being exploited	0	1	2	3
69. Concerns about bodily functions	0	1	2	3
70. Rising prices of common goods	0	1	2	3
71. Not getting enough rest	0	1	2	3
72. Not getting enough sleep	0	1	2	3
73. Problems with aging parents	0	1	2	3
74. Problems with your children	0	1	2	3
75. Problems with persons younger than yourself	0	1	2	3
76. Problems with your lover	0	1	2	3

DEP

77. Difficulties seeing or hearing	0	1	2	3
78. Overloaded with family responsibilities	0	1	2	3

0 = None or not applicable
1 = Somewhat severe
2 = Moderately severe
3 = Extremely severe

79. Too many things to do	0	1	2	3
80. Unchallenging work AUT	0	1	2	3
81. Concerns about meeting high standards	0	1	2	3
82. Financial dealings with friends or acquaintances	0	1	2	3
83. Job dissatisfactions AUT	0	1	2	3
84. Worries about decisions to change jobs	0	1	2	3
85. Trouble with reading, writing, or spelling abilities	0	1	2	3
86. Too many meetings	0	1	2	3
87. Problems with divorce or separation	0	1	2	3
88. Trouble with arithmetic skills	0	1	2	3
89. Gossip	0	1	2	3
90. Legal problems	0	1	2	3
91. Concerns about weight	0	1	2	3
92. Not enough time to do the things you need to do	0	1	2	3
93. Television	0	1	2	3
94. Not enough personal energy	0	1	2	3
95. Concerns about inner conflicts	0	1	2	3

0 = None or not applicable
1 = Somewhat severe
2 = Moderately severe
3 = Extremely severe

96. Feel conflicted over what to do	0	1	2	3
97. Regrets over past decisions	0	1	2	3
98. Menstrual (period) problems	0	1	2	3
99. The weather	0	1	2	3
100. Nightmares	0	1	2	3
101. Concerns about getting ahead AUT	0	1	2	3
102. Hassles from boss or supervisor	0	1	2	3
103. Difficulties with friends DEP	0	1	2	3
104. Not enough time for family	0	1	2	3
105. Transportation problems	0	1	2	3
106. Not enough money for transportation	0	1	2	3
107. Not enough money for entertainment and recreation	0	1	2	3
108. Shopping	0	1	2	3
109. Prejudice and discrimination from others	0	1	2	3
110. Property, investment, or taxes	0	1	2	3
111. Not enough time for entertainment and recreation	0	1	2	3
112. Yardwork or outside home maintenance	0	1	2	3

0 = None or not applicable
1 = Somewhat severe
2 = Moderately severe
3 = Extremely severe

113. Concerns about news events	0	1	2	3
114. Noise	0	1	2	3
115. Crime	0	1	2	3
116. Traffic	0	1	2	3
117. Pollution	0	1	2	3

ITEMS 118 - 139 ARE ADDED LIFE EVENTS

118. Concerns about death of a family member DEP	0	1	2	3
119. Concerns about academic probation	0	1	2	3
120. Concerns about serious illness or injury of a family member DEP	0	1	2	3
121. Concerns about failing an important exam	0	1	2	3
122. Concerns about a decrease in closeness of your family DEP	0	1	2	3
123. Concerns about failing a course AUT	0	1	2	3

0 = None or not applicable
1 = Somewhat severe
2 = Moderately severe
3 = Extremely severe

124. Concerns about a breakup of your family due to divorce or conflict DEP	0	1	2	3
125. Concerns about not graduating as planned AUT	0	1	2	3
126. Concerns about infidelity of your spouse	0	1	2	3
127. Concerns about being demoted at work	0	1	2	3
128. Concerns about an increase in family arguments DEP	0	1	2	3
129. Concerns about not being promoted at work AUT	0	1	2	3
130. Concerns about death of a close friend DEP	0	1	2	3
131. Concerns about being fired from your job	0	1	2	3
132. Concerns about serious injury or illness of a close friend DEP	0	1	2	3
133. Concerns about changing jobs and getting a worse one	0	1	2	3
134. Concerns about a breakup with steady boyfriend or girlfriend DEP	0	1	2	3
135. Concerns about not having sufficient funds to continue in college AUT	0	1	2	3

0 = None or not applicable
1 = Somewhat severe
2 = Moderately severe
3 = Extremely severe

136. Concerns about a broken relationship with a close friend DEP	0	1	2	3
137. Concerns about your engagement being broken	0	1	2	3
138. Concerns about getting behind in your classwork or reading for a class AUT	0	1	2	3
139. Concerns about lack of a sufficient social life DEP	0	1	2	3

AUT = Autonomy-related stressor
DEP = Dependency-related stressor

Appendix F

Informed Consent

PROJECT THREE is a psychological study to learn more about the attitudes, experiences, and feelings of normal young adults. As a participant in this study, you will be asked to complete 5 questionnaires. You must be at least 18 years of age to participate in this study.

Neither your name nor any identifying information will be requested on any of your questionnaires so you can be assured that no one, not even the investigator, will be able to identify your questionnaires. In order that the answers you provide are strictly confidential, the following procedure will be followed:

1.) **After reading and signing this informed consent sheet, you will be asked to place it in a manila envelope along with those of other participants.**

2.) **You will then be given the questionnaire to complete. When you have answered all questions on the questionnaires, you will be asked to place them in another manila envelope, again along with those of other participants.**

3.) **You will be asked to complete the green course credit sheet and place it in the envelope with the informed consent sheets.**

4.) **You will be given a printed debriefing sheet when you are finished and ready to leave the classroom.**

It is believed that there are no risks to your health or well being as a result of participating in this study.

If you have questions which are not answered above, please ask the investigator at this time.

Date: _____

This is to certify that I _____ **hereby agree to participate as a volunteer in a scientific investigation as a part of the educational and research program of Old Dominion University under the supervision of Robin J. Lewis, Ph.D.**

The investigation and the nature of my participation have been described and explained to me, and I understand the explanation.

However, I have been informed and do understand that some of the study may not have been explained at this time. This procedure is sometimes necessary since advanced knowledge may affect the results. I am aware that the exact nature of the study will be explained to me during a debriefing at the end of the study.

I have been given an opportunity to ask questions, and all such questions have been answered to my satisfaction.

I understand that I am free to withhold any answer to specific items or questions in the questionnaires.

I understand that any data or answers to questions will remain confidential with regard to my identity.

I acknowledge that I was informed about any possible risks to my health and well being that may be associated with my participation in this research.

I further understand that I am free to withdraw my consent and terminate my participation at any time, without penalty.

I have been informed that I have the right to contact the Psychology Department Committee for the Protection of Human Subjects and/or the University Committee should I wish to express any opinions regarding the conduct of this study.

Signature: _____

Date of birth: _____

Telephone number: _____

Gender: _____ **MALE** _____ **FEMALE**

Witnessed by: _____ **Investigator**

Date: _____

Appendix G

Instructions and Demographic Questionnaire

PROJECT THREE (Session 1) SUBJECT NUMBER _____

1. If you have any questions at any time, please do not hesitate to ask me.

2. So that you can be assured that there will be complete confidentiality, please do not write your name on this questionnaire booklet.

3. Your subject number is written in the top right hand corner of this page. To maintain confidentiality, I will not know your subject number. So, at this time, please write your subject number on the index card given to you and keep it with you so that you will have it at the next session.

4. Please provide the following information which will help you verify your subject number at the next session. (At sessions 2 and 3, there will be a list of subject numbers followed by these three pieces of information and I will ask you to verify your subject number by being sure that the 3 pieces of information next to your subject number apply to you.)

THE CITY WHERE YOU WERE BORN: _____

YOUR FATHER'S MIDDLE NAME: _____

YOUR FAVORITE PET'S NAME: _____

5. When you have completed this test booklet, please fill in the green credit sheet. Write your name (in two places) and also your instructor's name; I will fill in the other blanks. You must complete a green credit sheet at each of the 3 sessions. Since your name will be on none of the questionnaire booklets, it is the only way that I will have of knowing whether you were present for a session. You will receive two (2) credits when you complete the 3 sessions at consecutive weekly intervals.

6. As you leave, place the test booklet in the large manila envelope marked Questionnaire Booklets and the green credit sheet in the envelope marked Informed Consents and Credit Sheets.

7. **Also, be sure to make an appointment for Session 2 as you leave Session 1 and for Session 3 as you leave Session 2. Each session must be completed one week after the prior session. You may also write the date, time, and location of your next appointment on the index card.**

8. **Please be sure to answer every question on each page of the booklet.**

9. **Thank you for participating in this study!**

****

PLEASE PROVIDE THE FOLLOWING INFORMATION FOR THE STUDY ITSELF:

TODAY'S DATE: _____

GENDER: _____ **MALE** _____ **FEMALE**

AGE: _____

RACE: _____

PROJECT THREE (Session 2) SUBJECT NUMBER _____

1. If you have any questions at any time, please do not hesitate to ask me.

2. Please do not write your name on this questionnaire booklet.

3. It is very important that you use the same subject number at Sessions 1, 2, and 3. Please be sure that you have verified your subject number by matching it with the 3 pieces of personal information on the computer listing posted on the wall or board. If your subject number and personal info on the computer listing do not match, please inform me immediately.

4. If this is your 2nd session, be sure that the same subject number you used at Session 1 is written in RED in the right hand corner of this page. You do not need to complete another Informed Consent.

5. If you have lost the index card given to you at Session 1 for recording your subject number and next appointment, please request another one from me.

6. Please provide the following personal information for verifying your subject number at Session 3.

THE CITY WHERE YOU WERE BORN: _____

YOUR FATHER'S MIDDLE NAME: _____

YOUR FAVORITE PET'S NAME: _____

7. When you have completed this test booklet, please fill in the green credit sheet. Write your name (in two places) and also your instructor's name; I will fill in the other blanks. You must complete a green credit sheet at each of the 3 sessions. Since your name will be on none of the questionnaire booklets, it is the only way that I will have of knowing whether you were present for a session. You will receive two (2) credits when you complete the 3 sessions at consecutive weekly intervals.

8. As you leave, place the test booklet in the large manila envelope marked Questionnaire Booklets and the green credit sheet in the envelope marked Informed Consents and Credit Sheets.

9. Also, be sure to make an appointment for Session 3. Please write the date, time, and location of your next appointment on your index card that also has your subject number.

10. Please be sure to answer every question on each page of the booklet.

11. Thank you for participating in this study!

****

PLEASE PROVIDE THE FOLLOWING INFORMATION FOR THE STUDY ITSELF:

TODAY'S DATE: _____

GENDER: _____ **MALE** _____ **FEMALE**

AGE: _____

RACE: _____

PROJECT THREE (Session 3) SUBJECT NUMBER _____

1. Be sure that the same subject number you used at Sessions 1 and 2 is written in GREEN in the right hand corner of this page. You do not need to complete another Informed Consent.

2. It is very important that you use the same subject number that you used at Sessions 2 and 3. Please be sure that you have verified your subject number by matching it with the 3 pieces of personal information on the computer listing posted on the wall or board. If your subject number and personal info on the computer listing do not match, please inform me immediately.

3. If you have any questions at any time, please do not hesitate to ask me.

4. Please do not write your name on this questionnaire booklet.

5. Please provide the following information for verifying your subject number.

THE CITY WHERE YOU WERE BORN: _____

YOUR FATHER'S MIDDLE NAME: _____

YOUR FAVORITE PET'S NAME: _____

6. When you have completed this test booklet, please fill in the green credit sheet. Write your name (in two places) and also your instructor's name; I will fill in the other blanks. You must complete a green credit sheet at each of the 3 sessions. Since your name will be on none of the questionnaire booklets, it is the only way that I will have of knowing whether you were present for a session. You will receive two (2) credits when you complete the 3 sessions at consecutive weekly intervals.

7. As you leave, place the test booklet in the large manila envelope marked Questionnaire Booklets and the green credit sheet in the envelope marked Informed Consents and Credit Sheets.

8. Please be sure to answer every question on each page of the booklet.

9. Thank you for participating in this study!

****

PLEASE PROVIDE THE FOLLOWING INFORMATION FOR THE STUDY ITSELF:

TODAY'S DATE: _____

GENDER: _____ **MALE** _____ **FEMALE**

AGE: _____

RACE: _____

Appendix H

Debriefing Sheet

Thank you for volunteering to participate in PROJECT THREE.

PROJECT THREE is a psychological study of how attitudes and experiences interact to affect feelings in normal young adults. The interaction of attitudes and experiences should be a stronger predictor of feelings than either attitudes or experiences alone. A form of data analysis known as multiple regression will be used to find out if this predicted interaction is true in the case of this particular ODU student sample.

Though unlikely, there is the slight possibility that answering questions about attitudes, experiences, and feelings may create disturbing thoughts and emotions in some people. If you feel distress as the result of answering the questionnaires of PROJECT THREE, you may contact Robin J. Lewis, Ph.D. at 683-4210 or the ODU Counseling Center at 683-4401 for assistance.

If you have any questions about PROJECT THREE which have not been answered to your satisfaction, please feel free to call me.

Again, thanks for your help.

Kaky Drury, Investigator
422-8918