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Anxiety and depression: An empirical investigation of the Diathesis-Stress Model of psychopathology

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ANXIETY AND DEPRESSION: AN EMPIRICAL INVESTIGATION
OF THE DIATHESIS-STRESS MODEL OF PSYCHOPATHOLOGY

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Psychology: Clinical/Counseling Option

by
Deborah Jean Hartley
June 1999
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ABSTRACT

The present study tested the utility of the Diathesis-Stress Model, which postulates that individuals with a family history of anxiety or depression who exhibit certain personality characteristics (i.e., perfectionism, negative attributional style, external locus of control, poor constructive thinking), are more susceptible to have a psychopathological response (i.e., anxiety and depression) to stressful life events or trauma. In a Diathesis-Stress Model, the interaction of these factors is presumed to be critical for the development of psychopathology.

Participants were 267 undergraduate students (74 males and 193 females), ranging in age from 18 to 54. Participants completed a battery of self-report questionnaires (e.g., Beck Depression Inventory) to assess for the presence of specific vulnerability factors (e.g., family history, perfectionism), as well as for the presence of anxious or depressive symptoms. Hierarchical Regression analyses suggested that for depression, family history, life stress, attributional style, self-oriented perfectionism, socially prescribed perfectionism, and global constructive thinking were all significant predictors. Frequency of and distress from traumatic events, and external locus of control were not significant predictors for depression. For anxiety, family history, life stress, socially prescribed
perfectionism, external locus of control, attributional style, and global constructive thinking were all significant predictors. Frequency of and distress from traumatic events and self-oriented perfectionism were not significant predictors for anxiety. Implications of the current findings are discussed, with respect to early identification of at risk individuals, and the implementation of intervention programs for prevention of anxiety and depressive disorders.
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The Diathesis-Stress Model postulates that psychopathology (e.g., anxiety & depression) results from an interaction of genetic factors, psychological vulnerability factors, and the experience of stressful life events. A diathesis can be thought of as a "constitutional disposition or predisposition" to a disorder (Zuckerman, 1999, p.3). In other words, an individual's genetic makeup and biologically determined traits may place them at risk to develop some form of psychological disorder.

Psychological vulnerability factors are defined as personality characteristics or traits, whose expression may contribute to an individual's overall susceptibility to psychopathology. In this model, stressful life events are defined as significant life changes, including illness, trauma or stress that an individual has experienced in his/her environment. In a Diathesis-Stress Model, the interaction of these factors is presumed to be necessary for psychopathology to develop.

Genetics/Family History: Anxiety

Past conceptualizations of the role of heredity in psychopathology are summarized by H.J. Eysenck (as cited in Sarason, 1975, p. 89), "'current orthodoxy in psychiatry and psychology attributes minimal (or even no) importance to hereditary predispositions, and stresses exclusively the
role of environmental variables...in the causation of neurotic and other anxiety responses.'" In stark contrast, more recent research (i.e., monozygotic and dizygotic twin studies) has indicated that the development of anxiety and depressive disorders is indeed influenced by an individual’s genetic inheritance (see Crowe, Noyes, Pauls, & Slymen, 1983; Kendler, Neale, Kessler, Heath, & Eaves, 1992a; Torgersen, 1983). According to Zuckerman (1999), this inheritance, or biological vulnerability may be predictive of psychopathology, and not merely a resultant condition that remediates itself after remission of symptoms.

Marks (1986) theorized that panic symptoms (i.e., racing heart, dizziness) may be genetically based in that they are similar to our autonomic "fight or flight" survival response mechanism, generated in response to danger. Barlow (1988) argues that individuals with panic disorder have a biological predisposition to react to negative events with a false alarm, or panic reaction to non-threatening stimuli. Barlow (1988) postulated that an individual with a family history of anxiety may be predisposed to experience a more severe biological reaction to stress than those without this family history.

According to Gray (1982), an anxious individual may have an overactive and overly sensitive Behavioral Inhibition System (BIS), producing anxiety in response to a variety of stimuli. Gray (1982) defines the BIS as the
brain system involved in regulation of behavior in response to external stimuli (i.e., novel stimuli, or signals of punishment). When presented with stimuli of this nature, the BIS inhibits ongoing behavior in order to focus on the new stimuli, resulting in increased arousal and attention levels.

Anxious individuals are thought to have an exaggerated inhibitory BIS response, predisposing them to development of anxiety disorders. What has not been identified in research however is a genetic link that determines which specific form (i.e., phobia, panic) the anxiety disorder will take. The final manifestation of the disorder seems to be determined by personality and environmental factors, in addition to an inherited biological vulnerability to anxiety (Kendler, Heath, Martin, & Eaves, 1987).

**Panic Disorder**

Twin studies have indicated a high concordance of anxiety disorders among monozygotic twins, specifically for panic-related symptoms. This inherited vulnerability appears to be strongest for children whose biological parents have an anxiety disorder. Reported percentages of anxiety disordered parents whose children also have an anxiety disorder range from 15-49% (Marks, 1986). Barlow (1988) hypothesized that heritability for anxiety or nervousness is positively correlated with the severity of the parent's anxiety disorder.
Torgersen (1983) compared 32 monozygotic to 52 dizygotic twins who were diagnosed with various anxiety disorders, including panic. Within this twin sample, panic disorder was five times more likely to develop in monozygotic vs. dizygotic twins. Findings indicated a higher concordance for anxiety disorders among monozygotic (45%) vs. dizygotic (15%) twins when generalized anxiety disorder (GAD) was excluded from the sample.

Torgersen (1983) found that inclusion of GAD in his analyses was associated with a drop in concordance rates for anxiety disorders among monozygotic (34%) and dizygotic (17%) twins, suggesting that GAD may not be significantly genetically influenced. Kendler et al. (1992a) however found evidence suggesting that development of GAD is genetically influenced. For a sample of 1033 female twin pairs, Kendler et al. (1992a) found a 19-30% heritability rate for GAD.

Crowe et al. (1983) conducted a family study of panic disordered individuals and their first-degree relatives. He concluded that first-degree relatives had a 17% risk for developing panic disorder, as opposed to approximately 2% for control subjects, leading to the conceptualization of panic disorder as a "familial disease" (p. 1065).

Harris, Noyes, Crowe, and Chaudhry (1983) investigated the morbidity of panic disorder and agoraphobia for first degree relatives of individuals with these disorders. With
a sample of 20 panic disordered individuals, 20 agoraphobics, and 20 controls, Harris et al. (1983) concluded that first degree relatives had a 33%, 32%, & 15% risk respectively for development of anxiety. They concluded that relatives of panic disordered individuals were more likely to develop the same disorder, while relatives of agoraphobics varied in the final manifestation of their anxiety disorder.

More research in this area is needed to determine the specific etiology of panic, but it seems that a genetic predisposition is a necessary but not sufficient precursor for development of panic disorder. Additionally, twin studies in which monozygotic twins were not concordant for an anxiety disorder suggest that biological vulnerability in and of itself comprises only one piece of the puzzle (Zuckerman, 1999).

Specific Phobias

Marks (1986) argues that perhaps there is a genetic factor influencing development of specific phobias, citing a 68% concordance rate for blood-injury phobia among first-degree relatives. Additionally, concordance rates for blood-injury phobia are higher for monozygotic vs. dizygotic twins, further suggesting a genetic influence for development of a phobic condition.

Fyer et al. (1990) interviewed 49 individuals with specific phobia, along with 119 of their first-degree
relatives. They concluded that compared to control subjects (no phobia), first-degree relatives of specific phobics were at high risk (11% vs. 31% respectively) for development of a specific phobia, especially for female relatives. Fyer et al. (1990) hypothesized however that a genetic link for specific phobia does not definitively determine which form the phobia will take (i.e., fear of snakes) in the relative of a phobic individual, given that only two families in their study shared the same type of phobia.

Comorbidity of Anxiety and Depression

The high comorbidity of anxiety and depressive disorders has been well documented (see Sanderson, Beck, & Beck, 1990; Swendsen, 1997). Leckman, Weissman, Merikangas, Pauls, and Prusoff (1983) found that 58% of a patient population diagnosed with major depression also met diagnostic criteria for panic disorder or GAD. Leckman et al. (1983) additionally concluded that relatives of individuals with comorbid major depression and anxiety were at a higher risk for development of anxiety symptoms (i.e., panic) vs. relatives of individuals with major depression without comorbid anxiety. Weissman et al. (1993) provided additional evidence for the familial relationship between major depressive disorder and panic disorder.

Sanderson et al. (1990) demonstrated the high comorbidity of anxiety and depression with a sample of 260 clinically depressed patients. They concluded that 65% of
dysthymic and 59% of major depressive patients met criteria for an additional diagnosis, most commonly anxiety (e.g., social phobia or GAD). Onset of depression preceded onset of anxiety in the majority of cases (60-77%). If the initial diagnosis was an anxiety disorder however, the disorder was most commonly GAD or social phobia. Social phobia was comorbid with dysthymia, and GAD with major depressive disorder (Sanderson et al., 1990).

Genetics/Family History: Depression

Major Depression

Twin research by Kendler, Neale, Kessler, Heath, and Eaves (1992b) found evidence for the heritability of major depression, with heritability rates ranging from 33 to 45%. Utilizing various diagnostic definitions of major depression (e.g., DSM-III-R), a sample of 1033 female twin pairs were interviewed. Kendler et al. (1992b) concluded that monozygotic twin pairs had higher overall concordance rates (ranging from 0.23-0.49) for major depression than dizygotic twin pairs (rates ranging from 0.16-0.42).

Additional twin research by Kendler et al. (1995) found results suggesting a genetic vulnerability for major depression when faced with life stress. Using a subject pool consisting of female monozygotic and dizygotic twin pairs (2,164 individuals), they assessed the relationship between genetics, stressful life events, and onset of major depression over a 12-month period. Reported stressful
events included physical assault, divorce, and death in the family. Each subject was assessed for symptoms of major depression using DSM-III-R criteria.

Kendler et al. (1995) concluded that individuals with a high genetic risk (i.e., monozygotic twin and co-twin both reported major depression) were more than twice as likely to develop a depressive disorder under stress than those whose genetic risk was comparatively low (i.e., monozygotic twin whose co-twin didn’t experience depression). These genetic risk categories were constructed based on prior twin research (see Kendler et al., 1992b).

Kendler et al. (1995) also concluded that risk for onset of depression was genetically influenced independent of stressful life events. Additional research in this area is needed however to separate out environmental influences (i.e., growing up with a depressed parent) from genetic influences on development of depression.

Weissman, Kidd, and Prusoff (1982) interviewed 1,331 first-degree relatives of 215 individuals with major depression (ranging from mild to severe), and non-depressed controls. Results indicated that risk for development of a unipolar depressive disorder was significantly higher for relatives of depressed vs. non-depressed individuals, especially for females. Gershon et al. (1982) also found support for a familial transmission of vulnerability to unipolar depression. They concluded that the lifetime
morbidity rate of unipolar depression was 20% for first-degree relatives of unipolar patients, vs. 7% for relatives of controls. Further support came from Torgersen (1986), who found that the frequency of major depression in the co-twins of those diagnosed with major depressive disorder was 27% for monozygotic twins, vs. 12% for dizygotic twins.

Bipolar Disorder

A growing body of research (see Bertelsen, 1979; Kendler et al., 1995; Gershon et al., 1982) supports the hypothesized genetic influence for development of depressive disorders. According to Bertelsen (1977), this link appears especially salient for the first-degree relatives of those with bipolar disorder.

Bertelsen et al. (1977) examined concordance rates for bipolar disorder among 110 twin pairs. For monozygotic twins, 32 out of 55 pairs were concordant (pairwise rate of 0.58) for bipolar disorder, as opposed to only nine out of 52 dizygotic pairs (pairwise rate of 0.17), indicating a genetic link for bipolar disorder. There were slightly more monozygotic twins that were both bipolar (14) than unipolar (11), but only six of the pairs displayed a mix of bipolar and unipolar depression. Results additionally indicated that bipolar disorder was found predominantly in first-degree relatives of those who were bipolar themselves, and that female first-degree relatives of those who are bipolar are three times more likely to develop unipolar depression.
than are male relatives. Andreasen et al. (1987) found similar results in a nation-wide study with 616 individuals and 3423 of their first-degree relatives.

Rice et al. (1987) assessed heritability of bipolar depression for 187 first-degree relatives of bipolar patients. They found a 5.7% risk for development of bipolar disorder for family members of bipolar patients. This rate was greater than the 1.1% risk for bipolar disorder found for relatives of patients with major depression.

In accordance with the Diathesis-Stress Model of psychopathology however, a genetic predisposition is a necessary but not sufficient precursor for development of anxiety and depression. The role of stressful life events must also be examined.

Stressful Life Events/Trauma

Zuckerman (1999, p.9) defines stress as the "imposition of strain," which results in internal (physiological and psychological) reactions to the strain, provoking some form of behavioral response. Stress is also operationalized as the event(s) that are experienced within a relatively short time period before the onset of a psychopathological response. Barlow (1988) states that negative life events or stressors can be associated with the onset or exacerbation of psychopathology.

In accordance with prior research by Finlay-Jones and Brown (1981), Brown (1993) divides stress into two major
categories, danger and loss, where danger is defined as the threat of loss (i.e., loss of resources, death of a loved one). Brown (1993) studied the relationship between stressful life events and psychopathology with a sample of 45 depressed and anxious women. The majority of subjects reportedly experienced a severe life event six months prior to onset of their depression or anxiety. In agreement with Paykel (1982), Brown (1993) concluded that stressful situations involving danger were strongly (89%) associated with anxiety, while loss events were associated more (62%) with depression.

A study by Roy-Byrne, Geraci, and Uhde (1986) looked at the relationship between the experience of stressful life events and onset of panic disorder. Subjects (44 outpatients diagnosed with panic disorder) reported experiencing more personal life events than controls the year prior to onset of panic symptoms. Subjects most commonly reported events involving health problems, and changes in residence or separation. Life events reported by panic subjects were rated as more distressing, uncontrollable, and undesirable compared to life events reported by controls.

Roy-Byrne et al. (1986) concluded that the psychological and emotional ramifications of stressful life events are perhaps better predictors of onset of psychopathology than the actual number of stressful life
events experienced.

Barlow (1988) postulated that individuals who are genetically predisposed to anxiety have a reaction to objectively minor life stressors that is on the same scale as to an actual physical threat or danger. He labeled this reaction involving internal arousal a false alarm. He hypothesized that when repeatedly activated, this alarm response may result in a chronic state of anxious apprehension, or anticipation of future negative events. He further argued that this alarm reaction alone may not be a sufficient precursor for development of an anxiety disorder.

According to Barlow (1988), the majority of patients diagnosed with panic disorder and agoraphobia reportedly experienced one or more negative life events just prior to their first panic attack. Research conducted by Doctor (1982) with a large sample of agoraphobics (404) revealed three types of stress that were the most common reported antecedents of symptomatology; separation and loss (31%), relationship difficulties (30%), and taking on new responsibilities (20%). Subjects in this sample reportedly feared social rejection, prompting avoidance behavior. Barlow (1988) hypothesized however that the experience of acute stress or trauma is not a blanket precursor to psychopathology. He stated that not everyone who experiences negative life events would develop a related disorder. Even if a trauma is shared between two people,
one may develop an anxiety disorder (i.e., post traumatic stress disorder, PTSD), while the other individual may not.

Breslau, Davis, Andreski, and Petersen (1991) found evidence suggesting that individuals with a preexisting anxiety disorder, or a family history of anxiety, were at higher risk than those without this history for development of PTSD following a traumatic event (i.e., serious accidents, rape). Utilizing a sample of 1007 young adults (ages 21-30), Breslau et al. (1991) found that over 75% of those diagnosed with PTSD had an anxiety disorder or family history of anxiety prior to onset of PTSD. The most common preexisting anxiety disorders in this sample were obsessive-compulsive disorder (OCD), and panic disorder.

Breslau et al. (1991), and Breslau, Davis, Peterson, and Schultz (1997) identified preexisting major depression as a risk factor for development of PTSD when faced with a traumatic event. Additionally, Breslau et al. (1991) found that major depression, OCD, agoraphobia, panic, and dysthymia were highly comorbid with PTSD in their sample.

Breslau et al. (1991) also concluded that individuals with a family history of psychopathology (i.e., anxiety, depression) were at higher risk than individuals without this history for exposure to traumatic events. These findings, along with those of Tsuang, Boor, and Fleming (1985) suggest that not all individuals have an equal probability of developing PTSD when exposed to traumatic
events, and that some individuals are more likely than others to place themselves in dangerous situations. Gottfredson (1981, p. 719) labeled this phenomenon "victim proneness," while Tsuang et al. (1985, p. 538) called it "accident proneness."

Twin research conducted by Kendler, Neale, Kessler, Heath, and Eaves (1993a) found a significant correlation for the experience of stressful life events between monozygotic vs. dizygotic twins. They postulated that inherited personality traits may influence the amount of stressful life events individuals become involved in. They concluded that these individuals may "create for themselves high-risk environments" (p.795), thus increasing their risk for developing PTSD.

According to Barlow (1988), vulnerability factors for development of anxiety include a biological predisposition to stress, a perception that negative events are uncontrollable or unpredictable, as well as a lack of social support or coping skills. He postulated that GAD may result from a direct connection made by the individual between stressful life events and the belief that negative events are unpredictable, thus hampering efforts to cope.

According to Lazarus (1986), when encountered with an environmental event, we appraise the situation, assessing for potential harm, threat or challenge. Each individual's perception is colored by their past experiences and
interactions with the environment. Lazarus (1986)
conceptualized that the mediating factor in this reaction
pattern is one's sense of control and ability to either
tolerate or eliminate (i.e., cope with) a potential threat. He posited that if an individual feels unable to master the situation, it is perceived as threatening, and thus stress-provoking. Lazarus and Folkman (1984) further postulated that anticipation of a negative event could produce a stress reaction of the same magnitude as an actual event.

Brown and Harris (1978) investigated the relationship between life events and depression. They hypothesized that the experience of negative life events would constitute a vulnerability factor for onset of depression. A total of 458 depressed female in and outpatients were followed for one year. Brown and Harris (1978) concluded that compared to normals, the depressive patient group experienced a greater number of severe negative events over a nine-month period prior to onset of depressive symptoms. Of this group, 68% reportedly experienced at least one negative life event, which most commonly involved some type of loss and disappointment. Compared to only 8% of control subjects, 21% of the patient group reportedly experienced three or more negative events prior to onset of depression. In contrast, the non-patient group reported only one severe event on average during the nine months prior to onset of depression.
Beck (1967) postulated that under stress, an individual who is prone to depression may engage in negative thinking or depressive cognitions. Depressive cognitions, better known as Beck's (1963, 1967) cognitive triad, include negative thoughts about self, the world, and the future. These negative cognitions are characterized by elements of self-blame, perceived inadequacies, and magnification of personal failures.

Beck (1963) conceptualized negative cognitions as distortions of reality that are self-defeating and automatic in nature. Beck (1964) explained the depressive's cognitive interaction with the environment as follows: "instead of a schema's being selected to fit the external details, the details are selectively extracted and molded to fit the schema. The result is inevitably distortion of reality" (p.565). Under stress, these cognitions are activated, perhaps exacerbating a depressive episode. In other words, an individual prone to depression may be at an increased risk for entering this negative cognitive cycle while under stress, and feel they cannot escape their suffering (Beck, 1967).

Brown and Harris (1978) argued that severe stress, defined as events involving long-term threat, plays a key role in the onset of a major depressive disorder. Additionally, they hypothesized that the more negative life events an individual experiences, the greater their risk for
developing a depressive disorder. Brown and Harris (1978) concluded that the experience of two or more separate or unrelated severe negative events may increase the risk for depression, evident in cases where negative events had occurred within a fairly short time period before onset of depressive symptoms (i.e., nine months to a year).

According to Sarason, Johnson, and Siegel (1978), life events or changes are experienced as stressful because change demands personal adaptation. They further postulated a relationship between the extent (i.e., severity or duration) of the stressor(s) and the extent of subsequent psychopathology. Following this line of research, both positive and negative life events have been found to produce stress. It has been argued however that the stress produced by positive change is not linked to psychological difficulties, as is stress produced by negative change (Lynd-Stevenson & Rigano, 1996). A negative event can be operationally defined as an event that is experienced as undesirable. This however is subject to individual perception (Sarason et al., 1978).

Sarason et al. (1978) found a significant relationship between reported experience of negative life change (as measured by the Life Experiences Survey, Sarason et al., 1978), and scores on the Beck Depression Inventory or BDI (Beck, 1967). These individuals also appeared to have an external locus of control (as measured by the Locus of
Control Scale, Rotter, 1966), characterized by the perception that they have little control over their environment.

Hewitt and Flett (1993) argued that the experience of depression could be predicted by an interaction between life stress and the characteristic of perfectionism. A study by Joiner and Schmidt (1995) found additional support for this hypothesis. Results indicated that perfectionists have a high need for control and are thus threatened by seemingly uncontrollable life events. Additionally, they found that highly stressful situations were associated with increased levels of depression in this population as measured by the BDI.

Stressful life events have also been linked to a suicidal manifestation of depression. According to Schotte and Clum (1982), individuals who had attempted suicide reportedly experienced four times the amount of negative life events in the six months prior to their attempt, compared to a non-suicidal population. Schotte and Clum (1982) also found a significant relationship between the number of negative life events experienced prior, and the seriousness of the suicide attempt. These suicidal individuals reported one and a half times more negative stressors than non-suicidal depressed individuals.

These findings were supported by additional research conducted by Dixon, Heppner, and Anderson (1991).
concluded that individuals who perceive themselves as unable to cope effectively with stressful events are prone to experience feelings of hopelessness, depression, and suicidality.

The role of stress in psychopathology is further complicated by the argument that the experience of negative life events is influenced by each individual’s perception of what constitutes a stressful event, which is influenced itself by personality factors. Additionally, some argue that stressful experiences can be self-induced as a result of inadequate social skills and interpersonal problem solving skills (Schotte, Cools, & Payvar, 1990), or inadequate coping skills (Epstein & Katz, 1992).

With respect to the role of stress in the etiology of psychopathology, Zuckerman (1999) poses an interesting question; are stressful life events sufficient precursors for psychopathology in the absence of biological or psychological vulnerability factors? It appears the answer may be no.

**Psychological Vulnerability Factors**

Watson, Clark, and Harkness (1994) define personality as a complex internal organization of characteristics that are stable in nature over time and across various situations. Following the Diathesis-Stress Model of psychopathology, certain learned personality traits or characteristics may act in concert with biological
vulnerability factors and the experience of stressful life events to increase the risk of developing a psychological disorder. In support of this model, Zuckerman (1999) states that stressful life events in and of themselves are not sufficient to account for psychopathology. The missing piece to the puzzle is very likely personality. Past research (see Hewitt and Flett, 1993; Watson et al., 1984) has identified various personality factors that may be related to or predictive of psychopathology.

Perfectionism

According to Hewitt and Flett (1991a), perfectionism is a stable personality construct with three components or dimensions, self-oriented, other-oriented and socially prescribed perfectionism. Self-oriented perfectionism is defined as the unrealistically high standards for achievement placed on oneself while striving for perfection. When perfection is not reached, this individual is likely to experience self-blame, guilt, and low self-esteem. Self-oriented perfectionism has been linked to both trait anxiety and sub-clinical depression (Flett, Hewitt, & Dyck, 1989). Other-oriented perfectionism is characterized by the expectation that the significant people around you should be perfect. In failing to meet these lofty standards, significant others may become the focus of hostility and blame. Other-oriented perfectionism is thought to be associated with general maladjustment (i.e., relationship

Lastly, socially prescribed perfectionism is one’s belief that significant others have excessive and unrealistic expectations of them. Hewitt and Flett (1991a) hypothesized that these individuals fear being negatively evaluated, and thus are prone to experience anxiety and depression if they feel they have failed to meet the expectations of others. Hewitt and Flett (1991a) assessed these factors for a group of 22 clinically depressed, and 13 anxiety disordered patients, in addition to 22 control subjects. In partial contradiction to previous findings (see Flett et al., 1989), they concluded that anxiety and depression were both associated with socially prescribed perfectionism, but that depression alone was associated with self-oriented perfectionism, differentiating it from anxiety.

Frost, Marten, Lahart, and Rosenblate (1990) provided additional support for a multidimensional view of perfectionism. Dimensions of this construct included excessive worry about making mistakes, self-doubt, and high needs for personal organization. Consistent with prior research (see Hewitt & Flett, 1991b), Frost, Heimberg, Holt, Mattia, and Neubauer (1993) concluded that socially oriented perfectionism was associated with both depression and anxiety. They hypothesized that the relationship between perfectionism and psychopathology was more salient for
socially prescribed vs. self-oriented perfectionism. Frost et al. (1993) concluded that other-oriented perfectionism was not significantly related to anxiety or depression.

Joiner and Schmidt (1995) assessed the relationship between perfectionism, life stress, and psychopathology (e.g., anxiety & depression). Their subject pool consisted of 174 undergraduate students. Their results provided additional support for the hypothesis that self-oriented perfectionism is associated with depression, but not with anxiety. Joiner and Schmidt (1995) concluded that the dimension of self-oriented perfectionism is a specific psychological vulnerability factor for depression, differentiating it from anxiety.

Consistent with research by Flett, Hewitt, Blankstein, and Mosher (1995), Joiner and Schmidt (1995) concluded that self-oriented perfectionism's relationship to depression is mediated by life stressors, with high levels of stress associated with high levels of depression. They also concluded that under conditions of subjective stress, socially prescribed perfectionism was associated with both anxiety and depression. Other-oriented perfectionism was not significantly related to or predictive of depression or anxiety.

Hewitt and Flett (1993) argue that the harsh self-criticism associated with self-oriented perfectionism becomes a self-fulfilling prophecy, in that failure results
in self-punishment, setting the stage for additional failure. Characteristic all-or-nothing thinking results in the magnification of even the smallest mistakes. Perfectionistic individuals attach their sense of self-worth to their performance, resulting in procrastination, lowered self-esteem, and depression. This cycle creates a vulnerability to further depressive episodes.

Strauman (1992) hypothesized that a high level of self-oriented perfectionism is predictive of depression. Utilizing Higgins' (1987) self-discrepancy theory, Strauman (1992) postulated that depression can result when an individual doesn't feel that they are living up to their fantasy of an ideal self. This discrepancy can lead to dissatisfaction and sadness. To explain the relationship between socially prescribed perfectionism and anxiety, Strauman (1992) hypothesized that anxiety is manifested when there is a discrepancy between your actual self and the self that you feel you should be to gain the approval of significant others.

Attributional Style

An attribution is a perception of causality for an external event. According to Smith, Haynes, Lazarus, and Pope (1993), when faced with an event, an individual will make a primary appraisal of the situation as either harmful or beneficial to well-being. Secondary appraisal follows, involving an assessment of one's ability to cope with the
situation presented (i.e., perceptions of controllability).

Smith et al. (1993) make a distinction between appraisal and attribution. Attribution follows appraisal and involves subjective assignment of a cause for an event (e.g., luck vs. ability or hard work). The individual then classifies the cause according to the following dimensions; causal locus (internal vs. external), stability (presence over time), and controllability (perceived ability to exert control over the situation). Smith et al. (1993) stated that both appraisal and attribution are related to the subsequent experience of emotion, but they hypothesized that this relationship was more salient for appraisals. This relationship was studied across two independent studies, with two samples of 136 and 120 university students, producing support for their hypothesis. Following from these findings, Smith et al. (1993) conceptualized appraisal as a mediating factor, couched between attribution and emotional responses to stimuli.

Bell-Dolan and Wessler (1994) found a relationship between social anxiety and attributional style. Socially anxious subjects made more stable and global (effects a wide range of circumstances) causal attributions for a given negative social event (i.e., a bad date). However, attributions made by socially anxious subjects did not differ from the control group for events that were not social in nature. Bruch and Pearl (1995) have made similar
findings with regard to attributional styles of shy or socially withdrawn individuals. They found that these individuals had a maladaptive attributional style, attributing failed social interactions to internal causes (something negative about themselves).

Brodbeck and Michelson (1987) compared attributional style of agoraphobics to normal controls. They found that agoraphobics assigned more stable and global, but not internal causes to negative events than controls. It is not entirely clear however if the attributional style of anxious individuals is influenced by comorbid depression, or is unique to anxiety.

Riskind, Castellon, and Beck (1989) compared the attributional styles of 24 outpatients diagnosed with either GAD or major depressive disorder. They concluded that depressed subjects made more stable and global attributions for negative events than anxious subjects did. This conclusion was supported by Ahrens and Haaga (1993), and Peterson and Seligman (1984), who also stated that depression is associated with the attribution of negative events to causes that are stable and global, perhaps contributing to an overall negative view of the world, and feelings of hopelessness.

Hopelessness is characteristic of depression and anxiety, but has a greater correlation with depression. Research by Beck, Riskind, Brown, and Steer (1988)
postulated that hopelessness may be unique to depression. Ahrens and Haaga (1993) also cited that depressed individuals tend to attribute positive events to unstable and specific causes, reducing their sense of control and efficacy.

Heimberg, Vermilyea, Dodge, Becker, and Barlow (1987) compared attributional style of subjects with anxiety disorders who were also either moderately depressed or non-depressed. The 121 male and female subjects were all patients at University research clinics. Results indicated that a negative attributional style, characterized by stable and global causal attributions, was found only in subjects with anxiety who were also depressed. A negative attributional style refers to an individual's tendency to repeatedly attribute the same causes (i.e., stable, global) to different negative events (Lynd-Stevenson et al., 1996).

Heimberg, Klosko, Dodge, Becker, and Barlow (1989) compared attributions for negative outcomes made by dysthymic, agoraphobic, social phobic, and panic subjects to controls (N=158). They found that dysthymic, agoraphobic and social phobic subjects made more internal, stable and global attributions compared to controls, as well as took more personal responsibility for negative outcomes. Panic subjects made more stable and global, but not internal attributions compared to controls. When anxious individuals were compared to depressed individuals however, only
subjects with social phobia matched the negative attributional style of depressives (internal, stable, global causality). Given these findings, it was hypothesized that a negative attributional style characterized by feelings of helplessness may manifest in relation to social situations, contributing to the avoidance behavior seen in social phobics and agoraphobics.

Johnson and Miller (1990) took a Diathesis-Stress approach by measuring stressful life events, attributional style, anxiety and depression in 87 undergraduate subjects. They concluded that a negative attributional style may act as a predisposing factor for development of an anxiety disorder. They hypothesized that an individual with depression who experiences many negative life events is at risk to develop a negative attributional style, putting them at risk for anxiety. Research by Ahrens and Haaga (1993) found additional support for the above findings. Further research is needed to find a clear delineation between attributional style, depression, and anxiety.

According to Burns and Seligman (1989), blaming yourself for negative events in your life, along with the belief that things will stay that way, affecting many different situations is called a pessimistic explanatory (attributional) style. Burns and Seligman (1989) hypothesized that a pessimistic explanatory style is a risk factor for development of depression. They cited that this
may be true for non-depressed populations as well. They further postulated that a pessimistic explanatory style may constitute a stable personality trait, affecting well-being (psychological and physiological) over time.

Research by Dykema, Bergbower, and Peterson (1995) suggested that utilizing a pessimistic explanatory style may be predictive of depression. Pessimistic individuals see the world as full of hassles and thus may experience more stress in general. Pessimists characteristically expect the future to hold many negative experiences, yet when a negative event occurs, the pessimist becomes disrupted if they perceive they cannot cope with the event. The consequence of this cycle is very often depression. Research investigating the relationship between pessimism and anxiety is thusfar limited.

Locus of Control

According to learning theory, behavior tends to be repeated if it results in some form of reward or reinforcement. Central to this process is the individual’s perception that their actions were causally related to the reward. If an individual believes the reward was a result of fate, luck, or chance, and not a result of their own efforts, they are said to have an external locus of control (Rotter, 1966).

Individuals with an external locus of control may feel they are powerless to behaviorally elicit rewards, leading
to a sense of uncontrollability over their environment. If on the other hand, the individual believes their behavior caused the reward (i.e., good grades due to hard work), they have an internal locus of control (Rotter, 1966). Individuals with an internal locus of control are thus more likely to develop a sense of mastery or efficacy in dealing with their environment, and feel they can successfully elicit rewards. The individual's perception of control then influences future behavior and expectations for outcome.

According to Rotter (1966), individuals with an internal locus of control may feel empowered to actively engage the environment to accomplish their goals in the face of adversity. In a study with 124 undergraduate students, Johnson and Sarason (1978) discovered a significant relationship between the experience of negative life events, trait anxiety, and depression, only for subjects who had an external locus of control. The same was not found for students with an internal locus, supporting the hypothesis that an internal locus acts as a buffer against stress. The relationship between positive life events (i.e., job promotion) and the experience of depression or anxiety was not significant, regardless of locus of control orientation.

Sandler and Lakey (1982) replicated Johnson and Sarason's (1978) findings, utilizing 93 undergraduate students, 53 of whom had an internal locus of control, while 41 had an external locus of control. They found that for
individuals faced with stressful life events, the subsequent experience of anxiety was associated more with an external as opposed to an internal locus of control.

Parkes (1984) stated that individuals with an external locus of control may feel powerless to impact their environment in a positive manner. Feelings of uncontrollability may lead to feelings of helplessness, which has been associated with both anxiety and depression. According to Seligman’s (1975) very influential learned-helplessness model of depression (and the subsequent reformulated model), the perception that negative life events are uncontrollable may be accompanied by the perception that these events are unpredictable as well. An individual with an external locus of control may thus feel unable to cope with life stressors, increasing their vulnerability to stress-related disorders (i.e., anxiety and depression).

According to Seligman (1975), perceptions of unpredictability may give rise to symptoms of anxiety (i.e., panic), while depression may result from excessive feelings of uncontrollability. Sarason et al. (1978) provided support for these hypotheses, finding significant correlations between subject scores for negative life events, depression, and external locus of control. Seligman (1975) summarized the relationship between anxiety and depression as follows:
when a man or animal is confronted with a threat or a loss, he responds initially with fear; if he learns that the threat is wholly controllable, fear disappears, having served its function; if he remains uncertain about controllability, fear remains; if he learns or is convinced that the threat is utterly uncontrollable, depression replaces fear (pp. 92-93).

Lastly, prior research by Hewitt and Flett (1991b) discovered a significant relationship between an external locus of control and socially prescribed perfectionism. They postulated that this relationship derives from a shared element of uncontrollability over the environment, (i.e., inability to control other's expectations of you). Learned helplessness may result from this perceived lack of control, increasing one's risk for depression. Self and other oriented perfectionism however, may be related to an internal locus of control. For these individuals, expectations for self and others are internally generated, and thus may be perceived as within that individual's control.

Coping/Constructive Thinking

Lazarus and Folkman (1984) conceptualized vulnerability as an inability to cope, or a deficiency of adaptive resources. They hypothesized that the cognitive factors associated with appraisal interact with this inability to cope, creating psychopathology. Schlenker and Leary (1982) give the example of an individual faced with public speaking. The individual gives importance or meaning to the
event, yet feels he/she will perform poorly, and be negatively evaluated. This individual may now be at risk for developing social anxiety.

Lazarus and Folkman (1984) view coping as an attempt to alter or ameliorate a stressful situation. Marshall and Dunkel-Schetter (paper presentation cited in Bolger, 1990) discerned six types of coping; problem-focused, support seeking, positive reappraisal, distancing, wishful thinking, and self-blame. Bolger (1990) demonstrated that individuals high in neuroticism used distancing coping most frequently, defined as the process of psychologically detaching oneself to numb the effects of a stressful situation. Bolger (1990) hypothesized that perhaps distancing is used by individuals high in neuroticism in an attempt to distract themselves from their own distress. McCrae and Costa (1986) however identified self-blame and wishful thinking as characteristic coping styles for individuals high in neuroticism.

McCrae and Costa (1986) assessed the coping strategies of 255 individuals who reportedly had recently experienced a negative life event (i.e., illness in the family). Individuals high in neuroticism (personality dimension characterized by experiencing negative emotions) utilized coping strategies (i.e., self-blame) that involved hostility, withdrawal, and indecisiveness. McCrae and Costa (1986) concluded that these individuals utilized essentially ineffective or maladaptive coping strategies, and failed to
ameliorate their current distress.

Schotte and Clum (1987) found support for the hypothesis that suicidal individuals are characterized by cognitive rigidity, which negatively effects their ability to cope with stress. Cognitive rigidity was identified as an inflexible way of viewing the world, characterized by deficient problem solving skills. Problem solving deficits included inefficacy in generating potential solutions, and a reticence to implement them. This inability to cope effectively was associated with feelings of hopelessness, one of the primary characteristics of a depressed individual. Schotte et al. (1982) identify these individuals as cognitively unprepared to cope with stressful life situations, creating a vulnerability for psychopathology. Dixon et al. (1991) supported this conclusion, stating that highly depressed individuals appraise their problem-solving skills and find them lacking. Schotte et al. (1990) found further support for this conclusion by demonstrating that suicidal intent decreases as problem-solving skills are improved.

Constructive thinking is a form of coping via cognition, defined by Epstein (1990) as the ability to successfully solve problems that may arise over the course of a given day. Epstein and Katz (1992) identified everyday stressors as events involving failure or success, as well as unpleasant or challenging duties. Successful problem
solving implies that the individual did not experience significant stress as a result of their experience. Epstein and Meier (1989) conceptualized that one’s ability to formulate and carry out effective coping strategies is mediated by our individual automatic thoughts, i.e., cognition, triggered by the stressful situation. These thoughts can either be constructive or destructive, working for or against you.

Constructive thinking as measured by the Constructive Thinking Inventory (Epstein & Meier, 1989), divides coping into six categories; Emotional Coping (affective response), Behavioral Coping (action response), Categorical Thinking (all-or-nothing rigidity), Personal Superstitious Thinking (esoteric thinking), Negative Thinking (negative focus), and Naïve Optimism (simplistic thinking). Epstein and Meier (1989) theorized that Emotional Coping is associated with the experience of anxiety, and that Negative Thinking is associated with depression.

According to Epstein and Meier (1989), Emotional Coping is characterized by positive thinking and self-acceptance. An individual low in effective Emotional Coping is characterized by hypersensitivity to criticism, and a fear of disapproval from others. Emotional Coping is associated with anxiety because it involves elements of exaggerated fear and worry. Negative Thinking is operationalized as a tendency to view self, others, and events (past and present)
in a negative light. Epstein and Meier (1989, p. 339) label this "doom and gloom" thinking, and associate it with depression.

Systematic identification of various cognitive coping strategies as they relate to depression and anxiety has been limited thusfar, and has primarily focused on depression. More research in this area with a focus on anxiety is needed.

Hypotheses

As a test of the Diathesis-Stress Model, we predicted that a family history of anxiety/depression, stressful life events, trauma distress, and personality characteristics (i.e., external locus of control, negative attributional style, and cognitive coping) would each account for a significant degree of unique variance associated with symptoms of general anxiety/depression. Additionally, based upon the literature, we hypothesized that socially prescribed perfectionism and external locus of control would be significant predictors for anxiety vs. depression, and that self-oriented perfectionism would be a significant predictor for depression vs. anxiety.

METHOD

Participants

Participants were 267 undergraduate students from
California State University, San Bernardino. All participants received extra class credit after completion of a packet of self-report questionnaires. Participants consisted of 74 males and 193 females, ranging in age from 18 to 54, with a mean age of 22.7 years. Ethnic composition of the sample was 51% Caucasian, 29% Latino, 10% African American, 6% Asian American, and 4% other. A large sample size was utilized in order to achieve enough statistical power for analyses, following Kleinbaum, Kupper, and Muller’s (1988) guideline that sample size should be five to ten times the number of predictor variables used.

Measures

1. Demographics Sheet (Lewin & Hartley, 1999) designed to measure family history of depression and anxiety. Participants were asked to report whether they or anyone in their immediate family had ever experienced, been formally diagnosed with, or received treatment for anxiety and/or depression. Participants were asked to indicate if the family member they identified was a biological, step or adoptive relative in order to assess for genetic influence of these disorders.

2. Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988). The BAI is a 21 item self-report measure designed to assess levels of anxious symptomatology, focusing primarily on the physiological symptoms of anxiety (e.g., racing heart, sweating). Symptoms experienced over
the past week are rated using a 4-point Likert-type scale, according to how much subjective distress was experienced (ranging from "not at all," to "severely, I could barely stand it"). Scores range from 0-63, with high scores indicating high levels of anxiety. The BAI has high internal consistency (alpha=.92), and test-retest reliability, \( r(81)=.75 \).

3. Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979). The BDI is a 21 item self-report inventory designed to measure levels of depression. Items are endorsed using a Likert-type rating from 0-3, with total possible scores ranging from 0-63. A high score is indicative of high levels of depression. The BDI is valid, and has adequate reliability, with a mean alpha coefficient of .81 when used with nonpsychiatric populations.

4. The Attributional Style Questionnaire (ASQ; Peterson, Semmel, von Bayer, Abramson, Metalsky, & Seligman, 1982) was used to assess attributional styles (e.g., pessimistic). Twelve hypothetical events (6 good & 6 bad) are rated using a 7-point Likert-type scale, resulting in overall scores for internality, stability, and globality of attribution style. For the six negative and six positive events, scores can range from 18-126, with high scores indicative of internal, stable and global attributional styles. The ASQ is valid and has good internal consistency (alpha=.79 & .76 for stability and globality respectively).
5. The Multidimensional Perfectionism Scale (MPS; Hewitt, Flett, Turnbull-Donavan, & Mikail, 1991) was used to assess levels and sub-types of perfectionism. The MPS is a 45 item scale that assesses three types of perfectionism: self-oriented, other-oriented, and socially prescribed perfectionism. Items are rated using a 7-point Likert-type scale, scores can range from 45-315, with higher scores indicating higher levels of perfectionism. The MPS is valid, and has good reliability (Cronbach's alpha=.86 for self-oriented, .82 for other-oriented, and .87 for socially prescribed perfectionism).

6. The Constructive Thinking Inventory (CTI; Epstein & Meier, 1989) is a 52 item inventory designed to assess for different coping styles. Items are rated using a 5-point Likert-type scale, with scores ranging from 52-260. The CTI is composed of six scales corresponding to six different coping styles, each of which has good alpha reliability. The scales are as follows: Emotional Coping (alpha=.85), Behavioral Coping (alpha=.84), Categorical Thinking (alpha=.70), Superstitious Thinking (alpha=.75), Naïve Optimism (alpha=.67), and Negative Thinking (alpha=.73). The CTI has a built-in validity scale consisting of five items to eliminate random responding.

7. The Locus of Control Scale (I-E Scale; Rotter, 1966) is a 29 item forced choice (a or b) scale including six filler items, designed to assess for an external vs.
internal locus of control. The I-E Scale has good internal consistency, $r(100)=.73$, and satisfactory test-retest reliability, $r(60)=.72$.

8. The Traumatic Events Scale (Thomas & Lewin, 1998) is a 53 item scale designed to measure level of exposure to violence and crime (i.e., sexual assault, robbery), and the subjective levels of distress experienced as a result of these events. Items are rated using a 4-point Likert-type scale, with possible scores ranging from 0-159 with high scores indicating higher levels of distress and experience with traumatic events. Reliability and validity date for this scale is not currently available.

9. The Social Readjustment Rating Scale (SRRS; Holmes & Rahe, 1967) is a 43 item forced choice (Yes or No) inventory designed to measure the number of life changes experienced over the past twelve months. Each item corresponds to a different value ranging from 11-100, according to how much perceived adjustment would be needed for each type of life change (i.e., death of spouse). Total scores ranging from 0-150 indicate "no significant problem" in adjustment, whereas scores 300 and above indicate a "major life crisis level with an 80% chance of illness" as a result of stressful life changes. The SRRS has been reliably used to discriminate psychiatric from non-psychiatric patients, but validity data for this measure thusfar is mixed and limited (Bieliauskas & Webb, 1974).
Hierarchical Regression Analyses

Hierarchical Regression Analyses were utilized to assess the predictive power of a Diathesis-Stress Model of anxiety and depression. Specifically, for both anxiety and depression, family history, trauma history, life-stress, and personality traits were entered into hierarchical regression models to assess the validity of the Diathesis-Stress Model.

Family history was entered into the regression model first, frequency of and distress from traumatic events were entered simultaneously at the second step, and life stress was entered at the third step. These constructs were entered first to provide a more stringent test of the predictive value of personality traits above and beyond the more well established predictive factors of family history and life stress/trauma. Personality variables (e.g., perfectionism, attributional style) were entered into the regression model based upon past research.

Depression

The first set of analyses (see Table 1) looked at how well depression (as measured by the BDI) was predicted by the chosen predictor variables (i.e., family history, traumatic events, life-stress, attributional style, perfectionism, locus of control, & constructive thinking). Family history was found to be a significant predictor of
depression ($R^2 = .086$, $p < .01$), accounting for 8.6% of the total variance.

Step two consisted of a combination of frequency of, and distress from, the experience of violent, traumatic events, neither of which were significant predictors of depression ($R^2$ Change = .017, $p > .01$). These variables accounted for only an additional 1.7% of the variance above and beyond family history. Life stress was entered at step three, and was a significant predictor of depression scores ($R^2$ Change = .082, $p < .01$), accounting for an additional 8.2% of the variance, for a total explained variance of .186.

Attributional style was entered at step four, and was also a significant predictor of depression ($R^2$ Change = .182, $p < .01$), accounting for an additional 18.2% of the variance above and beyond variables entered prior, for a total explained variance of .367. Self-oriented and socially prescribed perfectionism were entered at steps five and six respectively, and were both additional significant predictors of depression ($R^2$ Change = .039, $p < .01$, & $R^2$ Change = .075, $p < .01$ respectively). Self-oriented and socially prescribed perfectionism accounted for 3.9%, and 7.5% of the variance respectively, for a total explained variance of .407 (self-oriented) and .482 (socially prescribed). Socially prescribed perfectionism appears to be a strong predictor for depression, given that it

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accounted for a significant amount of additional variance, even though it was entered as one of the last steps in the regression model.

External locus of control was entered at step seven, and was not a significant predictor of depression ($R^2$ Change = .005, $p > .01$), accounting for only 0.5% of the variance. Global constructive thinking was entered at step eight, and was a significant predictor of depression ($R^2$ Change = .076, $p < .01$), accounting for 7.6% unique variance, for a total of .563 explained variance. This finding highlights the strength of constructive thinking as a predictor variable for depression, given that it was entered at the last step, and still accounted for a significant amount of unique variance.

Anxiety

The second set of analyses (see Table 2) looked at how well anxiety (as measured by scores on the BAI) was predicted by the chosen predictor variables (i.e., family history, traumatic events, life-stress, perfectionism, locus of control, attributional style, & constructive thinking). Family history was entered at step one, and was a significant predictor of anxiety ($R^2 = .057, p < .01$), alone accounting for 5.7% of the variance.

Frequency of, and distress from traumatic events were again entered as a block at step two, and were not significant predictors of anxiety ($R^2$ Change = .019, $p >$
Life stress was entered at step three, and was a significant predictor of anxiety ($R^2$ Change $= .061$, $p < .01$), above and beyond variables entered prior. Life stress accounted for 6.1% of the variance, for a total of .138 explained variance.

Socially prescribed and self-oriented perfectionism were entered at steps four and five respectively. Socially prescribed perfectionism was a significant predictor of anxiety ($R^2$ Change $= .162$, $p < .01$), accounting for an additional 16.2% of the variance, for a total of .299 explained variance. Self-oriented perfectionism was not a significant predictor however, ($R^2$ Change $= .001$, $p > .01$), accounting for only 0.1% of the variance.

External locus of control was entered at step six, and was a significant predictor of anxiety above and beyond variables entered in the first five steps, ($R^2$ Change $= .012$, $p < .05$), accounting for 1.2% of the variance, for a total of .313 explained variance. Attributional style was entered at step seven, and was also a significant predictor of anxiety ($R^2$ Change $= .014$, $p < .05$), accounting for an additional 1.4% of the variance, for a total of .327 explained variance. Finally, global constructive thinking was entered at step eight, and was a significant predictor of anxiety ($R^2$ Change $= .040$, $p < .01$), accounting for 4.0% unique variance above and beyond the first seven variables, for a total of .367 explained variance. This finding
highlights the strength of constructive thinking as a predictor variable for depression, given that it was entered at the last step, and still accounted for a significant amount of unique variance. Both regression analyses provided support for the Diathesis-Stress model for depression and anxiety.

DISCUSSION

The current study supported the utility of the Diathesis-Stress Model in accounting for the occurrence of depressive and anxiety symptoms in a non-selected undergraduate population. This is especially compelling in that the sample was a non-clinical sample in which detecting these predictive relationships may be more difficult due to the lower levels of anxiety and depression in this sample. Future research should assess these relationships in a clinical sample.

Genetics/Family History

For both anxiety and depression, all facets of the Diathesis-Stress model (i.e., family history, psychological vulnerability, and stressful life events) were shown to be significant predictors of psychopathology. Specifically, family history, life stress, and selected personality characteristics accounted for unique variance associated with the experience of depression and anxiety.

The current study's finding that a family history of
depression is a significant predictor for the experience of depression is consistent with research by Kendler et al. (1992b), who found that concordance rates for major depression (as defined by DSM-III criteria) amongst monozygotic twins (0.48) were higher than those of dizygotic twins (0.42). The current findings are also consistent with those of Kendler et al. (1995), who evidenced a strong genetic influence for development of major depressive disorder when exposed to negative life events.

Present findings are also accordant with those of Weissman et al. (1982), who evidenced a familial aggregation of unipolar depressive disorders amongst first-degree relatives of individuals with major depression. Torgersen (1986) also found that amongst twin pairs, rates of major depression were higher in monozygotic vs. dizygotic twins. He concluded however, that the genetic influence for development of depressive disorders was strongest for bipolar vs. unipolar depression. The current study did not assess for bipolar disorder specifically, as much as for depressive symptoms in general.

Additional evidence supporting a genetic influence for depression comes from Bertelsen et al. (1977, 1979), who found a 0.58 pairwise concordance rate for bipolar disorder between monozygotic twins, vs. a 0.17 pairwise concordance rate amongst dizygotic twins. This is also congruent with research by Rice et al. (1987), who found a 5.7% morbid risk
for development of bipolar disorder for first-degree relatives of bipolar individuals. In contrast, the risk for development of bipolar disorder for first-degree relatives of individuals with major depression was only 1.1% (Rice et al., 1987). The current study’s findings are also consistent with those of Andreasen et al. (1987), which suggest that development of unipolar as well as bipolar depression is genetically influenced.

The current study’s finding that a family history of anxiety is a significant predictor for development of anxiety symptoms is consistent with research by Torgersen (1983), who found that anxiety disorders were twice as likely to manifest in monozygotic vs. dizygotic twin pairs. Crowe et al. (1983) found similar heritability results for first-degree relatives of individuals with panic disorder, as did Harris et al. (1983), reporting a 33% morbidity risk for panic amongst first-degree relatives of panic-disordered individuals.

The current study’s findings are also congruent with those of Marks (1986), who found evidence for a strong genetic influence for development of anxiety, specifically with blood-injury phobia. Studies conducted by Fyer et al. (1990), and Kendler et al. (1992a) similarly found support for a genetic influence for development of phobias and generalized anxiety disorder respectively.
Stressful Life Events

The current study's support for the hypothesis that stressful life events influence the development of anxious and depressive symptoms is consistent with research by Brown & Harris (1978), who found that 68% of a sample with major depression had experienced one or more severe life events before onset of symptoms. Similarly, Sarason et al. (1978) linked the onset of depression to exposure to negative life events.

Studies by Kendler et al. (1993a, 1995) also found a significant link between stressful life events and subsequent psychopathology, as well as Roy-Byrne et al. (1986), who found a link between the experience of stressors and the onset of panic symptoms. It seems that stressful life events may be a necessary but not sufficient component in the development of psychopathology, as not all individuals who experience stressful life events develop anxiety or depression.

Traumatic Events

The current study did not find support for the hypothesis that the experience of violent, traumatic events would be predictive of subsequent anxiety or depression. Our findings in this area are inconsistent with those made by Breslau et al. (1991), who did find evidence for a link between trauma (e.g., rape) and anxiety (i.e., PTSD), when mediated by preexisting risk factors (e.g., family history.
of anxiety). The current study’s findings may be due to a low base rate of trauma in our sample. Breslau et al. (1997) found additional evidence in support of a connection between the experience of traumatic events and onset of anxiety and depression. The current findings suggest however that the experience of trauma may not be sufficient for development of anxiety or depression.

Attributional Style

The current study’s finding that a negative attributional style is a significant predictor for depression is consistent with prior research by Riskind et al. (1989), who utilized thought diaries to evidence the connection between attributions for negative events that are stable and global in nature, and depression. The present study’s findings are also consistent with those made by Seligman et al. (1979), who reported that depressed individuals displayed a negative attributional style. The present findings are also congruent with those of Heimberg et al. (1987, 1989) who found negative attributional styles within samples of dysthymic patients. Finally, Burns and Seligman (1989) also concluded that a negative attributional style constitutes an enduring risk factor for development of depression.

The current study’s findings are inconsistent with those of Johnson and Miller (1990) however, who argued that individuals with preexisting depression are at risk for
development of a negative attributional style, which may then lead to development of anxiety. A negative attributional style is defined as the tendency to attribute the cause for negative events in one's life to factors that are internal (e.g., self is faulty), stable (belief that the cause will always be present), and global (the cause will effect many different situations).

A negative attributional style may foster feelings of hopelessness surrounding one's perceived inability to positively impact their environment. For an individual with a negative attributional style, if their perception is that negative events cannot be controlled or prevented, hopelessness and depression may easily follow.

The current study found a significant relationship between negative attributional style and the experience of anxiety. This finding is inconsistent with those of Heimberg et al. (1987), who found evidence that a negative attributional style may be specific to depression, and not to anxiety. The current study's findings were congruent however with later research by Heimberg et al. (1989), in which distinctions between anxious and depressed individual attributional styles were not significant. The current findings are also consistent with those of Brodbeck and Michelson (1987), who found that agoraphobics tend to catastrophize when faced with negative events, demonstrating a global attributional style.
Perfectionism

The current study’s finding that both self-oriented and socially prescribed perfectionism are predictive of depression is consistent with the findings of Hewitt and Flett (1991a, 1993), who identified these tendencies in depressed patient samples. Joiner and Schmidt (1995) additionally demonstrated that the dimension of self-oriented perfectionism may be specific to depression vs. anxiety. Flett et al. (1995) also found a significant relationship between self-oriented and socially prescribed perfectionism and depression.

The current study found a significant relationship between socially prescribed perfectionism and the experience of anxiety. This finding is congruent with those of Hewitt and Flett (1991a, 1991b), and Joiner and Schmidt (1995) who found that worry concerning perceived expectations of significant others is associated with social anxiety.

The current study found no significant relationship between self-oriented perfectionism and anxiety. This finding is inconsistent with the findings of Flett et al. (1989) in which trait anxiety was associated with self-oriented perfectionism. Speculatively, differences in findings may be due to the use of different measures of perfectionism. Flett et al. (1989) utilized the Burn’s (1980) Perfectionism Scale, a unidimensional scale, as opposed to the Multidimensional Perfectionism Scale utilized
in the current study.

Self-oriented perfectionism was a significant predictor of depression and not anxiety. Self-oriented perfectionism is defined as setting unrealistic standards for one’s own behavior. This type of perfectionism is internally based and associated with self-blame and personal responsibility for behavior that often does not meet lofty expectations. For anxiety on the other hand, perfectionism is more externally based, relating more to concerns about other’s expectations of one’s behavior (i.e., socially prescribed perfectionism). Inability to meet these unrealistic expectations is viewed as a potential threat to personal domain (i.e., fear of negative evaluation).

Interestingly, socially prescribed perfectionism was also a significant predictor of depression. This may be due to significant social impairment often associated with depression, and may represent a realistic appraisal of their inability to meet other’s expectations, given their impaired social behavior.

Locus of Control

The current study found that an external locus of control was not a significant predictor for depression. This finding is inconsistent with those of Johnson and Sarason (1978), who reported that individuals with an external vs. internal locus of control were prone to develop depression in response to negative life events. Johnson and
Sarason (1978) argued that this relationship existed only for negative and not positive life events (e.g., promotion at work).

The current study found that an external locus of control was a significant predictor for development of anxiety. This is consistent with the findings of Johnson and Sarason (1978), who identified a relationship between negative life change and trait anxiety for individuals with an external vs. internal locus of control. Utilizing a college sample, Sandler and Lakey (1982) also found that an external locus of control mediates the relationship between life stress and anxiety.

In the current study, external locus of control was a significant predictor of anxiety and not depression. This may be due to the issues of prediction and control of potential threat so prominent in anxiety. Specifically, an external locus of control inhibits one’s perceived ability to predict and control potentially threatening events in the environment, yielding an anxious apprehensive state. In depression on the other hand, an internal locus characterized by self-blame for personal failures and internalization of responsibility are common attributions.

Coping/Constructive Thinking

The current study found that global constructive thinking was a significant predictor for, and negatively correlated with depression. Epstein and Meier (1989),
authors of the Constructive Thinking Inventory, argue that the dimension of coping called negative thinking (i.e., negative bias for processing of information) is primarily associated with depression. The current study findings support this conclusion in so far as negative thinking is included in the more broad, composite measure, global constructive thinking.

Epstein and Katz (1992) found a significant relationship between the experience of life stress (e.g., death of a loved one, financial strain) and constructive thinking ability. They postulated that a poor constructive thinker may actually increase their subjective stress levels as a result of counterproductive cognitions, increasing their risk for psychopathology such as anxiety.

Results of the current study are congruent with those of Epstein and Katz (1992), in that global constructive thinking was found to be a significant predictor for anxiety. This finding is also consistent with those of Epstein and Meier (1989), who argued that individuals who are low in emotional coping (i.e., overly sensitive, pessimistic) more prone to develop anxiety. Again, emotional coping is included in the more broad measure called global constructive thinking. Along these same lines, McCrae and Costa (1986) hypothesized a relationship between the experience of anxiety, and deficits in coping ability.
Bolger (1990) also provides evidence for a relationship between the inability to cope with a life stressor effectively, and the subsequent onset of anxiety. Bolger (1990) points out that maladaptive coping strategies (i.e., wishful thinking) may work against the individual to actually increase their immediate stress levels.

**Diathesis-Stress and Comorbidity**

The current study found a high degree of overlap and inter-correlation of predictors for anxiety and depression (see Table 3). This may in part be due to the high rates of comorbidity among these two clinical states, and the fact that the measures of depression (i.e., BDI) and anxiety (i.e., BAI) were positively correlated ($r = .66$). This finding is congruent with a study by Clark and Watson (1991), who found an identical ($r = .66$) correlation between measures of depression and anxiety for patient samples. Clark and Watson (1991) postulated that this overlap may be due in large part to a common diathesis between the two disorders.

Clark and Watson (1991) proposed a "Tripartite Model" of anxiety and depression in an effort to discriminate between these two highly comorbid disorders. They concluded that "a nonspecific distress factor forms an inherent core component of both syndromes" (Clark & Watson, 1991, p.320). This distress factor was identified as neuroticism, or
negative affectivity (NA/N). Individuals who are high in NA/N may have a characterological predisposition to view the world as threatening. These individuals reportedly experience (and create) many problems (i.e., interpersonal difficulties) they feel unable to cope with effectively (Watson et al., 1994). Clark and Watson (1991) postulated that if an individual displays negative mood states characteristic of NA/N, this individual may be at risk for the development of an anxiety or depressive disorder.

**Implications**

The above findings have implications with respect to the utility of the Diathesis-Stress Model as a guiding framework for early identification of risk factors (i.e., family history of anxiety/depression, psychological vulnerability factors, & negative life events) with the goal of initiating early intervention and prevention efforts. Interventions for at risk individuals could include cognitive restructuring to diminish the beliefs behind, and automatic nature of internal, stable and global attributions for negative life events. Cognitive interventions could also be utilized to counter the potentially destructive effects of perfectionism (i.e., anxiety, depression, eating disorders).

The ability to identify an at-risk individual opens the possibility for responsible employment of early preventative measures. Individuals who are identified as having a family
history of psychopathology, and who exhibit any of the aforementioned psychological vulnerability factors could learn effective coping skills to provide a buffer against the effects of life stress. Intervention and prevention programs could teach at-risk individuals constructive vs. destructive coping skills such as to decrease categorical (all-or-nothing), and personal superstitious thinking. Cognitive interventions could be utilized for individuals who engage in negative thinking (associated with depression), and who are low in emotional coping (associated with anxiety), to increase self-esteem and replace negative views about self, present and future.

Behavioral coping, an effective action-oriented approach to problem solving could be taught, along with cognitive interventions geared at developing an internal vs. external locus of control that would act as a buffer against negative life events. Cognitive and behavioral strategies could also be utilized to help an at-risk individual develop social skills in an attempt to minimize social anxiety, and potential subsequent depression. Broad implications are for the treatment and prevention of anxiety and depressive disorders, utilizing the Diathesis-Stress Model as a guide to identify at-risk individuals.

Limitations

This study utilized a non-clinical, unselected college sample with lower rates of anxious and depressive
symptomatology. It is possible that the relationship among predictor variables may change with greater severity of psychopathology. Following from this, findings obtained from a non-clinical undergraduate sample may lack generalizability to broader populations.

Additional limitations may include the assessment techniques used for this study. Self-report measures of anxiety and depression were used to collect all data, vs. utilizing diagnostic interviews, possibly limiting the accuracy and amount of detail in reporting. For example, assessing family history of anxiety and depression with a demographics sheet provides limited genetic data, and introduces the question of accuracy of reporting. Assessment of the genetic influences of psychopathology should also consider the potential impact of one's environment on development of anxiety and depression, and make an attempt to tease out these effects for a more pure measure of genetic influence. Measures used to assess for family history in the current study did not assess for potential environmental influences.

Additionally, the Social Readjustment Rating Scale (SRRS) used to assess for experiences with life stressors may have limited utility with a typical college population in its present form (e.g., items geared at an older population, such as "retirement from work," or "son or daughter leaving home"). The current study's failure to
find significant relationships between trauma, anxiety and depression may be due to the potentially low base rate of trauma in our sample, whereas significant relationships may be found for non-college populations. Finally, sample composition was mostly female (2/3), limiting data generalizability for men.

Directions for Future Research

Limitations of this study could be addressed by utilizing a selected sample of clinically diagnosed patients, providing for a more stringent test of the Diathesis-Stress Model. Clinical interviews may also be used in place of self-report measures to potentially increase accuracy of reporting, and an attempt could be made to balance the gender ratio for the subject pool. It may also be beneficial for future research studies to assess potential psychological vulnerability factors that were not addressed in the present study, including problem-solving skills and neuroticism.

Lastly, future studies could expand the current findings by assessing which psychological vulnerability factors may be associated with or predictive of specific forms of anxiety (e.g., social anxiety vs. generalized worry), in an attempt to assess core components of these specific disorders, with implications for individualized treatment planning.
APPENDICES

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Table A1. Hierarchical Regression of Predictor Variables for Depression

<table>
<thead>
<tr>
<th>Variable Entered</th>
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<th>R²</th>
<th>R² change</th>
<th>Prob R² Change</th>
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<td></td>
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<td></td>
</tr>
<tr>
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<td>.086</td>
<td>.086</td>
<td>.001</td>
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<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Violent Traumatic Events</td>
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<td>.103</td>
<td>.017</td>
<td>.086</td>
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<tr>
<td>Distress from Violent Traumatic Events</td>
<td>.104</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life-Stress</td>
<td>.237</td>
<td>.186</td>
<td>.082</td>
<td>.001</td>
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<td></td>
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<tr>
<td>Attributional Style</td>
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<td>.367</td>
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<td>.001</td>
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<td>.486</td>
<td>.005</td>
<td>.126</td>
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<tr>
<td>Global Constructive Thinking</td>
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Table A2. Hierarchical Regression of Predictor Variables for Anxiety

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<th>( R^2 )</th>
<th>( R^2 ) change</th>
<th>ProbR(^2) Change</th>
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<tr>
<td>Life-Stress</td>
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<td>.001</td>
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<td>.024</td>
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<td></td>
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<tr>
<td>Global Constructive Thinking</td>
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<td>.367</td>
<td>.040</td>
<td>.001</td>
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Table A3. Correlations of Predictor and Criterion Variables

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Beck Depression Inventory</th>
<th>Beck Anxiety Inventory</th>
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<tr>
<td>Family History of Depression</td>
<td>.300**</td>
<td>.316**</td>
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<tr>
<td>Frequency of Violent Trauma</td>
<td>.143*</td>
<td>.118 NS</td>
</tr>
<tr>
<td>Distress from Violent Trauma</td>
<td>.162**</td>
<td>.137*</td>
</tr>
<tr>
<td>Life Stress</td>
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<td>.307**</td>
</tr>
<tr>
<td>Attributional Style</td>
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<td>-.280**</td>
</tr>
<tr>
<td>Self-Oriented Perfectionism</td>
<td>.282**</td>
<td>.290**</td>
</tr>
<tr>
<td>Socially Prescribed Perfectionism</td>
<td>.549**</td>
<td>.494**</td>
</tr>
<tr>
<td>External Locus of Control</td>
<td>.313**</td>
<td>.257**</td>
</tr>
<tr>
<td>Global Constructive Thinking</td>
<td>-.691**</td>
<td>-.545**</td>
</tr>
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</table>

** Denotes significance at the .01 level (2-tailed)
* Denotes significance at the .05 level (2-tailed)
The study in which you are about to participate is designed to assess different factors that may be related to the experience of anxiety and depression. This study is being conducted by Deborah Hartley, under the supervision of Dr. Michael R. Lewin, Assistant Professor of Psychology. The study has been approved by the Institutional Review Board of CSUSB. The university requires that you give your consent before participating in this study.

In this study you will be asked to complete a packet of questionnaires designed to measure your subjective experiences with anxiety and depression. The packet will take approximately one and a half hours to complete, please print your name clearly.

Please be assured that any information that you provide will be held in strict confidence by the researchers. At no time will your name be reported with your responses. Presentation of the results of the study will be reported in group format only. At the conclusion of the study, you may receive a report of the results by contacting Dr. Michael R. Lewin. Your participation in the research is completely voluntary and you are free to withdraw at any time during this study without penalty, and to remove any data at any time.

Any questions about this study or your participation in this research should be directed to Dr. Michael R. Lewin at (909) 880-7303.

I acknowledge that I have been informed of, and understand the true nature and purpose of this study, and I freely consent to participate. I acknowledge that I am at least 18 years of age.

Participant’s Signature Date

Print Name

Researcher’s Signature Date
Demographics

All of your responses in this survey will be kept strictly confidential. Please answer each question to the best of your knowledge.

1. Age: _______

2. Gender: M ___  F ___

3. Ethnicity: Asian or Asian American ___  African American (or black) ______
   Caucasian (or white) ___  Native American (or American Indian) ___
   Latino (or Hispanic) ___  Other ___ (please specify) _____________

4. Family History: have you or anyone in your immediate family been diagnosed with an anxiety disorder (i.e., phobia, excessive worry, panic, obsessive-compulsive disorder, post-traumatic stress disorder), or depression (i.e., manic depressive, major depression)? Please indicate if the family member who experienced anxiety or depression is a biological relative, or part of a step- or adoptive family. Check all that apply

   Any Anxiety  Any Depression  Biological Relative  Step/Adoptive Relative

   Yourself  ______  ______  ______  ______
   Mother  ______  ______  ______  ______
   Father  ______  ______  ______  ______
   Brother/Sister  ______  ______  ______  ______
   Aunts/Uncles  ______  ______  ______  ______
   Cousins  ______  ______  ______  ______
   Grandparent(s)  ______  ______  ______  ______

5. If not formally diagnosed with an anxiety or depressive disorder, to the best of your knowledge, have you or anyone in your family had problems in either area? Please check all that apply

   Any Anxiety  Any Depression  Biological Relative  Step/Adoptive Relative

   Yourself  ______  ______  ______  ______
   Mother  ______  ______  ______  ______
   Father  ______  ______  ______  ______
   Brother/Sister  ______  ______  ______  ______
   Aunts/Uncles  ______  ______  ______  ______
   Cousins  ______  ______  ______  ______
   Grandparent(s)  ______  ______  ______  ______
6. Have you or anyone in your family received treatment (i.e., therapy, medication) for anxiety or depression related problems? Please check all that apply.

<table>
<thead>
<tr>
<th></th>
<th>Any Anxiety</th>
<th>Any Depression</th>
<th>Biological Relative</th>
<th>Step/Adoptive Relative</th>
</tr>
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<tbody>
<tr>
<td>Yourself</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Brother/Sister</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aunts/Uncles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cousins</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grandparent(s)</td>
<td></td>
<td></td>
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</tbody>
</table>
Below is a list of common symptoms of anxiety. Please read each item in the list carefully. Indicate how much you have been bothered by each symptom during the PAST WEEK, INCLUDING TODAY by circling the corresponding number (0 to 3) after each symptom.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
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<tbody>
<tr>
<td>0</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mildly, it did not bother me much</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately, it was very unpleasant but I could stand it</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severely, I could barely stand it</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Numbness or tingling: 0 1 2 3
2. Feeling hot: 0 1 2 3
3. Wobbliness in legs: 0 1 2 3
4. Unable to relax: 0 1 2 3
5. Fear of the worst happening: 0 1 2 3
6. Dizzy or lightheaded: 0 1 2 3
7. Heart pounding or racing: 0 1 2 3
8. Unsteady: 0 1 2 3
9. Terrified: 0 1 2 3
10. Nervous: 0 1 2 3
11. Feelings of choking: 0 1 2 3
12. Hands trembling: 0 1 2 3
13. Shaky: 0 1 2 3
14. Fear of losing control: 0 1 2 3
15. Difficulty breathing: 0 1 2 3
16. Fear of dying: 0 1 2 3
17. Scared: 0 1 2 3
18. Indigestion or discomfort in abdomen: 0 1 2 3
19. Faint: 0 1 2 3
20. Face Flushed: 0 1 2 3
21. Sweating (not due to heat): 0 1 2 3
B. D. I. Study ID# __________

DIRECTIONS: On this page are groups of statements. Please read each group of statements carefully. Then pick out the statement in each group which best describes the way you have been feeling the PAST WEEK, including today. CIRCLE the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. BE SURE TO READ ALL THE STATEMENTS IN EACH GROUP BEFORE MAKING YOUR CHOICE.

1. 0 I do not feel sad.
   1 I feel sad.
   2 I am sad all the time and I can't snap out of it.
   3 I am so sad or unhappy that I can't stand it.

2. 0 I am not particularly discouraged about the future.
   1 I feel discouraged about the future.
   2 I feel I have nothing to look forward to.
   3 I feel that the future is hopeless and that things cannot improve.

3. 0 I do not feel like a failure.
   1 I feel I have failed more than the average person.
   2 As I look back on my life, all I can see is a lot of failures.
   3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.
   1 I don't enjoy things the way I used to.
   2 I don't get real satisfaction out of anything anymore.
   3 I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty.
   1 I feel guilty a good part of the time.
   2 I feel quite most of the time.
   3 I feel guilty all of the time.

6. 0 I don't feel I am being punished.
   1 I feel I may be punished.
   2 I expect to be punished.
   3 I feel I am being punished.

7. 0 I don't feel disappointed in myself.
   1 I am disappointed in myself.
   2 I am disgusted with myself.
   3 I hate myself.

8. 0 I don't feel I am any worse than anyone else.
   1 I am critical of myself for my weaknesses or mistakes.
   2 I blame myself all the time for my faults.
   3 I blame myself for everything bad that happens.

9. 0 I don't have any thoughts of killing myself.
   1 I have thoughts of killing myself, but I would not carry them out.
   2 I would like to kill myself.
   3 I would kill myself if I had the chance.

10. 0 I don't cry any more than usual.

11. 0 I have not lost interest in other people.
   1 I am less interested in other people than I used to.
   2 I have lost most of my interest in other people.
   3 I have lost all of my interest in other people.

12. 0 I make decisions about as well as I used to.
   1 I put off making decisions more than I used to.
   2 I have greater difficulty in making decisions than before.
   3 I can't make decisions anymore.

13. 0 I don't feel I look any worse than I used to.
   1 I am worried that I am looking old or unattractive.
   2 I feel that there are permanent changes in my appearance that make me look unattractive.
   3 I believe that I look ugly.

14. 0 I can work about as well as before.
   1 It takes an extra effort to get started at doing something.
   2 I have to push myself very hard to do anything.
   3 I can't do any work at all.

15. 0 I can sleep as well as usual.
   1 I don't sleep as well as I used to.
   2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
   3 I wake up several hours earlier than I than I used to and cannot get back to sleep.

16. 0 I don't get more tired than usual.
   1 I get tired more easily than I used to.
   2 I get tired from doing almost anything.
   3 I am too tired to do anything.

17. 0 My appetite is no worse than usual.
   1 My appetite is not as good as it used to be.
   2 My appetite is much worse now.
   3 I have no appetite at all anymore.

18. 0 I haven't lost much weight, if any.
1. I cry more now than I used to.
2. I cry all the time now.
3. I used to be able to cry, but now I can’t cry even though I want to.

11. 0 I am no more irritated now than I ever am.
1. I get annoyed or irritated more easily than I used to.
2. I feel irritated all the time now.
3. I don’t get irritated at all by the things that used to irritate me.

20. 0 I am no more worried about my health than usual.
1. I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
2. I am very worried about physical problems and it’s hard to think of much else.
3. I am so worried about my physical problems that I cannot think about anything else.

21. 0 I have not noticed any recent change in my interest in sex.
1. I am less interested in sex than I used to be.
2. I am much less interested in sex now.
3. I have lost interest in sex completely.

I cry more now than I used to. 
1. I have lost more than 5 pounds. 
2. I have lost more than 10 pounds. 
3. I have lost more than 15 pounds. 

I am purposely trying to lose weight by eating less: Yes_____ No_____
Directions:
1) Read each situation and vividly imagine it happening to you.
2) Decide what you believe to be the one major cause of the situation if it happened to you.
3) Write this cause in the blank provided.
4) Answer the six questions about the cause by circling one number per question. Do not circle the words.
5) Go on to the next situation.

SITUATIONS

YOU MEET A FRIEND WHO COMPLIMENTS YOU ON YOUR APPEARANCE.

1. Write down the one major cause:

2. Is the cause of your friend’s compliment due to something about you, or something about other people or circumstances?
   - Totally due to other people or circumstances 1 2 3 4 5 6 7
   - Totally due to me

3. In the future, when you are with your friend, will this cause again be present?
   - Will never again 1 2 3 4 5 6 7
   - Will always be present

4. Is the cause something that just affects interacting with friends, or does it also influence other areas of your life?
   - Influences just this particular situation 1 2 3 4 5 6 7
   - Influences all situations in my life

YOU HAVE BEEN LOOKING FOR A JOB UNSUCCESSFULLY FOR SOME TIME.

5. Write down the one major cause:

6. Is the cause of your unsuccessful job search due to something about you, or something about other people or circumstances?
   - Totally due to other people or circumstances 1 2 3 4 5 6 7
   - Totally due to me

7. In the future, when looking for a job, will this cause again be present?
   - Will never again 1 2 3 4 5 6 7
   - Will always be present

8. Is the cause something that just influences looking for a job, or does it also influence other areas of your life?
   - Influences just this particular situation 1 2 3 4 5 6 7
   - Influences all situations in my life
YOU BECOME VERY RICH.

9. Write down the **one** major cause:


10. Is the cause of your becoming rich due to something about you, or something about other people or circumstances?

<table>
<thead>
<tr>
<th>Totally due to other people or circumstances</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally due to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. In the future, will this cause again be present?

<table>
<thead>
<tr>
<th>Will never again be present</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will always be present</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

12. Is the cause something that just affects obtaining money, or does it also influence other areas of your life?

<table>
<thead>
<tr>
<th>It influences just this particular situation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influences all situations in my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A FRIEND COMES TO YOU WITH A PROBLEM AND YOU DON'T TRY TO HELP HIM/HER.

13. Write down the **one** major cause:


14. Is the cause of your not helping your friend due to something about you, or something about other people or circumstances?

<table>
<thead>
<tr>
<th>Totally due to other people or circumstances</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally due to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. In the future, when a friend comes to you with a problem, will this cause again be present?

<table>
<thead>
<tr>
<th>Will never again be present</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will always be present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Is the cause something that just affects what happens when a friend comes to you with a problem, or does it also influence other areas of your life?

<table>
<thead>
<tr>
<th>Influences just this particular situation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influences all situations in my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
YOU GIVE AN IMPORTANT TALK IN FRONT OF A GROUP AND THE AUDIENCE REACTS NEGATIVELY.

17. Write down the one major cause:

18. Is the cause of the audience’s negative reaction due to something about you, or something about other people or circumstances?

<table>
<thead>
<tr>
<th>Totally due to other people or circumstances</th>
<th>1 2 3 4 5 6 7</th>
<th>Totally due to me</th>
</tr>
</thead>
</table>

19. In the future when you give talks, will this cause again be present?

<table>
<thead>
<tr>
<th>Will never again be present</th>
<th>1 2 3 4 5 6 7</th>
<th>Will always be present</th>
</tr>
</thead>
</table>

20. Is the cause something that just influences giving talks, or does it also influence other areas of your life?

<table>
<thead>
<tr>
<th>Influences just this particular situation</th>
<th>1 2 3 4 5 6 7</th>
<th>Influences all situations in my life</th>
</tr>
</thead>
</table>

YOU DO A PROJECT WHICH IS HIGHLY PRaised.

21. Write down the one major cause:

22. Is the cause of your being praised due to something about you, or something about other people or circumstances?

<table>
<thead>
<tr>
<th>Totally due to other people or circumstances</th>
<th>1 2 3 4 5 6 7</th>
<th>Totally due to me</th>
</tr>
</thead>
</table>

23. In the future when you do a project, will this cause again be present?

<table>
<thead>
<tr>
<th>Will never again be present</th>
<th>1 2 3 4 5 6 7</th>
<th>Will always be present</th>
</tr>
</thead>
</table>

24. Is the cause something that just affects doing projects, or does it also influence other areas of your life?

<table>
<thead>
<tr>
<th>Influences just this particular situation</th>
<th>1 2 3 4 5 6 7</th>
<th>Influences all situations in my life</th>
</tr>
</thead>
</table>
YOU MEET A FRIEND WHO ACTS HOSTILY TOWARDS YOU.

25. Write down the one major cause:

26. Is the cause of your friend acting hostile due to something about you, or something about other people or circumstances?

<table>
<thead>
<tr>
<th>Totally due to other people or circumstances</th>
<th>1 2 3 4 5 6 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally due to me</td>
<td></td>
</tr>
</tbody>
</table>

27. In the future when interacting with friends, will this cause again be present?

<table>
<thead>
<tr>
<th>Will never again be present</th>
<th>1 2 3 4 5 6 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will always be present</td>
<td></td>
</tr>
</tbody>
</table>

28. Is the cause something that just influences interacting with friends, or does it also influence other areas of your life?

<table>
<thead>
<tr>
<th>Influences just this particular situation</th>
<th>1 2 3 4 5 6 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influences all situations in my life</td>
<td></td>
</tr>
</tbody>
</table>

YOU CAN’T GET ALL THE WORK DONE THAT OTHERS EXPECT OF YOU.

29. Write down the one major cause:

30. Is the cause of your not getting the work done due to something about you, or something about other people or circumstances?

<table>
<thead>
<tr>
<th>Totally due to other people or circumstances</th>
<th>1 2 3 4 5 6 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally due to me</td>
<td></td>
</tr>
</tbody>
</table>

31. In the future when doing work that others expect, will this cause again be present?

<table>
<thead>
<tr>
<th>Will never again be present</th>
<th>1 2 3 4 5 6 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will always be present</td>
<td></td>
</tr>
</tbody>
</table>

32. Is the cause something that just affects doing work that others expect of you, or does it also influence other areas of your life?

<table>
<thead>
<tr>
<th>Influences just this particular situation</th>
<th>1 2 3 4 5 6 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influences all situations in my life</td>
<td></td>
</tr>
</tbody>
</table>
YOUR SPOUSE (BOYFRIEND/GIRLFRIEND) HAS BEEN TREATING YOU MORE LOVINGLY.

33. Write down the **one** major cause:

34. Is the cause of your spouse (boyfriend/girlfriend) treating you more lovingly due to something about you, or something about other people or circumstances?

<table>
<thead>
<tr>
<th>Totally due to other people or circumstances</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally due to me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

35. In future interactions with your spouse (boyfriend/girlfriend), will this cause again be present?

| Will never again be present | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Will always be present      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

36. Is the cause something that just affects how your spouse (boyfriend/girlfriend) treats you, or does it also influence other areas of your life?

| Influences just this particular situation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Influences all situations in my life     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

YOU APPLY FOR A POSITION THAT YOU WANT VERY BADLY (E.G., IMPORTANT JOB, GRADUATE SCHOOL ADMISSION, ETC.) AND YOU GET IT.

37. Write down the **one** major cause:

38. Is the cause of your getting the position due to something about you, or something about other people or circumstances?

| Totally due to other people or circumstances | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Totally due to me                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

39. In the future when you apply for a position, will this cause again be present?

| Will never again be present | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Will always be present      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

40. Is the cause something that just influences applying for a position, or does it also influence other areas of your life?

| Influences just this particular situation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Influences all situations in my life     | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
YOU GO OUT ON A DATE AND IT GOES BADLY.

41. Write down the **one** major cause:

42. Is the cause of the date going badly due to something about you, or something about other people or circumstances?

<table>
<thead>
<tr>
<th>Totally due to other people or circumstances</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally due to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

43. In the future when you are dating, will this cause again be present?

<table>
<thead>
<tr>
<th>Will never again be present</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will always be present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

44. Is the cause something that just influences dating, or does it also influence other areas of your life?

<table>
<thead>
<tr>
<th>Influences just this particular situation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influences all situations in my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

YOU GET A RAISE.

45. Write down the **one** major cause:

46. Is the cause of your getting a raise due to something about you, or something about other people or circumstances?

<table>
<thead>
<tr>
<th>Totally due to other people or circumstances</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally due to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

47. In the future on your job, will this cause again be present?

<table>
<thead>
<tr>
<th>Will never again be present</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will always be present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

48. Is the cause something that just affects getting a raise, or does it also influence other areas of your life?

<table>
<thead>
<tr>
<th>Influences just this particular situation</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influences all situations in my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Listed below are a number of statements concerning personal characteristics and traits. Read each item and decide whether you agree or disagree and to what extent. If you *strongly agree*, circle 7; if you *strongly disagree*, circle 1; if you feel somewhere in-between, circle any one of the numbers between 1 and 7. If you feel undecided, the midpoint is 4.

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>When I am working on something, I cannot relax until it is perfect.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>2.</td>
<td>I am not likely to criticize someone for giving up too easily.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>3.</td>
<td>It is not important that the people I am close to are successful.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>4.</td>
<td>I seldom criticize my friends for accepting second best.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>5.</td>
<td>I find it difficult to meet others’ expectations of me.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>6.</td>
<td>One of my goals is to be perfect in everything I do.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>7.</td>
<td>Everything that others do must be of top-notch quality.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>8.</td>
<td>I never aim for perfection in my work.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>9.</td>
<td>Those around me readily accept that I can make mistakes too.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>10.</td>
<td>It doesn’t matter when someone close to me does not do their absolute best.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>11.</td>
<td>The better I do, the better I am expected to do.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>12.</td>
<td>I seldom feel the need to be perfect.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>13.</td>
<td>Anything I do that is less than excellent will be seen as poor work by those around me.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>14.</td>
<td>I strive to be as perfect as I can be.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>15.</td>
<td>It is very important that I am perfect in everything I attempt.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>16.</td>
<td>I have high expectations for the people who are important to me.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>17.</td>
<td>I strive to be the best at everything I do.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>18.</td>
<td>The people around me expect me to succeed at everything I do.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>19.</td>
<td>I do not have very high standards for those around me.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>20.</td>
<td>I demand nothing less than perfection of myself.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disagree</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>----------</td>
</tr>
<tr>
<td>21. Others will like me even if I don’t excel at everything.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>22. I can’t be bothered with people who won’t strive to better themselves.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>23. It makes me uneasy to see an error in my work.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>24. I do not expect a lot from my friends.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>25. Success means that I must work even harder to please others.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>26. If I ask someone to do something, I expect it to be done flawlessly.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>27. I cannot stand to see people close to me make mistakes.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>28. I am perfectionistic in setting my goals.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>29. The people who matter to me should never let me down.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>30. Others think I am okay, even when I do not succeed.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>31. I feel that people are too demanding of me.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>32. I must work to my full potential at all times.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>33. Although they may not show it, other people get very upset with me when I slip up.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>34. I do not have to be the best at whatever I am doing.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>35. My family expects me to be perfect.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>36. I do not have very high goals for myself.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>37. My parents rarely expected me to excel in all aspects of my life.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>38. I respect people who are average.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>39. People expect nothing less than perfection from me.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>40. I set very high standards for myself.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>41. People expect more from me than I am capable of giving.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>42. I must always be successful at school or work.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>43. It does not matter to me when a close friend does not try their hardest.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>44. People around me think I am still competent even if I make a mistake.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>45. I seldom expect others to excel at whatever they do.</td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>
CTI

Study ID# ______

Use the scale below to rate the following statements about feelings, beliefs, and behaviors. Score “1” if the statement is definitely FALSE, “2” if it is mostly FALSE, “4” if it is mostly TRUE, and “5” if it is definitely TRUE. Use “3” only if you cannot decide if the item is mainly true or false.

<table>
<thead>
<tr>
<th>definitely false</th>
<th>mostly false</th>
<th>undecided</th>
<th>mostly true</th>
<th>definitely true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

This questionnaire contains some “silly” items, such as “I never saw anyone with blue eyes.” The purpose of these items is to check whether people have been careless or lost their place. Please answer these items correctly. The questionnaire also contains items to check whether people have made themselves look too good. If you select the best answers instead of answering honestly, your test will be found to be invalid. Do not fuss over any one item, as no single item is very important. The best way to take the test is to respond honestly and rapidly. CIRCLE ONE NUMBER ONLY.

1. When I have a difficult task to do, I try to think about things that will help me to do my best. 1 2 3 4 5
2. I feel that people are either my friends, or my enemies. 1 2 3 4 5
3. I don’t get upset about little things. 1 2 3 4 5
4. I believe there are people who can project their thoughts into other people’s minds. 1 2 3 4 5
5. If I do well on an important test, I feel like a total success and that I’ll go far in life. 1 2 3 4 5
6. When I’m not sure how things will turn out, I usually expect the worst. 1 2 3 4 5
7. If people treat you badly, you should treat them the same way. 1 2 3 4 5
8. If I don’t do well, I take it very hard. 1 2 3 4 5
|   |   |   |   |   |   |   
|---|---|---|---|---|---|---|
| 9. | Most birds can run faster than they can fly. | 1 | 2 | 3 | 4 | 5 |
| 10. | Some people can read other people's minds. | 1 | 2 | 3 | 4 | 5 |
| 11. | I think everyone should love their parents. | 1 | 2 | 3 | 4 | 5 |
| 12. | When I have a lot of work to do, I feel like giving up. | 1 | 2 | 3 | 4 | 5 |
| 13. | There are only two answers to any question, a right one and a wrong one. | 1 | 2 | 3 | 4 | 5 |
| 14. | When anyone disapproves of me, I get very upset. | 1 | 2 | 3 | 4 | 5 |
| 15. | If I wish hard enough for something, that can make it happen. | 1 | 2 | 3 | 4 | 5 |
| 16. | If I do something good, then good things will happen to me. | 1 | 2 | 3 | 4 | 5 |
| 17. | I get so upset if I try hard and don't do well, that I usually don't try to do my best. | 1 | 2 | 3 | 4 | 5 |
| 18. | Two plus two equals four. | 1 | 2 | 3 | 4 | 5 |
| 19. | I worry a lot about what other people think of me. | 1 | 2 | 3 | 4 | 5 |
| 20. | I believe the moon or the stars can affect people's thinking. | 1 | 2 | 3 | 4 | 5 |
| 21. | When something good happens to me, I feel that more good things are likely to follow. | 1 | 2 | 3 | 4 | 5 |
| 22. | There are basically two kinds of people in this world, good and bad. | 1 | 2 | 3 | 4 | 5 |
| 23. | I don't worry about things I can't do anything about. | 1 | 2 | 3 | 4 | 5 |
| 24. | I have washed my hands at least one time this year. | 1 | 2 | 3 | 4 | 5 |
| 25. | I don't believe in ghosts. | 1 | 2 | 3 | 4 | 5 |
| 26. | I usually look at the good side of things. | 1 | 2 | 3 | 4 | 5 |

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27. I’ve learned not to hope too hard, because what I hope for usually doesn’t happen. 1 2 3 4 5
28. I trust most people. 1 2 3 4 5
29. I like to succeed, but I don’t get too upset if I fail. 1 2 3 4 5
30. I believe in flying saucers. 1 2 3 4 5
31. When I discover that someone I like a lot likes me, it makes me feel like a wonderful person and that I can accomplish whatever I want to. 1 2 3 4 5
32. When bad things happen to me, I don’t worry about them for very long. 1 2 3 4 5
33. I believe there are people who can see into the future. 1 2 3 4 5
34. I think anyone who really wants a good job can find one. 1 2 3 4 5
35. I have never seen anyone with blue eyes. 1 2 3 4 5
36. I think there are many wrong ways, but only one right way to do almost anything. 1 2 3 4 5
37. I try to do my best in almost everything I do. 1 2 3 4 5
38. I believe most people are only interested in themselves. 1 2 3 4 5
39. I don’t have good luck charms. 1 2 3 4 5
40. When I have a lot of work to do by a deadline, I waste a lot of time worrying about it. 1 2 3 4 5
41. I think more about happy things from my past than about unhappy things. 1 2 3 4 5
42. I believe in good and bad magic. 1 2 3 4 5
43. The only person I completely trust is myself. 1 2 3 4 5
44. If I did not make a team, I would feel terrible and think that I would never be on any team. 1 2 3 4 5
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>definitely false</th>
<th>mostly false</th>
<th>undecided equally true/false</th>
<th>mostly true</th>
<th>definitely true</th>
</tr>
</thead>
<tbody>
<tr>
<td>45. I try to accept people as they are.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>46. Water is usually wet.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>47. It is foolish to trust anyone completely because if you do, you will get hurt.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>48. I do not believe in any superstitions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>49. People should try to look happy no matter how they feel.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>50. I spend a lot of time thinking about my mistakes even if there’s nothing I can do about them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>51. Almost all people are good at heart.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>52. If I have something unpleasant to do, I try to think about it in a way that makes me feel better.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
THE I-E SCALE

The following is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you are concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose, or the one you would like to be true. This is a measure of personal belief: there are no right or wrong answers.

Choice (a) Choice (b)

1. (a) Children get into trouble because their parents punish them too much.  
   (b) The trouble with most children nowadays is that their parents are too easy with them.

2. (a) Many of the unhappy things in people’s lives are partly due to bad luck.  
   (b) People’s misfortunes result from the mistakes they make.

3. (a) One of the major reasons why we have wars is because people don’t take enough interest in politics.  
   (b) There will always be wars, no matter how hard people try to prevent them.

4. (a) In the long run, people get the respect they deserve in this world.  
   (b) Unfortunately, an individual’s worth often passes unrecognized, no matter how hard he tries.

5. (a) The idea that teachers are unfair to students is nonsense.  
   (b) Most students don’t realize the extent to which their grades are influenced by accidental happenings.

6. (a) Without the right breaks, one cannot be an effective leader.  
   (b) Capable people who fail to become leaders have not taken advantage of their opportunities.

7. (a) No matter how hard you try, some people just don’t like you.  
   (b) People who can’t get others to like them don’t understand how to get along with others.

8. (a) Heredity plays the major role in determining one’s personality.  
   (b) It is one’s experiences in life which determine what they are like.

9. (a) I have often found that what is going to happen, will happen.  
   (b) Trusting in fate has never turned out as well for me as making a decision to take a definite course of action.

CONTINUED ON NEXT PAGE...

Choice (a) Choice (b)
10. (a) In the case of the well prepared student, there is rarely if ever such a thing as an unfair test.
   (b) Many times exam questions tend to be so unrelated to course work, that studying is really useless.

11. (a) Becoming a success is a matter of hard work, luck has little or nothing to do with it.
   (b) Getting a good job depends mainly on being in the right place at the right time.

12. (a) The average citizen can have an influence in government decisions.
   (b) This world is run by the few people in power, and there is not much the little guy can do about it.

13. (a) When I make plans, I am almost certain that I can make them work.
   (b) It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. (a) There are certain people who are just no good.
   (b) There is some good in everybody.

15. (a) In my case, getting what I want has little or nothing to do with luck.
   (b) Many times we might just as well decide what to do by flipping a coin.

16. (a) Who gets to be the boss often depends on who was lucky enough to be in the right place first.
   (b) Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. (a) As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
   (b) By taking an active part in political and social affairs, the people control world events.

18. (a) Most people don't realize the extent to which their lives are controlled by accidental happenings.
   (b) There really is no such thing as “luck.”

19. (a) One should always be willing to admit mistakes.
   (b) It is usually best to cover up one's mistakes.

20. (a) It is hard to know whether or not a person really likes you.
   (b) How many friends you have depends upon how nice a person you are.

21. (a) In the long run, the bad things that happen to us are balanced by the good ones.
   (b) Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

CONTINUED ON NEXT PAGE...
22. (a) With enough effort, we can wipe out political corruption.
(b) It is difficult for people to have much control over the things politicians do in office.

23. (a) Sometimes I can’t understand how teachers arrive at the grades they give.
(b) There is a direct connection between how hard I study and the grades I get.

24. (a) A good leader expects people to decide for themselves what they should do.
(b) A good leader makes it clear to everybody what their jobs are.

25. (a) Many times I feel that I have little influence over the things that happen to me.
(b) It is impossible for me to believe that chance or luck plays an important role in my life.

26. (a) People are lonely because they don’t try to be friendly.
(b) There’s not much use in trying too hard to please people, if they like you, they like you.

27. (a) There is too much emphasis on athletics in high school.
(b) Team sports are an excellent way to build character.

28. (a) What happens to me is my own doing.
(b) Sometimes I feel that I don’t have enough control over the direction my life is taking.

29. (a) Most of the time I can’t understand why politicians behave the way they do.
(b) In the long run, the people are responsible for bad government on a national as well as on a local level.
Listed below are a number of statements regarding exposure to traumatic events. Place a check mark next to the statements that apply to you and indicate how disturbed you were by each incident that you checked using the following scale:

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>I was not disturbed at all by this incident</td>
<td>I was mildly disturbed by this incident</td>
<td>I was moderately disturbed by this incident</td>
<td>I was extremely disturbed by this incident</td>
</tr>
</tbody>
</table>

1a. ____ I have been robbed at gunpoint.  
1b. ____ My close friend or family member has been robbed at gunpoint.  
1c. ____ I have witnessed someone being robbed at gunpoint.  
2a. ____ I have been assaulted with a deadly weapon.  
2b. ____ My close friend or family member has been assaulted with a weapon.  
2c. ____ I have witnessed someone being assaulted with a weapon.  
3a. ____ I have been harassed or attacked for no particular reason.  
3b. ____ My close friend or family member has been harassed or attacked for no particular reason.  
3c. ____ I have witnessed someone being harassed or attacked for no particular reason.  
4a. ____ I have been jumped by more than one person.  
4b. ____ My close friend or family member has been jumped by more than one person.  
4c. ____ I have witnessed someone being jumped by more than one person.  
5a. ____ I have been victimized by gang violence.  
5b. ____ My close friend or family member has been victimized by gang violence.  
5c. ____ I have witnessed someone being victimized by gang violence.  
6a. ____ I have been car jacked.  
6b. ____ My close friend or family member has been car jacked.
6c. ____ I have witnessed someone being car jacked. 0 1 2 3
7a. ____ My home has been burglarized. 0 1 2 3
7b. ____ My close friend or family member's home has been burglarized. 0 1 2 3
7c. ____ I have witnessed someone's home being burglarized. 0 1 2 3
8a. ____ I have been raped or sexually assaulted. 0 1 2 3
8b. ____ My close friend or family member has been raped or sexually assaulted. 0 1 2 3
8c. ____ I have witnessed someone being raped or sexually assaulted. 0 1 2 3
9a. ____ I have lived in a place of residence where I was commonly exposed to rats, mice, or insects. 0 1 2 3
9b. ____ My close friend or family member has lived in a place of residence where they were commonly exposed to rats, mice, or insects. 0 1 2 3
10a. ____ I have been coerced or threatened into giving up valuable possessions. 0 1 2 3
10b. ____ My close friend or family member has been coerced or threatened into giving up valuable possessions. 0 1 2 3
10c. ____ I have witnessed someone being coerced or threatened into giving up valuable possessions. 0 1 2 3
11a. ____ I have been the victim of domestic violence. 0 1 2 3
11b. ____ My close friend or family member has been the victim of domestic violence. 0 1 2 3
11c. ____ I have witnessed someone become the victim of domestic violence. 0 1 2 3
12a. ____ I have lived in a place of residence that had inadequate security or was not maintained properly. 0 1 2 3
12b. ____ My close friend or family member has lived in a place of residence that had inadequate security or was not maintained properly. 0 1 2 3
13a. ____ I have participated in or been affected by rioting or aggressive mob/crowd behavior. 0 1 2 3
13b. ____ My close friend or family member has participated in or been affected by rioting or aggressive mob/crowd behavior. 0 1 2 3
13c. ____ I have witnessed someone participating in or being affected by rioting or aggressive mob/crowd behavior. 0 1 2 3
14a. ____ I have been sexually harassed. 0 1 2 3
14b. ____ My close friend or family member has been sexually harassed. 0 1 2 3
14c. ____ I have witnessed someone being sexually harassed. 0 1 2 3
15a. ____ I have been attacked by an animal (dog, cat, rat, etc.). 0 1 2 3
15b. ____ My close friend or family member has been attacked by an animal. 0 1 2 3
15c. ____ I have witnessed someone being attacked by an animal. 0 1 2 3
16a. ____ My close friend or family member has lost their life in a physical confrontation. 0 1 2 3
16b. ____ I have witnessed someone lose their life in a physical confrontation. 0 1 2 3
17a. ____ I have witnessed or been present during a drug raid. 0 1 2 3
17b. ____ My close friend or family member has witnessed or been present during a drug raid. 0 1 2 3
18a. ____ I have been the target of an attempted or successful kidnapping. 0 1 2 3
18b. ____ My close friend or family member has been the target of an attempted or successful kidnapping. 0 1 2 3
18c. ____ I have witnessed someone being the target of an attempted or successful kidnapping. 0 1 2 3
19a. ____ I have been involved in or the target of a drive by shooting. 0 1 2 3
19b. ____ My close friend or family member has been involved in or the target of a drive by shooting. 0 1 2 3
19c. ____ I have witnessed someone being involved in or the target of a drive by shooting. 0 1 2 3
The following items list some possible stressors (positive or negative) you may have experienced in the past year. Please indicate which stressors you have experienced in the past year by circling Yes or No.

Y N 1. Death of a spouse.
Y N 2. Divorce
Y N 3. Marital separation from mate.
Y N 4. Detention in jail or other institution.
Y N 5. Death of a close family member.
Y N 6. Major personal injury or illness.
Y N 7. Marriage.
Y N 8. Being fired at work.
Y N 10. Retirement from work.
Y N 11. Major change in health or behavior of a family member.
Y N 13. Sexual difficulties.
Y N 14. Gaining a new family member (e.g., through birth, adoption, oldster moving in, etc.)
Y N 15. Major business readjustment (e.g., merger, reorganization, bankruptcy, etc.)
Y N 16. Major change in financial state (e.g., either a lot worse off, or a lot better off than usual).
Y N 17. Death of a close friend.
Y N 18. Changing to a different line of work.
Y N 19. Major change in the number of arguments with spouse (e.g., either a lot more, or a lot less than usual regarding child-rearing, personal habits, etc.)
Y N 20. Taking on a mortgage greater than $10,000 (e.g., purchasing a home, business, etc.)
Y N 21. Foreclosure on a mortgage or loan.
Y N 22. Major change in responsibilities at work (e.g., promotion, demotion, lateral transfer).
<table>
<thead>
<tr>
<th></th>
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<th>23. Son or daughter leaving home (e.g., marriage, attending college, etc.)</th>
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<tbody>
<tr>
<td></td>
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<td>24. In-law troubles.</td>
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<tr>
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<td>25. Outstanding personal achievement.</td>
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<td></td>
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<td>26. Spouse beginning or ceasing work outside the home.</td>
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<td></td>
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<td>27. Beginning or ceasing formal schooling.</td>
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<td>28. Major change in living conditions (e.g., building a new home, remodeling, deterioration of home or neighborhood).</td>
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<td></td>
<td></td>
<td>29. Revision of personal habits (dress, manners, associations, etc.)</td>
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<tr>
<td></td>
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<td>30. Troubles with the boss.</td>
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<td></td>
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<td>31. Major change in working hours or conditions.</td>
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<tr>
<td></td>
<td></td>
<td>32. Change in residence.</td>
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<tr>
<td></td>
<td></td>
<td>33. Changing to a new school.</td>
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<tr>
<td></td>
<td></td>
<td>34. Major change in usual type and/or amount of recreation.</td>
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<tr>
<td></td>
<td></td>
<td>35. Major change in church activities (e.g., a lot more or a lot less than usual).</td>
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<tr>
<td></td>
<td></td>
<td>36. Major change in social activities (e.g., clubs, dancing, movies, visiting, etc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>37. Taking on a mortgage or loan less than $10,000 (e.g., purchasing a car, TV, freezer, etc.)</td>
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<tr>
<td></td>
<td></td>
<td>38. Major change in sleeping habits (e.g., a lot more or a lot less sleep, or change in time of day when sleep).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>39. Major change in number of family get-togethers (e.g., a lot more, or a lot less than usual).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40. Major change in eating habits (e.g., a lot more, or a lot less food intake, or very different meal hours or surroundings).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>41. Vacations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42. Christmas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>43. Minor violations of the law (e.g., traffic tickets, jaywalking, disturbing the peace, etc.).</td>
</tr>
</tbody>
</table>
DEBRIEFING STATEMENT

The main objective of this study is to identify personality characteristics that may act in combination with a genetic predisposition and stressful life events to predispose an individual to anxiety symptoms. This information may be useful for the prevention and treatment of anxiety disorders.

The confidentiality of your identity and data results are guaranteed in accordance with ethical and professional codes set by the CSUSB Institutional Review Board and the American Psychological Association. The focus of this research is on all participants as a group, and not on individual responses. Therefore, the data will be analyzed by group and not on an individual level. Please contact Dr. Lewin if you are interested in the results of the study, or if you have any questions about your participation. It is unlikely that participating in this study will result in significant distress, however, if you have experienced some distress and would like to discuss your response, please contact either Dr. Lewin at 880-7303 or the CSUSB Counseling Center at 880-5040. Attached is a list of crisis hotline referral numbers, should you feel the need to talk with a professional about your responses to these questionnaires.

Please do not reveal details about this study to anyone who may be a potential subject, as we will be collecting data throughout the year. Thank you for your participation.
### CRISIS RESOURCE NUMBERS: Inland Empire

#### Hotlines

<table>
<thead>
<tr>
<th>Service</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS National Hotline</td>
<td>1-800-342-2437</td>
</tr>
<tr>
<td>AIDS Southern California Hotline</td>
<td>1-800-922-2437</td>
</tr>
<tr>
<td>Child Abuse National Hotline</td>
<td>1-800-4-A-CHILD</td>
</tr>
<tr>
<td>Child Abuse Reporting Hotline, San Bernardino County</td>
<td>350-4949</td>
</tr>
<tr>
<td>Help Line- Riverside</td>
<td>686-HELP</td>
</tr>
<tr>
<td>National Teen Hotline (Friday/Saturday)</td>
<td>1-800-440-8336</td>
</tr>
<tr>
<td>Run Away National Hotline</td>
<td>1-800-621-4000</td>
</tr>
<tr>
<td>Sexual Assault Services of San Bernardino</td>
<td>885-8884</td>
</tr>
<tr>
<td>Suicide and Crisis Hotline</td>
<td>886-4889</td>
</tr>
<tr>
<td>WE-TIP</td>
<td>1-800-78-CRIME</td>
</tr>
</tbody>
</table>

#### Battered Women's Shelters

<table>
<thead>
<tr>
<th>Shelter</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizon House</td>
<td>683-0829</td>
</tr>
<tr>
<td>House of Ruth</td>
<td>988-5559</td>
</tr>
<tr>
<td>Option House</td>
<td>381-3471</td>
</tr>
<tr>
<td>Safe House</td>
<td>351-4418</td>
</tr>
<tr>
<td>The Doves</td>
<td>866-5723</td>
</tr>
</tbody>
</table>

#### Domestic Violence- Counseling

<table>
<thead>
<tr>
<th>Service</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Desert Domestic Violence</td>
<td>1-760-242-9179</td>
</tr>
<tr>
<td>Shelter From the Storm, Inc.</td>
<td>1-800-775-6055</td>
</tr>
<tr>
<td>Victor Valley Domestic Violence</td>
<td>1-760-955-8723</td>
</tr>
<tr>
<td>Yucaipa Outreach</td>
<td>790-9374</td>
</tr>
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#### Resources

<table>
<thead>
<tr>
<th>Service</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcoholics Anonymous, Inland Empire (24-Hour)</td>
<td>825-4700</td>
</tr>
<tr>
<td>Alcohol Treatment (12-Step)</td>
<td>862-0453</td>
</tr>
<tr>
<td>Al-Anon Service Center</td>
<td>824-1516</td>
</tr>
<tr>
<td>Anorexia Nervosa and Associated Disorders (ANAD)</td>
<td>798-4668</td>
</tr>
<tr>
<td>Children’s Treatment Services, counseling</td>
<td>358-4840</td>
</tr>
<tr>
<td>Cocaine Anonymous- Inland Empire</td>
<td>359-3895</td>
</tr>
<tr>
<td>Compassionate Friends (for bereaved parents)</td>
<td>794-1500</td>
</tr>
<tr>
<td>Domestic Violence Support Group</td>
<td>886-8583</td>
</tr>
<tr>
<td>Family Services, Redlands</td>
<td>793-2673</td>
</tr>
<tr>
<td>Family Services, Riverside Clinic</td>
<td>686-3706</td>
</tr>
<tr>
<td>Family Services, Western Riverside</td>
<td>782-8956</td>
</tr>
<tr>
<td>Family Services, San Bernardino</td>
<td>886-6737</td>
</tr>
<tr>
<td>Gamblers’ Anonymous</td>
<td>1-213-386-8789</td>
</tr>
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<td>Inland County Legal Services (ICLS):</td>
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<tr>
<td>Redlands</td>
<td>792-2762</td>
</tr>
<tr>
<td>Riverside</td>
<td>683-7742</td>
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<tr>
<td>San Bernardino</td>
<td>884-8615</td>
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<tr>
<td>National Council on Problem Gambling</td>
<td>1-800-522-4700</td>
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<td>National Drug and Alcohol Treatment</td>
<td>1-800-662-HELP</td>
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<tr>
<td>Planned Parenthood, Riverside</td>
<td>682-8540</td>
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<td>Planned Parenthood, Upland</td>
<td>985-0065</td>
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<td>Riverside County Drug Abuse Program</td>
<td>955-2105</td>
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<tr>
<td>San Bernardino County Alcohol and Drug Program</td>
<td>387-7677</td>
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</table>
REFERENCES


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