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Neuroticism and perfectionism as predictors of anxiety and depression

Glenna Ann Boese

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NEUROTICISM AND PERFECTIONISM AS PREDICTORS OF ANXIETY AND DEPRESSION

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

by
Glenna Ann Boese
June 2001
NEUROTICISM AND PERFECTIONISM AS PREDICTORS OF ANXIETY AND DEPRESSION

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Presented to the Faculty of California State University, San Bernardino

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Approved by:

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ABSTRACT

The purpose of this study was to assess the extent to which neuroticism and perfectionism predict both anxiety and depression. Two hundred sixty seven undergraduate students completed the Beck Anxiety Inventory, the Beck Depression Inventory, the Eysenck Personality Inventory, and Multidimensional Perfectionism Scale. Hierarchical regression analyses revealed that both neuroticism and socially prescribed perfectionism were significant predictors of both anxiety and depression. Moreover, neuroticism accounted for a greater proportion of the variance in both anxiety and depression than socially prescribed perfectionism. The results are consistent with prior research where socially prescribed perfectionism was seen as more maladaptive than self-oriented perfectionism and other-oriented perfectionism (Hewitt & Flett, 1991b). Additionally, the results related to neuroticism are discussed in terms of the tripartite model of anxiety and depression (Watson & Clarke, 1984). Finally, applications of the results are provided along with limitations of the study.
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CHAPTER ONE
INTRODUCTION

Anxiety and Depression

From an evolutionary standpoint, anxiety can be viewed as adaptive and necessary for survival (Barlow, 1988). For instance, a moderate amount of anxiety increases performance, which prepares an individual to meet daily challenges. However, an excessive amount anxiety leads to a decrease in performance. In addition, anxiety may evoke the fight-or-flight response, which is "the massive alarm reaction experienced in response to imminent threat or danger" (Barlow, 1988, p.158). True alarms are evolutionarily adaptive because they alert an individual to real danger. However, false alarms, also called panic attacks, can "[occur] in the absence of any life-threatening stimulus, learned or unlearned" (p.210).

In addition to the evolutionary theory, other theories have been proposed to explain the development of anxiety. For instance, Spielberger’s theory proposes that anxiety is a personality trait. According to Spielberger’s state-trait model, "state anxiety is considered to be a transitory emotional state, whereas the disposition to experience state anxiety frequently or to be 'anxiety prone' is considered a personality trait (trait anxiety)" (Barlow, 1988, p.53).
It has been shown that stress, or negative life events, may precipitate the onset of anxiety (Barlow, 1988). According to the diathesis-stress model, stress can trigger a disorder in an individual who is predisposed or prone to that disorder. Therefore, the effect of stress is to "overactivate one’s (physiological) system until the weakest part of the system breaks down" (Barlow, 1988, p.218). The diathesis-stress model explains how anxiety disorders, hypertension, ulcers, and other conditions develop in individuals who experience excessive amounts of stress (Barlow, 1988).

The diathesis-stress model is also used to explain the development of depression. According to Zuckerman (1999), stressful events can trigger episodes of unipolar major depression. Unipolar depression is often characterized by "anxiety and overt anger, psychomotor agitation, physical complaints, pain sensitivity, and weight loss" (p. 154). In addition, it has been shown that stress that occurs early in life can create learned helplessness, which makes an individual vulnerable to the development of depression (Zuckerman, 1999).

In addition to the finding that the diathesis-stress model can be applied to both anxiety and depression, it has been shown that individuals who develop an anxiety disorder are also at risk of developing mood disorders, such as
major depression. According to Zuckerman (1999), comorbidity is usually defined as the "co-occurrence of two or more disorders in the same individual" (p. 58). It has been shown that 70% of the individuals who develop an anxiety disorder also meet the criteria for another Axis I disorder. Although most of these comorbid disorders are anxiety-related, many of the individuals who have an anxiety disorder also meet the criteria for a mood disorder (Zuckerman, 1999).

Clark, Watson, and Mineka (1994) developed the tripartite model to explain the "overlapping and distinct features of anxiety and depression" (p. 104). According to the tripartite model, there is a "general distress factor" that is related to both anxiety and depression (p. 104). This factor is often referred to as neuroticism. A second factor of the tripartite model is known as extraversion. Extraversion, also referred to as positive affectivity, is a heritable trait that includes "positive emotionality, energy, affiliation, and dominance" (Clark et al., 1994, p.107). The third factor of the tripartite model is autonomic hyperarousal, which produces symptoms such as increased heart rate, dizziness, and shortness of breath. It has been shown that anxiety is positively correlated with neuroticism and autonomic hyperarousal. Depression, on the other hand, is positive correlated with neuroticism
and negatively correlated with extraversion (Clark et al., 1994).

The Relationship Between Neuroticism, Anxiety, and Depression

Neuroticism, also described as negative affectivity, is defined as "a broad, general personality trait, the core of which is a temperamental sensitivity to negative stimuli" (Enns & Cox, 1997, p.275). Neurotic individuals tend to have low-self esteem and a pervasive negative mood that occurs in "the absence of stress" (Watson & Clark, p. 466, 1984). In addition, individuals who are neurotic also tend to experience feelings of worry, guilt, nervousness, and anger (Watson & Clark, 1984).

It has been shown that psychological measures of both anxiety and depression are correlated with measures of neuroticism (Meites, Lovallo, & Pishkin, 1980; Watson & Clark, 1984). For instance, there is a positive correlation between the Eysenck Personality Inventory Neuroticism Scale (EPI-N) and the following measures of anxiety: Taylor Manifest Anxiety Scale (TMAS), the State-Trait Anxiety Inventory A-Trait Scale (A-Trait), and the Multiple Affect Adjective Check List Anxiety Scale (MAACL-A). In addition, a positive correlation has been found between the EPI-N and the following measures of depression:
the Beck Depression Inventory (BDI) and the Zung Self-Rating Depression Scale (SDS).

Research has also shown that neuroticism is positively correlated with more specific forms of anxiety. For instance, Schmidt and Riniolo (1999) investigated the relationship between neuroticism and both test anxiety and social anxiety. In this study, 47 undergraduate students (20 males and 27 females) between the ages of 18 to 32, completed the Eysenck Personality Questionnaire (EPQ), which contains a neuroticism scale. The participants also completed a questionnaire containing five items from the Cheek and Buss Shyness Scale, which was used to assess social anxiety. In addition, the following three statements related to test anxiety were presented to the participants in a likert-type format: "(a) I tend to feel anxious before taking exams (b) I feel nervous while taking exams (c) I feel nervous about taking the statistics final exam" (Schmidt & Riniolo, 1999, p. 395). The results of this study revealed a significant positive correlation between neuroticism and both test anxiety and social anxiety.

As stated earlier, research has shown that neuroticism is positively correlated with depression (Enns & Cox, 1997). For instance, Enns and Cox’s literature review was designed to examine the relationship between depression and
the dimensions of personality, including neuroticism. Enns and Cox reviewed eight longitudinal studies that investigated the relationship between neuroticism and depression. All of the studies used a control group and a group of adults who met criteria for major depression. Neuroticism was measured by the Maudsley Personality Inventory (MPI) in all eight of the studies.

The overall results obtained from the studies reviewed by Enns and Cox (1997) found that individuals who are depressed tend to have higher neuroticism scores compared to control groups. In addition, Enns and Cox found that "premorbid testing shows greater neuroticism in those who later develop depression than in those who do not" (p. 275). The authors concluded that neuroticism creates a vulnerability, which makes an individual susceptible to developing subsequent disorders such as anxiety and depression.

Kendler et al. (1993) also found that neuroticism was a risk factor in the development of major depression. For instance, the participants in Kendler et al.'s study were 680 pairs of female, Caucasian twins. The mean age of the participants was 30.3 years, and their mean level of education was 13.6 years. The participants were evaluated annually for a period of 3 years. During the second and third year evaluations, the participants were assessed in
order to determine if they "had experienced any of 20 individual psychiatric symptoms, including all of the DSM-III-R criteria for major depression" (p. 1140). In addition, the participants were interviewed and completed questionnaires relating to the following predictor variables: neuroticism, genetic factors, parental warmth, childhood parental loss, lifetime traumas, social support, history of major depression, recent difficulties, and recent stressful life events. Neuroticism was assessed using 12 items from the Neuroticism scale of the Eysenck Personality Questionnaire (EPQ), which were chosen from a factor analysis.

Structural equation modeling was used to develop Kendler et al.'s (1993) model for the prediction of major depression. The analysis revealed that the model predicted 50.1% of the variance in the risk for developing major depression. Furthermore, of the nine predictor variables, the strongest predictors of major depressive episodes "were, in descending order, 1) stressful life events, 2) genetic factors, 3) previous history of major depression, and 4) neuroticism" (p. 1139).

Wilhelm, Dewhurst-Savellis, and Asghari (1999) also investigated the predictors of major depression; however, their sample included both male and female participants. In this study, 164 participants (114 females and 56 males),
who were enrolled in a postgraduate teacher training program, were assessed three times over a 15-year period (i.e., 1978-1993). Each assessment occurred five years apart. During each assessment, the participants were interviewed and completed the following questionnaires: the neuroticism scale of the Eysenck Personality Inventory (EPI), the trait depression scale of the Costello and Comrey scale, and a state depression scale. In addition, the Diagnostic Interview Schedule (DIS) and the Composite International Diagnostic Interview (CIDI) was used in order to determine if the participants had experienced an anxiety disorder or a major depressive episode.

The results of Wilhelm et al.'s (1999) study revealed that neuroticism was positively correlated with trait depression. Furthermore, individuals who experienced one or more episodes of major depression were more likely to have higher scores on the neuroticism and trait depression scales than individuals who have never experienced a major depressive episode. In addition, it was found that individuals with two or more episodes of major depression were more likely to have also met the criteria for an anxiety disorder than individuals who did not have recurrent major depressive episodes. Those individuals were also more likely to experience multiple anxiety disorders over the course of their lifetime.
In addition to finding that neuroticism is correlated
with both anxiety and depression, it has also been shown
that neuroticism predicts anxiety sensitivity (Cox, Borger,
Taylor, Fuentes, & Ross, 1999). According to Cox et al.,
anxiety sensitivity "represents a fear of anxiety, based on
a belief that anxiety symptoms have harmful consequences"
(p. 633-634). It has been shown that anxiety sensitivity
contributes to the development of certain anxiety
disorders, such as panic disorder (Cox et al.).

In Cox et al.'s (1999) study, 317 undergraduate
students (120 males and 197 females) completed the Anxiety
Sensitivity Index (ASI), the Revised NEO Personality
Inventory (NEO-PI-R), and the Beck Anxiety Inventory (BAI).
The ASI measures anxiety sensitivity and is comprised of
the following three facets: "fear of somatic symptoms
(physical concerns), fear of cognitive symptoms (mental
incapacitation), and fear of publicly observable symptoms
(social concerns)" (Cox et al., 1999, p. 635). The NEO-PI-
R was used to measure the Big Five domains of personality:
neuroticism, extraversion, openness to experience,
agreeableness, and conscientiousness.

A multiple regression analysis revealed that out of
the five domains of personality, neuroticism was the
strongest predictor of ASI scores (Cox et al., 1999). For
example, neuroticism and extraversion together accounted
for 53% of the variance in total ASI scores. However, the amount of variance accounted for by neuroticism alone was not reported in this study. Furthermore, hierarchical regression analyses revealed that two factors of neuroticism (i.e., anxiety and vulnerability to stress) and the three facets of the ASI predicted 65% of the variance in the anxiety scores.

In addition to the finding that neuroticism predicts anxiety, researchers have also investigated the extent to which neuroticism predicts depression. For example, Gershuny and Sher (1998) conducted a 3 year longitudinal, prospective study in order to investigate the relationship between three dimensions of personality (i.e., neuroticism, extraversion, and psychoticism), anxiety, and depression. In this study, the participants were 466 college freshmen with a mean age of 18 years old. The participants were classified into two groups based on their family history of alcoholism (e.g., high risk and low risk for developing alcoholism). Gershuny and Sher (1998) reported that individuals with a family history of alcoholism tend to be more anxious. Therefore, Gershuny and Sher included this population in order to "[increase] the likelihood for detecting personality-anxiety relations" (p. 254). However, history of alcoholism was controlled for in the analysis of the data.
The participants in Gershuny and Sher's (1998) study were assessed at the start of the study and were reassessed three more times on an annual basis. During the initial assessment, the participants completed the Eysenck Personality Questionnaire (EPQ) and the Brief Symptom Inventory (BSI). The EPQ was used to assess neuroticism, extraversion, and psychoticism. The BSI was used to assess global anxiety and depression.

The results of Gershuny and Sher's (1998) study revealed that neuroticism was correlated with both anxiety and depression, whereas extraversion was correlated with neither anxiety nor depression. In addition, a cross-sectional regression analysis revealed that the interaction between neuroticism and extraversion was not a significant predictor of anxiety and depression. However, a longitudinal regression analysis revealed that the interaction between neuroticism and extraversion was a significant predictor of both global anxiety and depression. Specifically, individuals who scored low on extraversion and high on neuroticism in the beginning of the study tended to have more global anxiety and depression three years later (Gershuny & Sher, 1998).

Gershuny and Sher (1998) suggested that the discrepancy in the results between the cross-sectional regression analysis and the longitudinal regression
analysis may be due to the fact that the participants were college freshmen at the beginning of the study. For instance, Gershuny and Sher suggested that the first year of college is more anxiety provoking for students who are adjusting to their new environment. However, as students continue their education, those who are high in extraversion tend to seek social support to help relieve their anxiety. Students who are low in extraversion, on the other hand, tend to develop more anxiety because it is more difficult for them to seek out social support.

Jorm et al. (2000) attempted to replicate Gershuny and Sher's (1998) results using two community samples. The first study used a cross-sectional design and the second study was longitudinal. The cross-sectional study involved 2,725 participants between the ages of 18 to 79. The participants were living in Australia and were randomly chosen from an electoral roll. The participants completed the Neuroticism, Extraversion, and Psychoticism scales of the Eysenck Personality Questionnaire-Revised (EPQ-R). In addition, the participants also completed the Goldberg Anxiety and Depression scales.

The results of Jorm et al.'s (2000) cross-sectional analysis were inconsistent with the results obtained by Gershuny and Sher (1998). For instance, Jorm et al. found that neuroticism was a significant predictor of both
anxiety and depression. Furthermore, the results revealed that the interaction between neuroticism and extraversion was not a significant predictor of either anxiety or depression.

Jorm et al. (2000) also conducted a longitudinal study in their attempt to replicate Gershuny and Sher's (1998) results. In this study, 945 participants were interviewed during Wave 1 and 674 of those individuals were re-interviewed 3.6 years later during Wave 2. The participants were 70 years old or older and were recruited randomly from an electoral roll in Australia. The participants completed the Neuroticism and Extraversion scales of the EPQ-R during Wave 1 and the Goldberg Anxiety and Depression scales during Wave 1 and 2.

The results of Jorm et al.'s (2000) longitudinal study were consistent with the results of their cross-sectional analysis. For example, they again found that neuroticism was a significant predictor of anxiety and depression. However, Jorm et al. found that the interaction between neuroticism and extraversion was not a significant predictor of anxiety and depression.

Jorm et al. (2000) suggested that the inconsistency between their results and the results obtained by Gershuny and Sher's (1998) was due to the different samples and measures utilized in both studies. For instance, Gershuny
and Sher used a college sample, while Jorm et al.'s study used a community sample containing older adults. In addition, Gershuny and Sher used the Eysenck Personality Questionnaire (EPQ) and the Brief Symptom Inventory (BSI), while Jorm et al. used the Eysenck Personality Questionnaire-Revised (EPQ-R) and the Goldberg Anxiety and Depression scales.

The relationship between neuroticism, anxiety, and depression has been investigated in children as well as in adults. For instance, Cannals, Marti-Henneberg, Fernandez-Ballart, Cliville, and Domenech (1992) conducted a study to investigate state-trait anxiety in pre-adolescents and adolescents. According to Canals et al., research has suggested that anxious adults often report that they experienced symptoms of anxiety during their childhood. Furthermore, research has indicated that anxiety starts to increase in adolescence and declines during the beginning of old age (Canals et al., 1992).

Canals et al. (1992) conducted a 4-year longitudinal study with 534 children (224 girls and 310 boys). The children were living in Spain and were between the ages of 11 and 15 years old. The children were evaluated annually and completed the following questionnaires: the State-Trait Anxiety Inventory for Children, Children's Depression Inventory, Culture-free Self-esteem Inventory for Children,
Eysenck Personality Questionnaire-Junior (EPQ-J), and a measurement for pubertal development. The EPQ-J includes neuroticism, extraversion, and psychoticism subscales.

The results of Canals et al.'s (1992) study revealed that over the four-year period state-anxiety scores significantly increased in the girls but not in the boys. Trait-anxiety, on the other hand, significantly decreased in boys, but did not vary in the girls. Canals et al. suggested that the reason for this finding is that adolescent girls "are more sensitive about social approval from adults" than boys, which may increase their anxiety (p. 510). Furthermore, stepwise multiple regression analysis revealed that neuroticism and depression were significant predictors of trait anxiety. Canals et al. concluded that "personality during the preadolescent age may be an etiological influence in development of anxiety" (p. 511). Therefore, these results suggest that aspects of personality, such as neuroticism, that are present in childhood may lead to the development of anxiety in adulthood.

Del Barrio, Moreno-Rosset, Martinez, and Olmedo (1997) also conducted a study investigating the relationship between neuroticism, anxiety, and depression in children. In this study, the participants were 423 adolescents between the ages of 11 and 15, who were living in Spain.
The participants completed the Children’s Depression Inventory (CDI), State-Trait Anxiety Inventory for Children (STAI-C), and the Eysenck Personality Questionnaire (EPQ), which contains the Neuroticism, Extraversion, Psychoticism, and Lie scales. The results revealed that neuroticism was significantly correlated with depression and both state and trait anxiety, which is consistent with the results obtained by Canals et al. (1992).

In addition to neuroticism, research has shown that other aspects of personality are related to both anxiety and depression. For instance, several researchers have examined the effect perfectionism has on the development of anxiety and depression (Antony, Purdon, Huta, & Swinson, 1998; Saddler & Buckland, 1995; Hewitt & Flett, 1991a; Hayward & Authur, 1998).

The Relationship Between Perfectionism, Anxiety, and Depression

According to Frost, Marten, Lahart, and Rosenblate (1990), there is little consensus among researchers in defining perfectionism. Although there is no precise definition for perfectionism, it has been shown that setting high standards for performance is a predominate feature of perfectionism. However, Frost et al. argue that the problem with this definition is that it "does not distinguish perfectionistic people from those who are
highly competent and successful" (p. 450). Frost et al. suggests that setting high standards for one's performance is not necessarily pathological. In fact, it has been found that perfectionism may contribute to a positive outlook on life (Frost et al., 1990).

Hewitt and Flett (1991b) proposed their own model of perfectionism in which they identified three dimensions of perfectionism: self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. Self-oriented perfectionism refers to the tendency to set excessive standards for oneself, whereas other-oriented perfectionism refers to the tendency to set excessively high standards for significant others to attain. Socially prescribed perfectionism, on the other hand, refers to the belief that other people have high expectations for oneself to be perfect.

Research has shown that perfectionism is positively correlated with various anxiety disorders, such as obsessive-compulsive disorder and social phobia (Antony, Purdon, Huta, & Swinson, 1998). According to Antony et al., research has suggested that perfectionistic thinking is associated with the obsessive thoughts and compulsive activity that is experienced in individuals who have obsessive-compulsive disorder (OCD). For instance, individuals may have obsessive thoughts about whether they
have performed an assignment correctly. In addition, Antony et al. reported that perfectionism is also related to social phobia. For instance, Heimberg (as cited in Antony et al.) suggested that individuals who have social phobia often believe that they have to meet a high standard of social performance in order to avoid humiliating themselves in social situations. However, these individuals feel that they can not meet this high standard. Based on this research, Antony et al. hypothesized that individuals who have OCD and social phobia would experience higher levels of self-oriented perfectionism and socially prescribed perfectionism than individuals who had other anxiety disorders and the control group. The relationship between anxiety disorders and other-oriented perfectionism was not investigated in this study.

The participants in Antony et al.'s (1998) study were 175 individuals between the ages of 18 to 65 years old who were diagnosed with social phobia (n=70), OCD (n=45), panic disorder with or without agoraphobia (n=44), or a specific phobia (n=15). There was also a control group (n=49), which was comprised of non-clinical volunteers. The participants completed the Multidimensional Perfectionism Scale (MPS; developed by Hewitt & Flett, 1991b), the Multidimensional Perfectionism Scale (MPS; developed by Frost et al., 1990), and the Beck Depression Inventory
Frost et al.'s MPS assesses six dimensions of perfectionism (e.g., concern over mistakes, doubts about actions, personal standards, parental expectations, parental criticism, and organization), while Hewitt and Flett's MPS assesses three dimensions of perfectionism: socially prescribed perfectionism, self-oriented perfectionism, and other-oriented perfectionism.

The results of Antony et al.'s (1998) study revealed that the individuals who were diagnosed with panic disorder, OCD, and social phobia had a significantly higher rate of socially prescribed perfectionism than the control group. However, the individuals with OCD and social phobia did not have higher rates of self-oriented perfectionism, as hypothesized. These results suggest that socially prescribed perfectionism is more maladaptive than self-oriented perfectionism.

Hewitt and Flett (1991a) also used a clinical sample in order to investigate the relationship between unipolar depression, anxiety, and the three dimensions of perfectionism: self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. This study consisted of three groups of participants: a depressed group, an anxious group, and a control group. The depressed group consisted of 22 patients (6 men and 16 women) who were admitted into a psychiatric unit and
diagnosed with unipolar depression. The anxious group consisted of 13 patients (4 men and 9 women) who met the criterion for an anxiety disorder. Finally, the control group consisted of 22 normal participants (6 men and 16 women).

The three groups of participants (e.g. depressed, anxious, and control groups) completed the following questionnaires: the Multidimensional Perfectionism Scale (MPS; developed by Hewitt & Flett, 1991b), the Beck Depression Inventory (BDI), and the Endler Multidimensional Anxiety Scales-State (EMAS-S). The MPS contained three subscales to assess self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. In addition, the BDI was used to assess depression, whereas the EMAS-S was used to assess state anxiety.

The results obtained from Hewitt and Flett's (1991a) study showed that the depressed group had higher rates of self-oriented perfectionism than the anxious and control groups. In addition, higher rates of socially prescribed perfectionism were found in both the depressed and anxious groups but not in the control group. Furthermore, other-oriented perfectionism was not significantly correlated with either anxiety or depression.
Hewitt and Flett (1991a) suggested that self-oriented perfectionism is related to clinical depression but not clinical anxiety because self-oriented perfectionists "tend to equate self-worth with performance" (p. 100). Therefore, self-oriented perfectionists are more likely to become depressed when they are unable to meet the high standards that they have set for themselves (Hewitt & Flett, 1991a).

Although both socially prescribed perfectionism and self-oriented perfectionism were found to be significant predictors of clinical depression, regression analysis revealed that socially prescribed perfectionism was a stronger predictor of clinical depression than self-oriented perfectionism (Hewitt and Flett, 1991a). For instance, socially prescribed perfectionism accounted for an additional 4% of the variance in clinical depression above and beyond the variance accounted for by anxiety, while self-oriented perfectionism accounted for an additional 3% of the variance in clinical depression above and beyond the variance accounted for by anxiety. These results show that socially prescribed perfectionism is more maladaptive than self-oriented perfectionism.

Hewitt and Flett (1991a) suggested that socially prescribed perfectionism is more maladaptive than self-oriented perfectionism and other-oriented perfectionism due
to the lack of control that is associated with socially prescribed perfectionism. For instance, socially prescribed perfectionists tend to become anxious and depressed when they are unable to meet the high expectations that they believe other people have set for them. On the other hand, self-oriented perfectionist and other-oriented perfectionists tend to be less anxious because they have control over the high standards that they have set for themselves or others (Hewitt & Flett, 1991a).

Research has also shown that perfectionism is positively correlated with depression in non-clinical samples (Saddler & Buckland, 1995). For example, Saddler and Buckland investigated the relationship between perfectionism, anxiety, and depression in college students with learning disabilities. According to Saddler and Buckland, it has been shown that self-oriented perfectionism and socially prescribed perfectionism are correlated with depression in various populations, such as college students and psychiatric patients. However, the authors suggested that there has been little research conducted on this topic using a sample of college students with learning disabilities. Saddler and Buckland suggested that it is important to study the affect perfectionism has on college students with learning disabilities because this
population is more prone to depression than college students who aren’t disabled.

In Saddler and Buckland’s (1995) study, the participants were 110 undergraduate students (42 males and 68 females) who were identified as learning disabled by the university’s Disabled Student Services Program. The participants completed Hewitt and Flett’s Multidimensional Perfectionism Scale (MPS), the Beck Anxiety Inventory (BAI), and the Beck Depression Inventory (BDI).

The results of Saddler and Buckland’s (1995) study revealed that socially prescribed perfectionism was significantly correlated with depression in college students with learning disabilities. Furthermore, neither self-oriented perfectionism nor other-oriented perfectionism were significantly correlated with depression in this population. Therefore, Saddler and Buckland concluded that individuals with learning disabilities may expect that others have high expectations of them and fear that they will be negatively evaluated by others, which leads to the development of depression. In addition, anxiety was not significantly correlated with any of the three dimensions of perfectionism. However, there was a significant positive correlation between anxiety and depression.
Hayward and Arthur (1998) also investigated the relationship between perfectionism and both anxiety and depression in college students. In their study, the participants were 178 students (93 males and 85 females) who were enrolled in a two-year technical college. The participants completed the Multidimensional Perfectionism Scale (Hewitt & Flett, 1991b), the Beck Depression Inventory (BDI), and the Beck Anxiety Inventory (BAI).

The results of Hayward and Arthur's (1998) study revealed a significant correlation between depression and both self-oriented perfectionism and socially prescribed perfectionism. Likewise, anxiety was also correlated with both self-oriented perfectionism and socially prescribed perfectionism. Other-oriented perfectionism, on the other hand, was not significantly correlated with either anxiety or depression.

Multiple regression analyses of the data obtained from Hayward and Arthur's (1998) study also revealed that socially prescribed perfectionism was the only dimension of perfectionism that significantly predicted depression. However, both socially prescribed perfectionism and other-oriented perfectionism were found to be significant predictors of anxiety. Furthermore, the combination of the three dimensions of perfectionism accounted for 21% of the variability in depression and 26% of the variability in
anxiety. Therefore, these results suggest that socially prescribed perfectionism is a significant predictor of anxiety and depression in college students.

Hypotheses

Based on the literature and the vulnerability model where neuroticism and perfectionism render an individual susceptible to the development of anxiety and depression, the following hypotheses were proposed:

1. It was hypothesized that neuroticism would be a significant predictor of both anxiety and depression (Kendler et al., 1993; Wilhelm, Dewhurst-Savellis, & Asghari, 1999; Jorm et al., 2000). Furthermore, an interaction between neuroticism and extraversion was expected, in which high neuroticism and low extraversion would significantly predict both anxiety and depression. This hypothesis was based on the results obtained by Gershuny and Sher (1998) who used a college sample that was similar to the sample used in the present study.

2. It was hypothesized that socially prescribed and self-oriented perfectionism would be significant predictors of both anxiety and depression (Hayward & Authur, 1998; Hewitt & Flett, 1991a).

3. It was hypothesized that neuroticism would account for a greater proportion of the variance in anxiety and
depression than perfectionism (Kendler et al., 1993; Hayward & Arthur, 1998).
CHAPTER TWO

METHOD

Participants

The participants were 267 undergraduate psychology students (193 female and 74 males) from California State University, San Bernardino. The participants completed a packet of self-report questionnaires and received extra credit for their participation. The length of participation was approximately one hour. The participants ranged in age from 18-54, with the mean age of 22.7 years. The ethnic composition of the sample was 51% Caucasian, 29% Latino, 10% African-American, 6% Asian-American, and 4% other. The participants were treated in accordance with the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 1992).

Measures

The Beck Anxiety Inventory (BAI) is presented in Appendix A (Beck, Brown, Epstein, & Steer, 1988). The BAI is a 21-item self-report questionnaire designed to assess levels of anxious symptomatology, focusing primarily on the physiological symptoms of anxiety (e.g., racing heart and sweating). Symptoms experienced over the past week are rated using a 4-point Likert-type scale, according to how much subjective distress was experienced. Responses range
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, \( r (81) = .75 \).

The Beck Depression Inventory (BDI) is presented in Appendix B (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 indicates a high level of depression. The BDI is valid and has adequate reliability, with a mean alpha coefficient of .81 when used with non-psychiatric populations.

The Eysenck Personality Inventory (EPI) is presented in Appendix C (Eysenck & Eysenck, 1968). The EPI was used to assess the following dimensions of personality: extraversion-introversion and neuroticism-stability. The EPI is a 57-item self-report inventory consisting of three scales: an Extraversion scale, a Neuroticism scale, and a Lie scale. Participants respond to each scale item by selecting a space marked either "yes" or "no". A scoring key is used to score each of the three scales. A high score on a scale indicates that the individual possesses a high level of that personality dimension (i.e., a high score on the Neuroticism scale indicates a high level of
neuroticism). The EPI is valid and has adequate test-retest reliability (between .84 and .94 for the complete test).

The Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991b) was used to assess levels and sub-types of perfectionism (see Appendix D). 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. Total perfectionism scores range from 45-315, with a high score indicating a high level of perfectionism. The MPS is valid and has good reliability (Cronbach’s alpha= .86 for self-oriented perfectionism, .82 for other-oriented perfectionism, and .87 for socially prescribed perfectionism).

For all of the measures, alpha coefficients were produced for the current sample. All alphas were consistent with the published alphas for each scale.
CHAPTER THREE

RESULTS

Correlational Analyses

The correlations among the three dimensions of perfectionism, anxiety, depression, neuroticism, and extraversion are presented in Table El. A Pearson Product Moment Coefficient revealed a significant positive correlation between anxiety and depression. The results also revealed that both anxiety and depression were positively correlated with the following variables: self-oriented perfectionism, socially prescribed perfectionism, and neuroticism. In addition, a significant negative correlation was found between extraversion and the following variables: socially prescribed perfectionism, anxiety, depression, and neuroticism.

Hierarchical Regression Analyses

Neuroticism and Extraversion

A series of hierarchical regression analyses were conducted in order to assess the extent to which the combination of neuroticism and extraversion predicted both anxiety and depression. In both of these analyses, neuroticism was entered as the first step and extraversion was entered as the second step. This order was based on the results of prior research, which has suggested that
neuroticism is more strongly associated with anxiety and depression than extraversion (Kendler et al., 1993; Hayward & Arthur, 1998). In addition, this study also investigated the extent to which the interaction between neuroticism and extraversion predicted anxiety and depression. Therefore, the interaction between neuroticism and extraversion was entered as the third step.

The first hierarchical regression analysis was conducted in order to assess the extent to which neuroticism, extraversion, and the interaction between neuroticism and extraversion predicted anxiety (see Table E2). The results revealed that neuroticism was a significant predictor of anxiety ($R^2 = .338, p < .001$), accounting for 33.8% of the variance. Extraversion did not add significant variance to the model ($R^2$ change = .004, $p > .05$). Furthermore, the interaction between neuroticism and extraversion also not add any unique variance to the model ($R^2$ change = .005, $p > .05$).

A hierarchical regression analysis was also conducted in order to assess the extent to which neuroticism, extraversion, and the interaction between neuroticism and extraversion predicted depression (see Table E3). Neuroticism was found to be a significant predictor of depression ($R^2 = .497, p < .001$), accounting for 49.7% of the variance. Extraversion was also a significant
predictor of depression ($R^2_{\text{change}} = .013, p = .001$), accounting for an additional 1.3% of the variance above and beyond the variance accounted for by neuroticism. In addition, the interaction between neuroticism and extraversion was also a significant predictor ($R^2_{\text{change}} = .029, p < .000$), accounting for an additional 2.9% of the variance above and beyond the variance accounted for by both neuroticism and extraversion.

**Perfectionism**

A series of hierarchical regression analyses were also conducted in order to assess the extent to which the three dimensions of perfectionism predicted anxiety and depression. Anxiety was the criterion measure in the first analysis and depression was the criterion measure in the second analysis. In both of these analyses, socially prescribed perfectionism was entered as the first step, self-oriented perfectionism was entered as the second step, and other-oriented perfectionism was entered as the third step. The order in which the variables were entered was based on the results of prior research and was discussed in the previous section (Hayward & Authur, 1998; Hewitt & Flett, 1991a).

The first hierarchical regression analysis was conducted in order to assess the extent to which the three dimensions of perfectionism predicted anxiety (see Table
E4). Socially prescribed perfectionism was found to be a significant predictor of anxiety ($R^2 = .240$, $p < .001$), accounting for 24% of the variance. Self-oriented perfectionism and other-oriented perfectionism did not add any unique variance to the model ($R^2$ change = .002, $p > .05$; $R^2$ change = .006, $p > .05$ respectively).

The second hierarchical regression analysis was conducted in order to assess the extent to which the three dimensions of perfectionism predicted depression (see Table E5). Socially prescribed perfectionism was found to be a significant predictor of depression ($R^2 = .302$, $p < .001$), accounting for 30.2% of the variance. Self-oriented perfectionism and other-oriented perfectionism did not add significant variance to the model ($R^2$ change = .000, $p > .05$; $R^2$ change = .002, $p > .05$ respectively).

**Neuroticism and Perfectionism**

Hierarchical regression analyses were also conducted in order to assess the extent to which the combination of neuroticism and perfectionism predicted both anxiety and depression. Anxiety was the criterion measure in the first analysis, and depression was the criterion measure in the second analysis. In both of the analyses, neuroticism was entered as the first step in the regression equation, followed by the three forms of perfectionism. For example, socially prescribed perfectionism was entered as the second
step, self-oriented perfectionism was entered as the third step, and other-oriented perfectionism was the fourth step.

The order in which the variables were entered into the regression equation was based on prior research (Cox et al., 1999; Kendler et al., 1995; Hayward & Authur, 1998; Hewitt & Flett, 1991a). For instance, prior research has suggested that neuroticism would account for a greater percentage of the variance in both anxiety and depression than perfectionism (Kendler et al., 1995; Hayward & Authur, 1998). In addition, socially prescribed perfectionism was entered as the second step because prior research has suggested that socially prescribed perfectionism would account for a greater proportion of the variance in both anxiety and depression than either self-oriented perfectionism or other-oriented perfectionism (Hewitt & Flett, 1991a). Finally, other-oriented perfectionism was entered as the last step because research has suggested that other-oriented perfectionism is not a significant predictor of either anxiety or depression (Hayward & Authur, 1998; Hewitt & Flett, 1991a).

The first analysis examined the extent to which both neuroticism and perfectionism predicted anxiety (see Table E6). Neuroticism was found to be a significant predictor of anxiety ($R^2 = .338$, $p < .001$), accounting for 33.8% of the total variance. Socially prescribed perfectionism was
also a significant predictor of anxiety ($R^2$ change = .029, $p = .001$), accounting for an additional 2.9% of the variance above and beyond the variance accounted for by neuroticism. Self-oriented perfectionism and other-oriented perfectionism did not add significant variance to the model ($R^2$ change = .002, $p > .05$; $R^2$ change = .001, $p > .05$ respectively).

The second hierarchical regression analysis was conducted in order to assess the extent to which the combination of neuroticism and perfectionism predicted depression, as measured by the Beck Depression Inventory (see Table E7). Neuroticism was found to be a significant predictor of depression ($R^2 = .497$, $p < .001$), accounting for 49.7% of the total variance. Socially prescribed perfectionism was also a significant predictor of depression ($R^2$ change = .023, $p < .001$), accounting for an additional 2.3% of the variance above and beyond the variance accounted for by neuroticism. Self-oriented perfectionism and other-oriented did not add any unique variance to the model ($R^2$ change = .000, $p > .05$; $R^2$ change = .000, $p > .05$ respectively).
CHAPTER FOUR
DISCUSSION

This study investigated the extent to which neuroticism and perfectionism predict both anxiety and depression. Hierarchical regression analyses revealed that neuroticism was a significant predictor of both anxiety and depression. The results also revealed that socially prescribed perfectionism was the only form of perfectionism that significantly predicted both anxiety and depression. Furthermore, it was found that neuroticism accounted for a greater proportion of the variance in anxiety and depression than the three forms of perfectionism. For instance, the results revealed that neuroticism alone accounted for 33.8% of the variance in anxiety and 49.7% of the variance in depression, while perfectionism alone accounted for 24.8% of the variance in anxiety and 30.4% of the variance in depression. These results suggest that neuroticism, a generalized negative cognitive-affective state, may reflect a larger vulnerability factor than socially prescribed perfectionism, a more circumscribed factor, in the development of problematic anxiety and depression. Although, the current study suggests both are important in the development of anxiety and depression.
Perfectionism as a Vulnerability Factor for Anxiety and Depression

One purpose of this study was to investigate the relationship between perfectionism, anxiety, and depression. Correlational analyses revealed that socially prescribed perfectionism was significantly correlated with depression ($r = .49$) and anxiety ($r = .55$). Self-oriented perfectionism also had a small but significant correlation with anxiety ($r = .29$) and depression ($r = .28$). The results in this study also revealed that other-oriented perfectionism was not significantly correlated with either anxiety or depression, which is consistent with prior research (Hewitt & Flett, 1991a; Hayward & Authur, 1998).

In addition, it was hypothesized that self-oriented perfectionism and socially prescribed perfectionism would be significant predictors of both anxiety and depression. However, the results only partially supported this hypothesis. For instance, hierarchical regression analysis revealed that socially prescribed perfectionism was a significant predictor of both anxiety and depression. Self-oriented perfectionism and other-oriented perfectionism, on the other hand, did not add any unique variance above that accounted for by socially prescribed perfectionism.
Hewitt and Flett (1991b) attempted to explain why socially prescribed perfectionism is a stronger predictor of both anxiety and depression than self-oriented perfectionism and other-oriented perfectionism. According to Hewitt and Flett, controllability and motivation are aspects of perfectionism that may contribute to the development of anxiety and depression. For example, socially prescribed perfectionists feel that they have to reach the high standards that have been set for them by others. Therefore, socially prescribed perfectionists often feel that they have no control over the high standards that are set for them, which may lead to feelings of hopelessness and anxiety when they are unable to reach these high expectations.

Self-oriented perfectionists, on the other hand, set high standards for themselves to obtain (Hewitt & Flett, 1991b). Because self-oriented perfectionists feel that they have control over the high standards that they have set for themselves, they may not experience anxiety and depression to the extent that is experienced by socially prescribed perfectionists. In fact, Hewitt and Flett suggest that self-oriented perfectionism may be adaptive because it may actually motivate a person to do well.

Other-oriented perfectionists set high standards for others to obtain (Hewitt and Flett, 1991b). In both the
present study and in prior research, other-oriented perfectionism was not significantly correlated with either anxiety or depression (Hewitt & Flett, 1991a; Hayward & Authur, 1998). One reason that other-oriented perfectionism is not related to anxiety and depression is that other-oriented perfectionists may not feel that they are to blame if others do not meet their standards. Therefore, the individual's self-worth may not be affected when other people are not perfect.

The relationship between socially prescribed perfectionism, anxiety, and depression has been found in clinical samples as well as in non-clinical samples. For instance, the results obtained in the current study are consistent with the results obtained by Hewitt and Flett (1991a), who used a clinical sample. In this study and in Hewitt and Flett's study, the results revealed that socially prescribed perfectionism was a stronger predictor of depression than the other forms of perfectionism. Furthermore, in this study, the results also revealed that socially prescribed perfectionism was the only form of perfectionism that significantly predicts anxiety. These results suggest that socially prescribed perfectionism is more maladaptive than self-oriented perfectionism and other-oriented perfectionism in both clinical and non-clinical samples.
Neuroticism and Extraversion as Vulnerability Factors for Anxiety and Depression

Another purpose of this study was to examine the relationship between neuroticism, anxiety, and depression. The results obtained in this study revealed that neuroticism was a significant predictor of both anxiety and depression, which is consistent with prior research (Jorm et al., 2000). However, the results also showed that neuroticism was a stronger predictor of depression than anxiety. Likewise, the correlational analyses revealed that neuroticism was more strongly correlated with depression ($r = .71$) than with anxiety ($r = .58$). Presumably, the reason for the stronger association between neuroticism and depression is due to the nature of neuroticism. For instance, neuroticism is defined as a pervasive negative mood state that is associated with low self esteem, worry, and guilt, which are factors that are also associated with depression (Watson & Clark, 1984).

The results obtained in this study also revealed that extraversion was a significant predictor of depression, accounting for an additional 1.3% of the variance above and beyond the variance accounted for by neuroticism. In addition, the results showed that extraversion was negatively correlated with both anxiety ($r = -.22$) and depression ($r = -.30$). Therefore, these results suggest
that low extraversion is significantly correlated with anxiety but does not account for any unique variance in anxiety above and beyond the variance accounted for by neuroticism. These results are partially consistent with the tripartite model, which proposes that low extraversion is associated with depression but not anxiety.

According to the tripartite model, anxiety is associated with high neuroticism and autonomic hyperarousal, while depression is associated with high neuroticism and low extraversion (Clark, Watson, and Mineka, 1994). Although autonomic hyperarousal was not assessed, the relationship between neuroticism, extraversion, anxiety, and depression that is found in this study is consistent with the tripartite model. For instance, the results obtained in this study showed that the interaction between neuroticism and extraversion (e.g., high neuroticism and low extraversion) was a significant predictor of depression but not anxiety. This finding is consistent with the tripartite model, which proposes that high neuroticism and low extraversion is associated with depression but not anxiety.

The finding that the interaction between neuroticism and perfectionism significantly predicted anxiety and depression is inconsistent with the results obtained by Gershuny and Sher (1998) and Jorm et al. (2000). The
discrepancy between the results obtained in this study and in Jorm et al.'s (2000) study may be due to the fact that the participants in this study are college students, while Jorm et al. used a community sample. Perhaps there is something unique about college students that may render them more vulnerable to the development of anxiety and depression than individuals who do not attend college. In addition, the discrepancy between the results obtained in this study and in Gershuny and Sher’s (1998) study may be due to the fact that Gershuny and Sher’s sample only contained college freshmen. For instance, Gershuny and Sher’s (1998) longitudinal analysis found that the interaction between neuroticism and extraversion was a significant predictor of anxiety and depression. However, the cross-sectional analysis of the data revealed that the interaction was not significant. Gershuny and Sher attempted to explain this discrepancy by suggesting that the anxiety experienced during the first year of college is situational due to factors associated with being in a new environment. Therefore, in this study, the finding that individuals with high neuroticism and low extraversion tend to develop depression but not anxiety may be explained by the fact this study did not ascertain the participants’ year in college. Perhaps many of the participants in this study may have been in college longer than a year and may
have developed resources to relieve their anxiety, which would make them less anxious than the individuals in Gershuny and Sher's study.

Implications

Although the current study utilized a college sample, this study has implications for prevention efforts with children that could be utilized by educators and parents. The results obtained in this study suggest that encouraging children to develop their own standards and expectations may be more adaptive than passively adopting the standards and expectations of others. This more passive adoption of standards may render children vulnerable to problematic anxiety and depression. Although conforming to social expectations is required in some situations, educators and parents should also encourage children to be self-oriented and set realistic standards for themselves to attain.

There are several ways in which the educational system encourages children to conform to social expectations. For example, when a teacher assigns a letter grade to a child's schoolwork, the child learns that his/her performance needs to meet the teacher's expectations in order to receive a passing grade. Furthermore, standardized achievement testing also conveys to children the importance of social expectations by comparing the performance of each child to the performance of other children in that grade level. In
these instances, children are taught that conforming to other's expectations is more important than setting standards for oneself to reach. Therefore, prevention strategies aimed at helping educators work with children to set goals for themselves may alleviate anxiety and depression in children. For instance, teachers may find that helping a child identify how well he wants to perform in a class and helping him set reasonable goals to meet his own standards may be beneficial.

In addition, parents may also convey to children the importance of meeting social expectations. For instance, some parents have unreasonably high expectations for their children to meet. The results in this study suggest that when children fail to meet their parents' high expectations, they may become anxious and depressed. Therefore, prevention strategies should also be aimed at encouraging parents and children to work together to develop realistic goals for children to reach. For example, allowing a child to take an active role in establishing rules at home may teach the child the importance of setting standards for oneself and a sense of control in dealing with life's challenges.
Limitations and Directions
For Future Research

Although this study provides useful information about the intervention and prevention of anxiety and depression in children, the results may be limited due to the participant sample. Because the participant sample consists of undergraduate college students, the results may not generalize to other populations. Therefore, future studies may want to examine the extent to which neuroticism and perfectionism predict both anxiety and depression in community samples and in children.

Another limitation of this study is that there are more females than males in the participant sample. Prior research suggests that there are gender differences associated with anxiety. For instance, Canals et al. (1992) found that between the ages of 11 and 15, state-anxiety increase in girls but not boys. Furthermore, during that same four-year period, trait-anxiety decreased in boys, but did not vary in girls. Canals et al. suggests that adolescent girls may be more anxious because they have a greater need for social approval than boys. Therefore, the results obtained in this study may be affected by the larger female representation in the participant sample. Future studies may want to use a gender balanced sample in order to assess if the results obtained in the current study are as applicable to males as females.
APPENDIX A:

BECK ANXIETY INVENTORY
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 (0-3) after each symptom.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Not at All</th>
<th>Mildly, it did not bother me much</th>
<th>Moderately, it was very unpleasant but I could stand it</th>
<th>Severely, I could barely stand it</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Numbness or tingling:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Feeling hot:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Wobbliness in legs:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Unable to relax:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Fear of the worst happening:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Dizzy or lightheaded:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Heart pounding or racing:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Unsteady:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Terrified:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Nervous:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. Feeling of choking:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. Hands trembling:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. Shaky:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. Fear of losing control:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Not at all</td>
<td>Mildly, it did not bother me much</td>
<td>Moderately, it was very unpleasant but I could stand it</td>
<td>Severely, I could barely stand it</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------</td>
<td>----------------------------------</td>
<td>--------------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>15. Difficulty breathing:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. Fear of dying:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. Scared:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. Indigestion or discomfort in abdomen:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. Faint:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. Face flushed:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21. Sweating (not due to heat):</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX B:

BECK DEPRESSION INVENTORY
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 guilty most of the time.
   3 I feel guilty all of the time.

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

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

8. 0 I don’t feel I am any worse than 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 have not lost interest in other people.
    1 I am less interested in other people than I used to be.
    2 I have lost most of my interest in other people.
    3 I have lost all my interest in other people.

11. 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.

12. 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.

13. 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.

14. 0 I can sleep as well as usual.
    1 I don’t sleep as well as I used to.
    2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
    3 I wake up several hours earlier than I used to and cannot get back to sleep.
15. 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.

16. 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.

17. 0 I don’t cry any more than usual.
    1 I cry more now than I used to.
    2 I cry all the time now.
    3 I used to be able to cry, but now I can’t cry even though I want to.

18. 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.

19. 0 I haven’t lost much weight, if any, lately.
    1 I have lost more than 5 pounds.
    2 I have lost more than 10 pounds.
    3 I have lost more than 15 pounds.
    I am purposely trying to lose weight by eating less: Yes No
20. 0 I am 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 thing about anything else.

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

EYSENCK PERSONALITY INVENTORY
INSTRUCTIONS

Here are some questions regarding the way you behave, feel and act. After each question is a space for answering “Yes,” or “No.”

Try and decide whether “Yes,” or “No” represents your usual way of acting or feeling. Then blacken in the space under the column headed “Yes” or “No.”

Work quickly, and don’t spend too much time over any question; we want your first reaction, not a long drawn-out thought process. The whole questionnaire shouldn’t take more than a few minutes. Be sure not to omit any questions. Now turn the page over and go ahead. Work quickly, and remember to answer every question. There are no right or wrong answers, and this isn’t a test of intelligence or ability, but simply a measure of the way you behave.

1. Do you often long for excitement? Yes No

2. Do you often need understanding friends to cheer you up? Yes No

3. Are you usually carefree? Yes No

4. Do you find it very hard to take no for an answer? Yes No

5. Do you stop and think things over before doing anything? Yes No

6. If you say you will do something do you always keep your promise, no matter how inconvenient it might be to do so? Yes No

7. Does your mood often go up and down? Yes No

8. Do you generally do and say things quickly without stopping to think? Yes No

9. Do you ever feel “just miserable” for no good reason? Yes No

10. Would you do almost anything for a dare? Yes No

11. Do you suddenly feel shy when you want to talk to an attractive stranger? Yes No
12. Once in a while do you lose your temper and get angry?........... Yes No
13. Do you often do things on the spur of the moment?................. Yes No
14. Do you often worry about things you should not have done or said?................................. Yes No
15. Generally do you prefer reading to meeting people?.............. Yes No
16. Are your feelings rather easily hurt?................................. Yes No
17. Do you like going out a lot?........................................... Yes No
18. Do you occasionally have thoughts and ideas that you would not like other people to know about?................................. Yes No
19. Are you sometimes bubbling over with energy and sometimes very sluggish?................................. Yes No
20. Do you prefer to have few but special friends?.................... Yes No
21. Do you daydream a lot?.................................................... Yes No
22. When people shout at you, do you shout back?..................... Yes No
23. Are you often troubled about feelings of guilt?................... Yes No
24. Are all your habits good and desirable ones?..................... Yes No
25. Can you usually let yourself go and enjoy yourself a lot at a lively party?................................. Yes No
26. Would you call yourself tense or “highly-strung”?............. Yes No
27. Do other people think of you as being very lively?............. Yes No
28. After you have done something important, do you often come away feeling you could have done better?................... Yes No
29. Are you mostly quiet when you are with other people?........ Yes No
30. Do you sometimes gossip?............................................... Yes No
31. Do ideas run through your head so that you cannot sleep?...... Yes No
32. If there is something you want to know about, would you rather look it up in a book than talk to someone about it?..... Yes No
33. Do you get palpitations or thumping in your heart?................. Yes No
34. Do you like the kind of work they you need to pay close attention to?................................................................. Yes No
35. Do you get attacks of shaking or trembling?...................... Yes No
36. Would you always declare everything at the customs, even if you knew that you could never be found out?......................... Yes No
37. Do you hate being with a crowd who play jokes on one another? Yes No
38. Are you an irritable person?.............................................. Yes No
39. Do you like doing things in which you have to act quickly?..... Yes No
40. Do you worry about awful things that might happen?........... Yes No
41. Are you slow and unhurried in the way you move?.............. Yes No
42. Have you ever been late for an appointment or work?.......... Yes No
43. Do you have many nightmares?......................................... Yes No
44. Do you like talking to people so much that you would never miss a chance talking to a stranger?................................. Yes No
45. Are you troubled by aches and pains?................................ Yes No
46. Would you be very unhappy if you could not see lots of people most of the time?......................................................... Yes No
47. Would you call yourself a nervous person?........................ Yes No
48. Of all the people you know are there some whom you definitely do not like?............................................................. Yes No
49. Would you say that you were fairly self-confident?.............. Yes No
50. Are you easily hurt when people find fault with you or your work?........................................................................ Yes No
51. Do you find it hard to really enjoy yourself at a lively party?... Yes No
52. Are you troubled with feelings of inferiority?.................... Yes No
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<tr>
<th></th>
<th>Question</th>
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<th>No</th>
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<tr>
<td>53</td>
<td>Can you easily get some life into a rather dull party?</td>
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<td></td>
</tr>
<tr>
<td>54</td>
<td>Do you sometimes talk about things you know nothing about?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Do you worry about your health?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Do you like playing pranks on others?</td>
<td></td>
<td></td>
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<td>57</td>
<td>Do you suffer from sleeplessness?</td>
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APPENDIX D:
MULTIDIMENSIONAL PERFECTIONISM SCALE
EDUCATION (number of years): ___________   OCCUPATION: ___________

Sex: M or F                                  MARITAL STATUS: ________

AGE: _________

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 neutral or undecided the midpoint is 4.

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<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Agree</th>
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<tr>
<td>1. When I am working on something, I cannot relax until it is perfect.</td>
<td>1 2 3 4 5 6 7</td>
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</tr>
<tr>
<td>2. I am not likely to criticize someone for giving up to easily.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>3. It is important that the people I am close to are successful.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>4. I seldom criticize my friends for accepting second best.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>5. I find it difficult to meet others’ expectations of me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>6. One of my goals is to be perfect in everything I do.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>7. Everything that others do must be of top-notch quality.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>8. I never aim for perfection in my work.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>9. Those around me readily accept that I can make mistakes too.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>10. 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>
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<tr>
<td>11. The better I do, the better I am expected to do.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>12. I seldom feel the need to be perfect.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>13. 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>
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<tr>
<td></td>
<td>1</td>
<td>2</td>
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<td>---</td>
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<tr>
<td>14. I strive to be as perfect as I can be.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>15. It is important that I am perfect in everything I attempt.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>16. I have high expectations for the people who are important to me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>17. I strive to be the best at everything I do.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>18. The people around me expect me to succeed at everything I do.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>19. I do not have very high standards for those around me.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>20. I demand nothing less than perfection of myself.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>21. Others will like me even if I don’t excel at everything.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>22. I can’t be bothered with people who won’t strive to better themselves.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>23. It makes me uneasy to see an error in my work.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>24. I do not expect a lot from my friends.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>25. Success means that I must work even harder to please others.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>26. If I ask someone to do something, I expect it to be done flawlessly.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>27. I cannot stand to see people close to me make mistakes.</td>
<td>1 2 3 4 5 6 7</td>
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<tr>
<td>28. I am perfectionistic in my goals.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>29. The people who matter to me should never let me down.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>30. Others think I am okay, even when I do not succeed.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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<tr>
<td>31. I feel that people are too demanding of me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>32. I must work to my full potential at all times.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
33. Although they may not show it, other people get very upset with me when I slip up.  

34. I do not have to be the best at whatever I am doing.  

35. My family expects me to be perfect.  

36. I do not have very high goals for myself.  

37. My parents rarely expected me to excel in all aspects of my life.  

38. I respect people who are average.  

39. People expect nothing less than perfection from me.  

40. I set very high standard for myself.  

41. People expect more from me than I am capable of giving.  

42. I must always be successful at school or work.  

43. It does not matter to me when a close friend does not try their hardest.  

44. People around me think I am still competent even if I make a mistake.  

45. I seldom expect others to excel at whatever they do.
APPENDIX E:
TABLES FOR THE CORRELATIONAL ANALYSES AND
THE HIERARCHICAL REGRESSION ANALYSES
Table 1

Correlations Among the Dimensions of Perfectionism, Anxiety, Depression, Neuroticism, and Extraversion

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Note. MPS = Multidimensional Perfectionism Scale; Self = Self-Oriented Perfectionism; Other = Other-Oriented Perfectionism; Social = Socially Prescribed Perfectionism; BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory; EPI-N = Eysenck Personality Inventory-Neuroticism Scale; EPI-E = Eysenck Personality Inventory-Extraversion Scale.

** p < .05
Table 2

Hierarchical Regression for Neuroticism, Extraversion, and the Interaction Between Neuroticism and Extraversion as Predictors of Anxiety

<table>
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<th>Variable Entered</th>
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<th>$R^2$ change</th>
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### Table 3

**Hierarchical Regression for Neuroticism, Extraversion, and the Interaction Between Neuroticism and Extraversion as Predictors of Depression**

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Table 4

Hierarchical Regression for the Dimensions of Perfectionism as Predictors of Anxiety

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Hierarchical Regression for the Dimensions of Perfectionism as Predictors of Depression

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Hierarchical Regression for Neuroticism and the Dimensions of Perfectionism as Predictors of Anxiety

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Hierarchical Regression for Neuroticism and the Dimensions of Perfectionism as Predictors of Depression

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