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Anxiety, depression, and coping in the elderly

Sara Fairchild-Ollivierre

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ANXIETY, DEPRESSION, AND COPING IN THE ELDERLY

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

by
Sara Fairchild-Ollivierre

June 2000
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Abstract

This study was an attempt to delineate possible differences between 66 residential dwelling undergraduate students for observed or the symptom measures of anxiety, depression. There were no differences between older groups on depression, however, lower anxiety and worry were found in the elderly group, group differences were examined for coping measures (i.e., cognitive coping and perceived problem solving ability). Results indicated that the elderly demonstrated significantly greater cognitive coping skills than that of the younger sample. However, no significant differences were found on the problem solving measure. Group differences were also studied on subjects' family history of anxiety and depression, medical symptoms, and external locus of control. The younger sample reported significantly more family members with a history of both anxiety and depression. As expected, the elderly sample reported significantly more medical symptoms.
Hierarchical Regression Analyses were conducted to examine the predictive power of family history of anxiety and depression, medical symptoms, cognitive coping, problem solving ability, and external locus of control on anxiety, worry and depression. Results indicated a significant proportion of the variance was accounted for by cognitive coping skills in both the elderly and the young on anxiety, worry, and depression. Unique to the older sample, external locus of control accounted for a significant proportion of the variance as a predictor of anxiety. Revealing that solely for the elderly sample, externality of control of one's environment would result in greater anxiety. Results are discussed in relation to observed lower prevalence rates in the elderly.
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CHAPTER ONE

Introduction

By the year 2020, eight of the nation's most populous states are expected to double their elderly populations, 19 states will have more than one million elderly residents (Census Bureau, 1996). With elderly population estimates increasing nearly 20% over the next two decades, age-sensitive assessment and treatment of psychological disorders will be crucially needed for an increasingly aged population. Studies have indicated that anxiety disorders are less common in the elderly as compared to younger samples (Bland, Newman, & Orn, 1988; Flint, 1994; Regier, Boyd, Burke, Rae, Myers, Kramer, Robins, George, Karno, & Locke, 1988; Schneider, 1996; Uhlenhuth, Balter, Mellinger, Cisin, & Clinthorne, 1983). However, anxiety prevalence rates have varied from .7% in a New York community sample (Copeland, Gurland, Dewey, Kelleher, Smith, & Davidson, 1987), 10.2% in a National United States Survey of Psychotherapeutic Drug Use study (Uhlenhuth, et al., 1983), and 15% in a London community study of individuals aged 65 and over (Manela, Katona, & Livingston, 1996). Nonetheless these prevalence rates are lower than those reported for younger samples. Despite these prevalence rates and the
considerable negative impact of anxiety disorders, this area of psychopathology has received much less attention than the study of depression and dementia in the elderly (Barlow, 1988; Flint, 1994). Specifically, no studies have examined explanatory hypotheses related to the observed lower anxiety prevalence rates in the elderly.

To date there have been 6 community sample studies examining anxiety disorders in the elderly. Three of these studies looked at individuals aged 18 and older, in different age categories, including the elderly (Regier, Boyd, et al., 1988; Bland, et al., 1988; Uhlenhuth, et al., 1983). The remaining three studies examined data from the elderly only (Copeland, Dewey, Wood, Searle, Davidson, & McWilliam, 1987; Copeland, et al., 1987; Lindesay, Briggs, & Murphy, 1989).

The Epidemiological Catchment Area (ECA) study examined prevalence rates for three anxiety disorders including panic disorder, phobias, and obsessive-compulsive disorder. Data was gathered from a sample of 18,571 non-institutionalized adults in five sites within the United States. The National Institute of Mental Health Diagnostic Interview Schedule (DIS) was used in determining prevalence rates using DSM-III criteria. Diagnoses of disorders were
made without hierarchical restrictions yielding higher estimates of prevalence rates. For individuals over age 65 (n = 5,702) overall one-month anxiety prevalence rates were found to be 5.5%, a lower prevalence rate than all other age groups (Regier, Narrow, & Rae, 1990; Regier, Boyd, et al., 1988). Further, this study revealed prevalence rates for mood disorders to be lower in the elderly (2.5%) than in all other age groups.

The Edmonton study (Bland, et al., 1988) like the EGA study, surveyed a community sample (n = 3,258) for the same three anxiety disorders over a six month period. As in the EGA study, individuals age 65 and older (n = 358), overall prevalence rates of anxiety disorders were found to be lower (3.5%) as compared to subjects of all other ages (6.5%). Additionally, as in the EGA study, this study revealed that affective disorders were lower for the elderly (3.8%) than for all other age groups (5.7%).

The 1979 National Survey of Psychotherapeutic Drug Use study (Uhlenhuth, et al., 1983) administered the Hopkins Symptom Checklist to 3,161 individuals aged 18-79. This study examined hierarchical symptom presentation of agoraphobic-panic disorder, generalized anxiety disorder, and other phobias. Total anxiety prevalence rates for the
elderly group aged 65 and older (n = 442) was 10.2%, slightly higher than the 9.9% for all other subjects. This overall higher prevalence rate of anxiety for the elderly was accounted for by a high rate of generalized anxiety disorder in this group (7.1%), which was not studied in either the Edmonton or ECA studies. The prevalence rates for GAD increased with age. Prevalence rates for major depression were 4.4% for ages 18-24, 6.4% for ages 25-44, 5.2% for ages 45-64, and 2.5% aged 65 and over.

In a study of the elderly, a sample of 1,911 adults in Liverpool (Copeland, Dewey, et al., 1987), London, and New York (Copeland, Gurland, et al., 1987) were examined for 1 month prevalence rates of phobias, generalized anxiety disorder, and obsessive-compulsive disorder using the AGECAT computer diagnosis and the Geriatric Mental State interview. The AGECAT is a hierarchical diagnostic system composed of eight diagnostic clusters with phobic and nonphobic anxiety comprising the bottom two levels of the hierarchy. The clusters are defined by confidence levels of 0-5, where levels 1 and 2 are "subcases", and level 3 or above is a "case". Total anxiety rates varied from .7% for the New York sample to 1.7% in London (Copeland, Gurland, et al., 1987) to 1.9% in Liverpool (Copeland, Dewey, et
al., 1987). These anxiety prevalence estimates are lower than those reported for the elderly in the ECA and Edmonton studies. However, the prevalence rates for depression was 16.2% in New York, 19.4% in London, and 11.3% in Liverpool. These depression prevalence rates were considerably higher than those reported in the ECA and Edmonton studies. These data must be considered with caution, as the AGECAT program is a computer-generated diagnostic system based upon DSM criteria.

In the Guy's/Age Concern Survey (Lindesay, et al., 1989) an elderly sample of 890 individuals aged 65 and older in London were studied to measure generalized anxiety, agoraphobia, and specific phobias. Structured interviews were used based upon the Present State Examination, the Comprehensive Assessment Referral Evaluation Schedule, and the Geriatric Mental State Interview. Total prevalence rates for generalized anxiety were 3.7% and total prevalence rates for phobic disorders were 10%.

A 1998 study of 966 elderly individuals in Sweden with a mean age 84.2, examined prevalence rates for feelings of anxiety (i.e., anxiety symptoms that did not meet full criteria for an anxiety disorder diagnosis), anxiety, and
depressive disorders (Forsell & Winblad, 1998). A structured psychiatric interview was used and conducted by physicians using the Comprehensive Psychopathological Rating Scale (CPRS), the Swedish version of the Mini-Mental State Examination (MMSE) was used as a global measure of cognitive functioning, and dementia diagnosis were made using the DSM-III-R. Three groups were formed for psychiatric diagnosis; depressive, psychotic, and anxiety disorders, all based on definitions from the DSM-IV. Anxiety disorders assessed in this study included panic disorders with and without agoraphobia, agoraphobia without a history of panic disorder, generalized anxiety disorder, post-traumatic stress disorder, social phobia, and obsessive compulsive disorder. The prevalence rates for anxiety disorders were 3.2%. When sub-threshold cases were examined (i.e., feelings of anxiety), prevalence rates increased from 3.2% to 24.4%. Prevalence rates for depressive disorders were 5.4%, a figure similar to the younger sample in the ECA study.

Although these studies utilized different samples (i.e., elderly samples only, elderly and younger samples combined) and different diagnostic procedures, data from these studies suggest lower prevalence rates of anxiety and
possibly depression for the elderly. One must interpret these results with caution due to several methodological factors such as survey methods, arbitrary case definition, or a hierarchical versus non-hierarchical approach to diagnosis (Flint, 1994). Each of these factors could influence the magnitude of prevalence rates found in a given study. For example, in the Copeland, Dewey, et al. (1987) and Copeland, Gurland, et al., (1987) studies of the elderly, diagnostic significance was arbitrarily defined as level 3 or higher. If sub-cases at level 2 were considered diagnostically significant, the prevalence rates for generalized anxiety disorder in the elderly would dramatically increase from nearly 1% to 16% in each of the three sites examined. Another possible reason for differences in anxiety prevalence rates between the elderly and younger groups may be due to the underreporting or denial of psychological symptoms by the elderly (Lasoski, 1986). Similarly, Small (1997) states that geriatric anxiety is often disguised as a variety of physical symptoms and psychological difficulties are often perceived as medical conditions.

Prevalence estimates in the elderly also may be affected by the application of DSM IV criteria that was
developed from studies of younger adults. It is possible, that age-specific criteria sets for the elderly would affect prevalence rates. Another factor complicating the assessment of anxiety in both the elderly and younger groups is the high comorbidity of anxiety and depression. The ECA study (Regier, Narrow, & Rae, 1990) reports occurrence of anxiety in 33% of adults who have a depressive disorder, and for those with anxiety disorders 21% experience depression. In the Guys/Age Concern Survey (Lindesay, et al., 1989) up to 39% of the elderly phobic subjects also experienced depression, compared with only 11% of the elderly nonphobic subjects.

In the majority of studies done to date it has been shown that anxiety prevalence rates for the elderly are considerably lower than for younger samples (Regier, Boyd, et al., 1988; Bland, et al., 1988, & Uhlenhuth et al., 1983). This counterintuitive finding leads us to explore possibilities that may account for these rates beside the methodological factors that may interfere with the findings. One such possibility is that older adults possess a greater base of experience and are therefore able to appraise and evaluate potential threats more realistically than their younger counterparts (Beck &
Stanley, 1997). It has also been suggested that habituation over the years and a larger experiential frame from which to evaluate potential threats may result in lower overall rates of anxiety in the elderly (Borkovec, 1988). Another possibility is that the elderly successfully ward off anxiety with effective behavioral and cognitive coping strategies (Wisocki, 1998). It has been suggested that the relationship between stressful events and psychological symptoms are mediated by processes of behavioral and cognitive coping (Folkman, Lazarus, Gruen, & DeLongis, 1986).

A study was conducted to examine this relationship between coping processes and appraisal across stressful encounters (Folkman, et al., 1986). The relationship between coping and long-term somatic health and psychological health was examined. This study focused on the primary (an individual’s evaluation of a situation being threatening or non-threatening) and secondary (an individual’s perceived ability to cope with a stressor) appraisal and coping processes across different occasions and how these processes may impact long-term adaption status. Seventy-five couples were interviewed separately once a month for 6 months in their homes where a
reconstruction of a stressful event during the previous week was analyzed. Both interviews and questionnaires were used to assess primary and secondary appraisal, coping, and personality characteristics (e.g., a sense of personal mastery and interpersonal trust). These variables were analyzed in relation to psychological and somatic health symptoms. Results indicated that appraisal and coping processes along with the personality variables had a significant negative relationship with psychological symptoms. Additional significant negative correlations were revealed between psychological symptoms and the personality factors of mastery (the extent to which one regards one's life chances as being under their own control rather than powerless to control their fate) and interpersonal trust (the degree to which an individual trusts others).

The problem solving model posits that the interaction of negative life events, current problems, and problem solving directly influence depression. This model has also been shown to be related to anxiety as indicated in two studies (Nezu, 1986a, 1986b). In Nezu's study (1986a) stressful effects of self-defined problematic situations were examined for their consequent effect on depressive and
anxiety symptoms. Subjects were 129 undergraduate college students. Depressive symptoms were measured with the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), state anxiety was measured using the State-Scale of the State-Trait Anxiety Inventory (STAI-Form X; Spielberger, Gorsuch, & Lushene, 1970), negative life stress and current problems were also assessed. The results of the analyses indicated that the stress associated with current problematic situations was found to be a significant predictor of both depressive and anxiety symptoms. Nezu (1986b) further studied the moderating role of social problem solving would serve in relation to both state and trait anxiety. This study found through regression analyses that both negative life stress and problem solving were significant predictors of state anxiety. Further this study revealed the mediating function between negative life stress and both State- and Trait- Anxiety.

Miner & Dowd, 1996 examined the relationship between problem solving, negative life events, and psychological symptoms. In this study, predictors such as negative life events, current problems, and problem solving were examined for their effect on psychological symptoms of depression.
and anxiety. Miner & Dowd, 1996 examined 278 graduate students (mean age 35.2), assessing negative life events with the Life Experience Survey (LES), current problems were assessed using the Daily Hassles Scale (DHI), and the Problem Solving Inventory (PSI) was used in assessing problem solving strategies. The Differential Anxiety and Depression Inventory (DADI) was used in assessing the criterion variables of depression and anxiety. This study revealed that current problems and anxiety were positively correlated while problem solving and anxiety were negatively correlated. In other words, when individuals used problem-solving strategies, a decrease in anxiety was experienced. The results of this study also found similar relationships for depression and problem solving. The results of these studies suggest that there is some mediating quality of coping response, appropriate appraisal, and problem solving capability on attenuation of long-term psychological symptoms.

The current study is an attempt to delineate the factors responsible for lower observed prevalence rates in the elderly. Specifically, the current study will examine the differences in coping strategies utilized by elderly and a younger control group. Additionally, the current
study will examine the predictive quality of behavioral and cognitive coping mechanisms (e.g., problem solving behaviors, factors of constructive thinking, and locus of control) in attenuating the prevalence of anxiety, worry and depression in both the elderly and a younger control group.

**Hypotheses**

**Group Differences**

Group differences between the elderly and the young samples will be examined via several T-test analyses. A Bonferroni, family wise correction will be utilized to reduce type I error.

1a. It is predicted that the elderly sample will report significantly less anxiety than the younger sample as measured by the Beck Anxiety Inventory (BAI; Beck Epstein, Brown, & Steer, 1988).

1b. It is predicted that the elderly sample will report significantly less depression than the younger sample as measured by the Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979).

2. Although the literature is equivocal in this area, it is predicted that the elderly will report significantly greater worry than that of the younger sample as measured
by the Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger & Borkovec, 1990)

3. It is predicted that the elderly sample will report significantly greater cognitive coping skill as measured by the Constructive Thinking Inventory (CTI; Epstein & Meier, 1989) and significantly greater perceived problem solving ability as measured by the Problem Solving Inventory (PSI; Heppner & Peterson, 1982) than the younger sample.

4. As the elderly have reported less anxiety than their younger counterparts, it is predicted that the elderly sample will report significantly less external locus of control as measured by the Locus of Control Scale (I-E Scale: Rotter, 1966) than the younger sample.

Predictors of Anxiety and Depression

5. Based on the literature cited, it is predicted that in the elderly sample, behavioral coping, cognitive coping, family history, and locus of control will account for a significant proportion of the variance associated with symptoms of general anxiety, depression and worry.

6. It is predicted that for the younger sample, behavioral coping, cognitive coping, family history and locus of control will each account for a significant
proportion of the variance associated with symptoms of anxiety, depression, and worry. However, the coping and locus of control variables will account for less variance in the younger sample than that of the elderly sample.

**Method**

**Participants**

Participants were 66 older adults (ages 66-94; M = 75.94, SD = 7.46) living in residential communities in Southern California. The older sample consisted of 49 females and 17 males. This sample was comprised of 57 Caucasians, 2 Asian Americans, 4 Native Americans, and 2 Other Ethnicity. The older sample was compared to a group of 88 younger adults (ages 18-49; M = 25.48, SD = 8.90) who were undergraduate students from California State University, San Bernardino. The younger sample consisted of 74 females and 14 males. This sample was comprised of 49 Caucasians, 8 Asian Americans, 16 Hispanic Americans, 6 African Americans, and 9 Other Ethnicity.

**Measures**

1. Beck Anxiety Inventory (BAI: Beck, Epstein, et al., 1988). The BAI is a 21 item self-report measure designed to assess levels of anxious symptoms. The following are the subscale clusters measured with the BAI:
Neurophysiological, Subjective, Panic, and Autonomic.

Symptoms that are 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 hardly stand it"). Scores range from 0-63, with scores of 0-7 reflecting a minimal level of anxiety; 8-15 mild; 16-25 moderate, and scores ranging from 26-63 reflect severe levels of anxiety. The BAI has high internal consistency (alpha = .92), and test-retest reliability, $r (81) = .75$ (see Appendix A).

2. Beck Depression Inventory (BDI: Beck, Rush, et al., 1979). The BDI is a 21 item self-report inventory that is designed to measure levels of depression. A Likert-type scale is used with ratings 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, when used with non-psychiatric populations the mean alpha coefficient is .81 (see Appendix H).

3. Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990) will be used to assess individual’s typical tendency to worry and the excessiveness or intensity of the worry experience. The
PSWQ is composed of 16 Likert-type items on which low scores indicate less worry over time and situations and less excessive worry. The PSWQ has high internal consistency alpha = .92, test-retest reliabilities ranging from .75 - .86, the scale is not influenced by social desirability (see Appendix E).

4. Demographics Sheet (Lewin & Hartley, 1999) designed to measure the family history of anxiety and depression. Participants will be asked to report if they or anyone in their immediate family has ever experienced, been formally diagnosed with, or received treatment for anxiety/depression. Participants will be asked to indicate whether this relative is a biological, step or adoptive relative in order to determine genetic influence of these disorders. Participants will also be asked how many times in a given month they interact, in person, with relatives/and or friends (see Appendix D). In addition, participants will be instructed to indicate any current medications taken and frequency (see Appendix C).

5. The Constructive Thinking Inventory (CTI; Epstein & Meier, 1989) is a 52-item inventory that is 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 that correspond to six different coping styles. These scales are as follows: Emotional Coping (CTI-EC; alpha = .85), Behavioral Coping (CTI-BC; alpha = .84), Categorical Thinking (CTI-CT; alpha = .70), Superstitious Thinking (CTI-ST; alpha = .73), Naive Optimism (CTI-NO; alpha = .67), and Constructive Thinking Total (CTI-Total; alpha = .73). A five-item built-in validity scale in the CTI eliminates random responding (see Appendix G).

6. Locus of Control (I-E Scale; Rotter, 1966) is a 20 item forced choice (a or b) scale including six filler items, designed to assess for an external versus internal locus of control. The I-E Scale has good internal consistency, r (100) = .73, and adequate test-retest reliability, r (60) = .72 (see Appendix B).

7. Problem-Solving Inventory (PSI; Heppner & Peterson, 1982) will be used to measure participants' perceptions of their problem solving behaviors and attitudes. The PSI is composed of 32 six point Likert-type items on which low scores indicate endorsement of attitudes and behaviors that are associated with effective problem solving. This inventory measures three factors including Problem Solving Confidence (PSI-Con), Approach-Avoidance
Style (PSI-AA), and Personal Control (PSI-PC) in problem solving situations. Additionally, a total perceived problem-solving score (PSI-Total) can be calculated. The PSI is not intended to measure actual problem solving skills, however it does measure one’s perceived problem solving ability. The PSI has good internal consistency alpha = .90, test-retest reliability ranging from .83-.89 and the scale is not affected by a social desirability response set (see Appendix F).

Procedure

The questionnaire was given to the elderly community residents in a manila envelope packet to fill out at their leisure over a two-week period. Special considerations were made for the elderly with vision, writing, or other difficulties that may prevent them from filling out the questionnaires on their own. Additionally, questionnaires were constructed with a larger font size for ease of completion for the elderly population. Upon completion, the instructions stated to seal the manila envelope to be retrieved after the two-week period. Included in the packet was an informed consent sheet that each resident signed and returned with the packet. Data on the younger sample had been collected at an earlier date and was used
as contrasting information for the study. Anonymity was assured to all participants who partook in the proposed research.

CHAPTER TWO
Results

Group Differences

Integrity of the Groups

A T-test on age, comparing the young \((M = 25.48, SD = 8.90)\) and older \((M = 75.94, SD = 7.46)\) samples was conducted to assess the validity of the two age groups. The groups differed significantly on age, \(t(151) = -40.15, p < .001\). Further group comparisons were then conducted on these two distinct age groups.

Symptom Measures

A series of t-tests assessing group differences were conducted (see Table 1). A Bonferroni, family wise correction was utilized to reduce type I error. As predicted for totals on the Beck Anxiety Inventory (BAI; Beck Epstein, Brown, & Steer, 1988) the young sample \((M = 10.94, SD = 10.75)\) reported having significantly more anxiety than did the elderly sample \((M = 6.70, SD = 5.62)\), \(t(152) = 3.18, p < .01\). No significant group differences were found for the Beck Depression Inventory (BDI: Beck,
In contrast to predictions, the younger group reported significantly greater worry as measured by the PSWQ (M = 43.51, SD = 10.54) than the elderly group (M = 36.58, SD = 12.20), t(151) = 3.77, p < .001 (see Table 1).

Coping Measures

The elderly group reported significantly greater levels of cognitive coping (M = 66.72, SD = 10.58) as measured by the CTI than did the younger sample (M = 59.26, SD = 12.80), t(151) = -3.95. Likewise, the elderly group reported greater emotional coping (t(151) = -3.75, p < .001) and behavioral coping (t(151) = -2.96, p < .01) than the younger group (see Table 2). There were no significant differences on the remaining sub-scales of the CTI.

No significant group differences were found for the participants' perceptions of their problem solving behaviors and attitudes as measured by the Problem Solving Inventory (see Table 2).

Family History, Medical Symptoms, and Locus of Control

Family History of Anxiety and Depression

A series of T-test analyses revealed that the elderly sample reported having less family members with problematic
anxiety ($t(151) = 3.99, p < .001$) and depression ($t(151) = 5.63, p < .001$) than the younger sample (see Table 3).

**Medical Symptoms**

T-test analyses indicated that the elderly group reported significantly more medical symptoms ($t(151) = -6.17, p < .001$) than the younger group (See Table 3).

**External Locus of Control**

No significant group differences were found for participants' assessments of external versus internal locus of control as measured by the I-E Scale (Rotter, 1966) (see Table 3).

**Hierarchical Regression Analyses**

Hierarchical Regression Analyses were utilized to examine the predictive power of Family History, Medical Symptoms, and Coping Variables on anxiety, depression, and worry. Specifically, for anxiety, depression, and worry, family history of anxiety, medical symptoms, cognitive coping, perceived problem solving, and external locus of control were entered into hierarchical regression model.

Family history of anxiety was entered into the regression model first, medical symptoms were entered at the second step, cognitive coping third, followed by perceived problem solving ability, and external locus of control.
control was entered last. Both family history of anxiety and medical symptoms were entered into the model first to provide a more stringent test of the predictive value of cognitive coping, problem solving and external locus of control above and beyond the better established predictive factors of family history and medical symptoms. Coping measures, (i.e., cognitive coping and problem solving) were entered into the model at the third and fourth steps respectively as these measures have been shown to correlate strongly with mood symptoms. Locus of control was entered at the fifth step, as this measure has less reliably been correlated with mood.

Predictors of Anxiety in the Elderly and the Young Samples

Anxiety - Elderly

Hierarchical regression analyses were conducted to examine how well anxiety in the elderly group (as measured by the BAI) was predicted by the chosen predictor variables (i.e., family history of anxiety, medical symptoms, cognitive coping, perceived problem solving, and external locus of control; see Table 4). Family history was not found to be a significant predictor of anxiety ($R^2 = .002$, $p > .10$).
Medical symptoms were entered at step two. Medical symptoms were found to be a significant predictor of anxiety in the elderly ($R^2$ Change = .157, $p < .01$). This variable accounted for an additional 15.7% of the variance. Cognitive coping was entered at step three and approached significance as a predictor of anxiety ($R^2$ Change = .044, $p < .10$), accounting for an additional 4.4% of the variance.

Problem solving was entered at step four, and was not a significant predictor of anxiety ($R^2$ Change = .000, $p > .10$). External locus of control was entered at step five and was a significant predictor of anxiety ($R^2$ Change = .056, $p < .05$) and accounted for 5.6% of the variance. The total explained variance for the model was 25.9%.

**Anxiety - Young**

Hierarchical regression analyses were conducted to examine how well anxiety in the young sample (as measured by the BAI) was predicted by the chosen predictor variables (i.e., family history of anxiety, medical symptoms, cognitive coping, perceived problem solving, and external locus of control) (see Table 5). Family history of anxiety was entered first and was found to be a significant predictor of anxiety ($R^2 = .143, p < .01$), accounting for 14.3% of the variance. The second step was medical
symptoms and this variable was also found to be a significant predictor of anxiety for the young \( (R^2 \text{ Change} = .196, p < .01) \), accounting for an additional 19.6% of the total explained variance. Cognitive coping was entered at step three and was found to be a significant predictor of anxiety \( (R^2 \text{ Change} = .094, p < .01) \), this variable accounted for an additional 9.4% of the variance.

Perceived problem solving and external locus of control were entered at steps four and five respectively and were not found to be significant predictors of anxiety for the young \( (R^2 \text{ Change} = .008, p > .10 \& R^2 \text{ Change} = .003, p > .10 \) respectively). The total explained variance for the model was 44.5%.

Predictors of Depression in the Elderly and the Young Samples

Depression – Elderly

Hierarchical regression analyses were conducted to examine how well depression in the elderly (as measured by the BDI) was predicted by the chosen predictor variables (i.e., family history of depression, medical symptoms, cognitive coping, perceived problem solving, and external locus of control) (see Table 6). Family history of
depression was not found to be a significant predictor of depression for the elderly ($R^2 = .011$, $p > .05$).

Medical symptoms were entered at step two and were found to be a significant predictor of depression ($R^2$ Change = .109, $p < .01$) accounting for an additional 10.9% of the variance. Cognitive coping was entered at step three and was also found to be a significant predictor of depression ($R^2$ Change = .162, $p < .001$) this variable accounted for an additional 16.2% of the variance.

Perceived problem solving and external locus of control were entered at steps four and five and both were not found to be a significant predictor of depression ($R^2$ Change = .024, $p > .10$ & $R^2$ Change = .012, $p > .10$ respectively). The total explained variance for the model was 31.8%.

**Depression - Young**

Hierarchical regression analyses were conducted to examine how well depression in the young (as measured by the BDI) was predicted by the chosen predictor variables (i.e., family history of depression, medical symptoms, cognitive coping, perceived problem solving, and external locus of control; see Table 7). Family history of depression was entered first and was found to be a
significant predictor of depression for the young ($R^2 = .182, p < .001$), accounting for 18.2% of the variance. Medical symptoms were entered at step two and were not found to be a significant predictor of depression for the younger sample ($R^2$ Change $= .012, p > .10$).

Cognitive coping was entered at step three and was found to be a significant predictor of depression ($R^2$ Change $= .292, p < .001$) accounting for an additional 29.2% of the variance. Perceived problem solving was entered at step four and was also found to be a significant predictor of depression ($R^2$ Change $= .032, p < .05$), accounting for an additional 3.2% of the variance. Entered at step five was external locus of control, this variable was not found to be a significant predictor of depression ($R^2$ Change $= .001, p > .10$). The total explained variance for the model was 51.9%.

**Worry - Elderly**

Hierarchical regression analyses were conducted to examine how well worry in the elderly (as measured by the Penn State Worry Questionnaire) was predicted by the chosen predictor variables (i.e., family history of anxiety, medical symptoms, cognitive coping, perceived problem solving, and external locus of control; see Table 8).
Family history of anxiety was found to be a significant predictor of worry for the elderly ($R^2 = .062$, $p < .05$) accounting for 6.2% of the variance. Entered at step two, medical symptoms approached significance as a predictor of worry ($R^2$ Change = .046, $p < .10$) accounting for an additional 4.6% of the variance. Cognitive coping was entered at step three and was found to be a significant predictor of worry in the elderly ($R^2$ Change = .224, $p < .001$), for an additional 22.4% of the variance.

Entered at steps four and five were perceived problem solving and external locus of control, neither were found to be significant predictors of worry for the elderly sample ($R^2$ Change = .003, $p > .10$ & $R^2$ Change = .000, $p > .10$ respectively). The total explained variance for the model was 33.5%.

Worry - Young

Hierarchical regression analyses were conducted to examine how well worry in the young (as measured by the Penn State Worry Questionnaire) was predicted by the chosen predictor variables (i.e., family history of anxiety, medical symptoms, cognitive coping, perceived problem solving, and external locus of control; see Table 9).
Family history of anxiety was entered at the first step and was found to be a significant predictor of worry for the younger sample ($R^2 = .088$, $p < .01$) accounting for 8.8% of the total explained variance. Medical symptoms were entered at the second step and were also found to be a significant predictor of worry ($R^2$ Change = .045, $p < .05$) accounting for an additional 4.5% of the variance. Entered at the third step, cognitive coping was additionally found to be a significant predictor of worry for the younger sample ($R^2$ Change = .308, $p < .001$) accounting for an additional 30.8% of the variance.

Perceived problem solving and external locus of control were entered at steps four and five and were not found to be significant predictors of worry for the younger sample ($R^2$ Change = .005, $p > .10$ & $R^2$ Change = .006, $p > .10$ respectively. The total explained variance for the model was 45.2%.

Discussion

Group Differences

This study examined the group differences between an elderly and a younger sample. As revealed in past studies anxiety prevalence rates for the elderly are lower as compared to younger samples (Bland, Newman, & Orn, 1988;
As predicted in the current study the elderly reported significantly less anxiety than the younger sample as measured by the BAI. This measure contains many physical symptoms of anxiety, making the finding of lower anxiety prevalence rates for the elderly even more intriguing. Specifically, in our study, the elderly group reported greater medical symptoms, but not physical symptoms associated with anxiety. Other authors have speculated that anxiety and depression in the elderly may be masked by physical symptoms. Our findings suggest otherwise, specifically, that physical symptoms of anxiety and depression can be distinguished from medical symptoms.

It was predicted that the elderly would report significantly less depression that the younger sample however this prediction was not supported. In the ECA (Regier, Narrow, & Rae, 1990; Regier, Boyd, et al., 1988), Edmonton (Bland, et al., 1988), and National Survey of Psychotherapeutic Drug Use studies (Uhlenhuth, et al., 1983) comparative analyses revealed lower rates of depression for the elderly than that of the younger sample.
The current study found no differences in depression between the elderly and a younger comparison group.

In contrast to prediction, the elderly reported less worry than the younger sample, as measured by the PSWQ. Based on findings in the 1979 National Survey of Psychotherapeutic Drug Use study (Uhlenhuth, et al., 1983) total anxiety prevalence rates for the elderly were found to be slightly higher than for younger subjects. This finding was accounted for by the high rate of generalized anxiety disorder found in the elderly sample. Other studies had not included measures of generalized anxiety disorder in their methodologies (Bland, et al., 1988; Forsell & Winblad, 1998; Regier, Boyd, et al., 1988; Regier, Narrow, & Rae, 1990). Based on these findings, the current study hypothesized that the reported level of worry by the elderly would be higher than that of the younger sample, however this prediction was not supported. Although this finding was inconsistent with our study prediction, results in the literature are mixed with some studies suggesting lower anxiety rates (including GAD) in the elderly. Our findings are more in line with these studies, suggesting that the elderly may be less prone to worry than their younger counterparts. In summary, the
elderly reported less anxiety and worry than their younger counterparts. There were no observed differences between the groups on depression. Given the low levels of depression detected in both groups, a floor effect may explain the lack of group differences on the BDI.

The results of previous studies suggested that there is some mediating quality of coping response, appropriate appraisal, and problem solving capability on attenuation of long-term psychological symptoms (Miner & Dowd, 1996 & Nezu, 1986a, 1986b). In attempting to delineate the factors that may be responsible for lower observed prevalence rates of anxiety for the elderly, it was hypothesized that the elderly may possess greater cognitive coping skills and problem solving ability than their younger counterparts. In the current study results were mixed, as the elderly reported significantly greater cognitive coping skill (i.e., CTI-Total) than the younger sample but no differences on problem solving (i.e., PSI-Total) were observed. It is possible that on the problem solving measure, due to this measures face valid quality, that actual problem solving procedures are more cognitive in nature, thus seeing differences only on the cognitive measure. These results suggest that the elderly, with more
years of life experience, may have learned more adaptive cognitive coping strategies (e.g., less negative and absolutistic thinking) than their younger counterparts. These adaptive cognitive coping strategies may attenuate anxious and possibly depressive responses to environmental changes. This cognitive flexibility may even have more prophelatic qualities than problem solving, as the elderly report similar levels of problem solving behaviors than younger individuals.

In contrast with predictions, there were no group differences found on external locus of control, as measured by the I-E scale. This study hypothesized that the elderly would report significantly less external locus of control due to less anxiety and worry experienced. However, given greater reported medical symptoms in the elderly, it is possible that this group would experience less internal locus of control than their healthier younger counterparts. The lack of group differences in the face of greater medical symptoms in the elderly is interesting, and may be due to the elderly having more adaptive cognitive coping strategies for dealing with a variety of environmental stressors including health issues.
Group differences on family history of anxiety revealed the elderly reporting significantly less family members with anxiety complications than the younger sample. This finding may be due to the cohort effects, e.g., the elderly being of an era where there was generally less known about psychopathology, mental health being thought of as a taboo subject, and these issues being generally discussed less. Additionally, it is possible that retrospective recall of mental health in deceased family members may be compromised due to a longer recall period in the elderly. Alternatively, given trends of increasing prevalence of mood states, it is possible that today’s younger people and their families could actually be more anxious and depressed than their elder counterparts.

As expected medical symptoms in the elderly were significantly higher than the younger samples. Interestingly, even with higher reported medical symptoms in the elderly, no difference was found in levels of depression and significantly less anxiety was revealed. As with previous studies, this counterintuitive finding, even in the face of greater medical problems suggests that there is some mediating factor, e.g., adaptive cognitive strategies that may help this group "cope" with physical
symptoms generally associated with aging.

Predictors of Anxiety

The current study examined the predictive power of family history of anxiety, medical symptoms, cognitive coping, perceived problem solving ability, and external locus of control on the experience of anxiety. For both the elderly and the young samples, as predicted, medical symptoms and cognitive coping accounted for a significant proportion of the variance associated with anxiety. Family history of anxiety was a significant predictor of anxiety for the young sample, although not for the elderly. This finding may be due to previously mentioned cohort effects, e.g., the stigma of psychopathology in the older sample or an increasingly anxious younger population. For both groups cognitive coping but not problem solving ability was found to be a significant predictor of anxiety. For the elderly group, as predicted, external locus of control was found to be a significant predictor of anxiety. This finding is concurrent with the literature finding that with greater control of one's environment the experience of anxiety is lessened. Interestingly, this significant finding was revealed only for the elderly sample, not for the younger. It is possible that an internal locus of
control in the face of increasing age is an important factor in prevention of anxiety.

Predictors of Depression

Further hierarchical analyses examined the predictive power of family history of depression, medical symptoms, cognitive coping, perceived problem solving ability, and external locus of control on the experience of depression. For both the elderly and the younger samples, as predicted, cognitive coping accounted for a significant proportion of the variance for depression. However, in contrast with hypotheses, cognitive coping did not account for a greater percentage of the variance for depression in the elderly than that of the younger sample. It appears that for both groups, flexible cognitive strategies are useful for attenuating anxious responding.

Family history of depression accounted for a significant amount of the variance for depression in the younger sample, however, not in the elderly. Again, this may be due to factors associated with cohort effects or an increasingly depressed younger population. Problem solving ability did account for a significant proportion of the variance for the younger sample, however, not for the elderly. External locus of control did not account for a
significant proportion of the variance for depression for either sample. Medical symptoms, as expected, accounted for a significant proportion of the variance for depression in the elderly sample, but not for the young.

**Predictors of Worry**

Hierarchical regression analyses further examined the predictive power of family history of anxiety, medical symptoms, cognitive coping, perceived problem solving ability, and external locus of control on the experience of worry in the elderly and their younger counterparts. In contrast with predictions perceived problem solving ability and external locus of control did not account for a significant proportion of the variance for worry in either the elderly or young samples. However, as predicted, family history of anxiety and cognitive coping accounted for a significant proportion of the variance associated with worry in both the elderly and young groups. Medical symptoms accounted for a significant proportion of the variance for worry in the younger sample and approached significance for the elderly group.

**Limitations of the Study**

As in past research with the elderly, caution should be taken in interpreting the results. The elderly
sample was limited to a relatively affluent group living in a gated, independent residential community. This could result in a higher functioning sample. Results could be different in samples of the elderly living about the community or in institutions.

**Future Implications**

The current study has supported the findings by other researchers revealing lower prevalence rate of anxiety for the elderly as compared to younger subjects. Additionally, lower rates of worry were also found in the elderly. It appears that our elderly sample, like those of other community surveys, report lower levels of anxious symptoms in spite of increasing medical complaints. Our study suggests that cognitive coping skills are more prevalent in the elderly and these skills can attenuate anxiety and mood disturbance.

The goal of this study was to analyze the possible factors that may be responsible for the counterintuitive findings of lower anxiety prevalence rates for the elderly. We examined coping measures, including cognitive factors and problem solving ability, as well as medical symptoms, external locus of control, and family history of anxiety. This study revealed the predictive power of cognitive
coping for the elderly may be responsible for lower observed rates of anxiety and worry.

It has been suggested and supported by the current study that the elderly possess greater cognitive flexibility than the young and research is needed to further examine this possible preventative measure to psychopathology.

The findings in this study and past research have revealed that ideas that are held in regard to the elderly such as possessing a greater amount of anxiety, worry, and or depression, may not be true. We uncover results of lower prevalence rates of anxiety and worry and label them counterintuitive, when possibly our idea of what it is like to be older is misguided and inaccurate.

Possible future directions for studying this phenomenon would be to examine this relationship between coping and psychopathological symptoms in clinical samples. The power of cognitive coping responses to control effects of anxiety and worry would be beneficial for all age groups.
<table>
<thead>
<tr>
<th>Measure</th>
<th>Young</th>
<th></th>
<th>Elderly</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Beck Anxiety</td>
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<td>10.75</td>
<td>6.70*</td>
<td>5.62</td>
</tr>
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<td>9.53</td>
<td>9.67</td>
<td>9.84</td>
</tr>
<tr>
<td>Beck Depression</td>
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<td>10.54</td>
<td>36.58**</td>
<td>12.20</td>
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</table>

Note. Significance Level *p < .01

**p < .001
Table 2
Group Means for Coping Measures

<table>
<thead>
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<th>Young</th>
<th>Elderly</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
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<td>CTI Total</td>
<td>59.26**</td>
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<td>CTI-EC</td>
<td>30.83**</td>
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</tr>
<tr>
<td>CTI-BC</td>
<td>33.07*</td>
<td>5.44</td>
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<td>CTI-CT</td>
<td>24.80</td>
<td>6.92</td>
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<td>CTI-ET</td>
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<td>CTI-NO</td>
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<td>PSI-Total</td>
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<td>PSI-AA</td>
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<td>PSI-PC</td>
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<td>4.68</td>
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<td>PSI-Con</td>
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<td>8.25</td>
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</table>

Note. Significance level *p < .01
**p < .001
Table 3.

Group Means for Family History, Medical Symptoms, and Locus of Control

<table>
<thead>
<tr>
<th>Measure</th>
<th>Young</th>
<th>Elderly</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
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<tr>
<td>Family History</td>
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<tr>
<td>Anxiety</td>
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<td>2.95</td>
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<td>Family History</td>
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<td>Depression</td>
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<td>2.99</td>
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<tr>
<td>Medical Symptoms</td>
<td>1.85**</td>
<td>2.27</td>
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<td>IE Scale</td>
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Note. Significance level **p < .001
Table 4.
Hierarchical Regression of Predictor Variables for Anxiety
Older Group

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<tr>
<th>Variable</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>$p\Delta R^2$</th>
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<tbody>
<tr>
<td><strong>Step One</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Family History</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Of Anxiety</td>
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<tr>
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<td></td>
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<td>Symptoms</td>
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<td>.157</td>
<td>.001</td>
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<tr>
<td>CTI-Total</td>
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<td>.203</td>
<td>.044</td>
<td>.069</td>
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<td>PSI-Total</td>
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<td>.000</td>
<td>.850</td>
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<tr>
<td>External Locus</td>
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<td></td>
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<tr>
<td>Of Control</td>
<td>.256</td>
<td>.259</td>
<td>.056</td>
<td>.037</td>
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Table 5.

Hierarchical Regression of Predictor Variables for Anxiety

**Younger Group**

<table>
<thead>
<tr>
<th>Variable</th>
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<th>R²</th>
<th>ΔR²</th>
<th>pΔR²</th>
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<td>Family History</td>
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<tr>
<td>Of Anxiety</td>
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<td>Medical Symptoms</td>
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<td>.339</td>
<td>.196</td>
<td>.000</td>
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<td>CTI-Total</td>
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<td>Of Control</td>
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44
Table 6.

Hierarchical Regression of Predictor Variables for Depression

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<th>Older Group</th>
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<table>
<thead>
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<th>Variable</th>
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<td>Family History</td>
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<tr>
<td>Of Depression</td>
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<td>.011</td>
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<td>Medical Symptoms</td>
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<td>.109</td>
<td>.007</td>
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<td>External Locus</td>
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<tr>
<td>Of Control</td>
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<td>.012</td>
<td>.303</td>
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Table 7.

Hierarchical Regression of Predictor Variables for Depression

**Younger Group**

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<th>$\Delta R^2$</th>
<th>$p\Delta R^2$</th>
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<td>Of Depression</td>
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<tr>
<td>External Locus</td>
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<tr>
<td>Of Control</td>
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Table 8.
Hierarchical Regression of Predictor Variables for Worry
Older Group

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<th>Variable</th>
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<th>pΔR²</th>
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</tr>
<tr>
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<td>Of Anxiety</td>
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<td>.062</td>
<td>.044</td>
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<tr>
<td><strong>Step Five</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Locus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of Control</td>
<td>-.006</td>
<td>.335</td>
<td>.000</td>
<td>.957</td>
</tr>
</tbody>
</table>

47
Table 9.
Hierarchical Regression of Predictor Variables for Worry

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>R²</th>
<th>ΔR²</th>
<th>pΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step One</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family History Of Anxiety</td>
<td>.297</td>
<td>.088</td>
<td>.088</td>
<td>.005</td>
</tr>
<tr>
<td><strong>Step Two</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Symptoms</td>
<td>.214</td>
<td>.133</td>
<td>.045</td>
<td>.042</td>
</tr>
<tr>
<td><strong>Step Three</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CTI-Total</td>
<td>-.583</td>
<td>.441</td>
<td>.308</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Step Four</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSI-Total</td>
<td>-.083</td>
<td>.446</td>
<td>.005</td>
<td>.389</td>
</tr>
<tr>
<td><strong>Step Five</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Locus Of Control</td>
<td>-.079</td>
<td>.452</td>
<td>.006</td>
<td>.359</td>
</tr>
</tbody>
</table>

48
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>Symptoms</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>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.

IE Scale

The following is a questionnaire to find out the way in which certain important events in our society affect 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.

Circle either a or b for each number

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

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 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 on 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 is really 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.
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, people are responsible for bad government on a national as well as on a local level.
Appendix C. Medical Screen

1. Have you ever been diagnosed or are you currently taking medication for:

<table>
<thead>
<tr>
<th>Heart Disease</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epilepsy</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>High or low blood pressure</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Respiratory disorders (e.g., asthma)</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

2. Have you ever had a concussion or serious head injury?
   YES     NO

3. Have you experienced any of the following in the past five years?

<table>
<thead>
<tr>
<th>Convulsions</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Cough</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Chest pain or angina pectoris</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Spitting up blood</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Severe night sweats</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Severe shortness of breath at night or on exertion</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Severe swelling of hands, feet, or ankles</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Heart rate irregularities that decrease quickly when resting</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

4. Have results from any of the following indicating abnormalities?

| Electroencephalogram (EEG)   | YES | NO |
| Electrocardiogram (EKG)      | YES | NO |
| CT Scan or Similar           | YES | NO |
| Chest X-Ray                  | YES | NO |

5. Are you currently being treated for any physical disease or condition?
   YES     NO

6. Are you taking any prescription medication?
   YES     NO

   If yes, please specify reason:
Appendix D
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 _____
   Caucasian (or white) _____ Native American _____
   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.**

<table>
<thead>
<tr>
<th></th>
<th>Any anxiety</th>
<th>Any depression</th>
<th>Biological relative</th>
<th>Step/Adoptive relative</th>
</tr>
</thead>
<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>
<td></td>
</tr>
<tr>
<td>Brother/sister</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aunt/Uncle</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>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.**

<table>
<thead>
<tr>
<th></th>
<th>Any anxiety</th>
<th>Any depression</th>
<th>Biological relative</th>
<th>Step/Adoptive relative</th>
</tr>
</thead>
<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>
<td></td>
</tr>
</tbody>
</table>
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>
</thead>
<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>
<td></td>
</tr>
<tr>
<td>Brother/sister</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aunt/Uncle</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>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix E.

PSWQ

Enter the number that best describes how typical or characteristic each item is of you, putting the number next to each item.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Not at all typical | Somewhat typical | Very typical

1. If I don’t have enough time to do everything, I don’t worry about it.
2. My worries overwhelm me.
3. I don’t tend to worry about things.
4. Many situations make me worry.
5. I know I shouldn’t worry about things, but I just can’t help it.
6. When I’m under pressure, I worry a lot.
7. I am always worrying about something.
8. I find it easy to dismiss worrisome thoughts.
9. As soon as I finish one task, I start to worry about everything else I have to do.
10. I never worry about anything.
11. When there is nothing more I can do about a concern, I don’t worry about it anymore.
12. I’ve been a worrier all my life.
13. I notice that I have been worrying about things.
14. Once I start worrying, I can’t stop.
15. I worry all the time.
16. I worry about projects until they are all done.
17. I worry excessively about small things such as being late for an appointment, repairs to the house or car, etc.
Appendix F

PSI

Read each statement and indicate the extent to which you agree or disagree with that statement, using the following alternatives:

1 = Strongly agree
2 = Moderately agree
3 = Slightly agree
4 = Slightly disagree
5 = Moderately disagree
6 = Strongly disagree

1. When a solution to a problem was unsuccessful, I did not examine why it didn’t work.
2. When I am confronted with a complex problem, I do not bother to develop a strategy to collect information so that I can define what the problem is.
3. When my first efforts to solve a problem fail, I become uneasy about my ability to handle the situation.
4. After I have solved a problem, I do not analyze what went right or what went wrong.
5. I am usually able to think up creative and effective alternatives to solve a problem.
6. After I have tried to solve a problem with a certain course of action, I take time and compare the actual outcome to what I think should have happened.
7. When I have a problem, I think up as many possible ways to handle it as I can until I can’t come up with any more ideas.
8. When confronted with a problem, I consistently examine my feelings to find out what is going on in a problem situation.
9. When I am confused with a problem, I do not try to define vague ideas or feelings into concrete or specific terms.
10. I have the ability to solve most problems even though initially no solution is immediately apparent.
11. Many problems I face are too complex for me to solve.
12. I make decisions and I am happy with them later.
13. When confronted with a problem, I tend to do the first thing that I can think of to solve it.
14. Sometimes I do not take time to deal with my problems, but just kind of muddle around.
15. When deciding on an idea or possible solution to a problem, I do not take time to consider the chances of each alternative being successful.
16. When confronted with a problem, I stop and think about it before deciding on a next step.
17. I generally go with the first good idea that comes to mind.
18. When making a decision, I weigh the consequences of each alternative and compare them against each other.
19. When I make plans to solve a problem, I am almost certain that I can make it work.
1 = Strongly agree
2 = Moderately agree
3 = Slightly agree
4 = Slightly disagree
5 = Moderately disagree
6 = Strongly disagree

20. I try to predict the overall result of carrying out a particular course of action.

21. When I try to think up possible solutions to a problem, I do not come up with very many alternatives.

22. In trying to solve a problem, one strategy I often use is to think of past problems that have been similar.

23. Given enough time and effort, I believe I can solve most problems that confront me.

24. When faced with a novel situation I have confidence that I can handle problems that may arise.

25. Even though I work on a problem, sometimes I feel like I am groping or wandering, and I am not getting down to the real issue.

26. I make snap judgments and later regret them.

27. I trust my ability to solve new and difficult problems.

28. I have a systematic method for comparing alternatives and making decisions.

29. When I try to think of ways of handling a problem, I do not try to combine different ideas together.

30. When confronted with a problem, I don't usually examine what sort of external things in my environment may be contributing to my problem.

31. When I am confronted by a problem, one of the first things I do is survey the situation and consider all the relevant pieces of information.

32. Sometimes I get so charged up emotionally that I am unable to consider many ways of dealing with my problem.

33. After making a decision, the outcome I expected usually matches the actual outcome.

34. When confronted with a problem, I am unsure of whether I can handle the situation.

35. When I become aware of a problem, one of the first things I do is try to find out exactly what the problem is.
Appendix G.
CTI

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 mostly FALSE, “4” if it is mostly TRUE, “5” if it is definitely TRUE. Use “3” only if you cannot decide if the item is mainly true or false.

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.

<table>
<thead>
<tr>
<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>1. When I have a difficult task to do, I try to think about things that will help me to do my best</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I feel that people are either my friends, or my enemies.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I don’t get upset about little things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I believe there are people who can project their thoughts into other people’s minds.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. If I do well on an important test, I feel like a total success and that I’ll go far in life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. When I’m not sure how things will turn out, I usually expect the worst.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. If people treat you badly, you should treat them the same way.</td>
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<td>8. If I don’t do well, I take it very hard.</td>
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<td>9. Most birds can run faster than they can fly.</td>
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<td>10. Some people can read other people’s minds.</td>
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<td>11. I think everyone should love their parents.</td>
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<td>12. When I have a lot of work to do I feel like giving up.</td>
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<td>13. There are only two answers to any question, a right one and a wrong one.</td>
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<td>14. When anyone disapproves of me, I get very upset.</td>
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<td>15. If I wish hard enough for something, that can make it happen.</td>
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<td>16. If I do something good, then good things will happen to me.</td>
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<td>17. I get so upset if I try hard and don’t do well, that I usually don’t try to do my best.</td>
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<td>18. Two plus two equals four.</td>
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<td>19. I worry a lot about what other people think of me.</td>
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<td>Undecided</td>
<td>Mostly true</td>
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20. I believe the moon or the stars can affect people's thinking.  
21. When something good happens to me, I feel that more good things are likely to follow.  
22. There are basically two kinds of people in this world, good and bad.  
23. I don't worry about things that I can't do anything about.  
24. I have washed my hands at least one time this year.  
25. I don't believe in ghosts.  
26. I usually look at the good side of things.  
27. I've learned not to hope to hard, because what I hope for usually doesn't happen.  
28. I trust most people.  
29. I like to succeed, but I don't get too upset if I fail.  
30. I believe in flying saucers.  
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.  
32. When bad things happen to me, I don't worry about them for very long.  
33. I believe there are people that can see into the future.  
34. I think anyone who really wants a good job can find one.  
35. I have never seen anyone with blue eyes.  
36. I think there are many wrong ways, but only one right way to do almost anything.  
37. I try to do my best in almost everything I do.  
38. I believe most people are only interested in themselves.  
39. I don't have good luck charms.  
40. When I have a lot of work to do by a deadline, I waste a lot of time worrying about it.  
41. I think more about happy things from my past than about unhappy things.
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<th>Definitely false</th>
<th>Mostly false</th>
<th>Undecided</th>
<th>Mostly true</th>
<th>Definitely true</th>
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42. I believe in good and bad magic.  
43. The only person I completely trust is myself.  
44. If I did not make a team I would feel terrible and think that I would never be on any team.  
45. I try to accept people as they are.  
46. Water is usually wet.  
47. It is foolish to trust anyone completely because if you do, you will get hurt.  
48. I do not believe in any superstitions.  
49. People should try to look happy no matter how they feel.  
50. I spend a lot of time thinking about my mistakes even if there is nothing I can do about them.  
51. Almost all people are good at heart.  
52. If I have something unpleasant to do, I try to think about it in a way that makes me feel better.
Appendix H.
B.D.I.

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 most 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 that 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 that 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 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
REFERENCES


Lasoski, M.C. (1986). Reasons for low utilization of


