Adolescent depression: further examination of gender differences

Elizabeth Marie O'Neill

University of Northern Iowa

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ADOLESCENT DEPRESSION:
FURTHER EXAMINATION OF GENDER DIFFERENCES

An Abstract of a Thesis
Submitted
In Partial Fulfillment
of the Requirements for the Degree
Specialist in Education

Elizabeth Marie O’Neill
University of Northern Iowa
July 1999
This study was designed to examine pertinent research questions that remain unanswered by past investigations of adolescent depression. Specifically this study investigated potential differences between high and low scoring depressed adolescents, and whether gender is an influential variable for consideration.

Subjects were 175 adolescent boys and girls from a laboratory school in Midwestern Iowa. Subjects were divided into four groups based on gender and responses to two questions on the BDI-A. Specifically, the four groups were: boys who scored at or above 10 on the BDI-A (sub-clinical group--boys), boys who scored below 10 on the BDI-A (control group--boys), girls who scored at or above 10 on the BDI-A (sub-clinical group--girls), and girls who scored below 10 on the BDI-A (control group--girls). Of the 175 students, 68 were identified as having mild depressive symptoms. Of the 68 students, 36 were male and 32 were female. The dependent variables in this study included three measures that tapped into positive factors, and three measures that tapped into negative factors.

Results indicated that participants in the sub-clinical group were more likely to report higher levels of negative factors, and that participants in the control group were more likely to report higher levels of positive factors. There were no significant gender differences in the sub-clinical group or in the control group. In addition, results indicated that sub-clinical males reported elevated levels of negative factors in comparison with females in the control group.
Overall, this study was found no significant gender differences when comparing sub-clinical boys and girls, and control group boys and girls. In addition, this study concluded that depressive symptoms is a more important consideration than gender in regards to negative factors. However, additional studies should be conducted to validate these results. In addition, future research should include participants with higher levels of depressive symptoms, as well as a larger sample size.
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This Study by: Elizabeth Marie O’Neill

Entitled: ADOLESCENT DEPRESSION: FURTHER EXAMINATION OF GENDER DIFFERENCES

has been approved as meeting the thesis requirement for the Degree of Specialist in Education.

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Date Dr. Augustine Osman, Chair, Thesis Committee

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CHAPTER 1

INTRODUCTION AND PURPOSE

Introduction

Depression is one of the most common psychological disorders shared by adolescents and adults in clinical and non-clinical populations. Over the past decade, the prevalence of adolescent depression has been underestimated as a result of the popular belief that adolescence is a normal time for storming, moodiness, and egocentrism. The failure to recognize depressive symptoms in youth may also stem from traditional psychodynamic conceptualization of depression, as well as myths that the youth do not truly experience sadness, or that childhood is a carefree time (Offer & Schonert-Reichl, 1992). These beliefs have precluded meaningful conceptualization, assessment, and management of depression in children and adolescents (Petersen et al., 1993; Stark, 1990).

The impact of depression on the individual, significant others, and society can be substantial. For example, a depressed mood can lead to serious consequences, perhaps the most damaging being the tendency to interfere with normal psycho-social development (Lamarine, 1995). The onset of depression during the adolescent years may be a potential precursor to adult depression as well as other major mental disorders (Petersen et al., 1993). Furthermore, the adolescent research literature suggests a direct relationship between depression and other severe problems in adolescence such as suicidal ideation and behaviors (Baker, 1995; deMan, Leduc, & Labreche-Gauthier, 1993; Flanagan &

Research also suggests that severe psychological and medical disorders including anxiety disorders, conduct problems, attention-deficit disorder, eating disorders, and substance-abuse disorders often co-occur with depressive disorders in both adolescents and children (Reynolds & Johnston, 1994). Several studies have examined this co-occurrence utilizing depressed and non-depressed clinical and nonclinical participants. Olsson and von Knorring (1998) utilized the Beck Depression Inventory to identify depressed and non-depressed adolescents in a clinical sample. Of the depressed participants, boys were more likely to experience sadness, crying, and suicidal ideation; girls were more likely to experience a sense of failure, guilt, self-dislike and feelings of unattractiveness combined with suicidal ideation. Adams and Adams (1996) examined the problem solving alternatives of depressed and non-depressed participants. The researchers found that depressed clinic participants were more likely to report more negative effects resulting from negative life events than the less depressed participants. Finally, Faied (1998) investigated whether there were gender differences in depressed and non-depressed adolescents. The researcher administered the Beck Depression Scale, the Hopelessness Scale, and the Suicide Ideation Scale to 162 males and 162 females. The results indicated that while suicide ideation increases with the level of depression and helplessness, there were no significant gender differences.
Purpose of Study

Existing studies have typically only examined the differences between boys and girls, particularly boys who score low and girls who score high on measures of depression. This study attempts to explore whether there are gender differences among a sample of high school participants with high (sub-clinical group) and low depression (control group) scores on selected measures of psychopathology. Specifically, the relationships between depression, satisfaction with life, hopefulness, and suicide were investigated in the male and female subgroups.

Hypotheses

In this study, the following specific hypotheses were examined.

1. It was hypothesized that participants in the sub-clinical group would score higher than those in the control group on the three negative self-report measures.

2. It was hypothesized that participants in the control group would score higher than those in the sub-clinical group on the positive measures.

3. It was hypothesized that when boys who scored high on the BDI-A (depressed) are compared with girls who scored high on the BDI-A, girls will have obtained higher scores on the three negative measures.

4. It was hypothesized that when boys who scored low on the BDI-A were compared with girls who scored low on the BDI-A, girls would have obtained lower scores on the positive measures.
5. It was hypothesized that males in the sub-clinical group would obtain higher scores on the positive measures than girls in the control group.
CHAPTER 2
REVIEW OF THE LITERATURE

Depression is one of the most common psychological disorders shared by adolescents and adults, in clinical and non-clinical populations. The symptoms of depression are often conceptualized along a continuum where at one end an individual is a little “bummed out,” and at the other end qualifies for a clinical diagnosis (Maag & Forness, 1991). Depression is also generally considered to be an internalizing disorder (Reynolds & Johnston, 1994) that affects the total functioning of the individual: mood, thought, body, and behavior (American Psychiatric Association, 1994). Some of the major clinical symptoms of depression have previously been listed to include “anhedonia, lowered self-esteem, pathological guilt, social withdrawal, impairments in school performance, fatigue, psychomotor retardation, sleeping and eating disorders, and suicidal ideation or attempts” (Reynolds, 1984, p. 171).

Although depression is a severe psychopathology shared by adolescents and adults, the essential symptoms in adolescents may appear as other forms of psychological or physical distress such as anger, disobedience, and uncooperative behavior. Thus, “irritating” behaviors may mask the serious underlying symptoms of depression in youths (Lamarine, 1995). As an additional example, students with depressive disorders often do not participate in class discussions and are described as lethargic and having poor concentration, resulting in lowered academic performance; however, these students often remain unnoticed and escape appropriate referral (Cole, 1990; Kovacs & Goldston, 1991).
In general, adolescent depression often appears to go unrecognized or misinterpreted as uncooperative, disobedient and/or inappropriate behavior by teachers and parents.

The prevalence estimates for depression in general school populations range from 1.9 percent (Kashani et al., 1987) to 20% (Kaslow, Brown, & Mee, 1994; Reynolds, 1994). However, depression prevalence rates are most commonly reported between three and five percent when using the Diagnostic Statistical Manual of Mental Disorders criteria (American Academy of Child and Adolescent Psychiatry, 1995; Stark, 1990).

The impact of depression on the individual, significant others, and society can be substantial. For example, a depressed mood can lead to serious consequences, perhaps the most damaging being the tendency to interfere with normal psycho-social development (Lamarine, 1995). The onset of depression during the adolescent years may be a potential precursor to adult depression as well as other major mental disorders (Petersen et al., 1993). Thus, adolescent depression is an important area of investigation for researchers, parents, clinicians, and teachers.

The purposes of this literature review are to (a) provide a critical overview of the major depressive disorder criteria for children and adolescents in the current Diagnostic and Statistical Manual of Mental Disorders, fourth edition, (DSM-IV; American Psychiatric Association, 1994), (b) provide an overview of cognitive theory which has attempted to explain the cause(s) of depression in adolescents, and (c) evaluate the psychometric adequacy of the Beck Depression Inventory (BDI; Beck, Ward, Mendelsohn, & Erbaugh, 1961). Previous literature reviews have examined some of
these issues but have failed to address all of them completely. For example, several
studies provide a review of the literature addressing theoretical perspectives and
commonly used self-report measures; however, these reviews fail to examine the
psychometric properties of the measures related to specific well-articulated theories of
adolescent depression (Lamarine, 1995; Maag & Forness, 1991; Petersen et al., 1993).
Further, although other reviews have examined diagnostic criteria and general test
construction issues, they failed to examine the theoretical perspectives which influenced
the development of the related measures (Kendall, Cantwell, & Kazdin, 1989; Reynolds,
1984). The nature of adolescent depressive disorders including the prevalence and impact
on students requires a comprehensive examination of the literature integrating the self-
report measures used for assessment, the psychometric adequacy of these measures, and
the theories utilized to develop the measures.

**Diagnostic Criteria for Major Depressive Disorder**

A major advance in the study of depression has been the development of diagnostic
criteria for adults, currently used for adolescents and children as well. Diagnostic
categories are the specific criteria that guide the study, classification, and treatment of
psychiatric disorders (Sherak, Speier, & Cantwell, 1994). Diagnostic criteria allow for
making the distinction between depressive symptoms and depressive syndrome (Angold,
1988). Currently, within the DSM-IV (American Psychiatric Association, 1994), major
depressive disorder is listed under the category of the mood disorders which is divided
into two sections: (a) major depressive disorder and dysthymic disorder, and (b) bipolar
disorders. This section of the review, however, will focus solely on the first category including major depressive disorder and dysthymic disorder.

It was originally thought that adolescent depression could not be identified using the same diagnostic criteria that are utilized for adults. However, while developmental differences may be important, the current consensus among researchers is that adolescent and adult depressive disorders share many of the same primary depressive symptomatologies (Angold, 1988; Hammen & Compas, 1994; Lewinsohn, Hyman, Roberts, Seeley, & Andrews, 1993; Kendall et al., 1989; Kazdin, 1989; Maag & Forness, 1991; Mitchell, McCauley, Burke, & Moss, 1988; Reynolds, 1984).

Research does, however, show that some associated features of depression differ in children, adolescents, and adults making it essential to examine the current diagnostic criteria. For example, the association of major depressive disorder with nonverbal behavior, unpopularity, and somatic complaints, appears higher in girls than in boys during adolescence; however this association does not appear during adulthood (Jacobson, Lahey, & Strauss, 1983). Similarly, suicide is relatively rare in children below the age of 12 while suicide ideology is relatively common within that age group (Kendall et al., 1989), differing from trends in adults.

The DSM-IV (American Psychiatric Association, 1994) also notes some differences in the nature of the essential symptoms as well as in the duration of symptoms needed to make a diagnosis of major depressive disorder in children and adolescents. Specifically, major depressive disorder is defined in the DSM-IV as a mood disorder that
is characterized by one or more major depressive episodes with no history of manic or hypomanic episodes. The depressive episode typically lasts for at least two weeks. Although adults may present with either depressed mood or loss of interest in nearly all activities, in children and adolescents, sadness may manifest as an irritable mood. This negative mood must be accompanied by five or more of the following symptoms: weight loss/gain or a decrease/increase in appetite (failure to make expected weight gains in children), insomnia, or hypersomnia, psychomotor agitation or retardation, fatigue, feelings of worthlessness or severe guilt, trouble concentrating, and suicidal ideation. These symptoms must persist for most of the day, nearly every day, for at least two weeks, and must impair normal or usual functioning. The DSM-IV also specifies that recurrent major depressive disorder may exist if at least two or more major depressive episodes occur, with an interval of two consecutive months in which criteria are not met. While the difference between major depressive disorder and recurrent major depressive disorder may be clinically important and relevant for children and adolescents, the DSM-IV provides no developmental considerations for recurrent major depressive disorder. Further, for adults, dysthymic disorder is currently defined as having a chronically depressed mood much of the time, (most of the day, and most days), for a duration of two years. However, it is noted that in children and adolescents, a depressed mood may be perceived as an irritable mood and must be present for only one year with symptoms not absent for more than two months at a time. Two of the following symptoms must be
present as well: increase/decrease in appetite, insomnia/hypersomnia, low energy, low self-esteem, poor concentration/difficulty making decisions, or hopelessness.

In summary, current diagnostic criteria and research agree that the primary symptoms of major depressive disorder in adults and adolescents are generally the same. However, despite research that supports developmental differences in associated symptoms, there remain few developmental considerations in the diagnostic criteria of major depressive disorder or dysthymia. It seems that some of the depressive symptoms can also be considered "normal" for certain age-appropriate responses in children and adolescents. For example, "irritability" to stressful situations may be a perfectly acceptable age-appropriate response. The current diagnostic criteria for assessing depressive disorders in children and adolescents provide the school psychologist with no information on how to distinguish normal from pathological forms of irritability. Furthermore, most of the major depressive symptoms can exist or co-occur in other childhood or adolescent disorders such as anxiety disorders, conduct problems, attention-deficit disorder, eating disorders, and substance-abuse disorders (Reynolds & Johnston, 1994). The current diagnostic criteria provides no information for the school psychologist on how to distinguish between these conditions and depressive disorders in the classroom. School psychologists have been forced to become increasingly aware of depressive symptoms and the implications for adolescents in a school setting. While depression is a serious mood disorder that is experienced both by adults and adolescents, there remain
specific developmental considerations that are essential for recognition of these disorders in children and adolescents.

**Theoretical Perspectives**

As research has progressed from simply documenting the existence, prevalence, and impact of depression to identifying those children and adolescents that are affected, it becomes more and more important also to examine specific factors that have been implicated in the development of adolescent depression. Both psychological and biological theories have attempted to explain the complexities of most human behavior. Indeed, although several theoretical perspectives or paradigms have proposed different explanations, assessment strategies, and intervention procedures for adolescent depression, this review of the literature will examine only the cognitive paradigm or theory of adolescent depression. This theoretical perspective was chosen for review based on the finding and observation that the BDI (Beck et al., 1961) one of the most commonly used self-report assessment instruments utilized by psychologists was derived from cognitive theory. This instrument is discussed in this section of this paper.

Cognitive theory is made up of several separate subtypes. For the purpose of this review, cognitive theory will be examined by reviewing Beck’s negative cognitive triad, as well as the self-control model.

**Cognitive Theory**

Psychiatrist Aaron T. Beck (Beck, 1967) developed the most complete cognitive model of depression based on clinical observations and experimental testing. Beck’s
model relies on the existence of schemata, a psychological filter which affects the perception of experiences (Kaslow et al., 1994). Schemata are influenced by the developmental history of the individual prior to the onset of mental distress. According to this theory, the schemata of a depressed individual are distorted and are negatively skewed (Kovacs & Beck, 1986). Neale, Davison, and Haaga (1996) have summarized Beck’s belief about childhood and adolescent distorted beliefs as follows:

According to Beck in childhood and adolescence, depressed individuals acquired dysfunctional beliefs through the loss of a parent, an unrelenting succession of tragedies, the social rejection of peers, the criticisms of teacher, or the depressive attitude of a parent . . . Beck sees depressives as the victims of their own illogical, negative self judgements. (pp. 268-269)

Further, Beck explains that when negative schemata are activated, the cognitive triad becomes evident (Beck, Rush, Shaw, & Emery, 1979; Kaslow et al., 1994; Kovacs & Beck, 1986). The cognitive theory specifically implicates three major areas of the individual: negative view of the self, negative view of one’s environment, and negative view of the future (Beck, 1967).

The first component of the triad, having a negative view of oneself, hinges on the individual’s tendency to think of oneself as “defective, inadequate, diseased, or deprived” (Beck, Rush, Shaw, & Emery, 1979 p. 11). Failures, or unpleasant experiences, are generally attributed to a defect in oneself, resulting in low self esteem and a lowered locus of control (Kaslow et al., 1994).

Greenberg and Pyszczynski (1986) attempted to evaluate the first component of Beck’s cognitive triad by attempting to measure the amount of self focus after failure and
success on a structured topic in depressed and nondepressed subjects. Participants included 41 (16 male and 25 female) introductory psychology students. The presence and severity of depressive symptoms were assessed with the Beck Depression Inventory (BDI; Beck et al., 1961). Participants with scores between zero and five were classified as nondepressed, and participants with BDI scores of 12 and above were classified as depressed. The participants were randomly assigned to one of two conditions, the success condition and the failure condition.

Participants were informed that the researchers were interested in evaluating the students' verbal characteristics. Two tasks were presented to each participant. The first task was the Thorndike Anagram Test referred to as a valid assessment tool of verbal intelligence. The second task was called the Exner Sentence completion test, referred to as a measure of personal verbal style. Participants were told that there were no right or wrong answers. However, the instructions on the tasks were quite detailed, stating the average number of correct answers for college students as either 12.1 (success condition) or 14.2 (failure condition). For the success group, the anagram task consisted of 20 easy four-letter anagrams; for the failure group, the task consisted of 9 unsolvable and 11 difficult five-letter anagrams. After completing the tasks, participants were asked to complete a questionnaire reporting their impressions regarding their performance.

Results unexpectedly indicated that both the depressed and nondepressed participants tended to be more self-focused after failure than after success. These results led the researchers to hypothesize that both nondepressed and depressed individuals would
focus on themselves after failure on a task as a means of self-regulation. However, it was hypothesized that the nondepressed individuals would then shift the focus away from themselves, while the depressed individuals would continue to focus on themselves after the failure task. The researchers then tested this hypothesis with a similar sample as utilized in the first study. Depression was assessed in the same way.

Participants were told that the study was concerned with the kinds of thoughts people had when completing different types of tasks. Participants completed the Thorndike Anagram Test with particular emphasis being placed on the validity of the test. The same items and instructions were given with the anagram assignment as in the first experiment. Following this task, the students were asked to read a short story at their own pace.

Before beginning the tasks, the students were asked to jot down their thoughts about the task during a two-minute period. When all the students had completed both tasks, they were asked again to write whatever they were thinking about during the next two minutes. Finally, the students completed a questionnaire concerning their impressions of the experience.

Results indicated that both the depressed and nondepressed groups self-focus after failure. However, it was suggested that the depressed individuals will continue to self-focus after failure over time. Nondepressed individuals, however, did shift to more positive focuses over time. The findings of this study should be replicated with child and adolescent samples.
The findings of the above study illustrate the first component of Beck’s cognitive triad. The authors concluded that depressed individuals do self-focus more intently, for a longer period of time, and at a higher level following failure at a structured task. Information regarding school-aged individuals and reactions to failure and success for depressed and nondepressed students might be useful to educators. Another potentially useful area of investigation concerns gender differences and perception of failure.

The second component of the triad relates to the depressed person’s tendency to interpret experiences in a negative way. The individual perceives the world as making too many demands and providing too many obstacles. When the individual does not succeed to the fullest, it is perceived as a failure (Beck et al., 1979).

Research has attempted to indirectly examine this component of Beck’s cognitive triad by evaluating whether depressed individuals recall negative feedback more or less often than their nondepressed counterparts. Nelson and Craighead (1977) conducted this study with the purpose of examining the recall of positive and negative feedback of depressed and nondepressed individuals. Further, the researchers attempted to evaluate whether depressed individuals self-reinforce less often and self-punish more often than nondepressed individuals.

Participants in Nelson and Craighead’s (1977) study included 280 introductory psychology students from Pennsylvania University. The presence and severity of depressive symptoms were assessed using the BDI. Scores between zero and five on the BDI were used to categorize individuals as nondepressed. Individuals scoring 10 and
above were categorized as depressed. Individuals scoring in the middle did not complete
the study. After this initial screening procedure, 70 individuals completed the study with
32 of them classified as nondepressed and 22 as depressed. The participants were then
further divided into two sub-groups labeled the reinforcement group and the punishment
group. The reinforcement group consisted of 12 depressed participants and 16 non-
depressed participants. The punishment group consisted of 12 depressed participants and
16 non-depressed participants.

This study was conducted in two adjoining rooms, separated by a one-way mirror.
Stimuli consisted of 80 sets of three slides. The first slide in each set read “ready” and
was shown for two seconds. The second slide read a single nonsense syllable, shown for
½ second. The second slide was intentionally shown out of focus making recognition of
the letters nearly impossible. The third slide was a list of choices labeled A through E.
Subjects were divided into two groups: (a) the reinforcement group, and (b) the
punishment group. Subjects in the reinforcement group were told that they would receive
five cents for each correct response given. Subjects in the punishment group were told
that they began the experiment with two dollars and that for every incorrect answer they
gave, there would be a loss of five cents. However, the rates of reinforcement and
punishment were actually controlled by the researchers. Hinging on which group the
subject was in, the subject was punished or reinforced on either 70% or 30% of the trials.

Results indicated that the depressed individuals recalled less positive and more
negative feedback than the nondepressed individuals. As expected, these results were
found when the subjects were receiving a high amount of positive reinforcement and a lower rate of punishment. In the second condition, (a high rate of punishment and a low rate of reinforcement), the depressed subjects accurately estimated the amount of negative feedback while the nondepressed subjects underestimated the rate of negative feedback.

This study, although indirect, illustrates Beck’s second component of the cognitive triad. Unfortunately, no attempt has been made to replicate the findings in children and adolescents. As predicted, the depressed individuals tended to interpret the world in a more negative way than the nondepressed counterparts.

The final component of the triad relates to the individual’s negative view of the future. According to this view, the individual expects to fail and to keep on failing. Long-range goals are hindered by the anticipation of difficulty and hardship. Research has attempted to examine this component of Beck’s cognitive triad by evaluating whether hopelessness (negative view of the future) is related to depression severity scores but not with anxiety ratings (Alford, Lester, Patel, Buchanan, & Guinta, 1995). An additional purpose of this study was to evaluate whether the relationship would appear at one point and again at another four weeks later.

Participants in the Alford et al. (1995) study consisted of 156 undergraduates (71 males and 83 females) in an introductory psychology course. Further information regarding the participants was not provided. The Beck Depression Inventory (BDI; Beck et al., 1961) and the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) were administered to all participants twice, separated by a four-week interval. Finally, the
Beck's Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974) was administered to all participants at time one.

Results indicated that at time one, hopelessness was found to be related significantly to time one depression scores. Furthermore, time one hopelessness scores were not correlated significantly to time one anxiety scores. Finally, hierarchical multiple regression analyses found time one hopelessness scores to be related significantly and specifically to depression four weeks later for all participants. This study suggests that hopelessness or a negative view of the future may indeed indicate future depressive symptoms. Further, high levels of hopelessness can help distinguish depression from other psychological disorders.

The authors of this study note that the subjects were not taken from a clinical sample. However, because Beck's cognitive triad was developed to include both normal and clinical populations, results may be equally important to nonclinical researchers. Future investigations should assess the generalizability of these findings to adult clinical populations. Finally, this study should be replicated with a school-aged sample as understanding the student's perception of the future may be useful to educators.

Finally, other investigations have been conducted to evaluate all three components of the cognitive triad. For example, Hammond and Romney (1995) developed a study to assess the adequacy of Beck's cognitive triad. Specifically, the purpose of their study was to investigate cognitive processes which have been identified in depressed adults and that are believed to contribute to depression in adolescents. The study poled 45 adolescents
(ages 13-16), 15 of which were clinically depressed, 15 somewhat depressed, and 15 nondepressed. The clinically depressed group consisted of 12 females and 3 males. The somewhat depressed group consisted of 13 females and 2 males, and the nondepressed group consisted of 8 females and 7 males. Participants rated as clinically depressed were drawn from an outpatient unit from one of three general hospitals. The somewhat or nondepressed samples were recruited from either a residential agency caring for troubled adolescents or a junior high school.

Hammond and Romney's (1995) study utilized the Beck Depression Inventory (BDI; Beck et al., 1961) to determine the severity or existence of depression in the participants. The clinically depressed group scored 21 or higher on the BDI, while the somewhat depressed group scored between 10 and 19 and the nondepressed group scored within the range of 0 to 9. Furthermore, Kelly's Repertory Grid Technique (RepGrid; Kelly, 1955) was utilized to establish a list of names of individuals in the participant's life who fulfilled certain roles provided by the researcher. In addition, three variations of the self elements including: as you are now, as you would like to be in the future, and as others see you, were added to the RepGrid. Using a triangulation method, the researcher took three names as well as including the three possible variations of self and asked each individual to indicate how two of the selected items were alike, but different from the third. Using this method, 12 constructs including kind/mean, hopeful/hopeless, in control/out of control, and happy/sad were obtained. At the conclusion of the study, self-
Esteem, interpersonal isolation, pessimism about the future, polarized construing, and locus of control were also examined.

Results of the Hammond and Romney (1995) study indicated that the clinically depressed group had "lower self-esteem, greater pessimism about the future, more frequent polarized construing, increased interpersonal isolation, and a more external locus of control" (p. 667). These results are consistent with Beck's cognitive triad which suggests that depressed individuals have a negative view of themselves, their environment, and their future.

Recently, Anderson and Skidmore (1995) have attempted to examine the factor analytic evidence for the three components of Beck's cognitive triad. Participants consisted of 260 college undergraduates enrolled in psychology courses at the Utah State University. The mean age of the students was 24 with a range from 16-54. The Cognitive Triad Inventory (CTI; Beckham, Leber, Watkins, Boyer, & Cook, 1986), developed to measure all three components of Beck's cognitive triad, was administered to all the subjects.

A confirmatory factor analysis was completed by Anderson and Skidmore (1995) in an attempt to see if the items load on three distinct factors, (view of the self, view of the world, view of the future). The items were shown to be highly correlated yet distinct constructs for the most part. However, the negative and positive phrasing of the questions proved to be an important consideration. Negatively phrased questions assessing the view of the self did not form a distinct factor which is surprising since a view of the self is
considered to be the most significant correlate of depression among the cognitive triad factors. Furthermore, while it was expected that the negative and positive items would load inversely on the same domain, they did not; rather, these items tended to merge along positive and negative dimensions. This may indicate that instead of three domains with positive and negative factors unseparated, the items should be pooled into negative and positive domains as well. This reconstruction of the cognitive triad would lead to six factors instead of three with selected items referring to the same domain but divided into positive and negative dimensions. The authors note that the population utilized was a non-clinical sample generally yielding fewer cases of depression. Furthermore, the study should be replicated with adolescent clinical samples.

Finally, Stark, Schmidt, and Joiner (1996) have recently studied the effect of negative schema on parent-adolescent relationships. Specifically, the purpose of this study was to evaluate the relationship between a negative view of the self, the world, and the future, and depressive symptoms in children. In addition, relationships between the children’s cognitive triad and perceived parental messages as well as parental views of the self, the world and the future were evaluated. It was hypothesized that the parent’s cognitive triad would predict children’s perceptions of the messages the child received regarding himself or herself, the world, and the future, as well as the child’s own view of self, world and future. It was also hypothesized that the child’s cognitive triad would predict depressive symptoms.
Participants of the Stark et al. (1996) study consisted of 133 children from grades four through seven (35 boys and 98 girls). The students ranged in age from 9 to 14 with a mean age of 11.66. The participants were 82% White, 10% Hispanic, 6% African American, and 2% mixed. All of the participants were enrolled in regular education classrooms; however, 4% of the students were classified as learning disabled, and 1% as seriously emotionally disturbed. The students reported a broad range of depressive and anxious symptomatology as measured with the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS; Puig-Antich & Ryan, 1986).

This study (Stark et al., 1996) also utilized the Children's Depression Inventory (CDI; Kovacs, 1981) in order to determine the presence and severity of depressive symptoms, and the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985) to assess the presence and severity of anxiety. Further, the Cognitive Triad Inventory for Children (CTI-C; Kaslow, Stark, Printz, Livingston, & Tsai, 1992) was utilized to determine the child's view of the self, the world, and the future. Finally, the students completed the Family Messages Measure (FMM; as cited in Stark et al., 1996) to determine the child's perception of maladaptive and adaptive messages from a parent regarding the child, the world, and the child's future. Parents completed the Cognitive Triad Inventory (Beckham et al., 1986) to assess the parents' view of the self, the world, and the future. Results of several regression analyses in the Stark and colleagues (1990) study indicated that:

(1) children's views of self, world, and future (cognitive triad) are related to severity of depression; (2) mothers' but not fathers' cognitive triads are related to
their children's cognitive triads; (3) perceived parental messages to the children about the self, world, and future are predicted of the children's cognitive triads and ratings of depression; and (4) the relationship between perceived parental messages and depression is completely mediated by children's cognitive triads. (p. 615)

Results of this study support Beck's cognitive triad. Further implications include the importance of family communication, family involvement, and family support.

Beck's cognitive triad explains depressive disorders as a result of faulty cognitive processes. The negative view of the self, one's environment, and of one's future, according to Beck, results in depressive symptoms. This theory, and the supporting research has important implications for future research and the school psychologist. Specifically, research utilizing school-aged participants, may lead to interventions directed at the faulty cognitive process. For example, if it could be demonstrated that a student presenting with major depressive symptoms had a specific negative view of the environment, then interventions could be designed to help alter these perceptions.

Self-Control Model

A second cognitive model includes the self-control model of Kanfer and Rehm, which deals with depression in much the same way as Beck's model. Specifically, this model also attributes the symptomatology of depression to faulty cognitive processes. The self-control model involves the processes of self-monitoring, self-evaluation, and self-reinforcement. According to this theory, the individual with major depressive disorder is believed to have difficulty in one or more of these areas of self-control (Kaslow et al., 1994).
The process of self-monitoring involves the observation of one's own behavior along with antecedents and consequences (Rehm, 1986). For example, a student who is not turning in assignments may count the number of assignments turned in on time each day, and taking note of when he or she turns in an assignment on time or late. In a student with major depressive disorder, self-monitoring may become impaired with the individual selectively attending to negative events. Furthermore, the adolescent with major depressive disorder has a tendency to monitor immediate versus delayed consequences of his or her behavior (Kaslow et al., 1994; Rehm, 1986).

The process of self-evaluation is the individual's own estimation of performance resulting in a judgement of success or failure (Rehm, 1986). For example, the student may compare the actual number of assignments turned in for the day to a previously set goal. The individual with major depressive disorder may develop a maladaptive self-evaluation process by setting overly stringent criteria for success. Goals may be set too high resulting in almost certain failure. Further, failure in one instance may be overgeneralized to failure in all instances.

A second maladaptive process in self-evaluation is the depressed person's frequent failure to accurately determine the cause of consequences resulting in a feeling of helplessness. A depressed person may feel helpless in two ways. The first is the person's tendency to attribute consequences to external forces resulting in passivity and apathy. The second way a depressed person feels helpless is to excessively internalize failure but believes oneself unable to succeed (Rehm, 1986).
Koenig, Ragin, and Harrow (1995) point out that while many researchers attribute a depressed individual’s cognition to maladaptive self-evaluation, few researchers actually determine whether the cognition is accurate. For example, if an adolescent with depressive symptoms declares that he or she has no friends, it becomes important to evaluate whether that statement is true. According to the authors, the cognitions may only seem maladaptive compared to the optimistic thoughts of nondepressives. The researchers attempted to examine the self-evaluation process of depressed and nondepressed subjects as well as determine whether or not the depressed individual’s self-evaluation is accurate.

Participants of the study which were classified as depressed included 18 patients from two psychiatric hospitals in the Chicago area. The normal control group consisted of 47 undergraduate students recruited from psychology courses at the University of Illinois at Chicago. The two groups did not differ significantly, in gender, age or educational level (Koenig et al., 1995).

Participants were asked to interpret 20 proverbs from the Gorham Proverbs Test. Following completion of the task, subjects were asked to evaluate the items that they answered as well as those answered by others as: “very atypical, somewhat atypical, fairly typical, or very typical of the response most people would give” (Koenig et al., 1995, p. 509). Independent raters also scored the items using the method outlined by Gorham. A method for determining whether the two raters agreed or not was designed.
Results indicated that accuracy for self versus others was less accurate than other-evaluations in both the depressed and nondepressed samples. However, this trend was more significant in the depressed group. While this study needs further replication with adolescents, its initial findings support the position that in individuals presenting depressive symptoms, self-evaluation may become maladaptive. An area that remains to be evaluated or investigated concerns the original hypothesis of the Koenig et al. (1995) study. If the negative cognitions of an individual with major depressive disorder are accurate, is it the depression that is causing the cognitions or is it the cognitions that contribute to the depressive symptoms? Research investigating this question might be useful for the design and implementation of interventions.

The process of self-reinforcement involves independent self-reward or punishment to oneself. For example, the student who successfully turns in all of his or her assignments for a week may reward himself or herself overtly by going out for ice cream, or covertly by feeling a sense of personal satisfaction. The depressed individual fails to reward himself or herself for success and excessively punishes himself or herself for perceived failures (Kaslow et al., 1994; Rehm, 1986).

The failure to reinforce oneself or to excessively punish oneself was examined by Nelson and Craighead (1977). Their study sought to examine not only the perception of reinforcement and punishment as discussed earlier, but the process of self-reinforcement and self-punishment as well. The 59 introductory psychology students, 34 of which were classified as nondepressed and 24 of which were classified as depressed, were asked to
rate answers to a series of slides as (1) good or (2) bad. Results indicated that while depressed subjects and nondepressed subjects self-punished at an equal rate, the depressed subjects self-reinforced substantially less often.

Nelson and Craighead (1977) note that previous studies generally have focused on overt reinforcers (e.g., candy or money); however, they argue that covert reinforcers are equally important. Furthermore, implications of this theory may be important with school-aged participants as the processes of self-monitoring, self-evaluation, and self-reinforcement are essential parts of learning in the classroom.

**Self-Report Assessment Measures**

The seriousness of depressive syndromes in the adolescent population calls for a careful examination of the assessment procedures used to assess and diagnose depressive disorders in adolescents. Some of the commonly used assessment tools have included projective measures, clinical interviews, and self-report instruments. For the purpose of this review, however, self report assessment measures will be discussed solely.

Self-report assessment measures are commonly used by school psychologists in an effort to quickly identify those students who may be in need of additional services. These measures have multiple advantages including ease of administration, and ease of establishing psychometric properties of reliability and validity. Furthermore, self-report assessment tools possess clinical utility because they tap internalized symptoms such as sadness and anhedonia that are not necessarily obvious to other people.
When utilizing self-report measures, disadvantages must be considered as well. For example, the psychologist must consider the ability of the youth to accurately report their feelings. A second concern relates to the ability of the instrument to differentiate depression from other commonly coexisting childhood disorders such as anxiety; and, the degree of convergence across assessment data is an equally important factor.

However, for the school psychologist, the identification of the students with major depressive disorders remains essential, as the unidentified disorder is likely to lead to further emotional, social, and academic problems. Therefore, the Beck Depression Inventory, one of the most commonly used self-report measures, will be examined. A brief overview of the purpose of the test as well as normative data will be given. Further, the ability of the measure to tap into the symptoms that are relevant to depression (construct validity) will be considered. Finally, the ability of the measure to discriminate (discriminant validity) depression from other commonly coexisting disorders will be examined, as well as information regarding how the measure compares (concurrent validity) with other similarly utilized instruments.

**Beck Depression Inventory**

The Beck Depression Inventory (BDI; Beck et al., 1961) is a self-report assessment tool designed in 1961 (BDI-I) and revised in 1971 (BDI-IA; Beck & Steer, 1993) to measure overall severity of depression. The BDI was developed out of Beck’s cognitive triad model of depression. Recently, Beck, Steer, and Brown (1996) revised the BDI-IA to make the items consistent with the DSM-IV depressive criteria. Four new
items addressing agitation, worthlessness, loss of energy, and concentration difficulty were written to replace the BDI-IA items addressing body image change, work difficulty, weight loss, and somatic preoccupation. The BDI-II was developed for use with psychiatric populations although the authors suggest the instrument might be appropriate for use of with non-clinical adults and adolescents. The BDI-II may be administered by group or individual assessment, oral or written. The items for the BDI-II tap into the cognitive and somatic-affective states of the individual, asking about depressive symptoms and attitudes. Participants are asked to choose among four alternatives. For example: (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," and (3) "I am so sad or unhappy that I can't stand it." Scoring is as simple as summing the items. Scores for the BDI-II range from 0-63 with 0-9 indicating minimal depression, 10-16 mild depression, 17-29 moderate depression, and 30-63 severe depression. The 21 items cover the following symptoms: cognitive, affective, somatic and vegetative (Beck & Steer, 1993).

The original BDI manual provides little normative data with a sample consisting of 944 adult outpatients with mixed diagnosis. Item-total scale correlations range from .07 to .68 with most values above .30 indicating good internal consistency. Cronbach alpha reliability indices range from .79 to .90 indicating good overall reliability (Beck & Steer, 1993).

Teri (1982) attempted to provide normative data with an adolescent sample, in an effort to determine whether or not the original BDI is a suitable measure for this
population. A sample of 645 students, grades 9 through 12 were utilized. The participants were from a Vermont high school selected because of socioeconomic heterogeneity along with a rural and semi-urban mixture of students. Of the 645 students, 568 returned usable questionnaires. This sample consisted of 228 males and 340 females ranging in age from 14-17. All participants completed the BDI along with a demographic information questionnaire.

Results from this study indicated that the mean BDI score for the total sample was 8.47 with a standard deviation of 8.03. The results also indicated that more females than males reported high levels of depressive symptoms. Furthermore, participants reporting an F grade point average also reported more depressive symptoms than those reporting grades of C or better. Participants living without their natural parents also indicated significantly more depressive symptoms than those residing with one or both of their natural parents (Teri, 1982).

Findings from research bearing on the factorial structure of the BDI have indicated from one through seven factors. For example, Byrne and Pierre (1990) attempted to examine the factorial structure of this instrument in a Canadian high school sample. The researchers utilized a sample of 9th through 12th graders all from the same secondary school in metropolitan Canada. The participants ranged in age from 12 to 18 years. Each participant completed the BDI along with several other assessment measures. Common factor analyses were conducted for potential 2-, through 7-factor solutions with a value of .35 as the cut-off point for judging the item-factor saliency. The researchers reported that
the 2-factor and those based on more than four factors were rejected for several reasons including the fact that the factors were ill defined, the pattern changed drastically from one loading to the other, and that other statistical criteria such as goodness-of-fit were unsatisfactory. Results of the study indicated a 4-factor solution, as well as a more plausible 3-factor solution.

Within the 4-factor solution, eight items loaded on the factor labeled negative attitude, three items loaded on the physiological factor, and two items loaded on the Performance Difficulty factor. The fourth factor shared items that were representative of a Negative Attitudes and Performance Difficulty factor therefore making the solution less meaningful due to the item cross-loadings. Within the 3-factor solution, nine items loaded on Negative Attitudes, seven items loaded on the Performance Difficulty factor, and two items loaded on the Physiological factor. Overall, Byrne and Pierre (1990) accepted the three factor solution as most appropriate for the Canadian high school sample.

Another attempt has been made to examine whether the BDI is an appropriate measure for adolescents. Specifically, these researchers examined evidence for convergent and discriminant validity of the BDI (Barrera, & Garrison-Jones, 1988). Two groups of students were utilized. The first group consisted of 65 participants aged 12 to 17 from a private psychiatric facility. Secondly, a sample of 49 participants from a secondary school was utilized. Measures included the BDI, the Child Assessment Schedule (CAS; Hodges, Kline, Stern, Citron, & McKnew, 1982), and the Perceived Competence Scale for Children (PCSC; Harter, 1982). The CAS (a semi-structured interview) was administered
to identify those students who would be labeled depressed. Of the hospitalized patients, 27 met diagnostic criteria for Major Depressive Episode; of these patients, 25 also met criteria for at least one other diagnosis most commonly conduct disorder, overanxiousness, or separation anxiety. Of the 38 hospitalized participants who were not identified as depressed, 32 were identified as conduct disordered and some also were identified as overanxious or having avoidant disorders. Of the non-hospitalized students, 5 met criteria for major depressive episode, while three obtained additional diagnosis. Of the non-depressed non-hospitalized participants, 7 met diagnostic criteria for some type of psychological disorder. That is, four of these students received a diagnoses of conduct disorder, two oppositional disorder, and one overanxious disorder.

The authors noted that because of the multiple participants who were diagnosed with depressive disorders and other coexisting disorders, it was important to establish evidence of convergent and discriminant validity. For the clinical sample, the BDI was significantly correlated with the depression items on the CAS with a coefficient of .49 and general self-worth at -.40. Further, BDI scores were not significantly related to CAS items pertaining to conduct disorder or anxiety symptoms. These relationships support concurrent and discriminant validity, respectively. For the non depressed and nonhospitalized sample, the BDI was significantly correlated with depression items on the CAS with a coefficient of .73 and general self worth at -.64. The BDI was significantly related to conduct disorder symptoms at .29 and anxiety symptoms at .29.
While the BDI demonstrates adequate reliability and a certain degree of concurrent
and discriminant validity with adult samples, more research is needed with adolescents in
order to promote its use with that population. Further, researchers express dismay
regarding the use of the BDI for a screening measure, since the BDI was developed to
measure the severity of depression in already diagnosed patients (Reynolds, 1994).

Summary and Conclusions

The present review has examined several issues related to adolescent depression. Specifically, the review has presented (a) an overview of the major depressive disorder
criteria for children and adolescents, (b) an overview of cognitive theory that has
attempted to explain the cause(s) of depression in adolescents, and (c) the psychometric
adequacy of the BDI, a measure of adolescent depression that is related to the identified
theory that has been examined. After careful examination of the current literature, it is
clear that questions still exist.

The BDI is an easily utilized self-report assessment tool for the assessment of
depressive symptoms. Although this commonly used measure has been examined
extensively in the literature, questions still remain regarding their theoretical foundations
and psychometric characteristics. For example, the BDI is intended to utilize Beck’s
cognitive triad but seems to examine many more factors than is suggested by the
theoretical framework from which it evolved. Future directions might include sampling
items directly from the domains of depression as noted by Beck’s cognitive triad.
Depression is one of the most common psychological disorders shared by adolescents and children, affecting all aspects of their lives. Research tells us that depressive syndromes may lead to school failure, drug abuse and mental health problems later in life. For the school psychologist, it is essential to be able to recognize, assess, and provide interventions for depressed students. In order for the school psychologist to be effective in recognizing depressive symptoms in adolescents, it is necessary to have measures that accurately define and assess the symptoms of depression. Without valid measures, the school psychologist will not be able to accurately identify those students who may be in need of help for immediate intervention or referral.
CHAPTER 3

METHOD

Participants and Procedure

Participants included 177 adolescent boys and girls from a laboratory school in Midwestern Iowa. Specifically, the sample included 97 boys (Mean age = 16.18 years, SD = 1.21) and 78 girls (Mean age = 15.66 years, SD = 1.19). Participants, ranging in age from 14-18 years were recruited from grade 9 through 12 classrooms. Participants were approximately equally distributed across grade level. Data from two of the participants were dropped from this study because of inadequate background information.

Five self-report questionnaires (discussed below) were assembled into a questionnaire packet for administration. The questionnaires selected were: the Beck Depression Inventory-IA (BDI:IA; Beck & Steer, 1993), the Beck Hopelessness Scale (BHS; Beck et al., 1974), the Positive and Negative Suicide Ideation Inventory (PANSI; Osman, Gutierrez, Kopper, Barrios, & Chiros, 1998), the Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988), and the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985). Three measures were used to assess positive constructs; three instruments were also used to assess negative constructs related to depression.

The packets were distributed by the researcher during one preestablished questionnaire administration session, and returned by the participants at that time. Students were allowed approximately a half-hour to complete the questionnaires at the
beginning of English classes throughout the day. The researcher read a prepared statement to the students indicating that participation was voluntary. Informed consent was not obtained, due to the policy of the school and approval by the director of the school administrator. The statement is attached to this thesis as an appendix (see Appendix F).

Based on responses on the BDI-A, four groups were identified: boys who scored at or above 10 on the BDI-A, boys who scored below 10 on the BDI-A, girls who scored at or above 10 on the BDI-A, and girls who scored below 10 on the BDI-A. Initially, this study planned to utilize a BDI-A score of 17 as the cutoff criterion, indicating students who are considered to have moderate depressive symptoms. Preliminary analyses, however showed that of the 177 participants only 13% met this preestablished criterion. Because of the small sample size identified when using this cut off score, we lowered the criterion to a BDI-A score of 10. The subsequent analyses identified 68 students with mild depressive symptoms. This group was referred to as the subclinical depressed group. Of the 68 students, 36 were male and 32 were female.

Measures

*The Beck Depression Inventory-IA (BDI-IA).* The BDI-A (Beck & Steer, 1993) is a self-report assessment scale originally designed in 1961 (Beck et al., 1961) which is intended to measure overall severity of depression. Comprised of 21 items, these are rated on a 4-point scale to gauge discomfort experienced in the past week including today. The items are consistent with depressive criteria described in the Diagnostic and Statistical
Administration time of the BDI-IA is reportedly less than 15 minutes. A total score is obtained by summing the items, and ranges from 0-63. Among depressed patients, scores in the 0-9 range indicate “Minimal” depression, 10-16 suggest “Mild” depression, 17-29 are considered “Moderate,” and scores in the 30-63 range indicate “Severe” levels of depression. Finally, when compared with the BDI-II, the BDI-IA is shown to correlate within 1 point for the same variables including sex, ethnicity, age, and the diagnosis of a mood disorder (Beck et al., 1996).

The Beck Hopelessness Scale (BHS). The BHS (Beck et al., 1974) is a self-report instrument designed to assess hopelessness about the future. The measure is comprised of 20 true-false items and is scored by reverse scoring 10 items and simply summing ratings on the items. A score exceeding nine is considered significant. The BHS is shown to possess high internal consistency with coefficients in the .90s as well as possessing concurrent validity when compared with clinicians’ ratings of hopelessness (Beck et al., 1974).

The Positive and Negative Suicide Ideation Inventor (PANSI). The PANSI (Osman et al., 1998) is the only measure to date designed for assessing the frequency of both positive and negative thoughts related to suicidal ideation and attempts. The measure consists of 14 items based on the assumption that a high prevalence of negative thoughts in combination with few positive thoughts present as risk factors for suicidal behavior. Specifically, an item would read: “Thought about killing yourself because you
could not find a solution to a personal problem?” or “Felt confident about your plans for
the future?” Each item is rated on a scale ranging from 1 (none of the time) to 5 (most of
the time). Initial validation shows that the PANSI is a reliable two-factor self-report
measure of the frequency of suicidal ideation and also serves as a useful adjunct in
predicting current and prior suicidal ideation (Lester, 1998).

**The Positive and Negative Affect Scale (PANAS).** The PANAS (Watson et al.,
1988) is a 20-item measure utilizing 10 positive and 10 negative affect adjectives.
Participants are asked to rate “the extent you feel this way right now” on a 5-point Likert
Scale from 1 (very slightly or not at all), to 5 (extremely). Some studies have asked
participants to rate the way “you feel this way right now; today; during the past few days;
during the past week; during the past few weeks; during the past year; and how you feel
on the average.” The 10-item scales have been shown to be internally consistent and
possess excellent convergent and discriminant validity when compared with other
lengthier measures (Watson et al., 1988). The PANAS has been utilized to assess
positive and negative affect in various studies examining athletes (Irving, Snyder, &
Crowson, 1998), academic stress (Weidner, Kohlmann, Dotzauer, & Burns, 1996),
empathy towards the elderly (Eisenberg & Okun, 1996), and aggression (Anderson,
Anderson, & Deuser, 1996). The PANAS was rated on a two-week period.

**The Satisfaction with Life Scale (SWLS).** The SWLS (Diener et al., 1985) was
developed to assess life satisfaction as a cognitive-judgmental process. The scale consists
of five statements that the participant is asked to agree or disagree with. For example, item
Participants’ responses are rated on a 7-point scale where 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree, and 7 = strongly agree. The SWLS has been shown to be reliable and valid as well as useful for several age groups (Neto, 1993). Finally, the SWLS has repeatedly demonstrated its ability to measure a single construct (Lewis, Shevlin, Bunting, & Joseph, 1995; Shevlin & Bunting, 1995).

Data Analysis-Overview

Hypothesis #1: It was hypothesized that participants in the subclinical group would score higher than those in the control group on the three negative measures.

To test this hypothesis, all participants who obtained scores at or above 10 on the BDI-A were placed in the sub-clinical group, those participants who obtained scores below 10 on the BDI-A were placed in the control group. The dependent variables included scores on the PANAS - Negative Scale (Watson et al., 1988), PANSI - Negative Scale (Osman et al., 1998), and the BHS (Beck et al., 1974). The analysis was a 2 (groups) by 3 (measures) multivariate analysis of variance (MANOVA) as the dependent variables are moderately to highly correlated. If the MANOVA was significant, follow-up analyses were completed to examine differences between the groups on the dependent measures, using a one-way analysis of variance (ANOVA).

Hypothesis #2: It was hypothesized that participants in the control group would score higher than those in the sub-clinical group on the positive measures.
To test this hypothesis, all participants who obtained scores at or above 10 on the BDI-A were placed in the sub-clinical group, those participants who obtained scores below 10 on the BDI-A were placed in the control group. The dependent variables included scores on the PANAS - Positive Scale (Watson et al., 1988), PANSI - Positive Scale (Osman et al., 1998), and the SWLS (Diener et al., 1985). The analysis was a 2 (groups) by 3 (measures) multivariate analysis of variance (MANOVA) as the dependent variables were moderately to highly correlated. If the MANOVA was significant, follow-up analyses were completed to examine differences between the groups on the dependent measures, using a one-way analysis of variance.

Hypothesis #3: It was hypothesized that when boys who score high on the BDI-A (subclinical) were compared with girls who score high on the BDI-A, girls would obtain higher scores on the three negative measures.

To test this hypothesis all participants who obtained scores at or above 10 on the BDI-A were placed in the sub-clinical group. The dependent variables included scores on the PANAS - Negative Scale (Watson et al., 1988), PANSI - Negative Scale (Osman et al., 1998), and the BHS (Beck et al., 1974). The analysis was a 2 (groups) by 3 (measures) multivariate analysis of variance (MANOVA) as the dependent variables were moderately to highly correlated. If the MANOVA was significant then follow-up analyses were completed to examine differences between the groups on the dependent measures, using a one-way analysis of variance (ANOVA).
Hypothesis #4: It was hypothesized that when boys who score low on the BDI-A are compared with girls who score low on the BDI-A, girls would obtain lower scores on the positive measures.

To test this hypothesis all participants who obtained scores below 10 on the BDI-A were placed in the control group. The dependent variables included scores on the PANAS - Positive Scale (Watson et al., 1988), PANSI - Positive Scale (Osman et al., 1998), and the SWLS (Diener et al., 1985). The analysis was a 2 (groups) by 3 (measures) multivariate analysis of variance (MANOVA) as the dependent variables were found to be moderately to highly correlated. If the MANOVA was significant, follow-up analyses were conducted to examine differences between the groups on the dependent measures, using a one way analysis of variance.

Hypothesis #5: It was hypothesized that boys in the sub-clinical group would obtain higher scores on positive measures than girls in the control group.

To test this hypothesis all participants who obtained scores at or above 10 on the BDI-A were assigned to the sub-clinical group, those participants who obtained scores below 10 on the BDI-A were placed in the control group. The dependent variables included scores on the PANAS - Positive Scale (Watson et al., 1988), PANSI - Positive Scale (Osman et al., 1998) and the SWLS (Diener et al., 1985). The analysis was a two (groups) by three (measures) multivariate analysis of variance (MANOVA) as the dependent variables were moderately to highly correlated. If the MANOVA was
significant, follow-up analyses were performed to examine differences between the groups on the dependent measures, using a one-way analysis of variance.
CHAPTER 4

RESULTS

Hypothesis #1

It was hypothesized that participants in the sub-clinical group would score higher than those in the control group on the three negative self-report measures. Based upon the participants’ scores on the BDI-A (Beck & Steer, 1993), two groups were identified. Participants who obtained scores at or above 10 on the BDI-A were assigned to the sub-clinical group (mild symptoms according to the BDI-A) \((n = 68)\); those participants who obtained scores below 10 on the BDI-A were assigned to the control group \((n = 107)\). In order to determine whether the sub-clinical group scored higher than the control group on the three negative mood measures, a multivariate analysis of variance (MANOVA) was conducted. The dependent variables included scores on the PANAS - Negative Scale (PANAS-NA; Watson et al., 1988), the PANSI - Negative Scale (PANSI-NA; Osman et al., 1998), and the BHS (Beck et al., 1974). Specifically, the analysis was a 2 (groups) \(\times\) 3 (negative measures) multivariate analysis of variance (MANOVA) with the negative scores as dependent variables. The MANOVA procedure was used because of moderate correlations among the dependent variables. The MANOVA results indicated that there was a significant multivariate effect for groups \([\text{Hotelling's } T^2 = .65, \text{ exact } F(3, 171) = 37.04, p<.001]\). The separate univariate follow-up analysis of variance (ANOVA) results also revealed significant group differences for all the negative measures. Specifically, Group 2 (sub-clinical) obtained significantly higher scores than Group 1
(control) on all three negative measures. The mean scores for each of the dependent variables are presented in Table 1.

**Hypothesis #2**

It was hypothesized that participants in the control group would score higher than those in the sub-clinical group on the positive measures. To test for differences between the control and sub-clinical groups on the positive mood measures, all participants who obtained scores at or above 10 on the BDI-A were placed in the sub-clinical group, those participants who obtained scores below 10 on the BDI-A were placed in the control group. The dependent variables included scores on the PANAS - Positive Affect Scale (PANAS-PA; Watson et al., 1988), PANSI - Positive Scale (PANSI-PA; Osman et al., 1998), and the SWLS (Diener et al., 1985). The analysis also involved a 2 (groups) by 3 (measures) multivariate analysis of variance (MANOVA) with the three positive measures as dependent variables. Results of the MANOVA found significant differences for groups, [Hotelling's $T^2 = .52$, exact $F(3, 171) = 29.68, p < .001$]. The subsequent separate univariate ANOVA results also revealed significant group differences for all of the positive mood measures $ps < .05$. Specifically, Group 1 (control) obtained significantly higher mean scores on the PANAS-PA ($p < .001$), the PANSI-PA ($p < .001$), and the SWLS ($p < .001$). Results are presented in Table 2.
Table 1

Means and Standard Deviations of Sub-Clinical and Control Groups on Negative Measures

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>PANSI-NA</th>
<th>PANAS-NA</th>
<th>BHS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group 1 Mean &amp; SD</strong></td>
<td>1.09</td>
<td>18.55</td>
<td>3.32</td>
</tr>
<tr>
<td><strong>Group 2 Mean &amp; SD</strong></td>
<td>1.74</td>
<td>26.49</td>
<td>7.28</td>
</tr>
</tbody>
</table>

Table 2

Means and Standard Deviations of Sub-Clinical and Control Groups on Positive Measures

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>PANAS-PA</th>
<th>PANSI-PA</th>
<th>SWLS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group 1 Mean &amp; SD</strong></td>
<td>37.83</td>
<td>4.10</td>
<td>25.48</td>
</tr>
<tr>
<td><strong>Group 2 Mean &amp; SD</strong></td>
<td>29.76</td>
<td>3.25</td>
<td>18.91</td>
</tr>
</tbody>
</table>
Hypothesis #3

It was hypothesized that when boys who scored high on the BDI-A (sub-clinical depressed) are compared with girls who scored high on the BDI-A, girls will obtain higher scores on the three negative measures. To test the differences between boys and girls in the sub-clinical group on the negative mood measures, all participants who obtained scores at or above 10 on the BDI-A were assigned to the sub-clinical group. The dependent variables included scores on the PANAS - Negative Scale (PANAS-NA; Watson et al., 1988), PANSI - Negative Scale (PANSI-NA; Osman et al., 1998), and the BHS (Beck et al., 1974). We performed a 2 (groups) by 3 (measures) multivariate analysis of variance (MANOVA) with the negative scores serving as dependent variables. The MANOVA results showed that there was no significant multivariate effect for groups, [Hotelling’s $T^2 = .05$, exact $F(3, 64) = .97$, $p<.001$]. Means and standard deviations on the dependent measures for the two groups are shown in Table 3.

Because of this unexpected finding, we attempted to replicate the analysis with participants who obtained a BDI-A score of 17 or greater. Results are given in Appendix G.
Table 3

Means and Standard Deviations of Boys and Girls in the Sub-Clinical Group

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>PANAS-NA</th>
<th>PANSI-NA</th>
<th>BHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female Mean &amp; SD</td>
<td>25.53</td>
<td>7.10</td>
<td>1.67</td>
</tr>
<tr>
<td>Male Mean &amp; SD</td>
<td>25.56</td>
<td>7.30</td>
<td>1.81</td>
</tr>
</tbody>
</table>

Hypothesis #4

It was hypothesized that when boys who scored low on the BDI-A were compared with girls who scored low on the BDI-A, girls would obtain lower scores on the positive measures. To test the differences between boys and girls who are in the control group on the positive mood measures, only participants who obtained scores below 10 on the BDI-A (low BDI-A scorers) were included in this analysis. The independent variable was gender, and the dependent variables included scores on the PANAS - Positive Scale (PANAS-PA; Watson et al., 1988), PANSI - Positive Scale (PANSI-PA; Osman et al., 1998), and the SWLS (Diener et al., 1985). The analysis was a 2 (gender) by 3 (measures) multivariate analysis of variance (MANOVA) as the dependent variables were moderately to highly correlated. The MANOVA result suggested no significant multivariate effect for groups, [Hotelling’s $T^2 = .02$, exact $F(3, 64) = .45$, p<.001].
Hypothesis #5

Finally, it was hypothesized that males in the sub-clinical group would obtain higher scores on the positive measures than girls in the control group. We tested the difference between boys in the sub-clinical group and girls in the control group on the positive mood measures. Boys who obtained scores at or above 10 on the BDI-A were assigned to the sub-clinical group (n = 68), girls who obtained scores below 10 on the BDI-A were placed in the control group (n = 107). The dependent variables included scores on the PANAS - Positive Scale (PANAS-PA; Watson et al., 1988), PANSI - Positive Scale (PANSI-PA; Osman et al., 1998) and the SWLS (Diener et al., 1985). The analysis was a 2 (groups) by 3 (measures) multivariate analysis of variance (MANOVA) because the dependent variables were moderately to highly correlated. The MANOVA was significant for groups, [Hotelling's T² = 1.4, exact F(3, 54) = 25.13, p<.001]. Table 4 presents the group means and standard deviations for the dependent measures. Overall, we found that Group 2 (control group--girls) had higher scores than Group 1 (sub-clinical group--boys) on the PANAS--Positive Scale (PANAS-PA; Watson et al., 1988) (p<.001), PANSI--Positive Scale (PANSI-PA; Osman et al., 1998) p<.001; and the SWLS (Diener et al., 1985), p<.001.
Table 4

Means and Standard Deviations of Boys in the Sub-Clinical Group and Girls in the Control Group

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>PANAS-PA</th>
<th>PANSI-PA</th>
<th>SWLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 Mean &amp; SD</td>
<td>24.75</td>
<td>2.72</td>
<td>16.55</td>
</tr>
<tr>
<td>Group 2 Mean &amp; SD</td>
<td>38.26</td>
<td>4.18</td>
<td>25.54</td>
</tr>
</tbody>
</table>

Additional Analyses: Intercorrelation Among Measures

The intercorrelation among the selected measures were examined using the Pearson moment correlation analysis. Results see (see Table 5) showed moderate ($r = -.30$) to high ($r = -.67$) correlations among the seven measures. This finding strongly guided the use of the multivariate analyses procedure in examining differences between the study groups.
Table 5

Intercorrelation Among the Selected Measures\(^a\)

<table>
<thead>
<tr>
<th></th>
<th>BDI-A</th>
<th>BHS</th>
<th>PANAS-NA</th>
<th>PANAS-PA</th>
<th>PANSI-N</th>
<th>PANSI-P</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI-A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BHS</td>
<td>.64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PANAS-N</td>
<td>.56</td>
<td>.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PANAS-P</td>
<td>-.65</td>
<td>-.66</td>
<td>-.34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PANSI-N</td>
<td>.65</td>
<td>.50</td>
<td>.35</td>
<td>-.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PANSI-P</td>
<td>-.64</td>
<td>-.67</td>
<td>-.43</td>
<td>.64</td>
<td>-.47</td>
<td></td>
</tr>
<tr>
<td>SWLS</td>
<td>-.55</td>
<td>-.53</td>
<td>-.47</td>
<td>.56</td>
<td>-.30</td>
<td>.56</td>
</tr>
</tbody>
</table>

\(^a\)All correlations were significant at the \(p<.001\)
CHAPTER 5

DISCUSSION

Depression is acknowledged to be a complex psychological disorder shared by many children and adolescents. It is a serious mental health problem affecting between three and five percent of students when using criteria set forth by the Diagnostic Statistical Manual of Mental Disorders (Stark, 1990). Depression impacts the student in almost every aspect of functioning including physical, social, and academic. This study was designed in response to the need for researchers, parents, clinicians, and teachers to have some understanding of the nature of depression and its effects on children and adolescents. Specifically, the purpose of this study was to examine the differences between high and control students and whether or not gender was an influential variable to consider. The relationships between depression, satisfaction with life, hopefulness, and suicide were investigated in male and female subgroups.

As hypothesized, the sub-clinical group scored significantly higher on all three negative measures. This is an important consideration when attempting to identify students who may be depressed. One could expect that adolescents who are depressed would be experiencing elevated levels of hopelessness, suicidal ideation, and negative affect.

The second hypothesis was also supported. Girls and boys in the control group scored significantly higher than those in the sub-clinical group on the three positive measures. Consistent with what is typically seen in clinic and nonclinic settings,
adolescents who present with low levels of depressive symptoms tend to report higher levels of positive affect. That is, these students would be more hopeful, would have more positive thoughts about life, and tend to possess higher levels of positive affect.

The third hypothesis was not supported. Results suggested that there were no significant gender differences between boys and girls in the sub-clinical group on the negative measures. Overall, the mean scores for boys on the negative measures were higher than those reported by the girls. However, it should be noted that the highest score on the BDI-A (a score of 40) was obtained by a girl. This score is significantly higher than the highest BDI-A score obtained by a boy. This is an important point as previous research has suggested that females generally report higher levels of depressive symptoms than males when males and females are compared.

The fourth hypothesis was not supported. It was hypothesized that when boys and girls in the control group were compared, girls would have lower scores than boys on the positive measures. Results suggested that there were no significant gender differences among boys and girls in the control group. Overall, girls in the control group actually had higher scores on the positive measures than boys in the control group. That the third and fourth hypotheses were not supported may relate to several confounding factors in this study. For example, the sample recruited for this study was not large enough to identify a large sample size of moderately depressed students. As a result, the researcher had to use a lower BDI-A cut off score to identify a sample of sub-clinical depressed students. In addition, the data collection process may have hindered the results of the study. During
data collection, many students sat very close together. It is possible that discussion between students about certain items might have occurred. This may have affected the students’ tendency to provide relevant information.

The final hypothesis was not supported. The analysis suggested that there were significant differences between the two groups (control group - girls and sub-clinical boys). However, results indicated that the control group of girls had higher scores on the three positive measures than the sub-clinical group of boys.

The results of this study suggest that there are no gender differences among depressed participants, and no gender differences among non-depressed participants in regards to suicidal ideation, positive and negative affect, hopelessness, and satisfaction with life. These results may add further to the argument about gender differences among depressed adolescents. Over the years, there has been a continuing argument in the depression literature about whether there are gender differences, and in particular about whether adolescent females are worse off than their male counterparts. For example, studies discussed below utilized depressed and non-depressed adolescent participants. The results of some of these studies contradict the present findings that there are no specific gender differences among depressed participants. Specifically, Altmann and Gotlib (1988) found a number of gender differences regarding self-esteem and depression. These researchers found that depressed female adolescent participants actually felt more positively about social competence and conduct than depressed boys. However, females reported lower self-esteem and a more negative body image. In addition, Olsson and von
Knorring (1998) found that depressed boys were more likely to experience sadness, crying and suicide ideation, whereas girls were more likely to experience a sense of failure, guilt, self-dislike and unattractiveness. However, these studies examined variables not included with this study. Future research might include investigating variables other than hopelessness, suicide ideation, satisfaction with life, and affect.

Finally, the results of the following studies are consistent with the findings of this study. Results of Faied's (1998) recent study found that while suicide ideation increases with the level of depression there were no significant gender differences. These findings are in agreement with all five hypotheses. Of particular importance is the final hypothesis which indicates that level of depression is a more important factor than gender when assessing suicide ideation.

The results of this study raised additional questions about the nature of depression in adolescents. As a result, further replication of the findings are necessary. Future investigators may include assessing depression in relationship to other factors. In addition, future investigations may wish to utilize a larger sample so that a larger number of depressed participants may be identified. Future investigations may also wish to administer questionnaires to participants in small groups during data collection in order to obtain independent responses of students. Finally, serious questions remain about the use of psychometrically defined cut off scores in identifying non-clinical adolescents as either depressed or non-depressed. We note that, in the development and validation of the BDI-A, adolescent samples were not adequately represented. Future investigations might work
on identifying clinically useful cut off scores using procedures such as logistic regression and receiver operating characteristic (ROC) curve analyses.
REFERENCES


APPENDIX A

BACKGROUND INFORMATION
BACKGROUND INFORMATION

AGE: _______  Gender: Male  Female

YEAR/GRADe IN SCHOOL (Circle only one)

___1. 9-10th Grade ___2. 11th Grade ___3. 12th Grade

ETHNIC/RACIAL GROUP:

___1. WHITE/EUROPEAN AMERICAN ___2. AFRICAN AMERICAN
___3. ASIAN AMERICAN ___4. HISANIC/LATINO AMERICAN
___5. AMERICAN INDIAN/ALASKA NATIVE ___6. OTHER (e.g., Bi-Racial)

SES

How far did your parent(s) get in school? Chose one parent to rate.

1 = Graduated high school  2 = Completed part College
3 = Graduated, 2-year college/technical school
4 = Graduated, 4-year college (Bachelor’s degree)
5 = Graduated, 4-year college (Master’s degree)
6 = Graduated, Professional School (e.g., Ph.D; M.D., etc.)
APPENDIX B

BECK HOPELESSNESS SCALE
This questionnaire consists of 20 statements. Please read the statements carefully one by one. If a statement describes your attitude for the past week including today, circle (T) indicating TRUE next to the statement. If the statement does not describe your attitude, circle (F) indicating FALSE next to this statement. Please be sure to read each statement carefully.

1. I look forward to the future with hope and enthusiasm.
2. I might as well give up because there is nothing I can do about making things better for myself.
3. When things are going badly, I am helped by knowing that they can not stay that way forever.
4. I can’t imagine what my life would be like in ten years.
5. I have enough time to accomplish the things I want to do.
6. In the future, I expect to succeed in what concerns me most.
7. My future seems dark to me.
8. I happen to be particularly lucky, an I expect to get more of the good things in life than the average person.
9. I just can’t get the breaks, and there’s no reason I will in the future.
10. My past experiences have prepared me well for the future.
11. All I can see ahead of me is unpleasantness rather than pleasantness.
12. I don’t expect to get what I really want.
13. When I look ahead of the future, I expect that I will be happier than I am now.
14. Things just don’t work out the way I want them to.
15. I have great faith in the future.
16. I never get what I want, so it’s foolish to want anything.
17. It’s very unlikely that I will get any real satisfaction in the future.
18. The future seems vague and uncertain to me.
19. I can look forward to more good times than bad times.
20. There’s no use in really trying to get anything I want because I probably won’t get it.
APPENDIX C

SATISFACTION WITH LIFE SCALE
Below are five statement with which you may disagree or disagree. Using the scale below, indicate your agreement with each item by placing in the appropriate number on the line preceding that item. Please be open and honest in your responding.

1 = Strongly disagree
2 = Disagree
3 = Slightly disagree
4 = Neither agree nor disagree
5 = Slightly agree
6 = Agree
7 = Strongly Agree

1. In most ways my life is close to ideal.

2. The conditions of my life are excellent.

3. I am satisfied with my life.

4. So far I have gotten the important things I want in life.

5. If I could live my life over, I would change almost nothing.
APPENDIX D

POSITIVE AND NEGATIVE SUICIDE IDEATION
Below is a list of statements that may or may not apply to you. Please read each statement carefully. Using the scale below, indicate your agreement with each item by placing in the appropriate number on the line preceding that item. During the past two weeks, including today, how often have you:

1 = None of the time
2 = Very rarely
3 = Some of the time
4 = A good part of the time
5 = Most of the time

1. Seriously considered killing yourself because you could not live up to the expectations of other people?
2. Felt that you were in control of most situations in your life?
3. Felt hopeless about the future and you wondered if you should kill yourself?
4. Felt so unhappy about your relationship with someone you wished you were dead?
5. Thought about killing yourself because you could not accomplish something important in your life?
6. Felt hopeful about the future because things were working out well for you?
7. Thought about killing yourself because you could not find a solution to a personal problem?
8. Felt excited because you were doing well at school or at work?
9. Thought about killing yourself because you felt like a failure in life?
10. Thought that your problems were so overwhelming that suicide was seen as the only option for you?
11. Felt so lonely or sad you wanted to kill yourself so that you could end your pain?
12. Felt confident about your ability to cope with most of the problems in your life?
13. Felt that life was worth living?
14. Felt confident about your plans for the future.
APPENDIX E

POSITIVE AND NEGATIVE AFFECT SCALE
The PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during the past two weeks. Use the following scale to record your answers.

1 = Very slightly
2 = A little
3 = Moderately
4 = Quite a bit
5 = Extremely

1. _____ Interested
2. _____ Distressed
3. _____ Excited
4. _____ Upset
5. _____ Strong
6. _____ Guilty
7. _____ Scared
8. _____ Hostile
9. _____ Enthusiastic
10. _____ Proud

11. _____ Irritable
12. _____ Alert
13. _____ Ashamed
14. _____ Inspired
15. _____ Nervous
16. _____ Determined
17. _____ Attentive
18. _____ Jittery
19. _____ Active
20. _____ Afraid
APPENDIX F

STATEMENT READ TO PARTICIPANTS
My name is ________, I am here from UNI working on a research project for a thesis. This study is designed to find out more about things that students think about. It is not a test. If you choose to participate, you will be asked to complete this packet of questionnaires. There are no right or wrong answers to any of the questions or statements. Do not write your name on any of the sheets. All information obtained from your participation will remain confidential. Your identity will be concealed by using a number (code) in place of your name. So, please be as honest and accurate as possible. Because your participation is voluntary, you can choose to stop at anytime without any penalty.
APPENDIX G

HYPOTHESIS #3 EXTENSION
Hypothesis #3 Extension

An attempt was made to replicate this analysis using the StatXact - 3.1 software. The StatXact program is specifically designed to carry out various statistical analyses for small sample sizes. We used data from participants who scored 17 or higher on the BDI-A to develop the high depressed male and female groups. The dependent variables were the positive measures: PANAS - Positive Scale (PANAS-PA; Watson et al., 1988), PANSI - Positive Scale (PANSI-PA; Osman et al., 1998), and the SWLS (Diener et al., 1985).

We performed a permutation test (independent samples t-test for continuous variables) of the null hypothesis of no difference between boys and girls on each measure. We examined the p-value associated with each test.

Using a one-way t-test analysis, results of the StatXact analysis showed significant differences between girls and boys on the PANAS-PA scale p<.01. Specifically, boys scored higher than girls on this scale.

Using a one-way t-test analysis, results of the StatXact analysis showed significant differences between girls and boys on the PANSI-PA scale p<.01. Specifically, girls scored higher than boys on this scale.

Using a one-way t-test analysis, results of the StatXact analysis showed significant differences between girls and boys on the SWLS scale p<.05. Specifically, boys scored higher than girls on this scale.

Means and standard deviations for the dependent variables are given in Table 6.
Table 6

Means and Standard Deviations of Boys in the High Depressed Group and Girls in the Low Depressed Group

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>PANAS-PA</th>
<th>PANSI-PA</th>
<th>SWLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys Mean &amp; SD</td>
<td>24.75</td>
<td>2.72</td>
<td>16.50</td>
</tr>
<tr>
<td></td>
<td>7.78</td>
<td>.87</td>
<td>5.32</td>
</tr>
<tr>
<td>Girls Mean &amp; SD</td>
<td>22.63</td>
<td>2.82</td>
<td>15.82</td>
</tr>
<tr>
<td></td>
<td>9.01</td>
<td>.90</td>
<td>7.29</td>
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</tbody>
</table>