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Adolescent Depression and Social Support, Religiosity and Spirituality in a Faith-Based High School

Angela P. Ekwonye
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SETON HALL UNIVERSITY

ADOLESCENT DEPRESSION AND SOCIAL SUPPORT, RELIGIOSITY AND
SPIRITUALITY IN A FAITH-BASED HIGH SCHOOL

A DISSERTATION SUBMITTED TO THE SCHOOL OF HEALTH AND MEDICAL
SCIENCES IN PARTIAL FULFILLMENT FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

DEPARTMENT OF GRADUATE PROGRAMS IN HEALTH SCIENCES

BY

SR. ANGELA U. EKWONYE

2011

ADOLESCENT DEPRESSION AND SOCIAL SUPPORT, RELIGIOSITY AND
SPIRITUALITY IN A FAITH-BASED HIGH SCHOOL

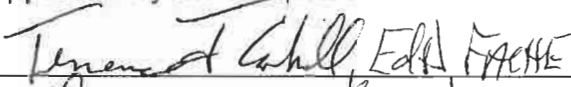
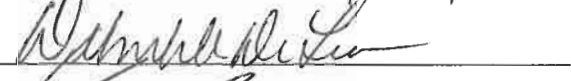

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Submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in Health Sciences
Seton Hall University

2011

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DEDICATION

This work is dedicated to my mother Lady Catherine N. Ekwonye who tirelessly supported me with her love and prayers. May God bless and grant her good health of mind and body.

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ABSTRACT

ADOLESCENT DEPRESSION AND SOCIAL SUPPORT, RELIGIOSITY AND
SPIRITUALITY IN A FAITH-BASED HIGH SCHOOL

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2011

Background and Purpose of the Study: Depression is one of the most common psychological disorders which affects the behavioral, cognitive, and emotional functioning of adolescents. Different types of supportive relationships such as social support, religiosity and spirituality have been found to relate to lower depressive symptoms among adolescents, but such studies were conducted in public school and community settings. The purpose of the study is to investigate if an association exists between different types and combinations of types of supportive relationships and depression among adolescents in a faith-based high school.

Method: The study design was descriptive and correlational utilizing the Child and Adolescent Social Support Scale (CASSS) to measure social support. Religiosity was measured using the Duke University Religion Index (DUREL), spirituality was measured with the Spiritual Well-Being Scale (SWBS) and depressive symptom was measured using the Center for Epidemiological Studies

Depression Scale for Children (CES-DC). A sample of 394 students participated in the study.

Results: Social support, religiosity and spirituality were all found to be significantly related to depressive symptoms in the bivariate correlational analyses stressing the need to provide adolescents with opportunities to experience these different kinds of support. In the multiple regression analyses, social support was found to have little or no relationship with depressive symptoms among the adolescents. Religiosity was found to relate positively to depressive symptoms among the adolescents. Spirituality was found to have the most correlation with depressive symptoms among the adolescents. The study found gender differences in religiosity, but not in social support, spirituality, and depression. There were no age or grade level differences in social support, religiosity, spirituality, and depressive symptoms. Ethnic differences were found in social support. Caucasian students reported significantly higher social support than African American and Asian American minority students. Ethnic differences were not found in religiosity, spirituality, and depressive symptoms. Results were all statistically significant at the alpha level of 0.05.

Conclusion: Spirituality was consistently related to lower depressive symptoms suggesting that spirituality is more important than social support and religiosity in promoting the psychological health of adolescents in the faith-based high school and it encompasses not just the search for meaning, but religious values (religiosity), and relationships (social support). Implications to education, practice, research and future directions of the study are discussed.

Chapter 1

INTRODUCTION

Depression is one of the most common psychological disorders that affect individuals of all ages. In the early 1970s, adolescent depression was not seen as a serious health problem because its manifestations were considered an expression of a basic emotional turmoil and as such, a part of normal development (Dundon, 2006). With the significant behavioral, cognitive, and emotional impairment that accompany depression in adolescents (Masi et al., 2000; Ritakallio et al., 2008), it is now considered a mental health disorder. Mental health statistics and empirical studies show that depression is one of the most common mental health disorders among adolescents not only here in the United States, but worldwide (Boyd, Kostanski, Gullone, Ollendick, & Shek, 2000). Currently, 14% of adolescents aged 12 to 18 (an estimated 3.5 million adolescents) in the United States have experienced at least one major depressive episode in their lifetime (National Survey on Drug Use and Health Report, 2005). The 2007 Substance Abuse and Mental Health Services Administration (SAMHSA) survey estimated that about 20% of adolescents will experience depression before they reach adulthood. Twenty to forty percent (20% - 40%) will have more than one episode within two years, and 70% will have more than one episode before adulthood (SAMHSA, 2007). Considering that adolescent depression was not regarded as a problem in the 1970s, today it is a major focus of concern as we begin the new millennium.

Background of the Problem

Adolescence which begins at about the age of 12 years and ends at about the age of 20 years (Erikson, 1968) is a developmental period of transition between childhood and adulthood. During the period of adolescence, a great deal of change occurs within the individual and his/her social environment (Petersen, 1988). These changes involve the challenges of maturing physically, cognitively and psychologically, discovering who they are, what they are about, and where they are heading to in life (Erikson 1968). Since adolescence is a stage of emotional instability, depression was thought to be a normal part of pubertal changes that occur in adolescents (Petersen, 1988). However, research has confirmed that depression in adolescents is not a normal part of adolescent development, but a mood disorder that impairs normal life functioning (Lewinsohn, Hops, Roberts, Seeley, & Andrew, 1993). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), major depression affects personal, behavioral, emotional, somatic and cognitive functioning (DSM-IV, 1994). Depression in adolescents not only involves changes in moods, but also changes in almost every other area of their life such as sleep, appetite, energy, and interest in activities they usually enjoy. Depression interferes with adolescents' ability to concentrate and think quickly, causing school performance to decline. It also causes feelings of worthlessness, hopelessness and helplessness which may lead to suicidal thoughts (DSM-IV, 1994).

Empirical studies show that the prevalence of depressive symptoms among adolescents is high. Using 1,299 randomly selected adolescents, Boyd, Kostanski, Gullone, Ollendick, and Shek (2000) found that 14.2% of the adolescents scored above the clinical cut off score for depression. Girls reported significantly higher rates of depression than boys. A study by Field, Diego, and Sanders (2001) found that 29 out of 79 adolescents scored above the clinical cutoff point for major depression. A two year study with a community sample of 890 males and 1,159 females found that 54 males were depressed at Time 1 (year 1) and 15 (27.8%) of them were still depressed at Time 2 (year 2). In that same study, 134 females were depressed at Time 1 and 62 of them (46.3%) were still depressed at Time 2 (Ritakallio et al., 2008). Not only does the occurrence of depression during adolescence increase the risk of future episodes in later life (SAMHSA, 2007), it also predicts future adjustment problems such as academic difficulties (McCarty et al., 2008). Adolescent depression also increases the risks of dropping out of school (Fortin, Marcotte, Potvin, Royer, & Joly, 2006), antisocial behaviors (Ritakallio et al., 2008), delinquent behaviors (Meadows 2007), violent behaviors (Brooks, Harris, Thrall, & Woods, 2002), drug use (Bartkowski & Xu, 2007), and suicide risk (Ang & Huan, 2006). The rise in the number of depressed adolescents coupled with the negative consequences of depression triggered research into the various factors that are likely to buffer or prevent depressive symptoms in adolescents. Many studies are now showing that having supportive relationships such as social support, religiosity, and spirituality can diminish the vulnerability to depression (Meadows, 2007; Pearce,

Little, & Perez, 2003; Yi et al., 2006). Although these studies show that a negative relationship between depression and the different supportive relationships exist, such studies have not been explored in faith-based school settings.

The increasing recognition of depression among the general population including adolescents have led researchers to propose different explanations of the emergence of depression. According to the theories, depression is caused by many factors that stem from dynamic interactions between biological, psychological, and sociological theories. The biological model views depression as a consequence of genetic vulnerability (Tsuang, 1978) or decreased level of serotonin and norepinephrine (neurotransmitters) in the brain which result in the underactivity of nerve cells (Pine 2002). The cognitive-behavioral model relates the cause of depression to how an individual think and act. This model posits that an individual who has a negative view of himself/herself, of the world, and of the future and attribute cause of events to negative factors are more likely to be depressed compared to individuals who have positive views of life and of the future (Beck, 1967; Abramson, Alloy, & Hogan, 1997; Miller & Seligman, 1982). Biological influences and negative cognitive tendencies contribute to depression, but they do not fully explain it. The interpersonal model focuses attention on poor social skills and deficits in supportive relationships (Burton, Stice, & Seeley, 2004). According to the interpersonal models, when individuals are confronted with stressful life events, those who have greater levels of support are less likely to experience depression compared to those with low levels of support (Slavik &

Croake, 2006; Hankin, Mermelstein, & Roesch, 2007). Cohen and Wills (1985) and Sinha, Cnaan, and Gelles (2007) showed that perception or reception of support weakens the vulnerability to depression. The present study focuses on supportive relationships and adolescent depression and the interpersonal model of depression will serve as the conceptual framework.

The interpersonal model of depression posits that individuals who do not have adequate supportive relationships are prone to develop depressive symptoms, whereas individuals with high supportive relationships are able to draw on those resources for assistance in times of distress and this tends to promote their psychological well-being (Smith, McCullough, & Poll, 2003; Slavik & Croake, 2006). To understand the role of supportive relationship and psychological health, Cohen and Wills (1985) reviewed over 40 correlational articles on this issue. They found evidence that supportive relationships are beneficial to individual's psychological health whether they are under stress or not. They also found evidence that supportive relationships are related to psychological well-being particularly for individuals under stress. Relationships are supportive if they provide an individual with emotional, informational, appraisal, and instrumental (tangible) support (Tardy, 1985). Fontaine, McKenna and Cheskin (1997) maintained that supportive relationships afford members the opportunity to share feelings, develop coping skills and consider existential issues.

Different types of support are available to adolescents who are in different supportive relationships, especially depression-risk ones and these include:

emotional, informational, appraisal, and instrumental support. Emotional support involves trust and the feelings of being valued which promotes an individual's self-esteem. Informational support consists of advice and guidance which enables an individual to define, understand and cope with stressful situations (Tardy, 1985; Cohen & Wills, 1985; Malecki & Demaray, 2002; Malecki & Elliott, 1999). Appraisal support involves receiving evaluative feedback (Tardy, 1985; Malecki & Demaray, 2002) which helps an individual improve his/her performance and to make accurate decisions regarding future performance (Watts, 2007). Instrumental support provides an individual with needed services, financial or material resources (Tardy, 1985; Cohen & Wills, 1985). In general, supportive relationships empower individuals to take a more positive attitude toward health and life (Fontaine, McKenna, Cheskin, 1997). An established body of literature suggests that adolescents who experience supportive relationships such as social support, religiosity, and spirituality are more likely to have better emotional and psychological health than those without any of the supportive relationships (Meadows, 2007; Pearce, Little, & Perez, 2003).

A socially supportive relationship has been defined in different ways, but according to Malecki and Demaray (2002) social support is an individual's perceptions of specific supportive behaviors from people in their social network which promotes their functioning and/or buffers them from stressful life events. Various studies have demonstrated that social support is related to lower depressive symptoms in adolescents. Hall-Lande, Eisenberg, Christenson and Neumark-Sztainer (2007) found that adolescents who receive or perceive that

they have available support have better psychological health than adolescents who receive or perceive no support. Similarly, Takakura and Sakihara (2001) showed that social support from peers was related to lower presence and persistence of depressive symptoms in adolescents. Meadows (2007) showed that parents' and teachers' support was related to lower depressive symptoms in adolescents, whereas peers' support was related to higher depressive symptoms.

Empirical studies have also identified significant links between religiosity and psychological health. Religiosity is established in the literature as a type of supportive relationship that buffers or prevents depressive symptoms in adolescents. Religiosity is the extent to which an individual frequently prays and attends religious services (Koenig, Pakerson, & Meador, 1997). Different dimensions of religiosity such as organizational religiosity (involvement in religious activities), non-organizational religiosity (private prayer), and intrinsic religiosity (use of religion to find meaning and purpose in life) were not only related to lower depressive symptoms, but also to less smoking and the use and abuse of drugs and alcohol in adolescents (Sinha, Cnaan, & Gelles, 2007; Pearce, Little, & Perez, 2003; Smith, McCullough, & Poll, 2003). The negative relationship between religiosity and substance use may be largely through adhering to moral proscriptions that discourage interactions with drug-using peers (Smith, McCullough, & Poll, 2003)

Studies have also connected spirituality to adolescents' psychological health. Spirituality is the sense of well-being that arises from one's relationship

with God, people, and the meaning found in these relationships and life experiences (Paloutzian & Ellison, 1991). Desrosiers and Miller (2007) found a negative correlation between spirituality and depressive symptoms in adolescents. Young, Cashwell, and Scherbakova (2000) demonstrated that greater orientation to spirituality weakens negative life events among young undergraduates. The inverse relationship between adolescent depression and the different forms of supportive relationships may be explained by the availability and quality of different kinds of resources provided by these relationships (Smith, McCullough, & Poll, 2003). To date, no study has explored if a relationship exist between different types and combinations of types of supportive relationships and depressive symptoms among adolescents in faith-based high schools.

Need for the study

Different types of supportive relationships have been found to relate to lower depressive symptoms among adolescents, but inconsistencies have been identified in the literature. Meadows (2007) showed that high parent' and teachers' support were related to lower depressive symptoms, whereas high peers' support was related to higher depressive symptoms in adolescents. In contrast, Young, Berenson, Cohen, and Garcia (2005) found that parents' and peers' support independently did not relate to depressive symptoms in adolescents, rather the two variables interacted to influence depressive symptoms. In the religiosity-depression literature, Sinha, Cnaan, and Gelles (2007) found that religiosity was related to lower depressive symptoms in adolescents, whereas Cotton, Larkin, Hoopes, Cromer and Rosenthal (2005)

found that religiosity alone does not buffer depressive symptoms in adolescents unless coupled with spirituality. These inconsistencies may be due to some conceptual, theoretical and methodological issues in the existing studies. For instance, a construct like social support was not defined in most of the social support-depression studies reviewed. Further, the instruments used to measure social support and religiosity was not comprehensive. Most of the social support instruments did not measure the wide range of social support types (emotional, informational, appraisal and instrumental support) and sources (parents, teachers, peers, and friends). Religiosity in some studies was measured using one or two survey items such as “Do you believe in God?” and/or “How important is religion to you?” Despite the evidence that supportive relationships buffer depressive symptoms in adolescents little is known about these relationships among adolescents in faith-based schools as most studies were conducted in public school environments and community settings. There is strong evidence that supportive relationships such as religiosity and spirituality form an essential part of faith-based school curriculum with social support as part of its culture. These faith-based school characteristics make faith-based school environments ideal for exploring the combinations of supportive relationships and depressive symptoms among adolescents. This study will address the limitations and gaps in the existing studies.

Significance of the Study

This is the first study to explore how the various combinations of supportive relationships relate to depressive symptoms among adolescents who

attend a faith-based high school. Understanding if the combinations of supportive relationships will produce a different relationship with depression than any single one of the supportive relationship has both practical and theoretical significance. Practically, if the study supports the hypotheses, the findings will inform and hopefully encourage educators and administrators in the faith-based school to design social, religious and spiritual programs/activities that promote the mental and emotional health of adolescent students. Theoretically, this study will further increase our understanding of the relationship between depression and combinations of supportive relationships.

Purpose of the Study

The primary purpose of this study is to explore if an association exists between different types and combinations of types of supportive relationships and depression among adolescents in a faith-based high school.

The secondary purpose of this study is to determine whether there are gender, age, and ethnic differences in depression, social support, religiosity, and spirituality among adolescents who attend a faith-based high school.

Research Hypotheses

H1: There will be a negative bivariate correlation between social support, religiosity, spirituality and depressive symptoms among adolescents who attend a faith-based high school.

H2: Combinations of social support and religiosity will have a correlation with depressive symptoms among adolescents who attend a faith-based high school.

H3: Combinations of social support and spirituality will have a correlation with depressive symptoms among adolescents who attend a faith-based high school.

H4: Combinations of religiosity and spirituality will have a correlation with depressive symptoms among adolescents who attend a faith-based high school.

H5: Combinations of social support, religiosity and spirituality will have a correlation with depressive symptoms among adolescents who attend a faith-based high school.

H6a: There will be differences in social support, religiosity, spirituality and depressive symptoms between male and female adolescents who attend a faith-based high school.

H6b: There will be differences in social support, religiosity, spirituality and depressive symptoms between 14, 15, 16, & 17 year old adolescents who attend a faith-based high school.

H6c: There will be differences in social support, religiosity, spirituality and depressive symptoms between the ethnic groups of adolescents who attend a faith-based high school.

Conceptual Framework

The conceptual framework of this study is based on the interpersonal model of depression which posits that individuals who are in various forms of supportive relationships are less likely to experience depressive symptoms. Figure 1 depicts the visual representation of the relationships between depression and the various combinations of supportive relationships which exist in a faith-based school environment. The entire box represents a faith-based

school environment. Within the school environment are the various combinations of social support, religiosity, and spirituality (Independent variables) and their relationships with depressive symptoms among adolescents (dependent variable). The figure shows that social support, religiosity and spirituality and the various combinations of the variables will have a negative relationship with depressive symptoms among adolescents in a faith-based high school.

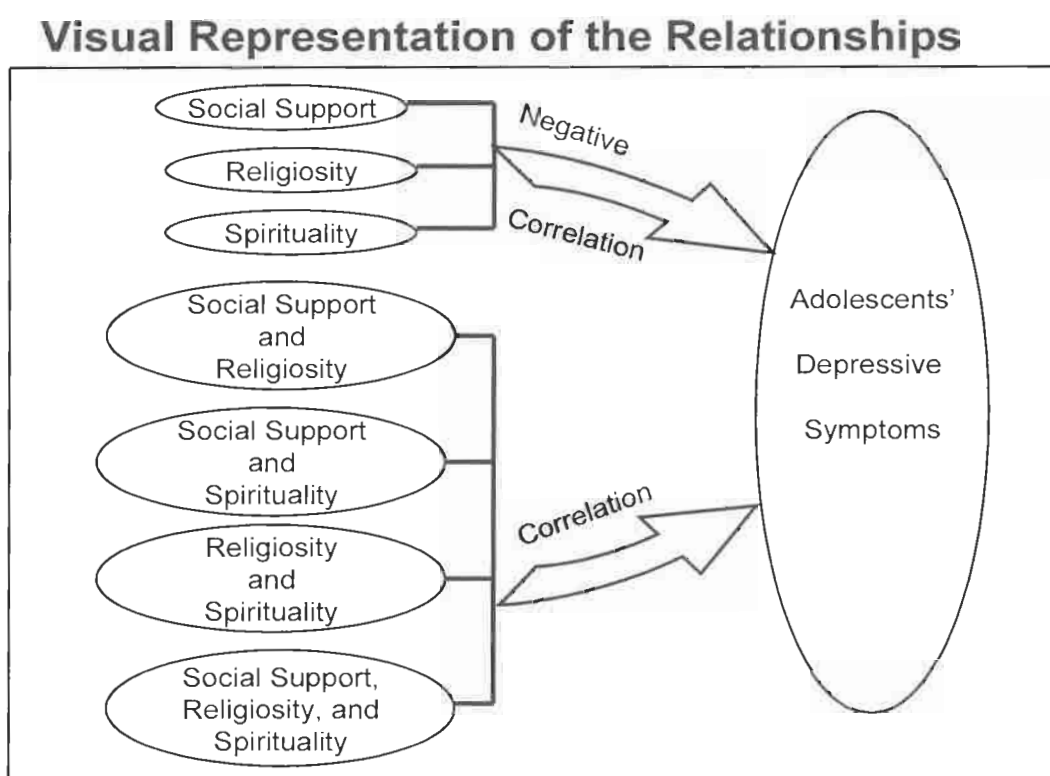


Figure1. A Visual Representation of the Relationships of Social Support, Religiosity, Spirituality and Depressive Symptoms in Adolescents who attend a Faith-based High School.

Summary

This first chapter provided the background of the problem under investigation, justification of the study, purpose, research questions, and a visual

representation of the relationships between the variables under study. Chapter 2 contains the theoretical underpinnings of the research problem and the literature that provides the basis for the study. Chapter 3 presents a detailed description of the study design, survey tools, and recruitment of sample, data collection and data analyses procedures. Chapter 4 presents the results of the research questions. Chapter 5 translates the results into practical and conceptual meaning and provides the implications, recommendations which emerge from the results, study limitations, conclusion and suggested area for future research.

Chapter II

REVIEW OF RELATED LITERATURE

Introduction

Depression is one of the most debilitating illnesses that affect individual's behavioral, cognitive, emotional, and somatic functioning (Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), 1994). It is one of the most common mental health disorders in the United States and particularly among the adolescent population. Statistics show that an estimated 2.2 million adolescents suffer from major depressive episode at any given point in time (National Survey on Drug Use and Health Report, 2005). Researchers estimate that 20% to 40% of adolescents report experiencing depressive symptoms (Fröjd et al., 2008; Ritakallio et al., 2008). The purpose of this chapter is to review the literature on depression, particularly adolescent depression and its relationship with social support, religiosity and spirituality. First, the characteristics, prevalence, consequences, and the risk factors associated with depressive symptoms are discussed. This is followed by a discussion of the theories that explain the causes of depression with emphasis on the interpersonal model of depression which serves as the conceptual framework of this study. A discussion of the mechanisms by which supportive relationships relate to depression and the relationship between adolescent depression and the different supportive relationships are presented. Finally, adolescent depression is discussed in the context of faith-based schools and the gaps and limitations in the studies are identified as these provide the basis for the present study.

Depression

Depression is a mood disorder that interferes with normal life functioning. The World Health Organization (WHO) (2008) defines depression as a mental health disorder characterized by sadness, loss of interest or pleasure, feelings of guilt and low self-esteem, disturbed sleep or appetite, low energy, and poor concentration. The WHO asserts that depression not only occurs in persons of all genders, ages, and background, but can become chronic or recurrent leading to impairments in one's ability to take care of his or her daily responsibilities. In a similar vein, the National Institute of Mental Health (2007) defines depression as a mental health disorder characterized by a combination of symptoms that interfere with a person's ability to work, sleep, study, eat, and enjoy once-pleasurable activities. Symptoms of depression include: persistent sadness, anxiety or empty feelings, feelings of hopelessness, guilt, worthlessness, and helplessness, irritability, loss of interest in activities, fatigue, difficulty concentrating, insomnia, overeating or loss of appetite, thoughts of suicide, and persistent aches or pain. Consistent with the definition provided by the National Institute of Mental Health, the DSM-IV (1994) defines depression as a mood disorder characterized by a loss of interest or pleasure in usually satisfying activities, fatigue, sleep disturbance, weight and appetite change, lack of concentration or difficulty making decision, slowness and restlessness, guilt and feelings of worthlessness and hopelessness, sadness or irritability, and suicidal ideation. The DSM-IV (1994) classifies depressive disorder into two major categories: major depression and mania (bipolar disorder). According to the

DSM-IV, five or more symptoms must be present most of the day, nearly every day for two consecutive weeks for one to be diagnosed with major depression. Mania, on the other hand, is an abnormally or persistently elevated or irritable mood characterized by insomnia, overconfidence, and increase energy, excessive involvement in pleasurable activities, distractibility, psychomotor agitation, and racing thoughts. For one to be diagnosed with mania, four of these symptoms must be present for at least one week. An advantage of the DSM-IV definition of depression is that it is operational and depression will be measured in this study based on DSM-IV criteria.

Adolescent Depression

Although research concerning depression dates back to the early 1960s, it was not until the 1970's that studies on adolescent depression began. Some theorists suggest that adolescent depression is a result of maladjustment (Teri, 1982). Others believed it is part of the normal changes that take place during the period of adolescence (Gallenmore & Wilson, 1972). More recently, researchers came to the conclusion that adolescent depression is a mental health disorder. This view is now adopted in current psychiatric diagnosis and criteria for childhood and adolescent depression and the core symptoms of major depression are the same for children and adolescents (DSM-IV, 1994). It was illustrated in a study conducted by Mezzich and Mezzich (1979) using a Face Valid Depression Scale for Adolescents in a sample of 212 adolescent psychiatric patients. The authors found that the symptoms of adolescent depression include: irritability, feeling of aggression, restlessness, and social

withdrawal, lack of confidence and self-esteem, and death wishes. A study of the characteristics of depression carried out with a sample of 105 adolescents in New Zealand found irritable feeling as a major symptom reported by both depressed males and females (Crowe, Ward, Dunnachie & Roberts, 2006). Other symptoms that stood out for depressed males included social withdrawal, sleeplessness, restlessness, difficulty concentrating and making decisions. In contrast, depressed females reported symptoms such as loneliness and sadness, hatred for self and frequent crying. These results suggest that depression can manifest in adolescent males and females differently. In the work of Almqvist et al., (1998) parents and teachers reported that headaches, temper tantrums, stomach aches, inattentiveness, social withdrawal, stealing, restlessness, and violence were prevalent among depressed adolescent males, whereas, depressed females exhibited irritability, inattentiveness, restlessness, truancy, poor school performance, and complaints about aches. While these studies outlined the depressive symptoms exhibited by adolescents, other studies are showing that depressive symptoms are also common in the general population.

General Prevalence of Depression

Depression affects individuals regardless of their ages. This was illustrated in a study carried out with a representative sample of individuals ages 15 and older in the United Kingdom general population (Ohayon, Priest, Guilleminault, & Caufet, 1999). The results of the study showed a five percent (5%) overall prevalence of current depressive episode; with the rate slightly

higher for women (5.9%) compared to men (4.2%). In a more recent study carried out in the United States general population using a random sample of 217,379 participants, Strine et al., (2008) examined the prevalence estimates of depression and anxiety and the odds ratios of depression and anxiety for selected risk behaviors among individuals ages 18 and older. The results revealed an 8.7% overall prevalence of current depressive symptoms (range, 5.3% - 13.7%). About sixteen percent (15.7%) of the participants reported that they have been told by a health care professional at least once in their lifetime that they have depression (lifetime diagnosis of depression) (range, 6.8% - 21.3%), while 11.3% of respondents reported a lifetime diagnosis of anxiety (range, 5.4% - 17.2%). Current depressive symptoms, lifetime diagnosis of depression, and lifetime diagnosis of anxiety were all strongly associated with cardiovascular disease, diabetes, asthma, obesity, physical inactivity, and heavy drinking. These studies show that a good number of the general population is depressed. The next group of studies discusses the prevalence rates of depression in adolescents.

The Prevalence of Adolescent Depression

Statistics and empirical evidence show that a good number of adolescents are experiencing depressive episodes. Lewinsohn, Hops, Roberts, Seeley, and Andrews (1993) described the current and lifetime prevalence of depression and other mental health disorders such as anxiety, disruptive behavior, adjustment disorder, bipolar disorder and eating disorder among 1,710 adolescents' at Time 1 and at 1-year follow up. The results showed a 2.9% point prevalence of major

depressive episode, 20.4% lifetime prevalence of current depression at Time 1, and a 25.3% lifetime prevalence of depression at 1-year follow up. More than 33% of study participants had experienced a mental health disorder in their lifetime, and 31.7% of the latter group had experienced a second mental health disorder. Their findings further revealed that female students were more likely to be diagnosed with a disorder particularly, major depression ($p < .001$), eating disorders ($p < .01$), and adjustment disorders ($p < .01$) than male students. Although the incidence of disruptive behavior and substance use disorders were not significant, the study showed that these behaviors were more common in male than in female students. The study found no relationship between age and specific incidence or prevalence of disorders. Similarly, Field, Diego, and Sanders (2001) found that 29 out of $n = 79$ adolescents in their study scored above the clinical cutoff point for major depression in the Center for Epidemiological Studies Depression (CES-D) scale.

The high prevalence of adolescent depression in the United States is similar to what is found in other countries. Non-United States studies found that adolescents are significantly reporting higher rates of depression. This was evident in Australia where Boyd, Kostanski, Gullone, Ollendick, and Shek (2000) randomly selected 1,299 adolescents and found that 14.2% scored above the clinical cut off score for depression in the Reynolds Adolescent Depression Scale. Girls reported significantly higher rates of depression ($p < .001$) than boys. A New Zealand study by Crowe, Ward, Dunnachie, and Roberts (2006) reported that 47.6% of the adolescents ($n = 105$) scored greater or equal to the clinical cut

off point for depression in the Children Depression Inventory. A greater number of adolescent girls were depressed compared to boys.

Roberts, Roberts, and Cohen (1997) completed an ethnocultural study of the differences in two point prevalence rates of those who met the criteria for a major depressive episode (MDE) and those who met not just the criteria for MDE, but had also experienced significant impairment in functioning at home, at school, and with peers. They showed an 8.4% overall point prevalence rates of MDE without diminished functioning and a 4.3% with diminished functioning for adolescents' ages 10-17 years old. Adolescents of Mexican and African American ancestries had the highest prevalence rate of 12.0% and 9.0% respectively without impaired functioning, while those of Chinese descent had the lowest prevalence rate of 2.9%. Similarly, adolescents of Mexican and Central American ancestries had the highest prevalence rates of 6.6% and 5.0% respectively with diminished functioning, while Chinese American adolescents had the lowest prevalence rate of 1.9%.

Not only is depression prevalent among adolescents, there is also evidence that depressive symptoms show some degree of continuity. In a more recent study of the continuity, comorbidity, and longitudinal associations between depression and antisocial behavior in middle adolescents, Ritakallio et al., (2008) found that depression and antisocial behavior show considerable continuity during a 2-year follow-up period in a community sample of 890 males and 1,159 females. The study found that 54 males were depressed at Time 1 and 15 (27.8%) of the depressed males were still depressed at Time 2 after adjusting for

sociodemographic variables. Likewise, 134 females were depressed at Time 1 and 62 (46.3%) of the depressed females were still depressed at Time 2 after adjusting for sociodemographic variables. These findings in summary illustrate that depression is prevalent among adolescents and may recur and continue for several years.

Consequence of Depression in Adolescents

Studies are showing that depression in adolescents interferes with their cognitive and behavioral functioning leading to some adverse consequences. Depression in adolescents has been associated with poor outcomes such as, poor school performance, dropping out of school, violence, and risk of suicide. Frójd et al., (2008) explored if there is a relationship between depression and measures of objective school performance (GPA, and change in GPA) and subjective school performance (perceived school load, difficulties in concentration, social relationship, reading and writing and self-reliant school performance) among 7th - 9th grade students ages 13-17 years. Results showed that adolescent depression is associated with aspects of both objectively measured and subjectively perceived poor school performance. Depressed students had poor relationships with teachers and fellow students, difficulty concentrating, doing homework, preparing for exams, finding personal learning strategies, and performing reading and writing tasks. Frójd and colleagues (2008) suggested that the association between depression and poor academic achievement may be due to impaired cognitive abilities of the students to cope with academic responsibilities. Another study of depression and school

functioning among adolescents' ages 14-18 years old found that self-reported depressive feelings correlated with different aspects of academic self-image such as, scholastic anxiety, the feeling of not being able to concentrate on studying, low self-evaluation, poor relationship with peers and teachers, and negative general attitude toward school (Masi et al., 2000). Masi et al., suggested that the relationship observed may be due to the negative effects of depression which can influence behavior in learning situation by enhancing the tendency to give up in the midst of anxiety and academic stress. In a longitudinal study to determine if a relationship exists between depression and school failure among adolescent girls, McCarty et al., (2008) found that childhood depressive symptoms predicted school failures such as poor academic performance, conduct problem, and dropout in adolescent girls, which in turn, predicted a major depressive episode in early adulthood.

Dropping out of school has generally been associated with depression, poor social relationships, family dynamics, and poor academic performance (Lee & Burkam, 2003; Liem, Dillon, & Gore, 2001). Liem, Dillon, and Gore (2001) explored if a relationship exists between depression and drop out rates in a longitudinal study with 1,143 high school seniors. They found that dropouts reported significantly more depression than high school graduates at T1 and 2 years later. Dropouts did not report more anxiety at T1, but two years later were significantly more anxious than the adolescents who graduated from high school. Dropouts also reported low parental support, whereas, family support had a positive moderating effect on depression for graduates. Additionally, adolescents

who adopted an open attitude towards adult support were less depressed than the ones who have more difficulty receiving help. Another study reported that the prevalence of severe and extreme depression among adolescents were higher for school dropout girls and boys as compared to school going girls and boys (Nair, Mini & Ramany, 2004). Fortin, Marcotte, Potvin, Royer and Joly (2006) showed that students at risk for school dropout encountered many social and school adjustment difficulties than not-at-risk students. The students at risk of dropping out had higher depressive symptoms, lower emotional support from parents, and they perceived the classroom as having little order and organization. Contrary to these findings, Stevenson, Maton, and Teti (1998) in a study of pregnant adolescents found no relationship between school dropout status and depression and self-esteem among the sample.

Violent behavior has been correlated with a depressed mood. Brooks, Harris, Thrall, and Woods (2002) found that feelings of depression were associated with physical fights among high school students. Puura et al., (1998) study of 5,682 prepubertal children in Finland reported that depressed males engaged in physical fights more frequently compared to their nondepressed male counterparts.

Suicide has been strongly associated with depression in adolescents. This was illustrated in a study of the comorbidity of unipolar depression with other mental disorders (Rohde, Lewinsohn, & Seeley, 1991). The results of the study showed that depressed adolescents were more likely to make a suicidal attempt than adolescents with other mental disorders. Another study of the relationship

between academic stress and suicidal ideation found that suicidal ideation increases with depressed mood for adolescents (Ang & Huan, 2006). Other investigators showed that depressed adolescents reported frequent suicidal thoughts compared to non-depressed adolescents (Field, Diego, & Sanders, 2001; Mezzich & Mezzich, 1979). In summary, these studies reveal that adolescent depression is negatively related to school performance, but positively related to school dropout and risks of suicide. However, Stevenson, Maton, and Teti (1998) did not find any relationship between school dropout status and depression among pregnant adolescents.

Risk Factors Associated with Depression in Adolescents

Risk factors associated with adolescent depression have been discussed extensively in the literature. Factors such as: gender, self-esteem, exposure to violence, life stress, and deficits in social relationships have all been associated with adolescent depression.

Gender differences in the prevalence rates of depressive symptoms are well-established. Numerous studies show that adolescent females exhibit more depressive symptoms than adolescent males (Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993; Watt, 2003; Fröjd et al., 2008). Brooks, Harris, Thrall, and Woods (2002) found that adolescent females had a three fold increase in likelihood of depression compared to adolescent males. The results of a longitudinal study of the relationship between adolescent depression and stressors using 538 eight and tenth graders showed that adolescent females exhibited elevated levels of depressive symptoms compared to males in the

same grade level (Hankin, Mermelstein, & Roesch, 2007). The sex difference was maintained over the 1-year follow-up period. In contrast, Galambos, Leadbeater, and Barker (2004) did not find a statistically significant increase in females' levels of depressive symptoms in early adolescence, relative to males at baseline. However, gender differences in the levels of depressive symptoms and the prevalence of major depressive episode emerged and it increased significantly over the 4-year period of study. The increase in depressive symptoms was attributed to decline in physical activity, social support, and higher incidence of smoking.

Empirical studies suggested that there is an association between self-esteem and depression in adolescents. Takakura and Sakihara (2001) found that presence and persistent depressive symptoms were negatively associated with higher self-esteem. Fitzpatrick, Piko, Wright, and LaGory (2005) found that adolescents with higher self-esteem reported fewer depressive symptoms. Repetto, Caldwell, and Zimmerman (2004) found that adolescent females with consistently high levels of depressive symptoms had lower self-esteem. Teri (1982) also found that body and self-image were the strongest predictor of depression in her study and it explained 27% of the variance ($p < .01$). Sinha, Cnaan, and Gelles (2007) found low self-esteem to be predictive of truancy and depression in adolescents ages 11-18 years old.

Exposure to violence is another factor that has been associated with depression in adolescents. Fitzpatrick, Piko, Wright, and LaGory (2005) found

that exposure to violence was positively associated with depression ($p \leq .01$) among African American adolescents.

A strong association was established between stressful life events and depression. In a case-control study of adolescent depression and stressful life events using 177 matched pairs, Olsson, Nordstrom, Arinell, and Knorrning (1999) reported that 71% of the adolescents with a depression diagnosis had experienced more stressful events in life than the adolescents in the control group. The adolescents who were depressed (24.5%) had experienced at least five stressful events more than the adolescents in the control group. The stressful events experienced by the adolescents included: chronic illness and conflicts in the family, strains on the family from unemployment, absence of parents at home, change in living environment, and a change in the acceptance by peers. Schraedley, Gotlib, and Hayward (1999) examined the demographic and psychosocial correlates of depressive symptoms in adolescent sample ($n = 6,943$) and their results showed that stressful life events, physical and sexual abuse were positively related to depressive symptoms. Takakura and Sakihara (2001) reported that Japanese high school students perceive their teachers and friends as sources of stress. They found a positive association between life stressors such as teachers and friends and persistence depressive symptoms ($p < .001$) among the students. Using 1,108 Asian adolescents ages 12-18 years old, Ang and Huan (2006) reported that academic stress was significantly associated with depression ($p < .001$). Given the gender differences in depression, Hankin, Mermelstein, and Roesch (2007) found evidence that girls

experience more stressors (interpersonal, family, peer, romantic) than boys. Hankin and colleagues argued that girls' greater exposure to interpersonal stressors, like family and peers and their negative reaction when both genders are exposed to the same stressful events best accounted for why they demonstrated more depressive symptoms than boys.

A deficit of social support leading to loneliness has been implicated in adolescent depression. Significant associations between social isolation and depression in adolescents have been identified. Using a sample of 4,746 adolescents, Hall-Lande, Eisenberg, Christenson, and Neumark-Sztainer (2007) found that social isolation was associated with higher depression ($p < .001$), lower self-esteem ($p < .001$), and suicide attempts ($p < .05$) for both genders. When demographic variables such as race, school level, socioeconomic status (SES), and body mass index were included in the analysis, social isolation remained significantly related to depression and self-esteem ($p < .001$), and suicide attempt ($p < .05$) for both genders. Even after accounting for protective factors such as family connectedness and academic achievement, social isolation was still significantly related to lower self-esteem and greater depressive symptoms for both genders. The negative effects of loneliness may be explained by feelings of sadness and emptiness which tends to lower self-esteem and increase feelings of depression. Newman and colleagues maintained that social support for adolescents is a multifaceted construct that involves parents, peers, and teachers and the three support networks have to work together to help adolescents develop a sense of school belonging which is essential to reducing

the likelihood of depression especially during the transition from middle to high school. Mezzich and Mezzich (1979) reported that depressed adolescents had feelings of social abandonment, emptiness in life, and social frustration. Crowe, Ward, Dunnachie, and Roberts (2006) also found that adolescents who were depressed were also socially withdrawn.

With respect to the relationship between age and adolescent depression, the evidence is inconclusive. Fitzpatrick, Piko, Wright, and LaGory (2005) found that older adolescents reported more depressive symptoms than younger ones ($p \leq .01$). Similarly, Schraedley, Gotlib, and Hayward (1999) found that depressive symptoms increase with age. In contrast, Teri (1982), Mezzich and Mezzich, (1979), and Lewinsohn, Hops, Roberts, Seeley, and Andrews (1993) found no association between age and depression in adolescents.

In summary, evidence shows that depression is prevalent among high school students. The studies reported that adolescent females experience higher levels of depressive symptoms compared to adolescent males. Gender, self-esteem, loneliness, exposure to violence, and life stress were all associated with adolescent depression. The findings that older adolescents were more depressed than younger ones were inconclusive. These studies suggest that high self-esteem and good social connections are traits that are likely to buffer the negative effects of stressful life events, hence promoting positive emotional well-being of adolescents. The next section discusses the different theoretical approaches that explain the causes of depression.

Theories of Depression

Various theoretical models have been developed in an attempt to understand the antecedents or the processes that lead to depression. The theories of depression which are based on the biological, cognitive, interpersonal, and life events research are explained by the diathesis-stress models. The diathesis-stress models explain behavior as both a result of biological and genetic factors (nature) and life experiences (nurture) (Burton, Stice, & Seeley, 2004; Monroe & Simons, 1991; Burke & Elliott, 1999). The basic premise of the diathesis-stress models are that a certain genetic disposition (vulnerability) or other characteristics like a particular cognitive style, biological dysfunction, or a social skill problem (diathesis) make people vulnerable to depression when they are confronted with specific life events or stress (Schotte, Bossche, Doncker, Claes, & Cosyns, 2006; Slavic & Croak, 2006). According to Slavic and Croak (2006) an individual's emotional life, self-image, and being are governed by biological processes which are influenced by what an individual experiences or has experienced, by how an individual feels, and by what the individual believes he or she is. These premises and how they lead to the onset and recurrence of psychological disorders are explained by different diathesis-stress models such as, biological, cognitive-behavioral, and the interpersonal models.

The biological models view depression as a consequence of genetic vulnerability or heritable transmission (Tsuang, 1978) or disturbances of the biochemical, neuroendocrine, or immune systems (Rawlins, 1993). The

disturbances of the biochemical, neuroendocrine or immune systems are a result of low concentrations and reduced level of activity of certain chemicals (serotonin and norepinephrine) in the brain which are involved in the regulation of mood and emotion (Pine, 2002). The cognitive-behavioral models relate depression to negative thinking processes and dysfunctional patterns of information processing. Different cognitive-behavioral models explain how stress interacts with a cognitive vulnerability to produce depression. First, is the cognitive triad model which posits that negative views of oneself, of the world, and of the future are typically the primary cause of depressive symptoms (Beck, 1967). Simply, the more negative thoughts an individual experiences, the more depressed the individual becomes. Beck asserts that an individual with negative beliefs such as: "I can't do anything right," or "I am worthless," are likely to become depressed when faced with stressful life events. This is because these individuals tend to interpret these events based on their negative self-perceptions. Thus, persistent negative beliefs or attitudes affect how an individual processes information and how information is interpreted. Similar to the cognitive triad model is the hopelessness theory proposed by Abramson, Alloy, and Hogan (1997). According to the hopelessness theory, depression develops because of how an individual attribute cause of events. Negative attributions and the perception that stressful events will lead to further negative consequences trigger the onset or recurrence of depressive symptoms. According to Abramson, Alloy, and Hogan (1997) the negative attributions lead depressed individuals to infer that the occurrence of negative events mean that they are unworthy or deficient. The third

cognitive-behavioral theory, the learned hopelessness theory asserts that individuals who attribute negative events to global and stable internal causes are more likely to become depressed when they are faced with stressful life events (Miller & Seligman, 1982). According to the model, attributions that are globally generalized to new situation and stable across situations lead to feelings of hopelessness and helplessness if the individual feels that he/she has no control over the outcomes. Finally, the interpersonal models relate depression to levels of social functioning. The model posits that when faced with troubling life events, individuals with greater support from family, friends, and others are less likely to become depressed compared to individuals with lower levels of support (Coyne, 1976; Cohen & Wills, 1985; Tardy, 1985). The high levels of support enhance self-efficacy, self-esteem, and confidence which increase an individual's perception that he or she can cope effectively with negative life events (Cohen & Wills 1985; Tardy, 1985; Burton, Stice, & Seeley, 2004). Tardy (1985) and Cohen and Wills (1985) argued that the perception or actual reception of support by individuals facilitates the resolution of negative life events which tend to promote good psychological health. The interpersonal model of depression which operates through the main effect and the stress-buffering effect have been used in various empirical studies to explain the mechanisms by which supportive relationships and psychological health are related (Burton, Stice, & Seeley, 2004; Smith, McCullough, & Poll, 2003; Harpham, Grant, & Rodriguez, 2004).

Supportive Relationships and Psychological Health

Interest in exploring the link between supportive relationships and psychological well-being started in the 1970s and 1980s when researchers demonstrated that subjects who participated in community events had better mental health than subjects who were socially isolated (Bell, Leroy, & Stephenson, 1982). Supportive relationship was believed to affect psychological and physical health by influencing an individual's emotions, cognitions, and behavior (Cohen & Wills, 1985). Tardy (1985) and Cohen and Wills (1985) claimed that large supportive network provides an individual with positive experiences, helps one to avoid negative experiences, and increases one's self-esteem. An individual is in a supportive relationship if he/she has access to emotional, informational, appraisal, and instrumental support (Tardy, 1985). Emotional support constitutes giving of trust, empathy, caring, or love. It promotes the feeling that an individual is accepted and valued in a social network. Informational support constitutes giving of advice or guidance which helps an individual to define, understand, and cope with a stressful situation. Appraisal support constitutes the giving of evaluative feedback such as, "You're doing a great job." This helps to boost an individual's self-esteem. Instrumental support involves the giving of helping behaviors such as the provision of material resources or needed services (Tardy, 1985). Similar to the types of support identified by Tardy (1985), Cohen and Wills (1985) developed four types of support, three of which are similar in content and function with those of Tardy's. Cohen and Wills' types of support include: emotional, informational, instrumental,

and social companionship. Social companionship involves spending time with friends, which facilitates a positive mood state by distracting an individual from worrying about a problem.

From the review of 40 correlational articles, Cohen and Wills (1985) found evidence that supportive relationships operate via two pathways: the main or direct effect (overall beneficial effect of support) and the stress-buffering effect (the process by which support weakens the adverse effect of stressful events). The main effect model of support (Cohen & Wills, 1985; Cohen, 1988; Cohen, Gottlieb, and Underwood, 2000) posits that supportive relationships have a beneficial effect regardless of whether an individual is under stress or not. Main effect of support has been primarily found when support is defined as participation and integration in a social network. Participation in a social network, also known as social integration, includes different forms of relationships and activities an individual is involved in. These may range from close relationships such as marital ties, or one's relationship with God to outward relations like family relationships and friendships; and to weak ties that result from involvement in community, voluntary, and religious organizations (Cohen, Gottlieb, & Underwood, 2000; Kawachi & Berkman, 2001). Cohen, Gottlieb, and Underwood (2000) and Tardy (1985) argued that being part of a supportive relationship may promote well-being by enhancing an individual's feelings of predictability and stability, maintaining positive emotional states, promoting an individual's sense of purpose, belonging, and security and enhancing self-esteem through social recognition of self worth. Thus, an individual who is socially integrated is likely to

have access to emotional, informational, appraisal, social companionship and instrumental support (Cohen & Wills, 1985; Tardy, 1985). These multiple sources of support increase individual chances of access to an appropriate information source. Such information could influence healthful behaviors (Cohen & Wills; Cohen, Gottlieb, & Underwood). Similarly, Kawachi and Berkman (2001) argued that participation in social networks such as community or religious organizations provide a sense of belongingness, feelings of self-esteem, and general social identity which tends to promote an individual's psychological well-being. Such feelings may increase the ability to cope with stressful life events and consequently result in better health. A socially integrated person is also subject to social controls and peer pressure which may promote prosocial and healthful behaviors and hence better health (Cohen & Wills, 1985; Tardy, 1985).

The stress-buffering model of support (Cohen & Wills, 1985; Cohen, 1988; Cohen, Gottlieb, and Underwood, 2000) posits that support is related to well-being primarily for individuals under stress. The model focuses on perceived availability of supportive relationships which have been conceptualized to result in stress-buffering effects. Stress-buffering occurs only when there is a match between the needs elicited by the stressful event and the functions of support that are perceived to be available (Cohen, Gottlieb, & Underwood). For instance, having people who provide one with financial aid when in financial difficulties buffers the effect of an economic problem. Having people to talk to about one's personal problems (informational support) and having people who make you feel good about yourself (emotional support) buffers a variety of stressful events

(Cohen, 1988). Cohen and Wills claimed that stress arises when one appraises a situation as threatening and does not have an appropriate coping response that is immediately available. Thus, the inability to respond may not only lead the individual to perceive the event as highly stressful, but also lead to feelings of helplessness, hopelessness, anxiety, agitation, and loss of self-esteem.

Perception or actual reception of support may thus reduce the impact of stress by reducing the perceived importance of the problem, providing a solution to the problem, improve the coping pattern, provide a distraction from the problem (Tardy, 1985; Cohen & Wills, 1985) and stabilize the hormones or chemicals secreted during stressful situations (Cohen & Wills, 1985; Cohen, Gottlieb, and Underwood, 2000). These make individuals less reactive to the perceived stress. The main effect and the stress-buffering effect of support which are based on the interpersonal model of depression are not mutually exclusive, rather both help to explain how different forms of supportive relationships may influence depression. The next section discusses empirical studies on the relationship between different supportive relationships and adolescent depression.

Studies on Supportive Relationships and Adolescent Depression

Different supportive relationships variables such as social support, religiosity and spirituality were found to be associated with the overall well-being of individuals (Cohen & Wills, 1985) particularly adolescents. The literature on these is discussed below.

Social support

There is no consensus to what constitutes social support in the literature. The concept has been defined in various ways. Most empirical studies on social support conceptualize it as the existence of interpersonal relationships (structural support) and the functions served by such interpersonal relationships (functional support) (Cohen, 1988; Nasser & Overholser, 2004). Meadows (2007) defined social support as beliefs and/or perceptions that indicate an adolescent is part of an interpersonal relationship that includes parents, peers, and teachers. Based on Tardy's 1985 models of support, Malecki, Demaray, Elliott, and Nolten (1999) defined social support as an individual's perceptions of specific or general support (emotional, informational, appraisal, instrumental) from people in their social network which enhances their functioning and/or may buffer them from stressful outcomes. Social support has been linked to adolescents' mental health and its importance in adolescents' psychological health has been recognized by a growing body of literature (Hall-Lande, Eisenberg, Christenson, & Neumark-Sztainer, 2007; Newman, Newman, Griffen, O'Connor & Spas, 2007). For instance, Field, Diego, and Sanders (2001) found that depressed adolescents had poor relationships with parents, less optimal relationship with peers, had fewer friends, were less popular and unhappy, had more frequent suicidal thoughts, spent less time exercising and doing homework, and had more frequent use of marijuana and cocaine. Physical affection with parents, completing homework, well-being and exercise, happiness, and parent relations

were negatively associated with depression and these factors explained 55% of the variance.

Hall-Lande, Eisenberg, Christenson, and Neumark-Sztainer (2007) administered among other measures a survey item to assess the degree of social isolation among 4,746 middle and high school students. The study found that family connectedness reduces depressive symptoms for socially isolated boys and girls, whereas school connectedness buffers depressive symptoms for socially isolated boys only. The study suggests that emotional connections of students with their peers, parents, and teachers offer protective benefits by reducing social isolation. In a study of the demographic and psychosocial correlates of depressive symptoms in adolescent boys and girls, Schraedley, Gotlib, and Hayward (1999) found that social support and higher socioeconomic status (SES) were negatively correlated with depressive symptoms and adolescents who used many coping strategies such as calling friends were less likely to be depressed. Fitzpatrick, Piko, Wright, and LaGory (2005) examined the role of age, gender, exposure to violence, self-esteem, grades, and social ties in predicting depression among African American adolescents. The study found among other things that social relationships had negative association with depression ($p \leq .01$), which suggests that the rise in the incidence of adolescent depression may be a function of diminishing social ties.

Nasser and Overholser (2004) investigated the role of social support in the recovery from major depression and found that higher levels of friend support, family support and overall emotional support were associated with lower levels of

depression 3 months later ($p < .02$). Participants who no longer met diagnostic criteria for depression at follow-up also reported higher levels of perceived support from friends and family at baseline. In another longitudinal study with 496 adolescent girls, Stice, Ragan, and Randall (2004) showed that deficits in perceived parental support unlike perceived peer support predicted future increases in depressive symptoms and onset of major depression ($p < .05$). Additionally, using a secondary data analysis approach, Meadows (2007) showed that parents and teachers' support were related to lower depressive symptoms and delinquency in males and females ($p < .001$). A higher level of male peer support was related to higher depressive symptoms as well as delinquency. Higher levels of female peer support were related to higher depressive symptoms, but the relationship was not significant for delinquency in both males and females. Specifically, father's and teachers' support exhibited a parallel mechanism in terms of magnitude, whereas mother's support had stronger effects on depression in females than delinquency in males. These findings provide support for the assertion that deficits in social support increase the risk for depressive disorder, and suggest that deficits in parental support may be more damaging than deficits in peer support during adolescence. In contrast to the role of social support as a buffering mechanism to depression, Young, Berenson, Cohen, and Garcia (2005) found that both parent and peer support independently did not predict depressive symptoms at Time 2 (1-year follow up), but a significant interaction was obtained between parent and peer support. For adolescents with high parent support, high anticipated peer support was

associated with lower levels of depression at Time 2. However, for adolescents with low support from parents, high anticipated support from peers was related to more depressive symptoms at Time 2. These results suggest that when relationships with parents are nonsupportive, adolescents normally turn to their peers for support, but these relationships do not buffer them from mental health problems.

In summary, these studies found that social support from parents, peers, and teachers are likely to help adolescents develop a sense of self-efficacy and perceived control over stressful situations. Such supportive relationships may help sustain a sense of belonging and self-esteem which are essential in reducing the likelihood of experiencing depression (Newman, Newman, Griffen, O'Connor & Spas, 2007; Hall-Lande, Eisenberg, Christenson, & Neumark-Sztainer, 2007; Meadows, 2007). These studies also suggest that the broad support network available from parents, teachers, and peers are effective in promoting good mental health for adolescents by providing them with the insight to deal with or recognize alternatives to their stressful situations, the skills to make their life experience a positive one, and the awareness to recognize and get the necessary help in stressful situations. However, there are some conceptual and methodological issues in these studies; for instance, the concept of social support was not defined in most of the studies. Methodologically, Hall-Lande, Eisenberg, Christenson, and Neumark-Sztainer (2007) used a single survey item to assess social isolation. It is very unlikely that a single response will provide a comprehensive picture of the feelings of social isolation

experienced by the study participants. Furthermore, some investigators (Meadows, 2007) used data from an existing data base (secondary analysis approach) to examine the relationship between social support and depression. The use of a secondary analysis approach may not have accurately revealed the true relationships between the variables under investigation.

Religiosity

Religiosity may provide another avenue for exploring the relationship between adolescent depression and supportive relationships. Religiosity is the extent to which an individual frequently prays and attends religious services (Koenig, Pakerson, & Meador, 1997). Pearce, Little, and Perez (2003) defined religiosity as the extent to which an individual is committed to his/her religious affiliation and its teachings in such a way that his/her attitudes and behaviors reflect the commitment. Studies show that religiosity moderates or buffers depressive symptoms and other negative health risk behaviors exhibited by adolescents. In a study using a sample of 744 adolescents, Pearce, Little and Perez (2003) explored if there is a relationship between depressive symptoms and religiosity using the Children's Depression Inventory and a brief Multidimensional Measure of Religiousness/Spirituality. The results of the study indicated that negative religious experience was positively related to depression ($p < .001$). Negative religious experience was defined as the frequency with which the congregation criticizes the activities of the adolescent. Religious attendance ($p < .01$), self-ranked religiousness and positive religious experience were related to lower depressive symptoms ($p < .001$). Positive religious experience was

measured as the degree of comfort and support the adolescent receives from the congregation. Positive and negative religious experience significantly predicted depression ($p < .005$). Private religious practices such as private prayer and reading spiritual books were not associated with depressive symptoms. Girls and African American adolescents who reported higher religious beliefs and behaviors had lower levels of depressive symptoms. Sinha, Cnaan, and Gelles (2007) also reported that youths' who perceive religion as important and participate in religious activities experienced lower levels of depressive symptoms and generally engaged less in risk behaviors, such as smoking, alcohol use, truancy, sexual activity, and marijuana use. These remained consistent when background variables such as age, parents' education, and self-esteem were controlled. The authors suggested that the relationship between religion and reduced risk behaviors may be explained by increased social bonding and pro-social activities gained through involvement in religious activities, together with increased parental moral expectation.

Smith, McCullough and Poll (2003) explored whether there is an association between religiosity and depressive symptoms. The authors found that religiosity was modestly but reliably associated with depressive symptoms and the association was strong across different gender, ethnic, and age groups. The negative association was notably stronger in study samples that were reported to be undergoing psychosocial stress. The researchers explained that the buffering effect of religiosity could be attributed to the high degree of support often associated with involvement in a local religious congregation. Likewise,

Schapman and Inderbitzen-Nolan (2002) found that frequent engagement in religious activities was associated with less depressive symptoms among adolescents. More specifically, frequency of attending formal services, religion class (organizational religiosity) and praying outside of formal services (non-organizational religiosity) were significantly and negatively correlated with depressive symptoms. However, frequency of reading the bible did not correlate with depression. The negative relationship between religiosity and depressive symptoms were attributed to participation in religious activities which is social in nature. The researchers argued that participation in religious activities provide adolescents with a broader social support network which functions as a buffer for depressive symptoms.

In a study of religiosity and depression among intercollegiate athletes, Storch (2002) found that after controlling for gender, only intrinsic religiosity measured as the use of religion to find meaning and purpose in life was related to lower symptoms of depression ($p < .01$). Organizational religiosity (attendance at religious service) and non-organizational religiosity (private prayer, meditation, and Bible study) had no significant association with depressive symptoms. These findings contradict the work of Schapman and Inderbitzen-Nolan (2002) which found that frequent attendance to religious services was related to lower depressive symptoms. Storch's (2002) finding that Bible study had no significant association with depressive symptoms agrees with the work of Schapman and Inderbitzen-Nolan (2002) which found no correlation between reading the Bible and depression.

In a study of the stress moderating effect of religiosity among Catholic and Protestant college students, Park, Cohen, and Herb (1990) found that intrinsic religiousness was positively related to depression, while religious coping (the degree to which individuals use religion to deal with stressful situations) were negatively related to depression among Catholic students. However, both extrinsic religiousness (prayer) and intrinsic religiousness were negatively related to depression, while religious coping was positively associated with depression among Protestant students. The authors explained that the intrinsic orientation of Protestant students probably helps them translate uncontrollable negative events into a depression-reducing experience and to find meaning and strength when confronted with uncontrollable stress. Their explanation of the Catholic pattern is that religious coping probably allows them to atone or confess for controllable life stress consequently leading to resolution. The negative association between intrinsic religiousness and depression for the Protestant group is consistent with Storch's (2002) findings of a negative association between intrinsic religiousness and depression among intercollegiate athletes. The findings that intrinsic religiousness, religious coping and participation in religious activities act as life stress moderators support the interpersonal model which stresses that being part of a supportive relationship and perceived support from a network buffers an individual from stressful life events.

Religiosity not only reduces depressive symptoms, but deters other mental health risk behaviors among adolescents. Bartkowski and Xu (2007) showed that religious network integration was a significant negative predictor for all forms of

drug use (alcohol, marijuana, and other illicit drugs). Religious involvement produced significant protection against marijuana use, but not other kinds of drugs. However, religious denomination and trust in religious phenomena had no significant relationship with drug use. The study suggests that mere belief in God and denominational affiliation do not deter teens from engaging in drug use, but being part of a religious network and greater religious participation are positive forces that can prevent teens from using drugs. This study supports the work of Sinha, Cnaan, and Gelles (2007) which showed a negative association between religiosity and drug and alcohol use.

In summary, these studies showed that adolescents consider religion important in their lives and adolescents who are involved in religious activities have better mental and emotional health and generally engaged less in health-risk behaviors. The studies showed that participation in religious events, private religious practices, and intrinsic religiosity were related to lower depressive symptoms. Many researchers suggested that the inverse relationship between involvement in religious activities and depression may be due to increased social support network and adhering to moral proscriptions that enables the formation of pro-social norms and a peer environment that are risk avoiding (Bartkowski & Xu, 2007; Smith, McCullough & Poll, 2003). However, one of the shortcomings of the work of Sinha, Cnaan, and Gelles (2007) was the collection of data about the frequency of adolescents' participation in religious activities from parents/caretakers. Obtaining such information from parents/caretakers, rather than the adolescent participants may have obscured the results. Also, Bartkowski

and Xu (2007) used a secondary data analysis method which creates great potential for error and may likely reduce the internal validity of the study.

Spirituality

Limited studies have explored if a relationship exist between spirituality and adolescents' mental health status. Spirituality, according to Paloutzian and Ellison (1991) encompasses attributes such as meaning and purpose in life, positive interconnectedness with God, transcendence, and satisfaction in life. Using a randomized sample of 183 suburban high school students (mean age 16.2 years), Cotton et al., studied whether there is a relationship between religiosity, spirituality, and depressive symptoms. Their results showed that spirituality is important in the lives of a majority of adolescents (> 70%). Increased spirituality was correlated with lower levels of depressive symptoms ($p < .001$), while higher levels of religious importance related to more depressive symptoms ($p < .05$). Religiosity only explained 1% of the variance, whereas when tied with spirituality, they explained 36% of the variance in depressive symptoms. Additionally, increased spirituality was correlated with engagement in fewer health risk behaviors such as tobacco use, alcohol and drug use, violence, sexual activity, and dietary behaviors. While religiosity explained 0.1% of the variance in health risk behaviors, religiosity together with spirituality explained 24.2% of the variance in health risk behaviors. The findings of Cotton, Larkin, Hoopes, Cromer, and Rosenthal (2005) corroborate those of Yi et al., (2006) who found that greater levels of spirituality were associated with lower levels of depressive symptoms among HIV patients. Yi and colleagues (2006) argued that

the negative correlation between spirituality and depression may be due to greater spiritual well-being which not only facilitates more positive and healthy personal and social behaviors, but provides a unifying framework that helps individuals deal with unexpected and difficult situations.

Desrosiers and Miller (2007) examined if a relationship between relational spirituality and depression exists. Relational spirituality was defined as self in relationship with God or Universe. The study found that adolescent girls compared to boys were significantly higher on depression level. Specifically, the study showed that dimensions of relational spirituality such as spiritual experiences, positive religious coping and forgiveness were negatively associated with depression in adolescent girls. On the other hand, social support and minimal criticism from the congregation or religious group buffers depressive symptoms for boys. The study suggests that the twofold increased risk for depression in girls compared to boys might be a result of disruptions in relational spirituality.

Looking at spiritual wellness and depression, Briggs and Shoffner (2006) examined the relationship between depression and four dimensions of spiritual wellness such as meaning and purpose, inner resources, transcendence, and positive interconnectedness in older adolescents and midlife adults. They showed that older adolescents (ages 18-19) had a higher level of depression than midlife adults (ages 35-50). All the four dimensions of spirituality were related to lower depressive symptoms both in older adolescents and midlife adults. These findings are consistent with the work of Young, Cashwell, and

Shcherbakova (2000) who found a negative correlation between spirituality and depression among 303 undergraduates. Their results suggest that a greater orientation to spirituality probably weakens the impact of negative life experiences. Similarly, Daaleman and Kaufman (2006) found that greater spirituality conceptualized as meaningful life scheme and functional efficacy was inversely correlated with depressive symptoms among 509 primary care outpatients. The study suggests that the process of making and finding meaning in life may be one mechanism that links spirituality to lower depressive symptoms.

Nasser and Overholser (2004) studied the role of spirituality and support from family and friends in the recovery from major depression and they found a negative relationship between spirituality and depression at baseline. This association was not maintained at 1-year follow-up, whereas the support from family and friends in buffering depression persisted at follow up, implying that the role of spirituality in reducing depression may not be as important as support from family and friends.

In summary, these studies illustrate that a negative relationship exists between spirituality and depression. The studies suggest that the inverse relationship between spirituality and depression may be due to the resiliency promoted by spirituality that provides the adolescents with the power and will to manage adversity and stress and to withstand life challenges. The findings that religiosity is negatively related to depression was not supported in the work of Cotton, Larkin, Hoopes, Cromer, and Rosenthal (2005) which showed that

religion has to be tied with spirituality in order to reduce adolescents' depressive symptoms or health risk behaviors. Given the negative relationship that exists between social support, religiosity, spirituality and adolescent depression, research of this sort has not been done with adolescents in faith-based school setting although the nature of faith-based schools make them good settings to study all three supportive relationship measures.

Nature of Faith-Based Schools

Faith-based schools have a particular religious character (Short, 2002). They are privately-operated and engage both in religious and conventional education and include schools attached to Catholic parishes or dioceses, Protestant, Jewish, and other religious schools. The size, social, and academic organization of faith-based schools distinguishes them from public schools (Lee & Smith, 1995). A study conducted by Lee and Smith (1995) showed that students who attend faith-based schools perform better academically than students who attend public schools. They attributed the high academic performance of students in faith-based schools to their small class sizes and high levels of motivation and dedication among their teachers. Both Lee and Smith (1995) and Lee and Bryk (1989) assert that the high supportive relationship, moral and social formation that permeates faith-based schools creates positive intergroup relations that enhance students' sense of belonging, security, and self-esteem. These in turn create social cohesion. Thus, the culture of social capital, strong internal sense of community, structured and discipline environment, sense of mission, and the vocational commitment of teachers which prevails in faith-

based schools contribute to the academic successes of their students (Lee & Smith, 1995). These traits also offer important social connections that can lead to low drop out rate (Lee & Burkam, 2003) and increase in academic performance (Lee & Bryk, 1989; Lee & Smith, 1995). With the evidence supporting the advantage of attending faith-based schools, there are limited studies on the relationships between different supportive relationships measures such as social support, religiosity, and spirituality which are the hallmarks of faith-based schools and depressive symptoms among adolescents who attend such schools. The relationship between adolescent depression and these measures or even the various combinations of the measures has not been established in faith based school settings. The limitations and the gaps which are discussed in the next section provide the basis for the proposed study.

Summary

The prevalence rate of depression among adolescents is increasing. Factors such as gender, self-esteem, exposure to violence, loneliness, life stress, deficits in social support, academic failure, and drop out have been related to adolescent depression. The literature on social support demonstrates that the mutual support, feelings of self-esteem, trust and security which individuals with wide social networks experience are likely to create the social capital or interconnectedness that may prevent social isolation. These in turn may help individuals develop high levels of resiliency and effective coping mechanisms, and consequently, more positive attitudes towards life. Faith-based schools are known to provide an environment that fosters mutual support, social integration,

and high sense of community among teachers, parents, and students (Lee & Smith, 1995; Lee & Burkam, 2003). So far, no empirical study has examined the relationship between social support and depression among adolescents who attend faith-based high schools. The existing studies have some measurement and methodological issues. For instance, most of the studies that examined the relationship between social support and depression among adolescents did not measure the wide range of support types (emotional, informational, appraisal, instrumental) and sources (parent, teachers, peers, and friends) that are available to adolescents. Measuring one or two support types and sources may not provide a comprehensive picture of the range of social support an adolescent can receive or perceive.

From the religiosity-depression literature, it was demonstrated that dimensions of religiosity such as religious beliefs and values and participation in religious activities encourage living moral lives, development of self-regulatory skills and resiliency which equip adolescents with better control of their mental, psychological, and emotional state. Faith-based schools are known to provide such opportunities for religious engagement and support. Since these qualities are in place in faith-based schools, it is likely then that adolescents in faith-based high schools may have better emotional health. However, no study has examined if a relationship exist between religiosity and depression among adolescents who attend faith-based high schools. Most studies that examined whether there is a relationship between religiosity and depression were carried out either in public schools (Pearce, Little, & Perez, 2003), at college level (Park, Cohen, & Herb,

1990; Storch, 2002) or in the general population (Sinha, Cnaan, & Gelles, 2007). Some of the studies also lacked a clear theoretical basis (Pearce, Little, Perez, 2003; Sinha, Cnaan, & Gelles, 2007; Storch, 2002). In addition, some of the investigators used a secondary data analysis method to examine the relationship between religiosity and depression which may not have revealed the true relationship between the variables. These caveats therefore necessitate the need to carry out a study to explore whether there is a relationship between religiosity and depression among students who attend faith-based high schools.

Studies on the relationship between depression and spirituality revealed that spirituality is inversely related to depression in adolescents. The studies showed that spirituality provides an individual with a sense of meaning in life. Having a sense of meaning provides one with a sense of order and purpose which promotes self-efficacy and self-esteem (Daaleman & Kaufman, 2000). The high sense of self-esteem and efficacy therefore helps moderate the relationship between negative life experiences and depression. To date, no empirical study has explored whether there is an association between spirituality and depression among students who attend faith-based high schools. The existing studies were carried out in public school setting (Cotton, Larkin, Hoopes, Cromer, & Rosenthal, 2005) and in the general population (Lee, 2007). A major limitation in the studies was the inconsistency in the relationship between religiosity, spirituality and adolescent depression. While participation in religious activities was related to lower depressive symptoms in adolescents (Sinha, Cnaan, & Gelles, 2007; Bartkowski & Xu, 2007; Pearce, Little & Perez, 2003), Cotton,

Larkin, Hoopes, Cromer, and Rosenthal (2005) demonstrated that involvement in religious activities alone does not offer significant protection against depression and teens drug use, but must be coupled with spirituality in order to buffer depressive symptoms. To date, no study has explored if a relationship exists between spirituality and depression among adolescents in faith based schools, neither has any study explored if the different combinations of supportive relationships relate differently to adolescent depression than the relationship of any single type of the supportive relationship and depression in the context of faith-based schools. The gaps and limitations discussed in this review therefore provide a basis for further exploration of the topic.

Chapter III

METHODS

Research Hypotheses

H1: There will be a negative bivariate correlation between social support, religiosity, spirituality and depressive symptoms among adolescents who attend a faith-based high school.

H2: Combinations of social support and religiosity will have a correlation with depressive symptoms among adolescents who attend a faith-based high school.

H3: Combinations of social support and spirituality will have a correlation with depressive symptoms among adolescents who attend a faith-based high school.

H4: Combinations of religiosity and spirituality will have a correlation with depressive symptoms among adolescents who attend a faith-based high school.

H5: Combinations of social support, religiosity and spirituality will have a correlation with depressive symptoms among adolescents who attend a faith-based high school.

H6a: There will be differences in social support, religiosity, spirituality and depressive symptoms between male and female adolescents who attend a faith-based high school.

H6b: There will be differences in social support, religiosity, spirituality and depressive symptoms between 14, 15, 16, & 17 year old adolescents who attend a faith-based high school.

H6c: There will be differences in social support, religiosity, spirituality and depressive symptoms between the ethnic groups of adolescents who attend a faith-based high school.

Design

The research design is cross-sectional, descriptive, and correlational.

The study is cross-sectional because data will be collected at one point in time to avoid testing or history effects. A descriptive design will be used to organize and summarize demographic characteristics of the sample, and a correlational design will be used to explore if a relationship exists between social support, religiosity, spirituality, (independent variables) and depressive symptoms (dependent variable) among adolescents in a faith-based high school. A correlational design will also be used to explore if relationship exists between combinations of social support, religiosity, spirituality, and depressive symptoms among adolescents in a faith-based high school. The decision to use a descriptive and correlational design is supported by Portney and Watkins (2000) who suggested that a descriptive design is appropriate for use in documenting attitudes or characteristics of individuals or groups of individuals under study, while a correlational design is appropriate for use in describing the nature of existing relationships among variables.

Variables and Instrumentation

Variable 1: Social Support

Social support is one of the independent variable in this study and it was measured using the Child and Adolescent Social Support Scale (CASSS). The

CASSS (Appendix N) is a multidimensional scale that measures support from different sources (parents, teachers, classmates, and close friends) and types (emotional, informational, appraisal and instrumental) and rates them by frequency and importance (Malecki, Demaray, Elliott, & Nolten, 1999). The CASSS is a revision of the Student Social Support Scale (SSSS) developed by Nolten (1994). Nolten designed the SSSS to address the lack of comprehensiveness of the existing social support instruments that did not measure the wide range of social support types (emotional, informational, appraisal and instrumental) and sources (parents, teachers, classmates, and close friends) proposed by Tardy (1985). These limitations prompted Nolten to develop a 60 item questionnaire that assesses students' perceived emotional, informational, appraisal, and instrumental support received from parents, teachers, close friends, and classmates. The reliability and validity of the SSSS was collected on a nationally representative sample of 298 children and the alpha coefficient for the entire 60-item scale was 0.92. Each 15-item subscale produced alpha coefficients of 0.92 - 0.95. Alphas for both males and females ranged from 0.90 - 0.97 (Nolten, 1994). Despite the good psychometric properties of the SSSS, Malecki, Demaray, Elliott, and Nolten (1999) criticized it for three reasons: 1) It is a lengthy measure (60 items) which takes approximately 25 minutes to administer and so it is time consuming; 2) Some of the items are not appropriate for older children (e.g. "My classmate plays with me at recess"); and 3) The measure was intended only for use with children in grades 3 – 8 which greatly limits its use for adolescents in grades 9 – 12. To

address these limitations, Malecki, Demaray, Elliott, and Nolten (1999) revised the SSSS and named it the Children and Adolescent Social Support Scale (CASSS). In the revised SSSS otherwise known as the CASSS, questions were made age appropriate by the creation of two levels. Level 1 was designed for children from grades 3-8 and level 2 was designed for children in grades 9-12. In addition, the instrument was scaled down to 48 questions.

The CASSS is a 48-item multidimensional self-administered scale that measures the wide range of social support types (emotional, informational, appraisal and instrumental) and sources (parents, teachers, classmates, and close friends) that are available to adolescents (Malecki, Demaray, Elliott, & Nolten, 1999). Study participants are required to respond to statements such as, "My parent(s) give me good advice" (an item from parent subscale); "My teacher(s) understands me," (an item from teacher subscale); "My classmates ask me to join activities," (an item from classmate subscale); and "My close friend understands my feelings" (an item from close friend subscale) (Malecki, Demaray, Elliott, & Nolten; Malecki & Demaray, 2002). Respondents rate each item on two aspects: frequency (how often the respondent receive the support/help described) and importance (how important the support is to the respondent). The confirmatory factor analyses for this instrument were obtained only for the frequency ratings and the authors of the instrument recommended that the importance ratings should be used primarily as a clinical tool. Previous studies that used CASSS to measure social support used only the frequency ratings (Malecki, Demaray, Elliott, & Nolten, 1999; Malecki & Demaray, 2002).

This study likewise used only the frequency ratings since it is not a clinical study and study participants are normal adolescents. The frequency ratings consist of a 6-point Likert scale from 1 (Never) to 6 (Always). Importance ratings are a 3-point Likert scale ranging from 1 (Not important) to 3 (Very important). Each subscale corresponds to one of the sources of support (parent, teachers, classmate, and close friend) and consists of 12 items. Subscale scores are calculated by summing the frequency ratings of the 12 items on each subscale. A total frequency score is calculated by summing all 4 frequency ratings' subscale scores. The scores range from 48 – 288. The level 1 and 2 version of the CASSS has about 80%-item overlap. Eight of the items overlap on the parent, teacher, and classmate subscale, while five of the twelve items overlap on the close friend subscale. Since the Level 2 version of the CASSS was designed for use with students in grades 9 through 12, this study used the level 2 version of the CASSS and only discussed the reliability and validity of the level 2 CASSS.

Reliability and validity of the CASSS

Social support is a multidimensional construct that can be measured quantitatively (Tardy, 1985, Cohen & Wills, 1985). The CASSS, which was based on Tardy's multidimensional model of support, offers such a measure. The CASSS is psychometrically sound, easy to use and less time consuming (takes approximately 17 minutes to complete). The CASSS was validated on samples of normal adolescents in various elementary, middle and high schools in urban and suburban school districts in Massachusetts, Wisconsin, Minnesota, Illinois, and Nebraska (Malecki & Demaray, 2002). Cronbach's alpha for the total and

subscale items ranged from 0.89 - 0.97. The high internal consistency exhibited by the instrument shows that the items in the scale are measuring the same construct. The test-retest reliability after 8 – 10 weeks revealed alpha coefficients of 0.70 for the total scale and 0.60 – 0.78 for the subscales (Malecki & Demaray, 2002, 2003). This moderate test-retest reliability shows that the CASSS yields the same result on repeated administration. Confirmatory factor analyses provided a strong support for the 4 constructs (Parent, Teacher, Classmate, and Close friend) which explained 58% - 75% of the variance in the sources of support. The fit of the hierarchical model supports combining the 4 subscales to compute an overall index of social support. The instrument showed evidence of discriminant validity $r = 0.35 - 0.57$, which means that adolescents can distinguish the social support they receive from the different sources (Malecki & Demaray, 2002). Support from parents was perceived differently from support from teachers, classmates, or close friends. CASSS also demonstrated convergent validity with the Social Support Scale for Children (SSSC) $r = 0.70$ and Social Support Appraisal (SS-A) Scale $r = 0.55$ (Malecki & Demaray, 2002, 2003). These moderate correlations suggest that the CASSS, SSSC and SS-A Scale measure similar construct, that is, social support. Additionally, there is evidence of age, gender, and race-related differences. Malecki and Demaray (2002) showed that perceived social support from parents and teachers decreased as student grade level increases. High school females perceived more support than males on the total score for close friend and classmate subscales, whereas high school minority students reported less support than

the variance obtained for this dimension is low since many people attend religious services on a weekly basis. Despite this limitation, the majority of studies on organizational religiosity and depression found a negative relationship between the two variables (Braam, van den Eden, & Prince, 2001; Idler & Kasl, 1992). With regard to non-organizational religiosity, Harold, Koenig, Pargament, and Nielsen (1998) found a weak to moderate relationship between non-organizational religiosity and depression. In contrast, Koenig, George, and Petersen (1998) found no relationship between the two variables. Studies on subjective religiosity such as self-rated importance of religion and intrinsic religiosity found an inverse correlation between these variables and depression (Genia & Shaw, 1995). A more recent trend in measuring religiosity is to include organizational religiosity, non-organizational religiosity, and intrinsic religiosity into one measure. According to Koenig, McCullough, and Larson (1997) including the three dimensions into one measure is more reliable, since the measurement errors cancel each other out when the items are aggregated. In view of this argument, Koenig, Pakerson, and Meador (1997) designed the Duke University Religion Index (DUREL) which includes the organizational, non-organizational, and intrinsic religiosity into one measure.

The DUREL (Appendix H) is a 5-item self-administered rating scale that measures the organizational, non-organizational, and intrinsic dimensions of religiosity. Organizational religiosity is measured on a six point Likert scale with a single item: "How often do you attend religious services or meetings?" (1 = never, 2 = once a year, 3 = a few times a year, 4 = a few times a month, 5 = once a

week, 6 = more than once a week). Non-organizational religiosity is measured on a six point Likert scale with one item: "How often do you spend time in private religious activities such as prayer, meditation, and Bible study?" (1 = never or rarely, 2 = a few times a year, 3 = a few times a month, 4 = once a week, 5 = more than once a week, 6 = more than once a day). Intrinsic religiosity is measured with three questions that assess intrinsic beliefs on a five point Likert scale (e.g., "In my life, I experience the presence of the Divine"; 1 = definitely not true of me, 2 = tends to be true of me, 3 = unsure, 4 = tends not to be true, 5 = definitely not true). Scores are reversed to obtain the subscale scores. Scores range from 5 – 27. High scores indicate greater religiosity (Koenig, Pakerson, & Meador, 1997; Storch et al., 2004), but each dimension could be examined separately to reduce multiple collinearity between subscales (Koenig, Pakerson, & Meador, 1997).

Reliability and validity of the DUREL

The DUREL was designed to measure religiosity in a comprehensive and yet brief manner. It is psychometrically sound, easy to use and takes only 2 minutes to complete. The DUREL has been used and validated in various population samples including adolescents. Cronbach's alpha for the DUREL ranges from 0.70 – 0.91 and 2 weeks test-retest reliability was 0.91 (Koenig, Pakerson, & Meador, 1997; Storch, Storch, Welsh & Okun, 2002; Storch et al., 2004). The different dimensions of religiosity were highly associated with physical health and social support (Koenig, Pakerson, & Meador, 1997), academic dishonesty and depression (Storch & Storch, 2001, 2002), self-esteem and mental health

(Sullivan, 2004) and identity formation (Lee, Miller, & Chang, 2006). The DUREL was used to measure religiosity in this study because it is brief, has good psychometric properties, has been used in normal samples of adolescents and taps the three major areas that are usually assessed in studies of religiosity and mental health in various population samples. For more information on the instrument see Appendix H.

Variable 3: Spirituality

Spirituality is the third independent variable and it was measured using the Spiritual Well-Being Scale (SWBS). The SWBS is a self-administered rating scale developed by Paloutzian and Ellison (1982) as a general measure of spirituality. The items are self-belief statements that measure four areas of spirituality namely: purpose and meaning in life, inner resources, unifying interconnectedness, and transcendence. These four areas of spirituality are categorized into the religious and existential dimensions. The SWBS was based on the definitions of spirituality presented by the National Interfaith Coalition on Aging (1975) and Moberg's two dimensions of spirituality (Moberg, 1984). According to the National Interfaith Coalition on Aging (1975) spirituality consists of one's relationship with God, self, community and environment that nurtures and celebrates wholeness. Moberg (1984) defined spirituality as having two dimensions: vertical and horizontal. The vertical dimension assesses spirituality in terms of one's relationship with God, while the horizontal dimension refers to one's sense of purpose and satisfaction with life. The SWBS developed by

Paloutzian and Ellison (1982) captures both the vertical and horizontal nature of spirituality.

The SWBS is a 20 item rating scale that measures religious well-being and existential well-being of an individual. 10 items measure Religious Well-being (RWB) assessed by items such as “I believe that God is concerned about my problems” and “I believe God loves me and cares about me.” The remaining 10 items measure Existential Well-Being (EWB). Examples of items in this subscale include “I feel good about my future” and “I believe there is some real purpose for my life.” 11 items are positively worded and 9 items are negatively worded to ensure attentiveness and prevent response set bias. The odd numbered items form the RWB scale, while the even numbered items form the EWB scale. Items are rated on a Likert scale and scored from 1 point to 6 points yielding a maximum possible score of 120, and a minimum possible score of 20. The two subscales are summed up to form one measure of spirituality. Higher scores indicate higher spirituality.

Reliability and validity of the SWBS

The SWBS has been validated in various population samples including the adolescent samples. It is psychometrically sound, easy to use and takes about 10-15 minutes to complete. The SWBS is a reliable and valid measure of spirituality. Cronbach's alpha coefficients for the total and subscale items across seven studies range from 0.78 – 0.94 (Fernander, Wilson, Staton, & Leukefeld, 2004; Genia, 2001; Tevendale, DuBois, & Lopez et al., 1997; Cotton, Larkin, Hoopes, Cromer, & Rosenthal, 2005). The test-retest reliability coefficient for the

total SWBS, RWB, and EWB scales at 4, 6, and 10 weeks ranges from 0.88 – 0.99 (Bufford, Paloutzian, & Ellison, 1991). Factor analysis of the instrument showed that a two factor model (religious and existential well-being) was sufficient to explain the spirituality construct (Scott, Agresti, & Fitchett, 1998). Spirituality was found to be related to lower anxiety in at-risk adolescents (Davis, Kerr, & Kurpius, 2003) and lower depressive symptoms and health risk behaviors in adolescents (Cotton, Larkin, Hoopes, Cromer, & Rosenthal, 2005). The validation for the instrument was based on various samples such as adolescents, college students, pastors, church samples, and medical patients. The SWBS was used to measure spirituality in this study not only because it measures the spiritual attributes deemed important in the literature, but it has high internal consistency, good test-retest reliability, good face, content and construct validity and takes about 10-15 minutes to complete.

Variable 4: Depression

Depression is the dependent variable in this study and depressive symptoms were measured using the Center for Epidemiological Studies Depression Scale for Children (CES-DC). The CES-DC (Appendix I) is one of the most commonly used tools to measure depressive symptomatology among non-depressed adolescent respondents ages 12 -18 years with a sixth-grade reading level or higher (Weissman, Orvaschel, & Padian, 1980). The 20-item CES-DC was adapted from the original Center for Epidemiological Studies Depression Scale (CES-D) measure developed by Radloff (1977). Weissman, Orvaschel, and Padian (1980) reworded the items of the CES-D to make it more

understandable and applicable for children and adolescents. This 20-item self-administered scale measures the major components of depressive symptomatology including sadness or irritability, loss of interest, feelings of guilt and worthlessness, psychomotor retardation, loss of appetite, and sleep disturbance and does not include items that assess suicidal ideation to lessen any adverse outcome with children and adolescent samples. To date, there has been no evidence that participants exhibited distress or were upset during or after completing the CES-DC in previous studies (Hudson, Elek, & Campbell-Grossman, 2002; Fitzpatrick, Piko, Wright, & LaGory, 2005; Hankin, Mermelstein, & Roesch, 2007; Bettge et al., 2008).

The items in the CES-DC are rated on a scale of 0 – 3. For each item, respondents are asked to indicate how frequently they experienced the symptom within the past week. Responses include: 0 = Not at all, 1 = A little, 2 = Some, 3 = A lot. Four of the items are worded in a positive (nondepressed) direction, both to help break tendencies toward response set bias as well as to assess positive affect (or its absence). Sample items include: “I was bothered by things that usually don’t bother me,” and “I felt like I was just as good as other kids.” The scores are summed up to provide total scores in the range from 0 to 60, with higher scores indicating higher frequency of depressive symptomatology. Weissman, Orvaschel, and Padian (1980) suggested a cutoff score of 15 as suggestive of significant depressive symptoms in adolescents.

Reliability and validity of the CES-DC

The CES-DC is brief (takes 5-10 minutes to complete) and easy to administer and has been used extensively in the literature with the adolescent sample. The Cronbach's alpha of the CES-DC ranges from 0.84 – 0.88. Faulstich, Carey, Ruggiero, Enyart, and Gresham (1986) reported a 2-weeks test-retest reliability of $r = 0.51$ ($p < 0.005$). Concurrent validity of 0.44 ($p < 0.005$) was established by comparing scores on the Children Depression Inventory to CES-DC scores. Additionally, Bettge et al. (2008) showed that the intra-class correlation of CES-DC sum scores did not differ between the younger and older adolescents (11-13 years: ICC = 0.33, 14-17 years: ICC = 0.36) and between boys (ICC = 0.31) and girls (ICC = 0.38). Mean scores for adolescent samples ranged from 15.0 - 16.3, with standard deviation in the range of 7.88 - 8.54. Mean scores for adolescent males' ranged from 15.0 - 15.39 with standard deviation of 7.78, while the mean scores for adolescent females ranged from 15.35 - 16.8 with standard deviation of 7.94 (Hudson, Elek, & Campbell-Grossman, 2000, Takakura & Sakihara, 2001). CES-DC was positively correlated with loneliness ($r = .53$, $p \leq .05$) and negatively correlated with social support ($r = -.61$, $p \leq .05$) and self-esteem ($r = .74$, $p \leq .05$) (Hudson, Elek, & Campbell-Grossman, 2000). Previous studies with CES-DC showed that it is age appropriate, brief, easy to administer, has good reliability and validity, does not assess suicidality and was designed for use with non-depressed adolescents. Based on these qualities, the CES-DC was used in this study to measure depressive symptoms in normal or non-depressed adolescents. For more information see Appendix I.

Subjects/Participants

Setting

The study was carried out in a large, co-educational, regional high school (Grades 9-12) of the Catholic Archdiocese of Newark whose mission is to foster the spiritual, academic, emotional and social enrichment of each student. The school has a total population of 1,569 students (745 males, 824 females), from diverse ethnic background. As a school based upon faith in Jesus Christ, it infuses authentic Catholic teachings into its curriculum, culture, daily operations, spiritual life and witness. As a college preparatory school, students are challenged by a talented and devoted faculty with an interdisciplinary curriculum. The school maintains a welcoming climate which enhances the dignity of each individual regardless of race, ethnicity, socio- economic background, learning style, and academic ability. This school was chosen as a setting for this study because of the presence of different supportive activities and services that it provides for its students. For example, the facilities of the school remain open to all students long after each school day for formal extra curricular activities and opportunities for informal socialization among all students. The school maintains comprehensive student support services and campus ministry programs that give students opportunities to engage in various religious, spiritual and volunteer activities. The school designs and operates procedures to ensure that each student benefits from a deep level of affirmation and different support services (PCHS Mission Statement). The different kinds of supportive activities present in the school therefore makes it an appropriate setting to explore all three

supportive relationships than would other settings (e. g. public schools) that may not encourage or promote religious and spiritual activities.

Sampling Procedure

A convenience sample of 394 students from a population of 1,569 in the faith-based high school participated in the study. This sample size ($n = 394$) is adequate to provide a power of 0.80 and an effect size of $r = 0.25$ in a one tailed test with an alpha level of 0.05 according to G Power 3.1 analysis. The effect size for this study was calculated based on the sample size needed to achieve a significant result of 95%.

Permission to conduct the study in this school was approved by the Superintendent of Schools of the Catholic Archdiocese of Newark (Appendix O) and the Principal of the school (Appendix P). The study began with the receipt of approval from Seton Hall University Institutional Review Board (IRB) (Appendix Q). Recruitment and data collection was carried out by the school secretary who has no power relationship both with the parent/guardian or the students. In preparation for these tasks, the secretary completed the web-based training course "Protecting Human Research Participants." Before the recruitment process began, the PI trained the school secretary on the recruitment and data collection procedures. The secretary was also given a checklist of actions/steps (Appendix B) to be carried out during the recruitment and data collection process. The checklist served both as an aid to memory for the secretary and to help ensure consistency and completeness in carrying out the recruitment and data collection task. Since the primary investigator (Sr. Angela) has a professional

relationship with the students, she was not involved in the recruitment of subjects and in data collection to avoid the possibility of power influence.

Recruitment began with the school secretary mailing parent solicitation letter (Appendix T), an eligibility form (Appendix C), and parent/guardian consent form (Appendix R) to parent/guardian of 1,547 students. Included in the package was a stamped envelope bearing the secretary's name and an adolescent assent form (Appendix S) clearly marked as a copy for parent informational purposes. The PI's homeroom was not included in the study. The parent/guardian was asked to review the eligibility form and determine whether their son/daughter meets the criteria for participation in the study. If they check (yes) to any of the exclusion criteria, they were asked not to sign the informed consent, but return the entire package to the secretary by mail or via hand-delivery by the student within 3 days of receipt of the mail. However, if they check (no) to the questions, then they were requested to review, sign and return both the eligibility and the consent form to the secretary by mail or via hand-delivery by the student within 3 days of receipt of the mail. Asking the parent/guardian to return the signed eligibility form along with the consent form will provide an affirmative proof that their son/daughter is not taking any of the listed medication. As the students returned the envelopes, the secretary directed them to drop the envelopes in a designated box in the main office of the school. The secretary also collected the mailed envelopes as they arrived and placed them with the dropped-off envelopes. If there was no response from the parent/guardian after one week, it was assumed that they are not interested in the study and they were not

contacted. To guard against the possibility of another office personnel opening the mails, the school's normal routine requires that only the secretary opens letters addressed to her. The secretary collected and opened all the mails, recorded the names and assigned numerical codes to students whose parents/guardians agreed that they can be approached to participate in the study. Only the students who received parental approval were approached to participate in the study (Appendix D: Flow Chart 1).

In order to be included in the study, the students were requested to sign the assent form; an indication of their agreement to participate. This process started with the secretary sending sealed envelopes through the homeroom teachers to students whose parent/guardian had signed parental consent form. Giving mails to students through their homeroom teachers is a normal school protocol of getting information across to students. Although the students received their envelopes through their homeroom teachers, the homeroom teachers did not have access or know the content of the mail since the envelope was sealed. Each student received an eligibility form, solicitation letter (Appendix U), assent form (Appendix S), a memo with instructions on where to sign the assent form (Appendix E), and an envelope which he/she will use to return the entire package to the secretary. The students were asked to review, sign and return the assent form in a sealed envelope and drop the entire package into a labeled box in the main office of the school within 24 hours. After 24 hours, the secretary sent a reminder in a sealed envelope (Appendix F) through the homeroom teachers to students who did not returned their assent form. The secretary opened the

returned envelopes after 48 hours and recorded the names/codes of students who agreed to participate in the study. See Appendix G: Flow Chart 2. The list of students who agreed to participate in the study was checked against the list of consenting parent/guardian to ensure that each child's parent/guardian also gave consent. Students who assented were included as study participants. The secretary mailed copies of the signed documents to parent/guardian and also gave copies of the signed assent form to individual students before the study began. She left copies of the instruments in the main office of the school for the parents/guardians to examine them if they choose to do so. The Primary Investigator obtained permission to use the instruments from the authors (Appendixes L, M).

Inclusion/Exclusion Criteria

The subjects included in this study were adolescents' ages 14-17 years old attending the faith-based high school and had parental approval to participate in the study. Exclusion criteria for the study required that individuals cannot be taking any medication with the exception of seasonal allergies, asthma, acne and/or antibiotics within the last thirty days, do not have prior history of diagnosis of a major depressive episode, and had not received any form of talk therapy from any of the following professionals: psychologist, counselor, psychiatrist, or psychoanalyst (For more information, see Appendix C: Eligibility form). The criteria for selecting adolescents' ages 14-18 years old were based on the findings that over 10% of adolescents aged 12 to 18 experience at least one major depressive episode during this period of their life (National Survey on Drug

Use and Health Report, 2005; Ritakallio et al., 2008). The inclusion of non-depressed adolescents (adolescents not taking any antidepressant medication) was based on the exploratory and non-diagnostic nature of this study.

Data Collection Procedure

Before the data collection exercise began, the secretary assigned numerical codes to the study instruments based on the codes already assigned to students. The secretary placed the coded ditto in envelopes. On the day of data collection, the secretary sent surveys in sealed envelopes to students who agreed to participate in the study through the homeroom teachers. This is a normal school procedure of getting information across to students. Each envelope contained four (4) questionnaires which include: 1) the Child and Adolescent Social Support Scale (CASSS) (Appendix N), 2) the Duke University Religion Index (DUREL) (Appendix H), 3) the Spiritual Well-Being Scale (SWBS) and 4) the Center for Epidemiological Studies Depression Scale for Children (CES-DC) (Appendix I) and an envelope addressed to the secretary. Participants were asked not to write their names or other personal identifier on the questionnaires to protect their anonymity. Students were asked to complete the surveys alone during their free time and return them in sealed envelope into a designated box in the main office of the school before or at the end of that school day (Appendix J). Having students complete the questionnaires on their own protected the anonymity and confidentiality promised to them. This procedure ensured that their fellow students, homeroom teacher, or class teachers did not know who volunteered for the study, since the students did not gather as a group

to complete the surveys, or miss any of their classes. After 24 hours, the secretary handed the completed questionnaires over to the PI and forwarded the list that linked students to the instruments to the school clinical social worker (Appendix K: Flow Chart 3) so that the PI is completely blind to the participants. The list was handed over to the school clinical social worker for possible follow up in the event the PI encounters any survey with high depression score (a score of over 15). The PI asked the school social worker to lock up the list of participants in a filing cabinet in his office in the school for three years after which time it will be destroyed. The researcher did not see or have access to this list.

Human Participants and Ethics Precautions

Due to the sensitive nature of adolescent depression, the study was designed to separate the researcher from the recruitment and data collection process. The researcher only analyzed the data given to her by the school secretary. By virtue of the methodology established, the PI did not ask nor had access to participants' names, codes, addresses, telephone numbers, and date of birth. The methodology ensured that protection of privacy and confidentiality were maintained throughout the study duration.

Data Analysis

As soon as the PI collected the folders with the completed questionnaires, she screened them for missing responses and entered the data into the Statistical Package for the Social Sciences (SPSS) Version 19.0 (SPSS, 2010). The data was stored on a memory key. The PI securely locked up the completed questionnaires in a filing cabinet in her office at the school.

Descriptive Statistics

Descriptive statistics were used to present the demographic characteristics in a Table format. The following descriptive statistics were reported for the demographic characteristics: median, standard deviation, and percentages.

Inferential Statistics

The first research hypothesis was analyzed using Spearman's rho correlation. The Spearman's rho correlation is a common method used to test the relationship between two variables, i.e. one independent variable and one dependent variable. The Spearman's rho correlation was used in this study to determine if a relationship exists between social support and depression, religiosity and depression, and spirituality and depression. Multiple regression analyses were performed to determine the relationship between the dependent (criterion) variable (depression) and the combinations of different sets of independent (predictor) variables (social support and religiosity, social support and spirituality, religiosity and spirituality, and social support, religiosity and spirituality) (hypotheses 2-5). Multiple regression analyses were used in this study to determine the percentage of variability in depressive symptoms explained by the predictor variables. Partial correlation was carried out as part of the output in order to rule out competing explanations for the associations as it will help to provide a clearer explanation of the true nature of the observed relationships.

Gender differences in depressive symptoms, social support, religiosity and spirituality were analyzed using the Mann-Whitney U-test. The Mann-Whitney U-test was used to analyze the difference between the mean scores of males versus females with respect to the variables under investigation, while Kruskal-Wallis One-Way Analysis of Variance (ANOVA) by Ranks was used to analyze grade level and ethnic differences (hypothesis 6). Kruskal-Wallis ANOVA was used in this study to analyze the differences in the mean scores of the test variables for students ages 14, 15, 16, and 17 and the different ethnic groups such as Caucasian, African American, Hispanic American, Asian American, Native American and Other. If the result is significant, Portney and Watkins (2000) suggested that a multiple comparison procedure, Bonferroni correction should be performed to determine which specific groups were different from each other. All the data in this study was analyzed at $\alpha = 0.05$, $\beta = 0.20$ with a corresponding power of 80% which Portney and Watkins (2000) suggested is a reasonable protection against Type II error.

After data analyses, the PI forwarded codes of questionnaires with high depression scores to the School Clinical Social Worker (SCSW) who is expected to follow the school protocol for handling such issues. High depression scores according to the authors of the instrument, Weissman, Orvaschel, and Padian (1980) are scores that are greater than 15.

Summary

Three independent variables (social support, religiosity, spirituality) and one dependent variable (depression) were measured in this study. The relational

nature of the research hypotheses fit the design of the study which is correlational. This allows data to be collected at one point in time (cross-sectional). The relational research hypotheses also fit the correlational statistical analyses that were used to analyze the data. The instruments that were used in this study have been validated in various adolescent samples and their reliability and validity is well supported in the literature. The results of the pilot study supported the research methodology. The next chapter reports the results of the dissertation study.

Chapter IV

RESULTS

Characteristic of the Sample

A total of 1,547 envelopes containing: eligibility form, parent solicitation letter, and parent/guardian consent form were sent to parents/guardians of the student population. Only 512 packages were returned through postal mail and hand-delivery by students. A total of 437 parents/guardians agreed that their child can be approached to participate in the study, 76 parents/guardians declined participation and 1,034 parents/guardians did not return their packages. Out of 437 students who received parental approval to participate in the study, 410 agreed to participate. However, only 394 students actually completed and returned the surveys yielding a response rate of 25.5% which is considered very high according Alreck and Settle (2004). Of this number, 57.4% were females and 42.6% were males and the standard deviation was 0.495. Median age of participants was 16 years old with a standard deviation of 1.160. Out of 394 participants, 29.4% were 17 year olds, 22.1% were 16 year olds, 23.1% were 15 year olds and 25.4% were 14 year olds. There was no 18 year old participant probably because the study was carried out in the early part of the school year, so none of the 12 grade students had turned 18 yet. The majority of the participants were Caucasian 47.0%. Other ethnic groups include: Hispanic American (19.0%), Asian American (17.3%), African American/Black (12.7%), and other (4.1%). The standard deviation for ethnicity was 1.107. Table I presents the demographic characteristics of the sample.

Table I

Students' Demographics (N = 394)

| Variables | n | Percent | Median | Standard Deviation |
|------------------------|-----|---------|--------|-----------------------|
| | | 100 | | |
| Age | | | 16.00 | 1.160 |
| 14 years | 100 | 25.4 | | |
| 15 years | 91 | 23.1 | | |
| 16 years | 87 | 22.1 | | |
| 17 years | 116 | 29.4 | | |
| Gender | | | | .495 |
| Male | 168 | 42.6 | | |
| Female | 226 | 57.4 | | |
| Ethnic Group | | | | 1.107 |
| African American/Black | 50 | 12.7 | | |
| Asian American | 68 | 17.3 | | |
| Caucasian | 185 | 47.0 | | |
| Hispanic American | 75 | 19.0 | | |
| Other | 16 | 4.1 | | |

Justification for the Use of Non-parametric Statistics

The level of data obtained in this study is categorical and ordinal and non-parametric inferential statistics were used to test the research hypotheses because of the level of data obtained, unequal sample size, and the skewness of data distributions as illustrated in Figures 2, 3, 4, and 5 (Portney & Watkins, 2000).

Social Support

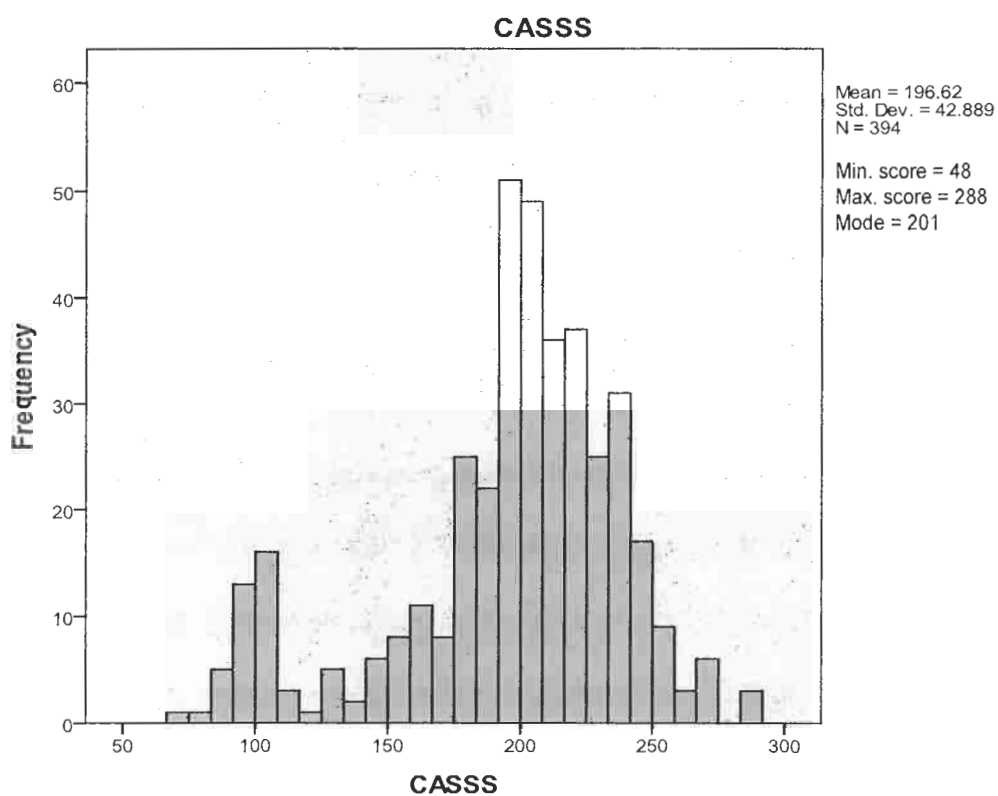


Figure II. Child and Adolescent Social Support Scale (CASSS) Data Distribution

Scores for social support were obtained by summing up individual scores from 48 item surveys. The scores range from 48 – 288. The mode for social support was 201; mean score obtained was 196.62 with a standard deviation of 42.89. The data obtained from the CASSS as shown in the figure above was not normally distributed permitting the use of non-parametric statistics for data analyses.

Religiosity

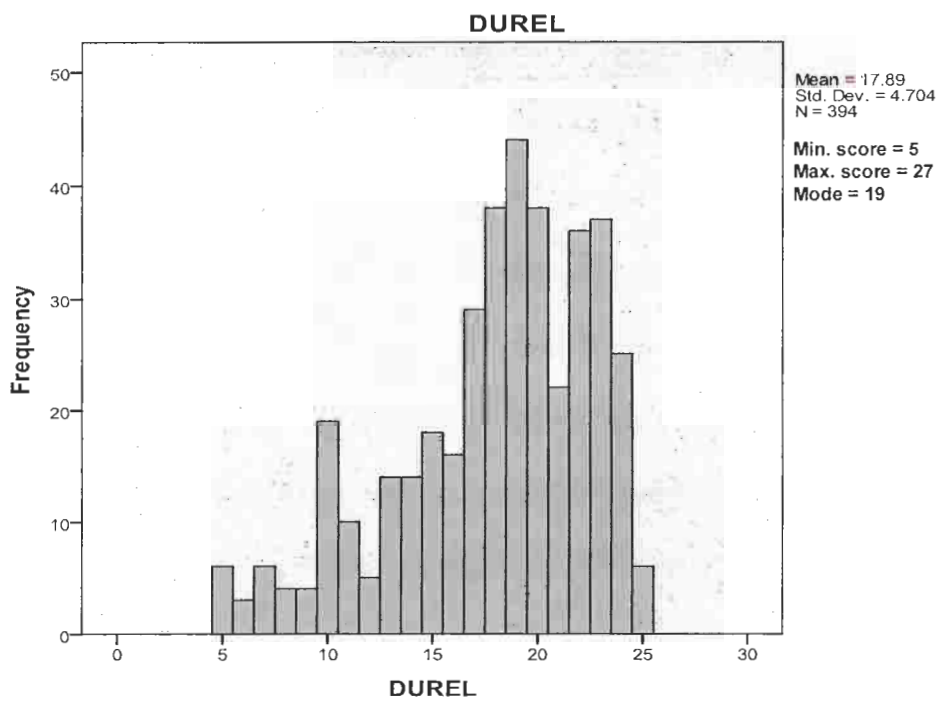


Figure III. Duke University Religion Index (DUREL) Data Distribution

Religiosity scores were obtained by summing up individual scores from the 5 item survey. The scores range from 5 – 27. The mode for religiosity was 19; mean score obtained was 17.89 with a standard deviation of 4.70. The data obtained from DUREL as shown in the figure above was not normally distributed permitting the use of non- parametric statistics for data analyses.

Spirituality

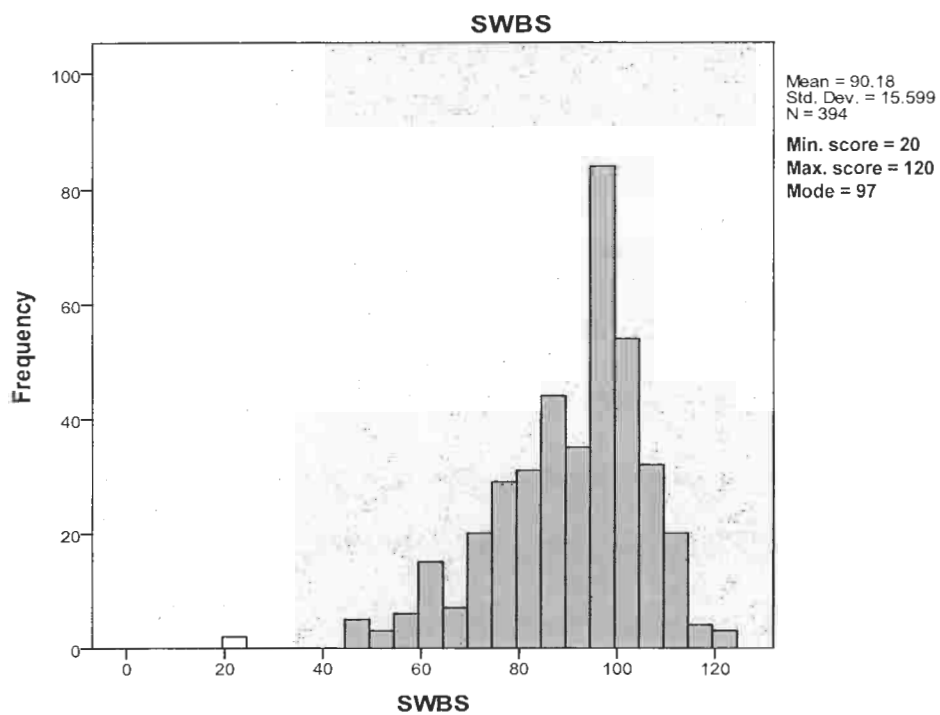


Figure IV. Spiritual Well-being Scale (SWBS) Data Distribution

Spirituality scores were obtained by summing up individual scores from 20 item survey. Scores range from 20 – 120. The mode for spirituality was 97; mean score obtained was 90.18 with a standard deviation of 15.59. The data obtained from the Spiritual Well-being Scale as shown in the figure above was not normally distributed permitting the use of non- parametric statistics for data analyses.

Depressive Symptoms

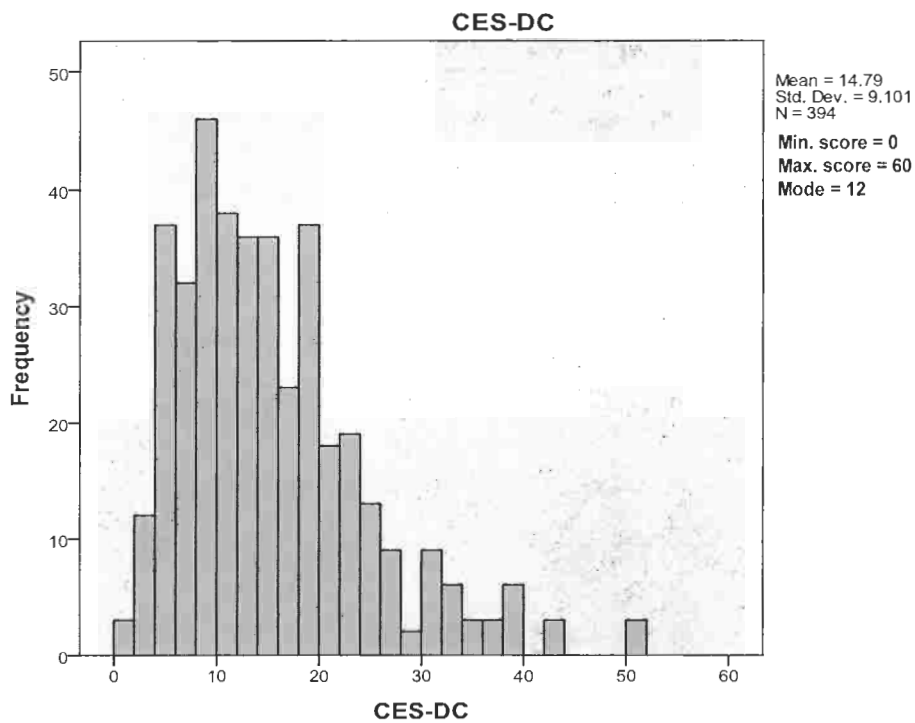


Figure V. Center for Epidemiological Studies Depression Scale for Children (CES-DC) Data Distribution.

Depressive symptoms scores were obtained by summing up individual scores from 20 survey items. The scores range from 0 – 60. The mode for depressive symptoms was 12; mean score calculated was 14.79 with a standard deviation of 9.10. Of 394 students who participated in the study, 154 of them (39.10%) scored above the cutoff point (score ≥ 15) for significant depressive symptoms. This result is similar to the work of Field, Diego, and Sanders (2001) who found that 29 out of 79 (37%) high school seniors in their study scored above the clinical cutoff point for depression. Crowe, Ward, Dunnachie and

Roberts (2006) also found that 47.6% of their study sample ($n = 105$) scored above the cutoff point for depression in the Children Depression Inventory. According to the authors of the instrument (Weissman, Orvaschel & Padian, 1980), a score of 15 and above is suggestive of significant depressive symptoms in children and adolescents. The codes of these students were handed over to the school clinical social worker who is expected to follow up on the cases in accordance with the school protocol for handling such issues.

Results of the Tests of Hypotheses

Hypothesis 1: There will be a negative bivariate correlation between social support, religiosity, spirituality and depressive symptoms among adolescents who attend a faith-based high school.

Spearman's correlation was used to analyze if a relationship exist between social support and depression, religiosity and depression, and spirituality and depression. Results of the correlational analyses showed negative bivariate correlation between social support, religiosity, spirituality and depressive symptoms among adolescents who attend a faith-based high school. A significant negative correlation was obtained between social support and depressive symptoms ($r = -.127$, $n = 394$, $p = .00$, 1-tailed), religiosity and depressive symptoms ($r = -.201$, $n = 394$, $p = .00$, 1-tailed) and spirituality and depressive symptoms ($r = -.492$, $n = 394$, $p = .00$, 1-tailed) (Table II).

Table II

Bivariate Correlations between Social Support, Religiosity, Spirituality and Depressive Symptoms among Adolescents who attend a Faith-based High School ($n = 394$)

| | | Correlations | | |
|---------------------|----------------|----------------|-------------|--------------|
| | | Social Support | Religiosity | Spirituality |
| Depressive symptoms | r | -.127** | -.201** | -.492** |
| | p (1-tailed) | 0.00 | 0.00 | 0.00 |
| | N | 394 | 394 | 394 |

** . Correlation is significant at the 0.01 level (1-tailed).

Multiple regression analyses were conducted to determine if there is a relationship between depressive symptoms and combinations of social support and religiosity, social support and spirituality, religiosity and spirituality, and social support, religiosity, and spirituality and the amount of variance in depressive symptoms that can be accounted for by each of the variables. Variables were entered into a multiple regression model using the block entry method. Step 1 consisted of demographic correlates (age, gender, and ethnicity) known to be related to depressive symptoms. Social support and religiosity were entered in step 2 to assess their contribution to depressive symptoms. Social support and spirituality were entered in step 3 to assess their own contribution in the model. Religiosity and spirituality were entered in step 4 and in the final model; social support, religiosity, and spirituality were entered. The demographic variables entered in step 1 were not significant contributors (Table III). However, they accounted for 1.3% of the variance in depressive symptoms ($R^2 = .013$).

Hypothesis 2: Combination of social support and religiosity will have a negative correlation with depressive symptoms among adolescents who attend a faith-based high school.

In step 2, measures of social support and religiosity were added to the model (Table III). Ethnicity ($r = -.110$, $p < .05$) and religiosity ($r = -.184$, $p < .00$) were the only significant contributors and they accounted for 5.3% of the variance in depressive symptoms ($p < .00$). Social support did not significantly contribute to the model ($r = -.066$). The partial correlation output showed an $r = -.01$, $p = .441$ (1 tailed) for social support while controlling for the confounding

effects of religiosity and spirituality. This correlation showed that social support had no relationship with depressive symptoms in adolescents in the faith-based high school. Thus, hypothesis 2 was partially supported in that higher religiosity was correlated with lower depressive symptoms, but not social support.

Table III

Multiple Linear Regression Models correlating combinations of Social Support, Religiosity, Spirituality and Depressive Symptoms among adolescents who attend a faith-based high school (n = 394)

| Variables | Depressive Symptoms | | | | |
|----------------|---------------------|---------|---------|---------|---------|
| | Step 1 | Step 2 | Step 3 | Step 4 | Step 5 |
| Age | -.047 | -.049 | -.041 | -.038 | -.038 |
| Gender | .058 | .080 | .076 | .066 | .066 |
| Ethnicity | .090 | .110* | .040 | .026 | .029 |
| Social Support | | -.066 | -.012 | | -.014 |
| Religiosity | | -.184** | | .121* | .121* |
| Spirituality | | | -.477** | -.548** | -.546** |
| R | .113 | .230 | .489 | .499 | .499 |
| R ² | .013 | .053** | .239** | .249** | .249** |

Standardized β weights are reported at each step to evaluate any changes in weights with the inclusion of additional predictors.

*p < .05 (2 tail)

**p < .01 (2 tail)

Hypothesis 3: Combination of social support and spirituality will have a negative correlation with depressive symptoms among adolescents who attend a faith-based high school.

Social support and spirituality measures were added in Step 3 of the regression analyses (Table III). Spirituality was the only variable that significantly contributed to the model ($r = -.477$) explaining an additional 23.9% of the variance in depressive symptoms ($p = .00$). Social support was not a significant contributor to the model ($r = -.01$). A partial correlation output indicated an $r = -.465$, $p = .001$ for spirituality, while controlling for the influence of social support and religiosity. Hypothesis 3 was partially supported in that higher spirituality was correlated with lower depressive symptoms, while social support surprisingly was not a significant correlate of depressive symptoms among adolescents who attend a faith-based high school.

Hypothesis 4: Combination of religiosity and spirituality will have a negative correlation with depressive symptoms among adolescents who attend a faith-based high school.

Religiosity and spirituality measures were added in Step 4 in the regression analyses to determine the amount of variance in depressive symptoms that can be accounted for by the variables (Table III). Results of the multiple regression showed that religiosity ($r = .121$, $p < .05$) and spirituality ($r = -.548$, $p = .00$) were both significant contributors to the model and they explained 24.9 % of the variance. Higher religiosity did not correlate with lower depressive symptoms as expected; rather it was related to higher depressive symptoms

when entered with spirituality. The partial correlation output confirmed the significant positive relationship between religiosity and depressive symptoms $r = .125, p = .01$ (2 tailed) while controlling for the confounding effects of social support and spirituality. Thus, hypothesis 4 was partially supported in that higher spirituality was correlated with lower depressive symptoms, whereas higher religiosity was correlated with higher depressive symptoms.

Hypothesis 5: Combination of social support, religiosity and spirituality will have a negative correlation with depressive symptoms among adolescents who attend a faith-based high school.

In the final model, social support, religiosity and spirituality measures were added in Step 5 to determine the amount of variance in depressive symptoms that can be accounted for by the three variables (Table III). The final model was significant ($p < .01$), with a total of 24.9% of the variance in depressive symptoms explained. Social support did not make any significant contribution to the variance in depressive symptoms $r = -.014$. The only two significant predictors in the final model were religiosity ($r = .121, p < .05$) and spirituality ($r = -.548, p = .00$), indicating that spirituality is a more important predictor of depressive symptoms than religiosity and social support partially supporting hypothesis 5.

Hypothesis 6a: There will be differences in social support, religiosity, spirituality and depressive symptoms between male and female adolescents who attend a faith-based high school.

Gender differences in social support, religiosity, spirituality and depression scores were analyzed using Mann Whitney U test. Results of the Mann Whitney

U test (Table IV) showed a statistically significant gender differences in religiosity ($p = .04$, two tailed). Mean rank for males was 184, while the mean rank for females was 207. However, there were no statistically significant gender differences in perceived social support, spirituality and depressive symptoms among the adolescents in the faith-based high school.

Table IV
Differences in Social Support, Religiosity, Spirituality and Depression between Male and Female adolescents (n = 394)

| | | N (394) | Mean Rank | p |
|----------------|---|---------|-----------|------|
| Gender | | | | |
| Social Support | M | 168 | 194 | .59 |
| | F | 226 | 200 | |
| Religiosity | M | 168 | 184 | .04* |
| | F | 226 | 207 | |
| Spirituality | M | 168 | 195 | .68 |
| | F | 226 | 199 | |
| Depression | M | 168 | 191 | .33 |
| | F | 226 | 202 | |

* $p < .05$ (two tailed test)

Hypothesis 6b: There will be differences in social support, religiosity, spirituality and depressive symptoms between 14, 15, 16, & 17 year old adolescents who attend a faith-based high school.

Age differences in social support, religiosity, spirituality and depressive symptoms among the adolescents were analyzed using Kruskal-Wallis one way

analysis of variance by ranks. Results of the H test indicated there were no statistically significant differences in perceived support, religiosity, spirituality and depressive symptoms ($p > .05$) among the different age groups (Table V).

Table V

Differences in Social Support, Religiosity, Spirituality and Depression among the Age Groups (n = 394)

| | Age | N (394) | Mean Rank | p |
|----------------|-----|---------|-----------|-----|
| Social Support | 14 | 100 | 199.89 | .98 |
| | 15 | 91 | 195.30 | |
| | 16 | 87 | 196.98 | |
| | 17 | 116 | 197.55 | |
| Religiosity | 14 | 100 | 192.43 | .53 |
| | 15 | 91 | 205.56 | |
| | 16 | 87 | 207.32 | |
| | 17 | 116 | 188.19 | |
| Spirituality | 14 | 100 | 192.57 | .75 |
| | 15 | 91 | 207.29 | |
| | 16 | 87 | 198.84 | |
| | 17 | 116 | 193.06 | |
| Depression | 14 | 100 | 218.37 | .07 |
| | 15 | 91 | 192.66 | |
| | 16 | 87 | 175.21 | |
| | 17 | 116 | 200.02 | |

* $p < .05$ (two tailed test)

Hypothesis 6c: There will be differences in social support, religiosity, spirituality and depressive symptoms between the ethnic groups of adolescents who attend a faith-based high school.

Differences in social support, religiosity, spirituality and depressive symptoms among the different ethnic groups were analyzed using Kruskal-Wallis

one way analysis of variance by ranks. Results of the H test indicated there were no statistically significant differences in religiosity, spirituality, and depressive symptoms ($p > .05$) between African American, Asian American, Caucasian, Hispanic American and Other ethnic groups of adolescent participants. However, statistical significant differences in perceived social support ($p = .00$) were found among the ethnic groups (Table VI).

Table VI

Differences in Social Support, Religiosity, Spirituality and Depression among the Age Groups (n = 394)

| Ethnic grp. | | N (394) | Mean Rank | <i>p</i> |
|----------------|------------|---------|-----------|----------|
| Social Support | African A. | 50 | 149.93 | .00* |
| | Asian A. | 68 | 155.60 | |
| | Caucasian | 185 | 225.83 | |
| | Hispanic | 75 | 195.31 | |
| | Other | 16 | 206.97 | |
| Religiosity | African A. | 50 | 173.79 | .17 |
| | Asian A. | 68 | 219.49 | |
| | Caucasian | 185 | 190.39 | |
| | Hispanic | 75 | 207.45 | |
| | Other | 16 | 213.78 | |
| Spirituality | African A. | 50 | 211.26 | .19 |
| | Asian A. | 68 | 201.17 | |
| | Caucasian | 185 | 204.99 | |
| | Hispanic | 75 | 173.56 | |
| | Other | 16 | 164.47 | |
| Depression | African | 50 | 218.54 | .14 |
| | Asian A. | 68 | 192.68 | |
| | Caucasian | 185 | 184.93 | |
| | Hispanic | 75 | 209.80 | |
| | Other | 16 | 239.94 | |

* $p < .05$ (two tailed test)

In order to determine which specific ethnic groups were different from each other in relation to the social support variable, Mann Whitney U-test was used for pairwise comparisons. To control for increased risk of Type 1 error, a *Bonferroni* correction was applied which involved dividing the .05 level of significance by the number of comparisons ($.05/10 = p \leq .005$). Ten pairwise comparisons were conducted. Only the comparisons between African American and Caucasian students (mean difference = -34.80, $p = .00$), Asian American and Caucasian students (mean difference = -25.07, $p = .00$) were significant showing that Caucasian students perceive significantly higher social support than both African American and Asian American students (Table VII).

Table VII

Mann Whitney U-test for multiple comparisons using *Bonferroni* correction (n = 394)

| (I) Ethnic group | (J) Ethnic group | Mean Difference (I-J) | Std. Error | Sig. |
|-------------------|-------------------|-----------------------|------------|-------|
| African American | Asian | -9.73 | 7.66 | 1.000 |
| | American | | | |
| | Caucasian | -34.80* | 6.56 | .00 |
| | Hispanic American | -25.83 | 7.51 | .00 |
| | Other | -28.79 | 11.81 | .15 |
| Asian American | African | 9.73 | 7.66 | 1.00 |
| | American | | | |
| | Caucasian | -25.07* | 5.83 | .00 |
| | Hispanic American | -16.09 | 6.89 | .19 |
| | Other | -19.06 | 11.43 | .96 |
| Caucasian | African | 34.80* | 6.56 | .00 |
| | American | | | |
| | Asian | 25.07* | 5.83 | .00 |
| | Hispanic American | 8.97 | 5.63 | 1.00 |
| | Other | 6.01 | 10.72 | 1.00 |
| Hispanic American | African | 25.83 | 7.51 | .00 |
| | American | | | |
| | Asian | 16.09 | 6.89 | .19 |
| | Caucasian | -8.97 | 5.63 | 1.00 |
| | Other | -2.97 | 11.33 | 1.00 |
| Other | African | 28.79 | 11.81 | .15 |
| | American | | | |
| | Asian | 19.06 | 11.43 | .96 |
| | Caucasian | -6.01 | 10.72 | 1.00 |
| | Hispanic American | 2.97 | 11.33 | 1.00 |

*The mean difference is significant at the .005 level (two tailed test)

Hypothesis 6 was partially supported in that significant gender differences were found in religiosity measure ($p = .04$), but not in social support, spirituality, and depressive symptoms. The lack of statistical significant age differences in perceived social support, religiosity, spirituality and depressive symptoms did not support the hypothesis. While significant ethnic differences were not obtained for religiosity, spirituality, and depressive symptoms among the adolescent participants; the significant differences in social support among African American, Asian American and Caucasian students ($p = .00$) partially supported hypothesis 6.

Summary

Based on the results, social support, religiosity and spirituality were all found to be significantly related to depressive symptoms in the bivariate correlational analyses. In the multiple regression analyses, social support was found to have little or no relationship with depressive symptoms among the adolescents. Religiosity was found to relate positively to depressive symptoms among the adolescents, while spirituality was found to have the most correlation with depressive symptoms among the adolescents. There were gender differences in religiosity, but not in social support, spirituality, and depression. There were no age or grade level differences in social support, religiosity, spirituality, and depressive symptoms. Ethnic differences were found in social support. Caucasian students reported significantly higher social support than the minority students. Ethnic differences were not found in religiosity, spirituality, and depressive symptoms.

Chapter V

DISCUSSION

This exploratory correlational study was conducted using a convenient sample of 394 students from a faith-based high school in New Jersey. The number of students who completed the surveys was adequate to achieve a strong statistical power and a moderate effect size. Almost half of the participants were Caucasians (47%) and females (57.4%) which is reflective of the gender and ethnic distribution of the school population and also consistent with the sample reported in various related studies (Pearce, Little, & Perez, 2003, Cotton, Larkin, Hoopes, Cromer, & Rosenthal, 2005; Schapman & Inderbitzen-Nolan, 2002). Most published data in this area examined the bivariate relationship between adolescent depression and social support, religiosity, and spirituality in community and public school settings. No such study has been done in a faith-based school setting and none of the studies in this area investigated the relationship between different combinations of social support, religiosity, spirituality and depressive symptoms. This study addressed these gaps in knowledge by conducting the present study in a faith-based setting and examining the relationship between depressive symptoms and different sets of combinations of social support, religiosity, and spirituality. Combining different sets of supportive relationship variables not only revealed how much each supportive relationship truly contributes to lower depressive symptoms, but the direction of the relationship thus, providing a wider perspective on the meaning and interpretation of the study findings.

Primary Findings of the Study

Studies which investigated the bidirectional relationship between social support, religiosity spirituality and depressive symptoms in adolescents found weak to moderate negative correlation (Hall-Lande et al., 2007; Sinha, Cnaan, & Gelles, 2007; Cotton et al., 2005). Consistent with previous studies, the present study also found weak to moderate bivariate correlations between social support, religiosity, spirituality and depressive symptoms. Hypothesis 1 tested whether there is a bivariate relationship between social support, religiosity, spirituality and depressive symptoms among adolescents who attend a faith-based high school. Findings of the present study supported the hypothesis (H1) that higher social support is related to lower depressive symptoms among the adolescents in the faith-based high school under study ($r = -.127$, $N = 394$, $p = .006$, 1-tailed). The correlation is weak, but significant. This finding reveals that high social support from parents, teachers, classmates and close friends may likely promote the emotional health of adolescents in the faith-based high school. This suggests that a student who perceives that he/she have resources such as parents, teachers, classmates, and close friends who will help him/her cope or respond to stressful events will appraise the situation as less stressful. The reception of support from these social networks may actually reduce the impact of stress by providing a solution to the problem, reducing the perceived importance of the problem; calm the neuroendocrine system so that he/she is less reactive to the perceived stress (Kawachi & Berkman, 2001; Cohen, Gottlieb, & Underwood, 2000). This finding thus supports the interpersonal model of depression which

posits that having a wide range of supportive network is beneficial to an individual's psychological well-being (Tardy, 1985, Cohen & Wills, 1985; Cohen, Gottlieb, & Underwood, 2000). The negative relationship between social support and depressive symptoms obtained in this study may be attributed to the feelings that one is accepted and valued in a social network. These feelings may enhance coping by strengthening the individual student's ability to appraise stressful situations realistically; developing alternative coping strategies.

That social support is related to lower depressive symptoms among adolescents in the faith-based high school is congruent with previous research which demonstrated the importance of social support to the emotional well-being of adolescents. For instance, Hall-Lande, Eisenberg, Christenson, and Neumark-Sztainer (2007) found that family connectedness reduces depressive symptoms for socially isolated boys and girls, whereas school connectedness buffers depressive symptoms for socially isolated boys. Their study suggests that emotional connections of students with their peers, parents, and teachers offer protective benefits by reducing social isolation and lowering depressive symptoms. The findings of this study is also consistent with the work of Young et al., (2005) who found that high support from peers and parents buffers mental health difficulties in adolescents. Although this study and a good number of other studies found that higher social support from parents, teachers and peers was related to lower depressive symptoms; Meadows (2007) found that high levels of female and male peer support were significantly related to increase in depressive symptoms. The findings of Meadows may be due to her use of a secondary

analysis approach and a social support measure that did not assess the wide range of social support types.

In the present study, a negative correlation was found between religiosity and depressive symptoms among adolescents who attend a faith-based high school ($r = -.201$, $N = 394$, $p = .000$, 1-tailed). Although the correlation was weak, the significant results suggest that participation in religious activities, religious beliefs, private prayer, and religious experience may likely buffer depressive symptoms among adolescents in the faith-based high school. This is because frequent participation in various religious activities widens the social contacts of the adolescent student and the perception or reception of support from these social networks may help strengthen the adolescent's coping abilities by providing him/her with information, advice, tangible goods and services, and practical assistance when needed. Additionally, saying private prayers may give one a sense of purpose, while religious beliefs may instill moral values which discourages adolescents from engaging in health risk behaviors such as smoking, drug use etc. which are risk factors known to be associated with the development of depressive symptoms. Positive religious experience gives adolescents opportunities for spiritual growth which may serve to enhance positive appraisals of stressful situations. The significant negative relationship between religiosity and depressive symptoms found in this study therefore, supports the interpersonal model of depression which suggests that being in diverse range of relationships such as participation in religious activities and events enhances one's sense of purpose, belonging, security and recognition of

self-worth (Cohen, 1988; Cohen, Gottlieb, & Underwood, 2000; Kawachi & Berkman, 2001). These attributes may promote the physical, mental, and emotional well-being of individual students. In this school, the various opportunities that are open for students to engage in different kinds of religious and humanitarian services may have contributed to the lower depressive symptoms obtained in this study.

That higher religiosity was related to lower depressive symptoms is consistent with most previous studies which found significant negative correlation between religiosity and depressive symptoms. Sinha, Cnaan, and Gelles (2007) reported that youths' who perceive religion as important and participate in religious activities experienced lower levels of depressive symptoms. Likewise, Schapman and Inderbitzen-Nolan (2002) found that frequent engagement in religious activities was associated with less depressive symptoms among adolescents in their study. They specifically found that attending formal religious services, religion class and praying outside of formal services were significantly and negatively correlated with depressive symptoms. They argued that involvement in religious activities broadens an individual's social support network and enables one to experience less depressive symptoms.

The present study also found a significant negative correlation ($r = -.492$, $N = 394$, $p = .000$, 1-tailed) between spirituality and depressive symptoms among adolescents in the faith-based high school. This finding demonstrates that high spiritual well-being is related to lower depressive symptoms among the adolescent participants. The negative relationship between spirituality and

depressive symptoms found in the present study may be due to the meaning, value, and satisfaction gained as a result of one's relationship with God. The process of finding meaning, value, and satisfaction helps to sustain the strength and inner peace which an individual needs to cope with life's difficulties. This finding thus supports the interpersonal model of depression since the sense of meaning, trust, and inner peace obtained as a result of high spiritual well-being enables the development of resiliency which strengthens coping skills leading to less depressive symptoms.

That higher spirituality is related to less depressive symptoms supports the work of Cotton et al., (2005) which found that increased spirituality was correlated with lower levels of depressive symptoms ($p < .001$) among a randomized sample of 183 suburban high school students (mean age 16.2 years). Yi et al., (2006) also found that greater levels of spirituality were associated with lower levels of depressive symptoms among HIV patients. The school in which the study was carried out has two chaplains in their faculty who are always available to students for spiritual guidance and direction. It is possible that the presence of these two spiritual leaders and so many other spiritual activities that go on in the school may have contributed to the significant moderate correlation between spirituality and depressive symptoms among the adolescents in this study.

Multiple regression analyses were further used to determine if the combinations of social support, religiosity and spirituality will have a higher negative correlation with depressive symptoms among the adolescent

participants (H2- H5). First, the demographic variables (age, gender, and ethnicity) were entered in the regression model and none of the demographic variables had a significant correlation with depressive symptoms, although they explained 1.3% of the variance in depressive symptoms. This finding is consistent with the work of Yi et al., (2006) which found age, gender and ethnicity unrelated to depressive symptoms among HIV patients.

In step 2 of the analyses, social support and religiosity were added and only ethnicity and religiosity significantly predicted depressive symptoms among the adolescents. Together they explained 5.3% of the variance in depressive symptoms. Social support did not significantly contribute to the model. The combination of the social support and religiosity (hypothesis 2) was expected to yield a higher correlation, but surprisingly social support was not a significant predictor of depressive symptoms. This finding is consistent with the work of Nelson, Rosenfeld, Breitbart and Galietta (2002) which found that social support was unrelated to depression among the terminally ill. The result of the present study suggests that religiosity is a more important predictor of depressive symptoms ($\beta = -.184$) than social support ($\beta = -.066$). The partial correlation output surprisingly showed that social support had no relationship with depressive symptoms ($r = -.007$, $p = .441$) among adolescents in the faith-based high school. Although social support had a small significant negative relationship with depression in the bivariate correlation which is consistent with previous studies (Hall-Lande et al., 2007; Newman et al., 2007; Field, Diego & Sanders, 2001; Schraedley, Gotlib, & Hayward, 1999), a similar result was not obtained

when it was combined with religiosity in the regression analyses. It is possible that the weak bivariate relationship found between social support and depressive symptoms in the present study may be results of possible influence of other variables on the relationship which served to confound the true association between the variables. Social support over the years have been shown to buffer negative health outcomes including depression in bivariate analyses, but the findings of the multiple regression analyses revealed that social support alone may not protect adolescents from experiencing depressive symptoms. The emotional, informational, appraisal and tangible support received from parent, teachers, classmates, and close friends may not adequately protect adolescents from poor psychological. Therefore, the need to encourage adolescents to strengthen their prayer life may be more important in deterring health risks behaviors that are precursors to developing depressive symptoms.

In step 3 of the model, social support and spirituality were entered and only spirituality contributed significantly to the model, explaining an additional 23.9% of the variance in depressive symptoms. The combination of social support and spirituality were also expected to yield a higher correlation with depressive symptoms (hypothesis 3), but social support as in hypothesis 2 was not a significant predictor of depressive symptoms in the adolescent participants. In as much as previous studies found small to moderate bivariate relationship between social support and depressive symptoms, multiple regression analyses showed that when combined with spirituality, social support is insignificantly related to depressive symptoms. Implying that spirituality is a more important

predictor of depressive symptoms ($\beta = -.477$) than social support ($\beta = -.012$). The moderate negative relationship found between spirituality and depressive symptoms may have been due to life satisfaction, peace and comfort derived from faith in a higher power. The findings of the present study suggests that the process of making and finding meaning in life may be one mechanism that links spirituality to less depressive symptoms since it possibly weakens the impact of negative life experiences. This finding is consistent with the work of Daaleman and Kaufman (2006) which found that greater spirituality conceptualized as meaningful life scheme and functional efficacy was inversely correlated with depressive symptoms among 509 primary care outpatients. This study shows that the role of social support in reducing depressive symptoms among the adolescent participants may not be as important as spirituality since the development of meaning and purpose in one's life helps to promote resiliency and a sense of direction.

In step 4 of the model, religiosity and spirituality were entered and both contributed to the model. Religiosity was significantly, but positively related to depressive symptoms ($\beta = .121$, $p < .05$), while spirituality was negatively related to depressive symptoms among the adolescent participants ($\beta = -.548$, $p = .000$). Both variables explained 24.9% of the variance in depressive symptoms. In the final model, religiosity and spirituality significantly remained important predictors of depressive symptoms ($p < .01$). The combination of religiosity and spirituality were found to be important predictors of depressive symptoms in adolescents (Hypotheses 4) These two variables remained the significant predictors of

depressive symptoms even in the final model (hypothesis 5). Spirituality was the most important significant predictor of depressive symptoms ($\beta = -.548, p < .01$). The more puzzling was the finding that religiosity was positively associated with depressive symptoms in the multiple regression analyses when combined with spirituality ($\beta = .121, p < .05$). The partial correlation output also confirmed a positive relationship between religiosity and depressive symptoms $r = .125, p = .006$ (1 tailed). Religiosity in this study, explained only 1% of the variance, whereas when tied with spirituality, they explained 24.9% of the variance in depressive symptoms. Although it was surprising to find a positive correlation between religiosity and depression in the model, it is possible that the nonspiritual aspects of religion may not be relevant to the overall psychological well-being of an individual. This finding corroborates the work of Cotton et al. (2005) which found that higher levels of religiosity was related to less depressive symptoms ($p < .05$), but when combined with spirituality, religiosity had a positive relationship with depression. They found that religiosity explained just 1% of the variance, whereas when combined with spirituality, they explained 36% of the variance in depressive symptoms. A similar result was obtained in the regression analyses of the study carried out by Nelson, Rosenfeld, Breitbart and Galietta (2002) which found that religiosity was positively associated with depression in the terminally ill when combined with spirituality. According to the authors, individuals with strong religious beliefs may not want to accept or express the anger they feel towards their God in their stressful life situations, so the resulting conflict adds to the psychological problem they are already experiencing. Thus,

the findings of the present study indicate that spirituality may be more important in reducing depressive symptoms in adolescents than religiosity since spiritual individuals are able to draw their strength from within themselves and thus feel in control of both themselves and situations in which they find themselves.

The importance of supportive relationships to mental well-being of adolescents has been demonstrated in various studies (Cotton et al., 2005; Meadows, 2007; Pearce, Little & Perez, 2003). Overall, the findings of this study showed that having supportive relationships relate to less depressive symptoms. Of all three supportive relationship variables, spirituality was found to be the most important variable that related to less depressive symptoms in the study: a finding which distinguished the study from previous studies. The first hypothesis fully supported the interpersonal models of depression which posits that individuals in high supportive relationships are less likely to be depressed when confronted with stressful life events (Coyne, 1976; Cohen & Wills, 1985; Tardy, 1985). Having supportive relationships are likely to enhance self-efficacy, self-esteem, and confidence which increase an individual's perception that he or she can cope effectively with negative life events. Having large supportive network provides an individual with positive experiences which increase an individual's self-worth and helps him or her cope with negative experiences. Thus, a student who perceives or receives support from families, teachers, and friends is likely to enjoy a sense of belongingness and social identity which may likely promote his or her psychological well-being. Such feelings may increase his or her ability to cope with difficult life situations and may likely lead to better health. Participation

in religious activities may promote an individual's well-being by enhancing one's feelings of stability and sense of purpose and belonging through social recognition of self worth. The process of finding meaning and inner sense of peace associated with high spirituality may likely reduce the impact of stress by lowering the perceived importance of the problem; improve the coping pattern, and enhance the sense of trust in a higher power to take care of the negative situation. This gives one a sense of peace and calmness which may help stabilize the stress hormones making the individual less reactive to the perceived stress. Such resolution tends to promote good psychological health. The importance of spirituality in giving one a sense of meaning, purpose, peace, and calmness in the face of difficult life events may have likely accounted for the higher relationship observed between spirituality and depressive symptoms among the adolescents in the faith-based high school.

Other Findings of the Study

Gender differences in social support, religiosity, spirituality and depressive symptoms among the adolescent participants were analyzed using Mann-Whitney U and the study found significant gender differences only in religiosity (($Z = -2.018$, $p = .01$ one tailed). Females significantly reported more engagement in religious activities such as attendance to religious services, private prayer, religious beliefs and religious experience than males. It is possible that girls in this study experience more support and comfort, and minimal criticisms from their religious groups making them more involved in religious activities than boys. This finding was as expected and it is consistent with the

works of Pearce, Little, & Perez (2003) which found that girls had significantly higher religiosity scores than boys ($p = <.001$). Desrosiers and Miller (2007) also obtained similar results. Conversely, Schapman and Inderbitzen-Nolan (2002) did not find statistical significant gender differences in religiosity.

The study surprisingly did not find statistical significant gender differences in depressive symptoms, social support, and spirituality among the adolescent participants. The lack of gender differences in depression found in this study is consistent with the work of Galambos, Leadbeater, and Barker (2004) which found no significant gender differences in depressive symptoms at baseline. However, gender differences emerged and it increased significantly over the 4 year period of the study. The lack of significant gender differences in depressive symptoms found in this study may be attributed to the cross-sectional nature of the study. There was also no significant gender difference in the perceived social support and spirituality which supports the work of Davis, Kerr, and Kurpius which found no gender differences in social support and spirituality in their study. The findings of the present study neither corroborate the work of Malecki and Demaray (2000) which reported that adolescent females perceived more social support than adolescent males, nor the findings of Desrosiers and Miller (2007) which showed that adolescent females reported greater spirituality than males. It is possible that the equal opportunities offered to males and females to engage in various extra-curricular and spiritual activities in the faith-based school may likely have accounted for the lack of gender differences in the level of depressive symptoms, social support and spirituality. Although these findings do not fully

support the sixth hypothesis that gender differences exist in religiosity, social support, spirituality and depression, it suggests that given the same opportunities, adolescent males as well as females are likely to report high religiosity, social support, spirituality and less depressive symptoms.

The study did not find age differences in depressive symptoms, social support, religiosity, and spirituality. The lack of age differences in depressive symptoms found in this study is consistent with work of Lewinsohn, Hops, Roberts, Seeley, and Andrews (1993) which found no age differences in the incidence and prevalence of depressive symptoms among adolescents in their study. In contrast, Fitzpatrick, Piko, Wright, and LaGory (2005) found that older adolescents reported more depressive symptoms than younger ones ($p \leq .01$). The lack of age differences in social support, religiosity, and spirituality suggests that adolescent males and females in different grade levels are similar in their perception of social support and engagement in religious exercises and spirituality.

There were also no ethnic differences in religiosity, spirituality and depressive symptoms among the adolescent participants. However, ethnic differences were found in social support. Caucasian students perceived significantly higher social support than African American and Asian American students ($p = .000$). The significant low social support reported by Asian American students in the school may be due to the fact that most of them live with a guardian (Information from school population data). These students may not be experiencing the parental love, care and support they need. The African

American students who participated in the study reported low social support and this may be due to the fact that most of the African American students in the school come from a single parent/guardian home (Information from school population data). It is possible that the single parent/guardian works very hard to keep the family going financially and so is barely at home for family time and support. The ethnic differences in social support is consistent with Malecki and Demaray (2000) which found that Caucasian students reported significantly higher parent, teacher, classmates and close friends' support than minority students. This finding partially supported hypothesis 6.

Implications of the Study

This study explored if an association exists between different types and combinations of types of supportive relationships and depressive symptoms among adolescents in a faith-based high school. Several implications from the findings of the present study provide application to research. Theoretically, the findings of the study support the interpersonal model of depression stressing the need for more research in this area that will help promote good mental and emotional health of adolescents. The significant negative bivariate relationship between depression and social support, religiosity, and spirituality found in this study is encouraging especially for researchers trying to identify sources of resiliency in individuals undergoing stressful life events. More importantly, findings of this study may suggest to researchers in this area to go beyond exploring just the bidirectional relationship between adolescent depression and different supportive relationships to including the combinations of the supportive

relationship variables. Combining the variables not only reveal how much each supportive relationship truly contributes to lower depressive symptoms, but the direction of the relationship.

The findings are readily applicable to the faith-based high school where the study was conducted. For instance, the findings of the study will make administrators and educators in the school become aware of possible opportunities to discuss and support the adolescents in their care, custody and control so as to hopefully reduce their feelings of isolation while in school which could contribute to the development of depressive symptoms.

One striking contribution of this study to research is the importance of spirituality over religiosity and social support in buffering depressive symptoms in adolescents. With the rise in suicides and mental health issues among adolescents nationwide, the need to develop programs and encourage our youths to address questions of meaning, value, and relationships in their lives becomes an obligation for adults who deal with these young people. This is because spirituality provides adolescents with meaning and purpose which are likely to foster resilience and lowers the depressive symptoms. Spiritual issues which are about meaning, value, and relationship arises for everyone. Finding meaning in life leads to hope and the feeling of being valued in relationships promotes one's dignity. While not everyone has religion, everyone who searches for ultimate or transcendent meaning has spirituality. This search for meaning can be expressed in religious practice, in one's relationship with nature, music, art, philosophical beliefs or relationship with family and friends (Sulmasy, 2002).

Therefore, it is important that faith-based school administrators and educators explore and implement different activities and programs that will engage students in various spiritual exercises. It is not just enough establishing the programs, the educators have the moral obligation to actively encourage students to engage in such activities both within and outside the school environment.

To date, this research is the first one that has been conducted in a faith-based high school. It is the first to investigate if an association exists between combinations of social support, religiosity, spirituality and depressive symptoms among adolescents in a faith-based high school. Thus, the outcome of this study is considered a baseline for future research into the relationship between the combinations of supportive relationships and depressive symptoms.

Study Limitations

Every study has limitations and the present study is not an exception. This study explored if an association exists between different types and combinations of types of supportive relationships and depressive symptoms among adolescents in a faith-based high school. Limitations of the study design make it difficult to draw definitive conclusions and generalizations from the findings.

One major limitation of the study was the selection of subjects who met the inclusion and exclusion criteria for the study. Such sample of convenience may not be representative of the school population or the larger adolescent population and this poses threat to the internal and external validity of the study. This could be addressed in the future by expanding the study to other faith-based school system. Furthermore, of the 1,547 students approached to participate in

the study, only 394 completed and returned their surveys, therefore it is possible that self-selection bias was introduced. The lack of randomization inherent in the use of a sample of convenience creates groups that are not equivalent in the variables that are measured. This calls for caution in the interpretation of the study findings. Another limitation in the study was the use of a cross-sectional method which allows data to be collected from subjects at one particular point in time. Although this method allows data to be collected on many variables from a large number of subjects, it increases the chances of error; change cannot be measured; cause and effect interpretations of the relationships cannot be established; and it is also difficult to rule out rival hypotheses or explanations. The limitation in the cross-sectional method was evident in a study that was conducted by Galambos, Leadbeater, and Barker (2004) which found no significant gender difference in depressive symptoms at baseline, but subsequent gender differences emerged and increased significantly over the 4-year period of study. Although longitudinal studies may be more favored, they are difficult to arrange and perform over short time periods and may be something worth considering as a future study only.

It is also important to recognize that there is some potential for bias in the use of self-report method. Such inaccuracies may arise when respondents are expected to remember past events especially if these events were of a sensitive nature. Although depression is viewed as a sensitive issue, respondents were only asked to recall their emotional status in the past week. Asking respondents to recall their emotional status in the past week might be easier to remember

compared to recalling their feelings in the past two weeks which is common with most depression surveys (Schapman & Inderbitzen-Nolan, 2002). The social support, religiosity, and spirituality measures asked respondents about their perception of the current level of support they receive from family, teachers, and friends and their level of participation in spiritual and religious activities. Overall, the nature of the surveys used in this study reduced the problem of recall bias inherent in self-reports. Another threat to internal validity in this study was the possibility of students sharing answers to survey items. Although the methodology of the study required that respondents complete the surveys alone and return them in sealed envelope into a designated box placed in the main office of the school, it is possible that friends might sit together to discuss and share answers to survey items thereby swaying the outcome of the study. Additionally, psychosocial variables such as family structure, physical exercise, etc. known to be related to depressive symptoms in adolescents were not assessed. Including these variables in the study would have broadened our understanding of the factors that relate to depressive symptoms in adolescents. Finally, the study was carried out in one setting and thus the findings cannot be generalized to other settings. Despite the limitations inherent in the study, the research findings could be utilized in various faith-based high schools, including education and research for the purposes of alerting educators and advisors of possible opportunities to support adolescents in their care.

Conclusion

The present study was conducted in a large faith-based high school in New Jersey and the study was conceptualized and designed around the interpersonal model of depression. The overall findings of the study support the interpersonal model of depression which posits that individuals who are in a wide range of supportive relationships are less likely to experience depressive symptoms. In this study, social support, religiosity and spirituality were all found to be significantly related to depressive symptoms in the bivariate correlational analyses stressing the need to provide adolescents with opportunities to experience these different kinds of support. In the multiple regression analyses, social support was found to have little or no relationship with depressive symptoms among the adolescents. Religiosity was found to relate positively to depressive symptoms among the adolescents. Although this finding was unexpected, it is possible that these adolescents, similar to those in the study by Cotton et al., (2005) were experiencing conflict over or felt demands from their religion. Spirituality was found to have the most correlation with depressive symptoms among the adolescents. It is not clear how spirituality influences depression in adolescents, but it is possible that an adolescent who is spiritually involved may believe that his or her life is controlled by a higher power and that negative life events happen for a reason and so are perceived as opportunities for spiritual growth. These positive appraisals may help protect some spiritually involved individuals from depressive symptoms since they enable them to perceive negative events as less stressful. The study found gender differences in

religiosity, but not in social support, spirituality, and depression. Female students were found to be more engaged in religious activities than male students. There were no age or grade level differences in social support, religiosity, spirituality, and depressive symptoms. Ethnic differences were found in social support. Caucasian students reported significantly higher social support than African American and Asian American minority students. Ethnic differences were not found in religiosity, spirituality, and depressive symptoms. It could be concluded from the present study that spirituality is more important than social support and religiosity in promoting the psychological health of adolescents in the faith-based high school and it encompasses not just the search for meaning, but religious values (religiosity), and relationships (social support).

Directions for Future Research

This study was conducted because no study of this sort had been done in a faith-based high school setting. In addition, very few studies have examined the relationship between depressive symptoms in adolescents and combinations of social support, religiosity, and spirituality. A major contribution of this study is the finding that spirituality was the most important variable that may lower depressive symptoms among adolescents in the faith-based high school. Despite the study limitations, the findings could be used as a point of reference for future studies that will explore the relationship between adolescent depression and combinations of social support, religiosity and spirituality.

Although, the methodology of this study was complex and rigorous, future research should replicate the present study in different faith-based high schools

with a wide range of sample using the same design and method to see if the findings will support the results of the present study. If possible, future studies should modify the methodology by collecting data longitudinally to assess changes that may occur overtime. This will provide a clearer understanding of the relationships between the variables better than a cross-sectional method. In addition, the study should be extended beyond faith-based school setting to include non-faith based schools and these two groups of schools could be compared. Further, instead of using summed Likert score, future study should investigate how the different dimensions of social support (parent, teachers, classmate and close friend) religiosity (organizational, non-organizational and intrinsic) and spirituality (existential and religious well-being) relate to depressive symptoms. Assessing the relationship between depressive symptoms and the various dimensions of the measures may produce a different outcome. Additionally, to get a more holistic explanation of the relationship between depression and supportive relationships, future studies should include variables such as family structure, physical exercise, etc. known to be related to depressive symptoms in adolescents as these may provide a more comprehensive understanding of the relationship. Finally, the continuing efforts to expand the knowledge about adolescent depression and social support, religiosity, and spirituality are obviously supported by this study.

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Pilot Study

Purpose

The purpose of the pilot study was to test the methodological processes that will be used in the dissertation study such as the management of recruitment and data collection processes, quality control measure, and referral process.

Data Collection Method

To test these aspects of the methodology, a pilot study was conducted with a sample size of four students (1 per homeroom/grade level). Upon receipt of the IRB approval, the secretary randomly selected four (4) out of sixty (60) homerooms, one from each grade levels 9-12 using the "fishbowl" method. Students are usually assigned to homerooms alphabetically so the composition of all homerooms is more or less equal in terms of academic abilities. The "fishbowl" method required the secretary to write the names of all the homerooms in different grade levels on separate slips of paper. All the slips of paper for each grade level were placed in a separate bowl and stirred. The secretary drew a slip from each of the four bowls and the number on the slip represented the homeroom that was included in the study. The PI's homeroom was excluded from the selection process. Each homeroom has an average of 25 potential subjects, so a convenience sample of 2 students from each selected homeroom was targeted for the pilot study. Recruiting 2 students from each grade level ensures that if one of the students who agreed to participate is absent on the day of data collection, the process will still proceed since the other student will be available for the data collection. The school secretary mailed the solicitation

letter, eligibility form, consent form to the parent/guardian of selected 14-17 year old adolescent students. Assent form was included for informational purposes. None of the 18 year old students were randomly selected. The students from each homeroom who received parental approval were given an assent form in sealed envelopes through their homeroom teachers. Students were asked to review the documents and if they choose to take part in the study to sign the agreement form and drop off the envelope with the entire document in a labeled box in the main office of the school within 24 hours of the receipt of the documents. The secretary assigned number codes to students who agreed to participate in the study to protect their identity. On study day, the secretary sent surveys in sealed envelopes to students taking part in the study through their homeroom teachers. Each envelope contained four surveys: 1) the Child and Adolescent Social Support Scale; 2) the Duke University Religion Index; 3) the Spiritual Well-Being Scale; and 4) the Center for Epidemiological Studies Depression Scale. Students dropped off the envelopes with the completed surveys in a labeled box in the main office of the school by the end of that school day. The secretary handed the completed surveys over to the PI, but gave the list of students to the school clinical social worker for a possible follow up. To ensure that the same students who participated in the pilot study do not participate in the school-wide dissertation study, the secretary excluded the names of those students from the mailing list for the school-wide dissertation study.

Data Analyses

The data collected was ordinal, summed Likert scale and was analyzed using only descriptive statistics (mean) because the focus of the pilot study was process-based and the sample size was very small.

Results

Eight (8) consent forms were mailed to parents/guardians, seven (7) consents were returned, four (4) parents agreed that their child can be approached to participate in the study. This gave a response rate of 50%. The four students who agreed to participate in the pilot completed and returned the surveys before the end of that school day. The results are shown in Table 1 below.

Table 1

Mean Numbers of Pilot Study Participants

| Subject | Age | Gender | Grade | CASSS (48-288) | DUREL (5-27) | SWBS (20-120) | CES-DC (0-60) |
|---------|-----|--------|-------|-------------------|-----------------|------------------|------------------|
| 1 | 15 | F | 9 | 253 | 22 | 92 | 10 |
| 2 | 15 | F | 10 | 206 | 11 | 89 | *16 |
| 3 | 16 | M | 11 | 219 | 23 | 106 | 4 |
| 4 | 17 | F | 12 | 251 | 23 | 112 | 8 |
| Mean | | | | 232 | 20 | 100 | 9.5 |

* A score of 15 and above indicates significant levels of depressive symptoms in adolescents (Weissman, Orvaschel, & Padian, 1980).

The recruitment and data collection processes were precisely carried out by the secretary as confirmed from the checklist by the PI. In addition, students returned

their completed surveys before the end of that school day, an indication that the surveys can actually be completed and returned within one school day. The use of the checklist as a quality control measure not only aided the secretary in remembering each specific steps of the process, but also ensured consistency and completeness in the process.

Discussion/Conclusion

The results of the pilot study demonstrated that the methodology was appropriate for use in the dissertation study. As a result of the pilot work and the feedback from the research forum, the study title was revised, three more research questions/hypotheses were added, and the entire student body was solicited for participation in the dissertation study. A request for modification to the IRB was submitted based on the above minor changes and the request was approved before the dissertation study began.

Appendix A

Definitions of Terms

1. *Social support*: Social Support is operationalized and measured in this study as an individual's perception or reception of support or help from parent, teachers, classmates, and close friends (Malecki, Demaray, Elliott, & Nolten, 1999).
2. *Religiosity*: Religiosity is defined and measured as the involvement in religious activities, private prayer, religious belief and experience (intrinsic religiosity) (Koenig, Pakerson, & Meador, 1997).
3. *Spirituality*: Spirituality is defined and measured as the level of life purpose and relationship with God (Paloutzian & Ellison, 1991).
4. *Depression*: Depression is a mood disorder characterized by a variety of symptoms (DSM-IV, 1994). However, since this study is not designed to diagnose depression, use of the term depression will be limited to the following symptoms: 1) sadness or irritability; 2) reduced interest in activities one normally enjoys; 3) feelings of guilt and worthlessness; 4) feelings of helplessness and hopelessness; 5) psychomotor retardation; 6) loss of appetite; and 7) sleep disturbance (Weissman, Orvaschel, & Padian, 1980).
5. *Adolescents* in this study refer to males and females ages 14-18 years old.

6. *Faith-based schools* refer to schools which offer both conventional and religious education and are affiliated with a specific religious denomination (Short, 2002).

Appendix B

Checklist for Sample Recruitment and Data Collection

| Questions | Yes | No |
|---|--------------------------|--------------------------|
| 1. Materials Received | | |
| Did you receive: | | |
| 1) Eligibility form (Appendix C)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2) Parent/guardian consent form (Appendix R)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) Adolescent assent form (Appendix S)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5) Parent Solicitation letter (Appendix T)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 6) Stamped self-addressed and plain envelopes | <input type="checkbox"/> | <input type="checkbox"/> |
| 7) The Child and Adolescent Social Support Scale (Appendix N)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 8) Duke University Religion Index (Appendix J)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 9) Spiritual Well-Being Scale | <input type="checkbox"/> | <input type="checkbox"/> |
| 10) The Center for Epidemiological Studies Depression Scale for Children (Appendix K)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 11) Sharpened pencils? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Mailing Process | | |
| Did you place the following items in an envelope and mail to parent/guardian of selected 14-17 year old students: | Yes | No |
| 1) Eligibility form (Appendix C)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2) Parent/guardian consent form (Appendix R)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) Adolescent assent form (Appendix S)? | <input type="checkbox"/> | <input type="checkbox"/> |

| | | |
|--|--------------------------|--------------------------|
| 4) Parent Solicitation letter (Appendix T) | <input type="checkbox"/> | <input type="checkbox"/> |
| 5) Self-addressed stamped envelope | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you leave copies of the study questionnaires in a folder in the main office of the school for parents and students to examine if they choose to do so? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you collect the mails and place them in a designated box in the main office of the school? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you record and numerically code the names of the students with parental permissions? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Obtaining Assent from Students | | |
| Did you include the following documents in the envelope you will give to the 14-17 year old students through their homeroom teachers: | Yes | No |
| 1) Adolescent Assent form (Appendix S)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2) Adolescent Solicitation letter (Appendix U)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) Memos with instruction on how and when to complete and return the assent form respectively (Appendices F & G)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4) Self-addressed envelope? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you receive the signed assent forms from the 14-17 year old students within 24 hours? | <input type="checkbox"/> | <input type="checkbox"/> |
| If no, did you send a reminder with another copy of the assent or consent form and a self-addressed envelope through the homeroom teachers of the students? | <input type="checkbox"/> | <input type="checkbox"/> |
| After 48 hours, did you record the names/codes of students who agreed to participate in the study? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you check the list of students who assented or consented against the list of consenting parent/guardian to ensure that each student's parent/guardian also gave consent? | <input type="checkbox"/> | <input type="checkbox"/> |

| | | |
|--|--------------------------|--------------------------|
| Did you mail copies of the signed documents to parent/guardian before data collection? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you give a copy of the signed consent/assent forms to the potential participants? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you lock up and retain the consent/assent forms and acknowledgement letters in a filing cabinet in your office? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Coding of Study Questionnaires | Yes | No |
| Did you assign numerical code to each of the questionnaires and the folders? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you check to see if it corresponds with the code already assigned to the student? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you place a copy of each questionnaire in the folder? | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Data Collection | Yes | No |
| Did you send the sealed envelopes containing the questionnaires to student participants through their homeroom teachers? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did the students complete and drop off the surveys in a designated box in the school office before the end of that school day? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you hand over the completed questionnaires to the PI? | <input type="checkbox"/> | <input type="checkbox"/> |
| Did you give to the school clinical social worker the list that links students to the questionnaires? | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix C

Eligibility to Participate in the Research Study

The Principal Investigator (Sr. Angela Ekwonye) is conducting a study to uncover if a link exists between adolescent depression and the support/help adolescents receive from family, teachers, and friends, their involvement in religious activities and their relationship with God. Participation in this study requires that individuals cannot be taking any of the following medications. Please review the following list of medications and circle Yes (Y) or No (N) to the questions asked below.

Amitriptyline (Elavil)
 Clomipramine (Anafranil)
 Desipramine (Norpramin)
 Doxepin (Zonalon)
 Imipramine (Tofranil)
 Nortriptyline (Pamelor)
 Protriptyline (Vivactil)
 Trimipramine (Surmontil)
 Amoxapine (Ascendin)
 Bupropion (Wellbutrin)
 Duloxetine (Cymbalta)
 Maprotiline (Ludomil)
 Mirtazapine (Remeron)
 Nefazodone (Serzone)
 Trazodone (Desyrel)
 Venlafaxine (Effexor)
 Desvenlafaxine (Pristiq)
 Phenelzine (Nardil)
 Tranclypromine (Parnate)
 Citalopram (Celexa)
 Escitalopram (Lexapro)
 Fluoxetine (Prozac)
 Paroxetine (Paxil)
 Sertraline (Zoloft)
 Aripiprazole (Abilify)

1. Is your child taking any medication to treat depression, including but not limited to the above in the last 30 days?.....Y / N
2. Does your child have a prior history of diagnosis of a major depressive episode within the last 12 months?.....Y / N
3. Has your child received any form of talk therapy from any of the following professionals: psychologist, counselor, psychiatrist, or psychoanalyst within the last 12 months?.....Y / N

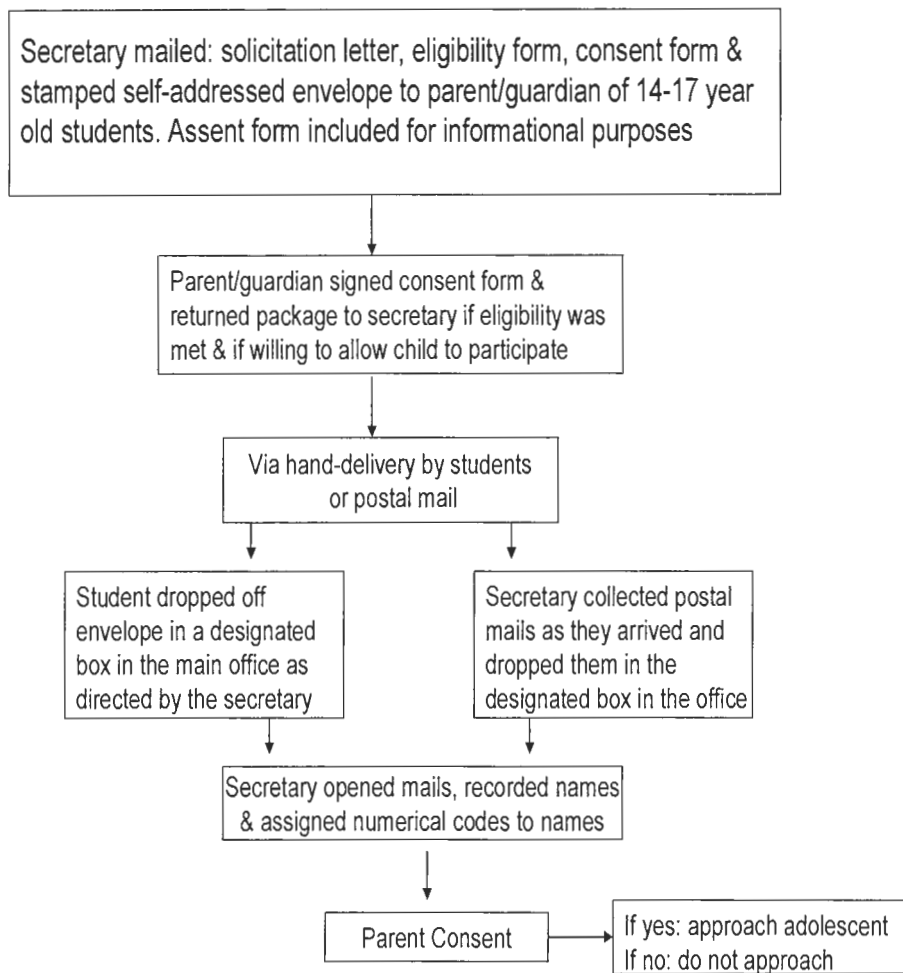
If you answer Yes to any of the above questions, go to item A below

If you answer No to any of the above questions, go to item B below

- A. Thank you for your time, please return the entire package to the school secretary without reviewing any further documents.
- B. Please proceed and review the remaining documents and sign and return this sheet along with the informed consent sheet or the acknowledgement letter to the secretary in the stamped self-addressed envelope enclosed with the mail.

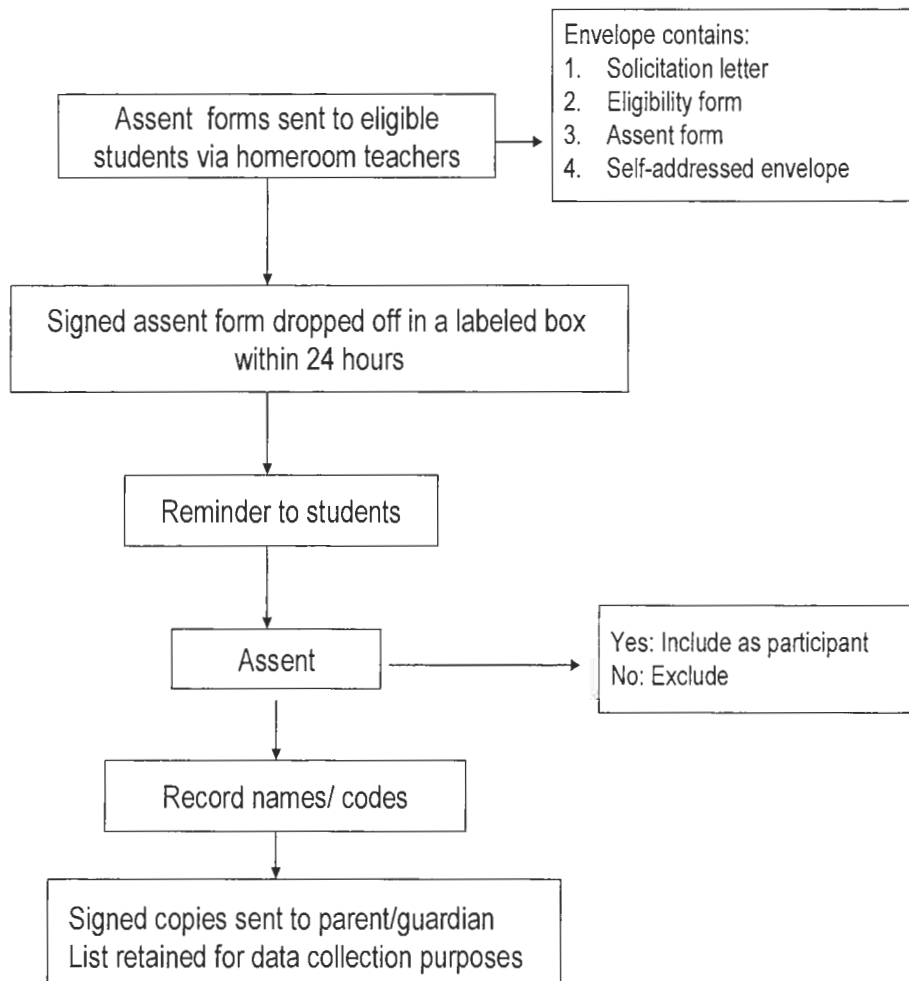
Appendix D

Parental Consent Process



Appendix E

Student Assent Process



Appendix F

Instructions Included with the Assent/Consent Form

From: Joan O'Grady (school secretary)
To: (Insert student's name)
Re: Instructions on when to return the Assent/Consent Form
Date: (Insert date)

Your parent/guardian gave me permission to approach you to participate in a study conducted by Sr. Angela Ekwonye. Please review the assent or consent form and sign your name in the area indicated at the end of the form if you wish to participate in the study. Return the entire package in the designated box in the main office of the school within 24 hours. Thank you.

Appendix G

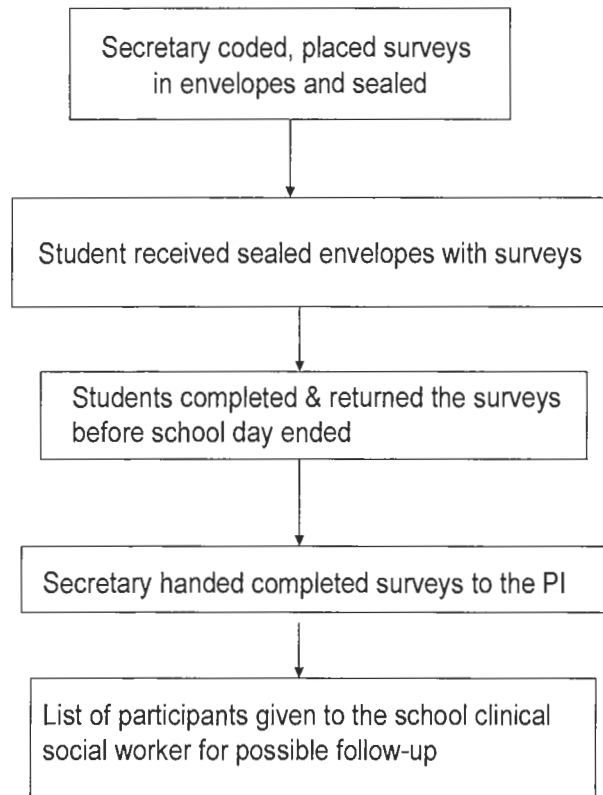
Reminder to Return Assent Form

From: Joan O'Grady (school secretary)
To: (Insert student's name)
Re: Reminder to Return Assent/Consent Form
Date: (Insert date)

This is a request for you to return your assent/consent form in the designated box in the main office of the school within 24 hours. If you have not returned it because the form has been misplaced, I am providing another form and request that you sign and return it as soon as possible. Thanks for your interest in volunteering to participate in the study.

Appendix H

Data Collection Flow Chart



Appendix I

Reminder to Return Completed Surveys

From: Joan O'Grady (school secretary)
To: (Insert student's name)
Re: Return of the Completed Questionnaires
Date: (Insert date)

You agreed to participate in the study conducted by Sr. Angela Ekwonye. Today, you will be completing surveys for the study. Do not write your name on the surveys enclosed in this envelope. Please complete and return the surveys in the designated box in the main office of the school before you go home for the day.

Thanks for volunteering to participate in the study.

Appendix J

DUREL: Duke University Religion Index

Directions: Please answer the following questions about your religious beliefs and/or involvement. Please indicate your answer with a checkmark.

(1) How often do you attend church or other religious meetings?

1. More than once/wk
2. Once a week
3. A few times a month
4. A few times a year
5. Once a year or less
6. Never

(2) How often do you spend time in private religious activities, such as prayer, meditation or Bible study?

1. More than once a day
2. Daily
3. Two or more times/week
4. Once a week
5. A few times a month
6. Rarely or never

The following section contains 3 statements about religious belief or experience. Please mark the extent to which each statement is true or not true for you.

(3) In my life, I experience the presence of the Divine (i.e., God).

1. Definitely true of me
2. Tends to be true
3. Unsure
4. Tends *not* to be true
5. Definitely *not* true

(4) My religious beliefs are what really lie behind my whole approach to life.

1. Definitely true of me
2. Tends to be true
3. Unsure
4. Tends *not* to be true
5. Definitely *not* true

(5) I try hard to carry my religion over into all other dealings in life.

1. Definitely true of me
2. Tends to be true
3. Unsure
4. Tends *not* to be true
5. Definitely *not* true

Koenig HG, Meador K, Parkerson G. Religion Index for Psychiatric Research: A 5-item Measure for Use in Health Outcome Studies. *American Journal of Psychiatry* 1997; 154:885-886

Appendix K

Center for Epidemiological Studies Depression Scale for Children (CES-DC)

Instructions: Below is a list of the ways you might have felt or acted. Please check how *much* you have felt this way during the *past week*.

| DURING THE PAST WEEK | Not at all | A Little | Some | A Lot |
|--|-------------------|-----------------|-------------|--------------|
| 1. I was bothered by things that usually don't bother me. | _____ | _____ | _____ | _____ |
| 2. I did not feel like eating, I wasn't very hungry. | _____ | _____ | _____ | _____ |
| 3. I wasn't able to feel happy, even when my family or friends tried to help me feel better. | _____ | _____ | _____ | _____ |
| 4. I felt like I was just as good as other kids. | _____ | _____ | _____ | _____ |
| 5. I felt like I couldn't pay attention to what I was doing. | _____ | _____ | _____ | _____ |
| DURING THE PAST WEEK | Not at all | A Little | Some | A Lot |
| 6. I felt down and unhappy. | _____ | _____ | _____ | _____ |
| 7. I felt like I was too tired to do things. | _____ | _____ | _____ | _____ |
| 8. I felt like something good was going to happen. | _____ | _____ | _____ | _____ |
| 9. I felt like things I did before didn't work out right. | _____ | _____ | _____ | _____ |
| 10. I felt scared. | _____ | _____ | _____ | _____ |
| DURING THE PAST WEEK | Not at all | A Little | Some | A Lot |
| 11. I didn't sleep as well as I usually sleep. | _____ | _____ | _____ | _____ |
| 12. I was happy. | _____ | _____ | _____ | _____ |
| 13. I was more quiet than usual. | _____ | _____ | _____ | _____ |
| 14. I felt lonely, like I didn't have any friends. | _____ | _____ | _____ | _____ |
| 15. I felt like kids I know were not friendly or that they didn't want to be with me. | _____ | _____ | _____ | _____ |
| DURING THE PAST WEEK | Not at all | A Little | Some | A Lot |
| 16. I had a good time. | _____ | _____ | _____ | _____ |
| 17. I felt like crying. | _____ | _____ | _____ | _____ |
| 18. I felt sad. | _____ | _____ | _____ | _____ |
| 19. I felt people didn't like me | _____ | _____ | _____ | _____ |
| 20. It was hard to get started doing things. | _____ | _____ | _____ | _____ |

Appendix L

Dear Dr. Malecki,

My name is Sr. Angela Ekwonye and I am a doctoral candidate at Seton Hall University's School of Health and Medical Sciences. I am conducting my dissertation research study on the topic of Adolescent Depression and Social Support, Religiosity and Spirituality in Faith-Based Schools, and would like to utilize your Child and Adolescent Social Support Scale (CASSS) as one of my instruments. From my review of the literature, I am confident that the Level 2 version of the CASSS will be suitable for measuring social support among adolescents in grades 9-12.

Please let me know what I need to do in order to get and use your instrument for my dissertation. Your articles are cited repeatedly in my work. Thanking you in anticipation and looking forward to hearing from you. I can be contacted at the following email addresses below.

Sincerely yours

Sr. Angela Ekwonye

angela.ekwonye@student.shu.edu or udobeke@aol.com

From: Christine Malecki [cmalecki@niu.edu]
Sent: Wednesday, October 07, 2009 6:25 PM
To: Angela U Ekwonye
Subject: CASSS

Thank you for your interest in the CASSS. Please find the manual and the measure attached. The measure is free to be used for its intended purposes with no fees at this time.

We do ask that you consider sharing your CASSS data with demographic characteristics at the conclusion of your study so that we may add the data to our psychometric database.

Thank you for your interest and good luck with your research.

Christine Malecki and Michelle Demarary

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<http://www.niu.edu/psyc/faculty/malecki.shtml>

Appendix M

From: Harold G. Koenig [koenig@geri.duke.edu]
Sent: Friday, October 09, 2009 6:37 AM
To: Angela U Ekwonye
Subject: Re: Permission to use the DRI

Yes, you have my permission. I'm attaching some files to help you. HK

At 08:15 PM 10/7/2009, you wrote:

Dear Dr. Koenig,

My name is Sr. Angela Ekwonye and I am a doctoral candidate at Seton Hall University's School of Health and Medical Sciences. I am conducting my dissertation research study on the topic of Adolescent Depression and Social Support, Religiosity and Spirituality in Faith-Based Schools, and would like to utilize the Duke Religion Index (DRI). Although, I have seen the instrument on past dissertations, the questions may have been modified, so this is why I am requesting a copy of the instrument, and also the permission to use it in my dissertation. From my review of the literature, I am confident that the survey questions will be suitable for measuring the religiosity variable in my dissertation research study with adolescents in faith-based schools.

Please let me know what I need to do in order to get and use your instrument for my dissertation. Your various articles are cited repeatedly in my work. Thanking you in anticipation and looking forward to hearing from you. I can be contacted at the following email addresses below.

Sincerely yours

Sr. Angela Ekwonye

angela.ekwonye@student.shu.edu or udobeke@aol.com

Harold G. Koenig, M.D.
Professor of Psychiatry & Behavioral Sciences
Associate Professor of Medicine
Box 3400 Duke University Medical Center
Durham, NC 27710
919-681-6633 (voice mail)
1-888-244-5517 (FAX)
919-383-6962 (P) (private line to his desk)
FEDEX address: 415 Clarion Dr., Durham, NC 27705

Appendix N

CHILD AND ADOLESCENT SOCIAL SUPPORT SCALE - CASSS
Grades 9 – 12

Christine Kerres Malecki, Michelle Kilpatrick Demaray, and Stephen N. Elliott

AGE:

GRADE:

MALE or FEMALE (circle one)

RACE (circle one)

- 1 – African American
- 2 – Asian American
- 3 – White
- 4 – Hispanic American
- 5 – Native American
- 6 – Other

On the next three pages, you will be asked to respond to sentences about some form of support or help that you might get from either a parent, a teacher, a classmate, a close friend, or people in your school. Read each sentence carefully and respond to them honestly. There is no right or wrong answers.

For each sentence you are asked to provide two responses. First, rate how often you receive the support described and then rate how important the support is to you. Below is an example. Please read it carefully before starting your own ratings.

HOW OFTEN? IMPORTANT?

NEVER ALMOST NEVER SOME OF THE TIME MOST OF THE TIME ALMOST ALWAYS ALWAYS NOT IMPORTANT IMPORTANT VERY IMPORTANT

1. My teacher(s) helps me solve problems.

1 2 **3** 4 5 6 1 **2** 3

In this example, the student describes her 'teacher helps me solve problems' as something that happens 'some of the time' and that is 'important' to her.

Please ask for help if you have a question or don't understand something. Do not skip any sentences. Please turn to the next page and answer the questions. Thank you!

My Parent(s)...

| | | | | How Often? | | | | | | important? | | | | | |
|---|---|---|---|--|--------------|------------------|------------------|---------------|--------|---------------|-----------|----------------|---|---|---|
| | | | | Never | Almost Never | Some of the Time | Most of the Time | Almost Always | Always | Not Important | Important | Very Important | | | |
| E | I | A | I | My Parent(s)... | | | | | | | | | | | |
| | | | | 1. ...show they are proud of me. | | | | | | | | | 1 | 2 | 3 |
| | | | | 2. ...understand me. | | | | | | | | | 1 | 2 | 3 |
| | | | | 3. ...listen to me when I need to talk. | | | | | | | | | 1 | 2 | 3 |
| | | | | 4. ...make suggestions when I don't know what to do. | | | | | | | | | 1 | 2 | 3 |
| | | | | 5. ...give me good advice. | | | | | | | | | 1 | 2 | 3 |
| | | | | 6. ...help me solve problems by giving me information. | | | | | | | | | 1 | 2 | 3 |
| | | | | 7. ...tell me I did a good job when I do something well. | | | | | | | | | 1 | 2 | 3 |
| | | | | 8. ...nicely tell me when I make mistakes. | | | | | | | | | 1 | 2 | 3 |
| | | | | 9. ...reward me when I've done something well. | | | | | | | | | 1 | 2 | 3 |
| | | | | 10. ...help me practice my activities. | | | | | | | | | 1 | 2 | 3 |
| | | | | 11. ...take time to help me decide things. | | | | | | | | | 1 | 2 | 3 |
| | | | | 12. ...get me many of the things I need. | | | | | | | | | 1 | 2 | 3 |

My Teacher(s)...

| | | | | How Often? | | | | | | Important? | | | | | |
|---|---|---|---|---|--------------|------------------|------------------|---------------|--------|---------------|-----------|----------------|---|---|---|
| | | | | Never | Almost Never | Some of the Time | Most of the Time | Almost Always | Always | Not Important | Important | Very Important | | | |
| E | I | A | I | My Teacher(s)... | | | | | | | | | | | |
| | | | | 13. ...cares about me. | | | | | | | | | 1 | 2 | 3 |
| | | | | 14. ...treats me fairly. | | | | | | | | | 1 | 2 | 3 |
| | | | | 15. ...makes it okay to ask questions. | | | | | | | | | 1 | 2 | 3 |
| | | | | 16. ...explains things that I don't understand. | | | | | | | | | 1 | 2 | 3 |
| | | | | 17. ...shows me how to do things. | | | | | | | | | 1 | 2 | 3 |
| | | | | 18. ...helps me solve problems by giving me information. | | | | | | | | | 1 | 2 | 3 |
| | | | | 19. ...tells me I did a good job when I've done something well. | | | | | | | | | 1 | 2 | 3 |
| | | | | 20. ...nicely tells me when I make mistakes. | | | | | | | | | 1 | 2 | 3 |
| | | | | 21. ...tells me how well I do on tasks. | | | | | | | | | 1 | 2 | 3 |
| | | | | 22. ...makes sure I have what I need for school. | | | | | | | | | 1 | 2 | 3 |
| | | | | 23. ...takes time to help me learn to do something well. | | | | | | | | | 1 | 2 | 3 |
| | | | | 24. ...spends time with me when I need help. | | | | | | | | | 1 | 2 | 3 |

My Classmates

| My Classmates... | | | | How Often? | | | | | | Important? | | | |
|------------------|---|---|---|--|-------|--------------|------------------|------------------|---------------|------------|---------------|-----------|----------------|
| E | I | A | I | | Never | Almost Never | Some of the Time | Most of the Time | Almost Always | Always | Not Important | Important | Very Important |
| | | | | 25. ...treat me nicely. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 26. ...like most of my ideas and opinions. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 27. ...pay attention to me. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 28. ...give me ideas when I don't know what to do. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 29. ...give me information so I can learn new things. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 30. ...give me good advice. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 31. ...tell me I did a good job when I've done something well. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 32. ...nicely tell me when I make mistakes. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 33. ...notice when I have worked hard. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 34. ...ask me to join activities. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 35. ...spend time doing things with me. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 36. ...help me with projects in class. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |

My Close Friend

| My Close Friend... | | | | How Often? | | | | | | Important? | | | |
|--------------------|---|---|---|--|-------|--------------|------------------|------------------|---------------|------------|---------------|-----------|----------------|
| E | I | A | I | | Never | Almost Never | Some of the Time | Most of the Time | Almost Always | Always | Not Important | Important | Very Important |
| | | | | 37. ...understands my feelings. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 38. ... sticks up for me if others are treating me badly. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 39. ... helps me when I'm lonely. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 40. ...gives me ideas when I don't know what to do. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 41. ...gives me good advice. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 42. ...explains things that I don't understand. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 43. ...tells me he or she likes what I do. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 44. ...nicely tells me when I make mistakes. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 45. ...nicely tells me the truth about how I do on things. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 46. ...helps me when I need it. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 47. ...shares his or her things with me. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |
| | | | | 48. ...takes time to help me solve my problems. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 |



Appendix O

Archdiocese of Newark

Office of the Vicar for Education / Superintendent of Schools

Entering the
Third Millennium
proclaiming in faith and
love the mission of
Christ the Redeemer!

November 10, 2009

Mr. Joseph Agostino
Paramus Catholic High School
426 Paramus Road
Paramus, NJ 07652

Dear Mr. Agostino,

This e-mail letter is in response for Sr. Angela Ekwonye's request to conduct research at your fine institution of learning. Since it is my understanding that the administration at Paramus is agreeable to assisting Sr. Angela in her doctoral project, I also will support this endeavor.

Sr. Angela's project seems to be very timely for today's young adults. There seems to be too many young men and woman who are depressed with life or with their place in life. This study will hopefully add tremendous knowledge and recommendations in dealing with this societal issue.

Thank you so very much for allowing Sr. Angela to include your student body in her work.

Sincerely,

A handwritten signature in cursive script that reads "Rev. Msgr. Kevin M. Hanbury, Ed.D.".

Rev. Msgr. Kevin M. Hanbury, Ed.D.
Vicar for Education/Superintendent of Schools

ARCHDIOCESAN CENTER

171 Clifton Avenue · Post Office Box 9500 · Newark · New Jersey 07104-0500 · (973)-497-4260

PARAMUS CATHOLIC

Appendix P

James P. Vail
President

Joseph P. Agostino
Principal

Leonard M. Lewandowski
Vice Principal of Student Life

Stephanie Macaluso
Vice Principal of Student Life

Vincent D. Sausto
Vice Principal of Academics

Declan J. Lynch
Vice President of Finance

Ryan J. Casey
Vice President of Advancement

Mary Ann Lemieux
Dean of Student Services

Stella Scarano
Dean of Students

Joseph F. Wilson
Dean of Campus Ministry

Ralph M. Manno
Dean of Students

Michael A. Shea
Director of Transportation

Scott Langan
Director of Athletics

Artur Sopol
Director of Operations

Eric Crespo
Director of Alumni Relations

Michael A. Mirkovic
Director of Technology

Father Larry Evans II
Chaplain

Father Dominic G. Ciriaco
Chaplain

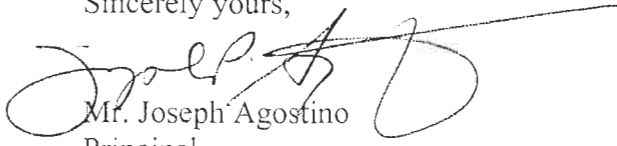
December 9, 2009

Sr. Angela Ekwonye
32B Marion Pepe Drive
Lodi, New Jersey 07644

Dear Sr. Ekwonye,


The Administration at Paramus Catholic High School has reviewed and approved your research study titled: "Adolescent Depression and Social Support, Religiosity and Spirituality in Faith-Based Schools." We welcome the opportunity for the study to be conducted here. Depression in this population can be an ongoing concern for both teachers and administrators. The school is committed to help in the recruitment and data collection process. The school clinical social worker will also be available to assist any student who may need help during and after the study. I am hopeful that the study will benefit both the students and the school.

Sincerely yours,


Mr. Joseph Agostino
Principal



Appendix Q



OFFICE OF INSTITUTIONAL
REVIEW BOARD

SETON HALL UNIVERSITY

April 24, 2010

Sr. Angela U. Ekwonye
32B Marion Pepe Drive
Lodi, NJ 07644

Dear Sr. Ekwonye,

The Seton Hall University Institutional Review Board has reviewed the information you have submitted addressing the concerns for your proposal entitled "Adolescent Depression and Social Support, Religiosity and Spirituality in a Faith-Based Catholic School". Your research protocol is hereby approved as revised through expedited review. The IRB reserves the right to recall the proposal at any time for full review.

Enclosed for your records are the signed Request for Approval form, the stamped Assent Forms, and the stamped Consent Forms. Make copies only of these stamped forms.

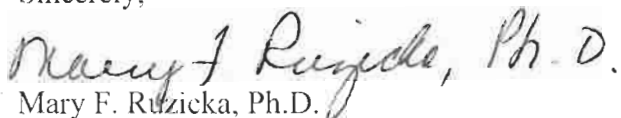
The Institutional Review Board approval of your research is valid for a one-year period from the date of this letter. During this time, any changes to the research protocol must be reviewed and approved by the IRB prior to their implementation.

According to federal regulations, continuing review of already approved research is mandated to take place at least 12 months after this initial approval. You will receive communication from the IRB Office for this several months before the anniversary date of your initial approval.

Thank you for your cooperation.

In harmony with federal regulations, none of the investigators or research staff involved in the study took part in the final decision.

Sincerely,



Mary F. Ruzicka, Ph.D.
Professor
Director, Institutional Review Board

cc: Dr. Terrence Cahill



OFFICE OF INSTITUTIONAL
REVIEW BOARD
SETON HALL UNIVERSITY

September 8, 2010

Sister Angela U. Ekwonye
32B Marion Pepe Drive
Lodi, New Jersey 07644

Dear Sister Angela,

The IRB hereby approves the requested amendments to your research protocol, "Adolescent Depression and Social Support, Religiosity and Spirituality in a Faith-Based Catholic School"

1. To remove the word "Catholic" from the title
2. To increase the sample size to 416 students
3. To add two research questions/hypotheses

Sincerely,



Mary F. Ruzicka, Ph.D.
Professor
Director, Institutional Review Board

cc: Dr. Terrence Cahill

Please review Seton Hall University IRB's Policies and Procedures on website (<http://www.provost.shu.edu/IRB>) for more information. Please note the following requirements:

Adverse Reactions: If any untoward incidents or adverse reactions should develop as a result of this study, you are required to immediately notify in writing the Seton Hall University IRB Director, your sponsor and any federal regulatory institutions which may oversee this research, such as the OHRP or the FDA. If the problem is serious, approval may be withdrawn pending further review by the IRB.

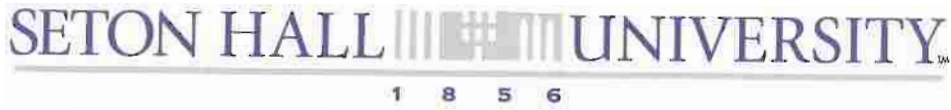
Amendments: If you wish to change **any** aspect of this study, please communicate your request in writing (with revised copies of the protocol and/or informed consent where applicable and the Amendment Form) to the IRB Director. The new procedures cannot be initiated until you receive IRB approval.

Completion of Study: Please notify Seton Hall University's IRB Director in writing as soon as the research has been completed, along with any results obtained.

Non-Compliance: Any issue of non-compliance to regulations will be reported to Seton Hall University's IRB Director, your sponsor and any federal regulatory institutions which may oversee this research, such as the OHRP or the FDA. If the problem is serious, approval may be withdrawn pending further review by the IRB.

Renewal: It is the principal investigator's responsibility to maintain IRB approval. A Continuing Review Form will be mailed to you prior to your initial approval anniversary date. **Note:** No research may be conducted (except to prevent immediate hazards to subjects), no data collected, nor any subjects enrolled after the expiration date.

Appendix R



Parent/Legal Guardian Informed Consent

Study Title: Adolescent Depression and Social Support, Religiosity and Spirituality in a Faith-Based Catholic School

Affiliation

The Primary Researcher for this introductory study is Sr. Angela Ekwonye; a doctoral student in the Department of Graduate Programs in Health Sciences, Seton Hall University.

Purpose

This consent form is asking for the permission to approach students to take part in the study. The purpose of the study is to uncover if a link exists between depression and the help students get from family, teachers, and friends, their involvement in religious activities and their relationship with God.

Procedure

When parents or guardians get the consent form, they are to go over it. Then, reply within 4 days of the receipt of the letter if they want their child to be approached to take part in the study. They are to sign the consent form and bring back the entire document to the secretary using the stamped envelope. Once parents or guardians' approvals are received, the students will be approached to take part in the study. They will be given a similar agreement form. If they choose to take part in the study, they will be asked to sign the assent form, bring back the entire document in a sealed envelope and drop it off in a labeled box in the main office of the school. The secretary will assign number codes to students who agreed to take part in the study to protect their identity. Copies of the survey will be available in the main office of the school if parents or guardians wish to see them.

On study day, the secretary will send surveys in sealed envelopes to students taking part in the study through their homeroom teachers. The envelope will contain four surveys: 1) The Child and Adolescent Social Support Scale that measures the help students get from parents, teachers, and friends. This survey also asks about the student's age, grade, sex, and ethnicity. 2) The Duke University Religion Index measures how often students take part in religious activities. 3) The Spiritual Well-Being Scale measures the level of students' relationship with God. 4) The Center for Epidemiological Studies Depression Scale for Children measures students' emotional condition in the past one week. Completion of the surveys will take about 50 minutes. Students will drop off the envelopes with the completed surveys in a labeled box in the main office of the school by the end of that school day. The primary researcher will not take part in enrolling and collecting information from students. The secretary will enroll students, give and collect completed surveys.

Expiration Date
APR 24 2011

Seton Hall University
Institutional Review Board

APR 24 2010

Approval Date

School of Health and Medical Sciences
Department of Graduate Programs in Health Sciences
Tel: 973.275.2076 • Fax: 973.275.2171
400 South Orange Avenue • South Orange, New Jersey 07079 • shms.shu.edu

Voluntary Participation

Participation in this study is all voluntary. Parents or guardians may decide to withdraw their child from the study at any time without punishment. Students may decide not to participate at any time without penalty. They can skip answering questions they find uncomfortable without penalty. Students are also free to withdraw from the study by withholding their surveys or bringing back uncompleted or blank surveys without penalty.

Confidentiality

Information about the study will be kept purely secret. All surveys will be given a code number. The list linking students' names to these numbers will be given to the school clinical social worker to keep. The primary researcher will not see students' names at any time. Due to how serious teenage depression is, the primary researcher will give the code of surveys with depression score of over 15 to the school social worker. He will follow-up with the student according to normal school policy for dealing with such issues. Information about the study will be stored on a USB memory key. Both the USB memory key and completed surveys will be locked up in the primary researcher's office. After three years, all data will be destroyed.

Risks

There are no known risks associated with students' involvement. If answering questions makes a student think of getting emotional help, the school clinical social worker will be available to talk to the student. If the student does not want to talk to the school social worker, he or she can call any of the Depression Hotline Numbers for help: 1800-850-8078 or 1800-668-6868.

Benefits of Participation

Students will obtain no direct benefits for taking part in this study. The results will inform educators in the school to design different social, religious and spiritual activities for students. Such activities may promote their mental and emotional health.

Compensation

Students will not receive money or any kind of compensation for taking part in the study.

Whom to contact if you have questions about the study

Contact the Primary Researcher (Sr. Angela Ekwonye) through the office of Dr. Terrence Cahill, Dissertation Chair; Department of Graduate Programs in Health Sciences at (973) 275-2449, 400 South Orange Avenue, South Orange, NJ 07079 or the Seton Hall Institutional Review Board at (973) 313-6314.

Instruction

Please sign the consent form below and send back the entire document to the school secretary. A copy of the entire consent will be mailed back to parents/guardians before the study starts for their personal records.

Seton Hall University
Institutional Review Board
APR 24 2010

Expiration Date
APR 24 2011

Approval Date

Appendix S



Adolescents' Assent Form

Study Title: Adolescent Depression and Social Support, Religiosity and Spirituality in Faith-Based Catholic School

Affiliation

The Primary Investigator for this introductory study is Sr. Angela Ekwonye; a doctoral student in the Department of Graduate Programs in Health Sciences, Seton Hall University.

Purpose

This assent form is asking the students to take part in the study that will uncover if a link exists between depression and the help students get from family, teachers, and friends, their involvement in religious activities and their relationship with God.

Procedure

Parents or guardians have allowed the school secretary to approach students to take part in this study. Students are asked to go over this document and reply within 24 hours of the receipt of the document if they choose to take part in the study. They are to sign the agreement form, bring back the entire document in a sealed envelope and drop it off in a labeled box in the main office of the school. The secretary will then assign number codes to students who agreed to participate to protect their identity.

On study day, the secretary will send surveys in sealed envelopes to students taking part in the study through their homeroom teachers. The envelope will contain four surveys: 1) The Child and Adolescent Social Support Scale that measures the help students get from parents, teachers, and friends. This survey also asks student's age, grade, sex, and ethnicity. 2) The Duke University Religion Index measures how often students take part in religious activities. 3) The Spiritual Well-Being Scale measures the level of students' relationship with God. 4) The Center for Epidemiological Studies Depression Scale for Children measures students' emotional status in the past week. Completion of the surveys will take about 50 minutes. Students will drop off the envelopes with the completed surveys in a labeled box in the main office of the school by the end of that school day. The primary researcher will not take part in enrolling and collecting information from students. The secretary will enroll students, give and collect completed surveys.

Expiration Date
APR 24 2011

Voluntary Participation

Participation in this study is all voluntary. Parents or guardians can withdraw students from the study at any time without punishment. Students may decide not to participate at any time without penalty. They can skip answering questions they find uncomfortable without penalty. Students are also free to withdraw from the study by withholding their surveys or bringing back uncompleted or blank surveys without penalty.

Seton Hall University
Institutional Review Board

School of Health and Medical Sciences
Department of Graduate Programs in Health Sciences
Tel: 973.275.2076 • Fax: 973.275.2171
400 South Orange Avenue • South Orange, New Jersey 07079 • shms.shu.edu

APR 24 2010

Approval Date

THE H

Confidentiality

Students' answers will be kept strictly confidential. All surveys will be given a code number. The list linking students' names to these numbers will be given to the school clinical social worker to keep. The primary researcher will not see students' names at any time. Due to how serious teenage depression is, the primary researcher will give the code of surveys with depression score of over 15 to the school social worker. He will follow-up with the student according to normal school policy for dealing with such issues. Information about the study will be stored on a USB memory key. The USB memory key and completed surveys will be locked up in the primary researcher's office. After three years, all data will be destroyed.

Risks

There are no known risks associated with student's involvement. If answering questions make a student think of getting emotional help, the school clinical social worker will be available to talk to him or her. If a student does not want to talk to the school social worker, he or she can call any of the Depression Hotline Numbers for help: 1800-850-8078 or 1800-668-6868.

Benefits of Participation

Students will obtain no direct benefits for taking part in this study. The results will inform educators in the school to design different social, religious and spiritual activities for students. Such activities may promote their mental and emotional health.

Compensation

Students will not receive money or any kind of compensation for taking part in the study.

Whom to contact if you have questions about the study

Contact the Primary Investigator (Sr. Angela Ekwonye) through the office of Dr. Terrence Cahill, Dissertation Chair; Department of Graduate Programs in Health Sciences at (973) 275-2449, 400 South Orange Avenue, South Orange, NJ 07079 or the Seton Hall Institutional Review Board at (973) 313-6314.

Instruction

Please sign the assent form below and drop off the entire document within 24 hours in a labeled box in the main office. A copy of the entire document will be given back to you before the study starts.

Seton Hall University
Institutional Review Board

APR 24 2010

Approval Date

Expiration Date

APR 24 2011



Adolescents' Assent Form

Agreement

I fully understand the purpose and procedure of the study described above.

() Yes, I wish to take part in the study

Student Name (please print) _____

Student Signature _____ Date _____

Please use the enclosed envelope to return the entire document in a labeled box in the main office within 24 hours.

Seton Hall University
Institutional Review Board

Expiration Date

APR 24 2010

APR 24 2011

Approval Date

School of Health and Medical Sciences
Department of Graduate Programs in Health Sciences
Tel: 973.275.2076 • Fax: 973.275.2171
400 South Orange Avenue • South Orange, New Jersey 07079 • shms.shu.edu

Appendix T

Letter of Solicitation

Dear Parents,

I am writing to ask your permission to approach your child to participate in Sr. Angela's study, if he or she would like to. Sr. Angela Ekwonye is a doctoral student in the Graduate Programs in Health Sciences, Seton Hall University.

The purpose of the study is to uncover if a link exists between depression and the help students get from parents, teachers and friends, their involvement in religious activities and their relationship with God.

Students' involvement in this study will include completing four surveys that will take about 50 minutes. The questionnaires include: The Child and Adolescent Social Support Scale which asks about the help students' get from family, teachers and friends. It also asks about students' age, sex, grade, and race. The Duke University Religion Index asks about students' involvement in religious activities. The Spiritual Well-Being Scale asks about students' relationship with God. The Center for Epidemiological Studies Depression Scale for Children asks about students' experiences with emotional symptoms in the past week.

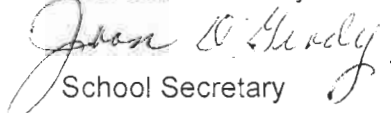
Participation in this study is all voluntary. The student may decide not to take part at any time and can skip questions that he or she is not comfortable answering without penalty. The student is also free to withdraw from the study by withholding his/her surveys or dropping off uncompleted or blank surveys without penalty.

All information about this study will be kept secret. All surveys will be given a code number. The list linking students' name to these numbers will be held by the school social worker. Due to how serious teenage depression is, the primary researcher will give the code of surveys with depression score of over 15 to the school social worker. He will follow-up with the student according to normal school policy for dealing with such issues. The primary researcher will not see students' names at any time. Information about the study will be stored on a USB memory key and locked up in the primary researcher's office. It will be destroyed after three years. The secretary will enroll students, give and collect completed survey.

If students have questions about this study they can contact the primary researcher through the office of Dr. Terrence Cahill, Dissertation Chair; Department of Graduate Programs in Health Sciences at (973) 275-2449, 400 South Orange Avenue, South Orange, NJ 07079 or the Seton Hall Institutional Review Board at (973) 313-6314.

Thank you very much.

Mrs. Joan O'Grady


School Secretary

Appendix U

Letter of Solicitation

Dear Students,

You are invited to take part in this study about Adolescent Depression and Social Support, Religiosity and Spirituality in a Faith-Based Catholic School.

The study is designed by Sr. Angela Ekwonye; a doctoral student in the Graduate Programs in Health Sciences, Seton Hall University.

The purpose of the study is to uncover if a link exists between depression and the help students get from parents, teachers and friends, their involvement in religious activities and their relationship with God.

Students' involvement in this study will include completing four surveys that will take about 50 minutes. The questionnaires include: The Child and Adolescent Social Support Scale which asks about the help students' get from family, teachers and friends. It also asks about the student's age, sex, grade, and race. The Duke University Religion Index asks about students' involvement in religious activities. The Spiritual Well-Being Scale asks about students' relationship with God. The Center for Epidemiological Studies Depression Scale for Children asks about students' experiences with emotional symptoms in the past week.

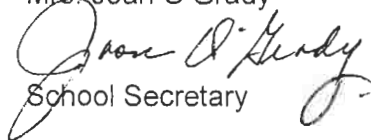
Participation in this study is all voluntary. The student may decide not to take part at any time and can skip questions that he or she is not comfortable answering without penalty. The student is also free to withdraw from the study by withholding his/her surveys or dropping off uncompleted or blank surveys without penalty.

All information about this study will be kept secret. All surveys will be given a code number. The list linking students' name to these numbers will be held by the school social worker. Due to how serious teenage depression is, the primary researcher will give the code of surveys with depression score of over 15 to the school social worker. He will follow-up with the student according to normal school policy for dealing with such issues. The primary researcher will not see students' names at any time. Information about the study will be stored on a USB memory key and locked up in the primary researcher's office. It will be destroyed after three years. The secretary will enroll students, give and collect completed survey.

If students have questions about this study they can contact the primary researcher through the office of Dr. Terrence Cahill, Dissertation Chair; Department of Graduate Programs in Health Sciences at (973) 275-2449, 400 South Orange Avenue, South Orange, NJ 07079 or the Seton Hall Institutional Review Board at (973) 313-6314.

Thank you very much.

Mrs. Joan O'Grady


School Secretary