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Forgiveness and depression among adolescents

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A Dissertation

entitled

Forgiveness and Depression among Adolescents

by

Kateryna Kuzubova

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the
Doctor of Philosophy Degree in Counselor Education and Supervision

Dr. Nick Piazza, Committee Chair

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The University of Toledo

March, 2015

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An Abstract of
Forgiveness and Depression among Adolescents

By

Kateryna Kuzubova

Submitted to the Graduate Faculty in partial fulfillment of the requirements
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The University of Toledo

March 2015

Depression is a leading cause of illness and disability among adolescents worldwide (World Health Organization [WHO], 2014b). Adolescent depression is associated with higher rates of its reoccurrence in adulthood (Gladstone et al., 2011), and represents a significant cost burden on personal and societal scales (Greden, 2001; Tuisku et al., 2014). Researchers have sought to identify positive and negative correlates for the reduction of depressive symptoms among adolescents (Allison et al., 2005; Bilski et al., 2013; Koivumaa-Honkanen et al., 2004; Muris et al., 2001). Religiousness/spirituality has been consistently identified as a negative correlate in adult depression (Bonelli et al., 2012; Koenig et al., 2001) as well as adolescent substance use and other health related problems (Amoateng & Bahr, 1986; Dew et al., 2008; Kent, 1990; Knight et al., 2007; Rew & Wong, 2006; Ritt-Olson et al., 2004). However, the relationship between religiousness/spirituality and adolescent depression remains ambiguous and requires further study (Dew et al., 2008).

Recently, the nature of the religiousness/spirituality construct was recognized as multidimensional and inter-related (Fetzer Institute, 2003; Wong et al., 2006).

Forgiveness, as one of the dimensions of religiousness/spirituality, has been vigorously researched in adult health-related outcomes (Toussaint et al., 2008), including adult depression (Thompson et al., 2005). However, only a few studies have examined the relationship between forgiveness and depressive symptoms among adolescents (Dew et al., 2008; Dew et al., 2010).

The purpose of the study was to examine the relationship between forgiveness and depressive symptoms reported by 12 to 18 year old adolescents who routinely visited three ethnically diverse family medicine clinics in the New England area. The study focused on three dimensions of forgiveness: intrapersonal (forgiving self), interpersonal (forgiving others), and divine (knowing that God forgives). Additionally, other relationships were examined as they related to gender and developmental stages of young, middle, and late adolescence. The study used previously collected data that was used for publication by the Center for Adolescent Substance Abuse Research [CeASAR] (Knight et al., 2007; Harris et al., 2008). Chi square analyses were used to examine whether observed frequencies between each dimension of forgiveness and depression, each dimension of forgiveness and developmental stage, and each dimension of forgiveness and gender would significantly differ from what would be expected by chance.

Results of the current study were not found to be statistically significant, which is incongruent with previous studies examining depression and forgiveness among adolescents in psychiatric outpatient (Dew et al., 2008) and inpatient (Dew et al., 2010) settings. The lack of significant findings and inconsistency with previous research might indicate the absence of an association between the three dimensions of forgiveness and

depression across gender and developmental stages among healthy adolescents.

However, more research needs to be done on this matter, as this the first study to focus on examining these variables among healthy adolescents.

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Table of Contents

Chapter I.....	1
1.1 Introduction	1
1.2 Statement of the Problem	1
1.3 Purpose of the Study	4
1.4 Significance of the Study	4
1.5 Research Questions	5
1.6 Definitions and Operational Terms	5
1.7 Summary	7
1.8 Organization of Chapters	7
Chapter II	9
2.1 Introduction	9
2.2 Depressive Symptoms in Adolescents	11
2.2.1 Prevalence.....	11
2.2.2 Gender and Depressive Symptoms of Adolescents	12
2.2.3 Developmental Differences in Depressive Symptoms among Adolescents.....	16
2.3 Religiousness/Spirituality.....	18
2.3.1 Religiousness/Spirituality in Adolescents	19
2.3.2 Forgiveness.....	23
2.3.2.1 Forgiveness in Adulthood.....	29

2.3.2.2 Forgiveness in Adolescence	30
2.4 Summary	31
Chapter III.....	34
3.1 Method	34
3.1.1 Hypotheses.....	34
3.1.2 Variables.....	36
3.1.3 Study Design	38
3.1.4 Sampling Procedures	38
3.1.5 Sample	39
3.1.6 Data Collection Procedures	39
3.1.7 Instrumentation.....	40
3.1.8 Data Analysis.....	43
3.2 Summary	44
Chapter IV.....	46
4.1 Overview	46
Table 4-1: Demographic Information.....	47
4.2 Data preparation	48
4.3 Sample and analysis procedures.....	49
4.4 Results	49
4.4.1 Research question 1	49

4.4.2 Research question 2	51
4.4.3 Research question 3:	57
4.5 Summary	61
5.1 Overview	63
5.2 Methods	65
5.3 Research Results	66
5.3.1 Research Question 1	66
5.3.2 Research Question 2	66
5.3.3 Research Question 3	67
5.4 Discussion	67
5.4.1 Forgiveness and Depression	67
5.4.2 Forgiveness and Depression across Developmental Stages	68
5.4.3 Forgiveness and Depression across Gender	69
5.5. Recommendations for Future Research	69
5.6. Limitations	72
5.7. Conclusions	73
References	76
Appendix A: The BMRRS (Forgiveness: short form)	104
Appendix B: Demographic Information Section	105
Appendix C: Permission Letter	106

Appendix D: Boston Children’s Hospital Institutional Review Board Approval Letter 107

Appendix E: The University of Toledo Institutional Review Board Approval Letter 108

List of Tables

Table 4-1: Demographic Information 47

Table 4-2: Depression and Intrapersonal Forgiveness 50

Table 4-3: Depression and Interpersonal Forgiveness 50

Table 4-4: Depression and Divine Forgiveness 51

Table 4-5: Depression and Intrapersonal Forgiveness among Young Adolescents 52

Table 4-6: Depression and Intrapersonal Forgiveness among Middle Adolescents 52

Table 4-7: Depression and Intrapersonal Forgiveness among Late Adolescents 53

Table 4-8: Depression and Interpersonal Forgiveness among Young Adolescents 54

Table 4-9: Depression and Interpersonal Forgiveness among Middle Adolescents 54

Table 4-10: Depression and Interpersonal Forgiveness among Late Adolescents 55

Table 4-11: Depression and Divine Forgiveness among Young Adolescents 56

Table 4-12: Depression and Divine Forgiveness among Middle Adolescents 56

Table 4-13: Depression and Divine Forgiveness among Late Adolescents 57

Table 4-14: Depression and Intrapersonal Forgiveness among Boys 58

Table 4-15: Depression and Intrapersonal Forgiveness among Girls 58

Table 4-16: Depression and Interpersonal Forgiveness among Boys 59

Table 4-17: Depression and Interpersonal Forgiveness among Girls 59

Table 4-18: Depression and Divine Forgiveness among Boys 60

Table 4-19: Depression and Divine Forgiveness among Girls 61

Chapter I

1.1 Introduction

Adolescence is a critical period of human development, characterized by numerous changes, developmental tasks, and increased questioning and confusion about the future (Pearce, Little, & Perez, 2003). These challenges can result in a significant number of adolescents experiencing depressive symptoms or even being diagnosed with depression. Research suggests that five to fifteen percent of the general population in the United States (U.S.) have a diagnosis of depression before adulthood (Bhatia & Bhatia, 2007; Zuckerbrot & Jensen, 2006). Pullen and Modrcin-McCarthy (2000) noted that an increase in depression occurs in middle adolescence (15 to 16 years old) and continues to progress with age. Similarly, one-half of first episodes of depression occurred during adolescence and were associated with a chronic course of disorder carrying over into adulthood (Gladstone, Beardslee, & O'Connor, 2011). In the short term, depression affects the psychosocial development and educational environment of teens (Gotlib, Lewinsohn, & Seeley, 1995). Over the long term, this can lead to recurring depression, substance abuse, health-related issues, and suicide (Gladstone et al., 2011; Tuisku et al., 2014). Because depression is a prevalent psychiatric disorder among adolescents, it is important to reduce the incidence of depressive symptoms among teens in order to prevent the recurrence of depression in adulthood.

1.2 Statement of the Problem

According to the World Health Organization (WHO; 2014b) depression in adolescents is a common psychiatric disorder with an estimated prevalence up to twenty

percent in the U.S. (Bhatia & Bhatia, 2007; Thapar et al., 2012; Zuckerbrot & Jensen, 2006). Adolescent depression not only affects the immediate psychosocial development of a teen (Gotlib et al., 1995), but also increases the likelihood of recurrence in adulthood (Gladstone et al., 2011). Moreover, depression leads to delinquent and risky behaviors affecting an individual's health, life quality, and society (Gladstone et al., 2011; Tuisku et al., 2014; WHO, 2014b).

Religiousness/spirituality has been consistently identified as a negative correlate in adult depression (Bonelli, Dew, Koenig, Rosmarin, & Vasegh, 2012; Koenig, McCullough, & Larson, 2001) as well as adolescent substance use and other health related problems (Amoateng & Bahr, 1986; Dew et al., 2008; Kent, 1990; Knight et al., 2007; Rew & Wong, 2006; Ritt-Olson et al., 2004). However, the relationship between religiousness/spirituality and adolescent depression remains ambiguous and requires further study (Dew et al., 2008).

Recently, researchers have begun to recognize the multidimensional (Fetzer Institute, 2003) and intertwined (Wong et al., 2006) nature of the religiousness/spirituality construct. This is in contrast to published research in health-related outcomes which tends to be limited to behavior items such as attendance at religious services or religious affiliation (e.g., Cotton, McGrady & Rosenthal, 2010). Grounded on previous research and theory, a Fetzer Institute (2003) working group developed an instrument designed to assess the behavioral, cognitive, and affective aspects of religiousness/spirituality. This has enabled studies to better and more accurately define the constructs that they seek to measure across religious and secular populations as it related to outcomes. For example, the dimension of forgiveness has been

vigorously researched in adult health-related outcomes (Toussaint, Williams, Musick, & Everson-Rose, 2008), including adult depression (Thompson et al., 2005). However, only a few studies have examined the relationship between forgiveness and depressive symptoms among adolescents. Dew et al. (2008) examined the relationship between multiple facets of religiousness/spirituality and depression in treatment-seeking adolescents in a predominantly White (79%) Southern U.S. sample. They discovered that lack of forgiveness significantly ($p \leq 0.001$) correlated with being more depressed. Dew et al. (2010) studied the relationship between depressive symptoms and religiousness/spirituality longitudinally with psychiatric outpatient adolescents and found that, even after controlling for gender, substance abuse, and social support variables, forgiveness still retained significance ($p \leq .0001$).

Other correlational studies that looked at forgiveness measured it as a mono- or binary factor (e.g., forgiving others and/or forgiving oneself) (Muñoz Sastre, Vinsonneau, Neto, Girard, & Mullet, 2003), which limited its multifaceted nature (Fetzer Institute, 2003). Additionally, the above mentioned studies examined the relationship by using the total score in regression models. In order to assess the relationship between forgiveness and outcome variable in detail, Knight et al. (2007) suggest looking at the forgiveness construct using separate models (e.g., forgiveness of oneself and depressive symptoms). Likewise, Harris et al. (2008) reinforced the need to examine dimensions of forgiveness separately in future studies, as forgiving others may have operated quite differently from other forgiveness items examined.

1.3 Purpose of the Study

The purpose of this study was to retrospectively examine whether there was a relationship between forgiveness and depressive symptoms reported by 12 to 18 year old adolescents that routinely visited three ethnically diverse family medicine clinics in the New England area (Knight et al., 2007). The current study focused on three dimensions of forgiveness: intrapersonal (forgiving self), interpersonal (forgiving others), and divine (knowing that God forgives). In addition, other relationships were examined as they relate to gender and developmental stages of young, middle, and late adolescence.

1.4 Significance of the Study

This study was believed to be important in several ways. First, the information provided in this study was expected to be helpful for reducing the gap between research and the clinical use of forgiveness in the mental health field (Briggs & Rayle, 2005; Diblasio & Proctor, 1993; Walker et al., 2004; Walker, Gorsuch, & Tan, 2005). Specifically, it was hoped that the results of the study encourage counselors to learn more about the universal construct of forgiveness (Knight & Hugenberger, 2007; West, 2001). Then, mental health and school counselors might consider implementing forgiveness interventions (for details, Ferch, 1998) within clinical practice as a means to reduce depressive symptoms in teens and prevent adolescent depression (e.g., day of forgiveness). Lastly, the results of this study presented a valuable addition to the growing literature on the multifaceted nature of forgiveness and health related outcomes, specifically, depressive symptoms in the general teen population. Future researchers will be able to use this information to further examine association between forgiveness dimensions and adolescent depression. The study could easily be replicated in more

diverse populations, different geographic locations, settings, and with multifaceted forgiveness traits.

1.5 Research Questions

The research questions related to the three dimensions of forgiveness (i.e., intrapersonal [forgiveness of self], interpersonal [forgiveness of others] and divine forgiveness [believing that God forgives]) for the study are as follows:

1. Is there a relationship between depressive symptoms and the three dimensions of forgiveness in a sample of adolescents?
2. Is there relationship between depressive symptoms and the three dimensions of forgiveness across young, middle and late adolescence?
3. Are there gender-specific relationships between depressive symptoms and the three dimensions of forgiveness?

1.6 Definitions and Operational Terms

The following terms were operationally defined as they were conceptualized and used in this study.

Adolescence was defined as “the period in human growth and development that occurs after childhood and before adulthood” (World Health Organization [WHO], 2014a, par. 1).

For the purposes of this study, the author defined three age categories as recommended by Spano (2004):

Young Adolescence referred to the developmental stage between ages 12 and 14.

Middle Adolescence referred to the developmental stage between ages 15 and 16.

Late Adolescence referred to the developmental stage between ages 17 and 18.

Depression was defined as the presence and severity of depressive symptoms as measured by the Beck Depression Inventory-II (BDI-II) (Beck, Steer, & Brown, 1996). Cut-off scores on psychological assessments are often used to categorize degrees of severity of pathology. It is highly desirable that cut-off points are established with a population similar to where those cut-off points will be subsequently applied. Traditional cut-off score ranges used to estimate severity in adults are: 10–16 indicating possible mild depression, 17–29 likely moderate depression, and 30–63 probable severe depression (Beck et al., 1996). After reviewing the literature on recommended BDI-II cut-off points for adolescents, the author decided to categorize depression into three categories: none or minimal, moderate, and severe.

None or Minimal Depression referred to a score ≤ 10 on the BDI-II (Canals, Bladé, Carbajo, & Domènech-LLabería, 2001; Dolle et al., 2012; Uslu, Kapci, Oncu, Ugurlu, & Turkcapar, 2008).

Moderate Depression referred to a score range from 11 to 16 points on the BDI-II (Canals et al., 2001; Coelho, Martins, & Barros, 2002; Dolle et al., 2012).

Severe Depression referred to a score ≥ 17 on BDI-II (Adewuya, Ola, & Aloba, 2007; Araya et al., 2013; Coelho, et al., 2002; Gorenstein, Andrade, Zanola, & Artes 2005; Russell et al., 2012).

Forgiveness was defined by a person's score on a short version of the Brief Multidimensional Measure of Religiousness/Spirituality [BMMRS] (Fetzer Institute (2003). The following three dimensions defined *forgiveness* as stated by the BMMRS:

Intrapersonal Forgiveness referred to a person's choice to forgive oneself because of one's own spiritual or religious beliefs.

Interpersonal Forgiveness referred to a person's choice to forgive others because of one's own spiritual or religious beliefs.

Divine Forgiveness referred to a person's spiritual or religious beliefs that God forgives me.

1.7 Summary

Adolescent depression is a prevalent health concern worldwide (WHO, 2014), is associated with higher rates of its reoccurrence in adulthood (Gladstone et al., 2011), and represents a significant cost burden on personal and societal scales (Greden, 2001; Tuisku et al., 2014). Religiousness/spirituality is commonly acknowledged and to some extent integrated in life by the majority of people in the U.S., including adolescents (Child Trends Data Bank, 2014; Gallup, 2000), and is associated with positive outcomes for health and well-being (Cotton, McGrady, & Rosenthal, 2010; Rew, et al., 2006). However, there is limited evidence on how forgiveness of self, others, and a knowledge that God forgives relates with depressive symptoms among adolescents in non-clinical settings. Therefore, further research regarding the relationship between the above-mentioned dimensions of forgiveness and depressive symptoms is warranted to advance research and prevention strategies for supporting the mental health of our youth.

1.8 Organization of Chapters

This dissertation was organized into five chapters. Chapter I included the description and background of the problem that the current research addresses, as well as the purpose and significance of this study. Chapter I also provided a description of the variables, research questions and definitions for relevant study terms. Chapter II encompassed a literature review relevant for this topic, including a detailed overview of

the previous research. Chapter III included the description of the methods that were used in this study. Chapter IV presented the findings of this study, and Chapter V discussed these findings and recommendations for the future research.

Chapter II

2.1 Introduction

Adolescence is a critical period of human development and is characterized by numerous biological and physiological changes, developmental tasks, and increased questions and confusion about the future (Pearce, Little, & Perez, 2003). Not surprisingly, a significant number of adolescents experience depressive symptoms and are diagnosed with depression. According to the *Health for the World's Adolescents Report* (World Health Organization [WHO], 2014b), depression is the number one cause of illness and disability among 10-19-year-olds globally, and suicide is the third leading cause of death in this age group. The *Youth Risk Behavior Surveillance-United States (YRBS-US)*, 2013 (Kann, Kinchen, & Shanklin, 2014) is an annual survey (overall response rate 68% in 2013) conducted in schools among students in grades nine to twelve ($N= 13,583$). According to the *YRBS-US*, 29.9 percent of adolescents felt sad or hopeless in the past two weeks; 17 percent reported thoughts of suicide; 13.6 percent had a plan to commit suicide, 8 percent had attempted suicide, and 2.7 percent received treatment at an emergency clinic in the past twelve months (Kann et al., 2014). In addition, depressive symptoms in adolescents are strongly associated with later depressive disorder (Angst, Sellaro, & Merikangas, 2000). In the short term, depression affects the psychosocial development and educational environment of teens (Gotlib, et al., 1995). In the long term, it may result in recurring depression, substance abuse, health related issues, and suicide (Gladstone et al., 2011; Tuisku et al., 2014).

Due to the high prevalence of depression and associated negative effects, researchers have sought to identify positive and negative correlates in the reduction of

depressive symptoms among adolescents. Among many factors examined, school-related intrapersonal [e.g., individual characteristics such as optimism] (Koivumaa-Honkanen, Kaprio, Honkanen, Viinamäki, & Koskenvuo, 2004) and interpersonal (e.g., social support) factors (Bilski et al., 2013; Piko & Balazs, 2012; Rueger, & Malecki, 2011), as well as aspiration toward a healthy life style [e.g., nutrition and physical exercise] have been commonly documented (Allison et al., 2005; Kirkcaldy, Shephard, & Siefen, 2002; Nemets, Nemets, Apter, Bracha, & Belmaker, 2006). Good relationships with teachers (Piko, Kovacs & Fitzpatrick, 2009) and positive perceptions of personal academic achievement (Quiroga, Janosz, Bisset & Morin, 2013) have shown a negative correlation with depressive symptoms. Similarly, positive expectations about life and social surroundings (Piko et al., 2009; Rueger & Malecki, 2011), perceived self-efficacy to deal with life-stressors (Tram & Cole, 2000), and active coping styles (Muris, Schmidt, Lambrichs, & Meesters, 2001) have been found as primary correlates for reduction of depressive symptoms.

Religiousness/spirituality and health related outcomes have been studied extensively in adults and have received increasing interest for adolescent studies (Coruh, Ayele, Pugh, & Mulligan, 2005; Rew & Wong, 2006). Religiousness/spirituality has been consistently shown to be negatively correlated with adult depression (Bonelli, Dew, Koenig, Rosmarin, & Vasegh, 2012; Koenig et al., 2001), adolescent substance use and other health-related problems (Amoateng & Bahr, 1986; Dew et al., 2008; Kent, 1990; Knight et al., 2007; Rew & Wong, 2006; Ritt-Olson et al., 2004). However, the relationship between religiousness/spirituality and adolescent depression requires further study (Dew et al., 2008). The religious dimension of forgiveness has been vigorously

researched in association with adult health-related outcomes (Toussaint et al., 2008), including adult depression (Thompson et al., 2005; Toussaint, Marschall & Williams, 2012); however, only a few extant studies have examined the relationship between forgiveness and depressive symptoms among adolescents (Dew et al., 2008; Dew, et al., 2010).

This chapter begins with a brief overview of the literature regarding the prevalence and negative consequences of depression in adolescents. Review of epidemiological studies explaining age and gender differences in relation to depressive symptoms will be thoroughly described. A summary will then be provided for the role of religiousness/spirituality among adolescents with an emphasis on studies presenting evidence for the forgiveness domain.

2.2 Depressive Symptoms in Adolescents

2.2.1 Prevalence

Less than three decades ago, depression in adolescents was largely ignored in clinical practice and research. Emotional dysregulation was considered a normal part of adolescent development and not indicative of a possible disorder (Maughan, Collishaw & Stringaris, 2013). The shift in thinking occurred when it became clear that what were previously considered normal mood swings were interfering with daily functioning, which is a main criterion for a diagnosis of depression (American Psychiatric Association [APA], 2013).

Recent reports suggest that five to fifteen percent (Bhatia & Bhatia, 2007; Zuckerbrot & Jensen, 2006), and in some instances up to twenty percent (Thapar et al., 2012), of the general population in the U.S. will be diagnosed with depression before

adulthood. Some reviews indicate that nearly one in eight adolescents (Kessler & Walters, 1998) and one in 33 children (Fleming & Offord, 1990) experience depression. Depression, which is defined as a cluster of specific symptoms with associated impairment, is similar in adolescents and adults but still frequently misdiagnosed in adolescents. Thapar et al. (2012) explain that the presence of other primary problems (e.g., unexplained physical symptoms, anxiety, behavioral problems) can overshadow the symptoms of adolescent depression, leading to delayed treatment of the disorder.

2.2.2 Gender and Depressive Symptoms of Adolescents

Epidemiological reviews indicate that the prevalence of depressive symptoms differs between male and female adolescents (Jorm 1987; Thapar et al., 2012) which is relatively true to pre-adolescent children, who report similar numbers of depressive symptoms (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003) or higher numbers of depressive symptoms reported by boys before age twelve (Nolen-Hoeksema, Girgus, & Girgus, 1994). The change occurs around the time of puberty with girls exhibiting a significantly higher mean number of symptoms than boys (Thapar et al., 2012; Wade, Cairney, & Pevalin, 2002). The greatest increase in the number of depressive symptoms occurs for girls age 13 and older (Barron & Campbell, 1993; Essau, Conradt, & Petermann, 2000; Parker & Brotchie, 2010; Wade et al., 2002). The majority of studies agree that a 2:1 ratio of depression has been found in girls and boys, respectively (Essau et al., 2000; Nolen-Hoeksema & Girgus, 1994; Parker & Brotchie, 2010; Thapar et al., 2012), beginning approximately at age 14 or 15 (Angold, Costello, Erkanli, & Worthman, 1999; Nolen-Hoeksema & Girgus, 1994).

According to Bennett, Ambrosini, Kudes, Metz, & Rabinovich (2005), clinically depressed adolescent females and males do not vary in symptom prevalence and severity for most depressive symptoms. For example, symptoms of irritation, low self-esteem, and sleep disturbances occur at equal rates in both genders (Barron & Campbell, 1993; Bennet et al., 2005; Derdikman-Eiron et al., 2012; Felczak, 2011; Rawana & Morgan, 2014). Other symptoms are more gender specific. For example, girls experience more guilt, body image dissatisfaction, self-blame, self-disappointment, feelings of failure, concentration problems, difficulty working, sadness/depressed mood, sleep problems, fatigue, and health worries (Benett et al., 2005). Barron and Campbell (1993) have previously found some of these symptoms, such as body image distortion, loss of appetite, weight loss, sadness and dissatisfaction, are particularly strong in female adolescents. Likewise, Felczak (2011) confirmed that symptoms of guilt, worthlessness, hopeless, concentration difficulties, and suicidal ideation were more frequently reported among female adolescents. Boys, on the other hand, report higher rates of anhedonia, depressed morning mood and morning fatigue (Bennet et al., 2005), work inhibition, social withdrawal, and sleep disturbances (Barron & Campbell, 1993).

The duration of depressive symptoms in adolescents also varies by gender. Girls tend to experience prolonged depressive symptoms, with more of them acquiring major depressive episodes lasting marginally longer compared with boys (Essau, Lewinsohn, Seeley, & Sasagawa, 2010). Even though the prevalence of depressive symptoms is lower in boys, boys that are diagnosed with depression have shown more severely impaired functioning (Derdikman-Eiron et al., 2012).

The phenomenology of depressive symptoms among adolescents has been an interest of many researchers in past decades; however, the comprehensive etiology of depression among girls is still not fully understood. The most common postulates are puberty and brain maturation (Angold, & Costello, 2006; Galvao et al., 2014; Parker, & Brotchie, 2010; Vogt Yuan, 2007). In fact, pubertal status of seventh grade students was significantly associated with depressive symptoms (Ge, Conger, & Elder, Jr., 2001). Moreover, timing of menarche was significantly related to depressive symptoms. Girls who experienced menarche at a younger age manifested higher depressive symptoms than other girls and boys throughout their six years of secondary school (Ge et al., 2001). Additionally, Hamilton, Hamlat, Stange, Abramson, and Alloy (2014) found that earlier pubertal maturation may increase the risk of depression for adolescents with pre-existing vulnerabilities to depression, such as negative thinking style in boys and poor emotional clarity in girls.

Puberty brings changes that are both physical and perceptual. A few studies examined the relationship between rapid morphological changes in adolescents and gender expression of depressive symptoms, specifically body satisfaction. Almeida, Severo, Araújo, Lopes, and Ramos (2012) found that adolescents of both genders who displayed body dissatisfaction experienced significantly more depressive symptoms, and the association was stronger among non-overweight youth who claimed they wanted to be thinner. Vogt Yuan (2007) explored whether body perceptions relate to depressive symptoms among adolescent boys and girls. She discovered that, while boys were undergoing the vocal change transition, they experienced more depressive symptoms due to perceptions that they were not as physically developed as their peers. The differences

dissipated, however, once the vocal change ended. In contrast, girls reported higher depressive symptoms after menarche due to the perception that they were overweight and more developed than their peers (Vogt Yuan, 2007). Thus, it appears that physiological maturation in boys and girls explains at least some of the increase in depressive symptoms and gender-specific variances. However, Angold et al. (1999) argued that morphological change might not be the precise explanation of this phenomenon. This group found that rapid increases in androgen and estrogen levels at the beginning of puberty are directly linked to the pubertal changes in hormone-brain relations, which in turn was related to an increased susceptibility to depression among girls. Therefore, in addition to perceptions of physiological changes occurring during puberty, hormonal changes also affect mood stability, and these seem to have a greater effect on girls.

Ample evidence suggests that other factors during adolescence, such as stress and cognitive development, explain gender differences in susceptibility to depression and variation in depressive symptoms (Leadbeater, Blatt, & Quinlan, 1995; Spence, Sheffield, & Donovan, 2003; Sund, Larsson, & Wichstrom, 2003). Scharaedley, Gotlib, and Hayward (1999) discovered that adolescents who had experienced several stressful life events in the past year were two to three times more likely to report depressive symptoms than adolescents with fewer stressful events. In fact, adolescents who reported high levels of life stress were four times more likely to experience depressive symptoms than their low-stress counterparts. Remarkably, this pattern is particularly evident in girls.

Scholars agree that adolescent girls report greater numbers of stressful events than boys (Calvete, Camara, Estevez & Villardon, 2011; Charbonneau, Mezulis, & Hyde, 2009; Moksnes, Moljord, Espnes & Byrne 2010). A relationship between stress and

depressive symptoms has been consistently observed in girls undergoing interpersonal difficulties specifically related to relationships with peers and family (Hankin, Mermelstein, & Roesch, 2007; Leadbeater et al., 1995). Despite the gender-specific association between stress and depressive symptoms, Hyde et al. (2008) noted that the majority of these studies report small effect sizes. Interestingly, scholars who continued exploring this relationship declared that emotional reactivity to stressful events, and not stress per se, mediated the relationship. For example, Charbonneau, et al. (2009) found that emotional reactivity to stressful life events among girls was higher when compared with boys and significantly moderated the relationship between stress and depression. Therefore, emotional vulnerability to stress is more prevalent in girls and is associated with an increase in depressive symptoms. Differences in cognitive orientation among adolescent girls and boys have also shown to contribute to variability in depressive symptoms. Calvete and Cardenoso (2004) discovered that female adolescents had lower levels of positive thinking, higher scores on negative problem orientation, greater need for approval and success, and self-focused negative cognition, which was partially mediated by gender differences in depressive symptoms. Interestingly, they observed this pattern of cognitive predisposition as early as fourth grade. Calvete and Cardenoso concluded that early cognitive predisposition might partially explain the gender-specific rise in depressive symptoms among 13-year-olds.

2.2.3 Developmental Differences in Depressive Symptoms among Adolescents

Developmental differences in depressive symptoms can be approached from two perspectives, i.e., whether (a) an individual who is depressed at one developmental stage is also depressed at another stage, or (b) depression at different developmental stages is

similar in terms of symptom pattern (Weiss & Graber, 2003). The author was interested in the second perspective, particularly in assessing whether depressive symptoms manifest differently in a cross-sectional manner during early, middle, and late adolescence. Therefore, the literature review focused primarily on patterns of depressive symptoms in these three adolescent groups.

It was mentioned above that depression in childhood and adolescence was not officially recognized until recently. Weiss and Graber (2003) stated that differences in the expression of (rather than the absence of) symptoms could account for the developmental differences between youth and adults. Moreover, they advocate embracing a developmental perspective for future research on the manifestation of depression in children and adolescents.

The majority of studies agree that rates of depressive symptoms among adolescents increase with age (Jorm, 1987; Maughan et al., 2013). However, it is not true to every sample. For example, Rawana and Morgan (2014) used the Canadian based National Longitudinal Survey of Children and Youth ($N=4,359$) and found that depressive symptoms decreased slightly during ages 12 through 14, increased from 14 through 17, and then decreased again through age 21. Similarly, Wang, Lederman, Andrade, and Gorenstein (2008) discovered that adolescents around age 13 showed apparent lower rates of depression, which was followed by an increase in late adolescence. In addition, a ten year longitudinal study indicated significant increase in depression between ages 15 and 18 (Hankin et al., 1998). However, Cohen et al. (1993) observed that depressive symptoms increased at age 14 for both genders, with a drastic increase for girls. For each consecutive year after this, the group saw a decline in

depressive symptoms in girls and an increase in boys. The two reached equality around age 19.

Clearly, reports showing differences in depressive symptoms across developmental groups are inconsistent. Sorensen, Nissen, Mors, and Thomsen (2005) compared developmental trajectories in depressive symptoms among eight- to 13-year-olds found that anhedonia, hypersomnia, and decreased ability to concentrate were more frequent in the older age group. In contrast, feelings of worthlessness were more frequent in the younger group. Similarly, Bracken and Reintjes (2009) reported that anhedonia, fatigue, sadness, loneliness, irritability, and concern about the future were more prevalent among adolescents in 13 to 16 year age group. Nevertheless, Felczak (2011) states that depressive symptoms do not vary between younger and older adolescents. This indicates that more work needs to be done in better-controlled studies to determine whether there is a variability pattern at certain ages.

2.3 Religiousness/Spirituality

Scholars who study religiousness and spirituality have difficulty agreeing on definitions for these constructs (Wong, Rew, & Slaikeu, 2006). Until recently, these terms were used interchangeably and measured with single-item instruments (e.g., membership in a religious organization, participation in prayer, reading religious literature) or non-validated measures (Cotton, Zebracki, Rosenthal, Tsevat, & Drotar, 2006). In the past two decades, scholars were able to reach consensus on the multidimensional (Fretzer Institute, 2003) and intertwined (Wong et al., 2006) nature of religiousness and spirituality. Although there are no universally accepted definitions of religion and spirituality, in this study spirituality referred to an internal and personal

experience with a transcendent, whether it is God/Higher Power or “unity with a greater world of mystery” (Gall, Malette, & Guirguis-Younger, 2011, p. 158). In contrast, religiousness refers to external, systematized, organized beliefs and practices through which spirituality and a relationship with the divine can be accessed (Gall et al., 2011).

2.3.1 Religiousness/Spirituality in Adolescents

Adolescence is a sensitive period for religious and spiritual development (Good & Willoughby, 2008). Adolescence is characterized by increased capacity for abstract thinking that enables teens to consider different ideas about spiritual concerns and may bring them to religion (Moshman, 1998). Adolescents’ susceptibility toward religious and spiritual constructs might be explained by heightened emotionality and relatively immature cognitive abilities (Good & Willoughby, 2008). The results of a recently published study using magnetic resonance imaging (MRI) suggest that depression and spirituality involve the same regions of the brain; however, they affect the brain in opposite directions (Miller, 2013). Therefore, emotional and spiritual development appear to be connected neurologically during adolescence.

Religion and spirituality are clearly important to American adolescents. According to various surveys over the past decade (Child Trends Data Bank, 2014; Gallup, 2000; Wallace, Jr., Brown, Bachman, & LaVeist, 2003), an estimated 95 percent reported they believe in God, 85 to 88 percent state that religion is important in their lives, 93 percent reported a belief that God loves them, 67 percent reported that they believe in life after death, 35 to 54 percent attended weekly religious services. In addition, over 50 percent attended services at least once a month, participated in religious youth groups, and close to half frequently pray alone.

Religiousness/spirituality has been consistently positively correlated with adolescent physical and mental health and has been associated with healthy behaviors (Cotton et al., 2006; Rew et al., 2006; Wong et al., 2012). The vast majority of adolescent studies have focused on examining the relationship between religiousness/spirituality and behavioral outcomes (Knight et al., 2007; Nonnemaker et al., 2003). Some studies investigated outcomes in mental health (Good & Willoughby, 2006; Rasic et al., 2011; Rew et al., 2006), but only a few assessed physical health (Cotton et al., 2009; Spilka, Zwartjes, & Zwartjes, 1991). The recent meta-analytic review of adolescent and emerging adult studies found that religiousness/spirituality has a significant effect on risk behavior, depression, well-being, and self-esteem (Yonker, Schnabelrauch, & Dehaan, 2012).

A plethora of studies have examined the relationship between religiousness/spirituality and alcohol/substance use in adolescents (Rew & Wong, 2006; Knight et al., 2007). Findings indicate that religiousness/spirituality is associated with reduced risk of substance use in adolescents (Nonnemaker, McNeely & Blum, 2003). For example, higher personal importance of religion has been associated with decreased drinking and marijuana use in both boys and girls (Rasic, Kisely, & Langille, 2011). Religious importance was consistently shown to be a protective factor for marijuana use, while religious attendance was protective for binge drinking among boys (Rasic et al., 2011). Interestingly, Knight et al. (2007) examined religiousness/spirituality and alcohol/substance in adolescents using a multidimensional measure and discovered that only forgiveness was significantly associated with lower risk of drinking and substance use.

Religiosity and spirituality also serve as protective factors against early sexual activity and risky sexual behavior in adolescents (Adamczyk & Felson, 2006; Meier, 2003). Mueller, Bensyl, Vesely, Oman and Aspy (2010) suggest that involvement in religious activities and church appear to promote sexual abstinence among youth. The importance of religion, frequency of prayer, church attendance, and participation in religious youth groups were associated with a lower probability of ever having sexual intercourse among students in grades seven to twelve (Nonnemaker et al., 2003). Furthermore, Laflin, Wang, and Barry (2008) identified that daily prayer increased the likelihood of boys in middle school to remain virgins by 2.3 times.

Several studies indicate gender differences in the relationship between religiousness/spirituality and mental health outcomes. For example, Rasic et al. (2011) report that the personal importance of religion corresponds with a lower risk for depression among girls. Similarly, religious attendance was a protective factor against suicidal thinking in girls. Furthermore, Petts and Jolliff (2008) found that religious participation and religious importance indirectly reduced depressive symptoms in both genders and enhanced social support. Perez, Little, and Henrich (2009) examined the longitudinal relationship between spirituality and depressive symptoms and found that spirituality may maintain lower levels of depressive symptoms among girls, but not boys, during the transition from middle to high school. Kang and Romo (2011) discovered that higher levels of church engagement was linked to stronger personal spirituality, which in turn was associated with fewer depressive symptoms for girls and higher grades for boys. In addition, higher academic achievement was observed in adolescents of both genders

with frequent religious attendance (Markstrom, 1999; Milot & Ludden, 2009; Schafer & King, 1990).

Several scholars discovered that religiousness/spirituality positively correlates with psychosocial adjustment among youth who consider themselves to be religious compared to their non-religious counterparts (Good & Willoughby, 2006; Rew et al., 2006). Studies found that religiousness/spirituality provides a sense of meaning, self-esteem, coherence, and purpose in life (Dowling et al., 2004; Holder, Coleman, & Wallace, 2010; Markstrom, 1999; Schafer & King, 1990). Furthermore, it may promote happiness by reducing stress and promoting positive coping strategies (Carpenter, Laney, & Mezulis, 2012; Holder et al., 2010) in addition to reducing risk-taking behaviors (Cotton et al., 2006; Knight et al., 2007). Additionally, youth with greater religious connectedness reported a greater sense of connectedness to others, enhanced ability to build strong relationships, and the ability to view themselves with a greater self-worth (Holder et al., 2010; Milot & Ludden, 2009). Smith and Faris (2002) found that 12th graders regular religious service attendance, high subjective importance of faith, and years spent in religious youth groups were clearly associated with higher self-esteem and positive self-attitudes, even when statistical procedures control for the influence of numerous demographic and socio-economic factors.

A few studies examined the relationship between religiousness/spirituality and physical health in adolescents. Spirituality, defined as existential well-being (e.g., meaning/purpose), has been associated with fewer depressive symptoms and better emotional functioning. This is thought to explain 11 percent of the variance in depression among adolescents with inflammatory bowel disease (Cotton et al., 2009).

Spilka et al. (1991) found that religion, defined in this case as finding meaning in difficult situations, and enabled children to cope with cancer.

Interestingly, developmental and gender differences regarding the level of religiousness/spirituality have been observed in studies with adolescents. Rew and Wong (2006) report that 80 percent of the studies examining gender differences showed that girls score significantly higher than boys on at least one measure of religiousness/spirituality. Similarly, three out of five studies report that younger adolescents score significantly higher than older adolescents on at least one religiousness/spirituality measure (Rew & Wong, 2006).

According to Wong et al. (2006), the vast majority of studies (90%) report positive findings regarding the relationship between adolescent religiousness/spirituality and mental health measures. Other reviews also indicated positive correlations between religiousness/spirituality and medical health outcomes and health behaviors (Cotton et al., 2006; Rew et al., 2006; Wong et al., 2012). Thus, adolescents who reported higher levels of religiousness/spirituality were more likely to report a greater sense of well-being.

2.3.2 Forgiveness

Forgiveness has been recognized as an important dimension of religiousness/spirituality (Fretzer Institute, 2003) and is the main variable of interest of this study. The universal construct of forgiveness is a tenet of the main world religions. As such, the explicit concept of forgiving and being forgiven can be found in Christianity, Buddhism, Islam, Judaism, and Hinduism (Knight & Hugenberger, 2007; West, 2001). Enright and the Human Development Study Group (1991) stated that forgiveness is a moral concept with a construct of positive development and well-being.

The concept of forgiveness has been expressed positively in both the media and literature on positive psychology (Van Tongeren, Burnette, O'Boyle, Worthington, & Forsyth, 2014), has been vigorously researched in various settings and populations (Cotton et al., 2010; Riek & Mania, 2012), and has been favorably acknowledged by secular counselors in clinical practice (Baskin, & Enright 2004; Briggs & Rayle, 2005).

Although the definition of forgiveness in the past few decades reflects a lack of consensus (Klatt & Enright, 2009; Van Dyke & Elias, 2007), the majority of scholars agree on the following points: (a) forgiveness is a voluntary choice made by the one who suffered an unjust injury to give up the rights to resentment and retaliation by not bringing it up again to the offender (e.g., belittling the offender), to others (e.g., berating the offender), or to oneself (e.g., obsessing about the offender) (Baskin & Enright, 2004; Knight & Hugenberg, 2007; West, 2001); (b) forgiveness is as much an intrapersonal skill as it is an interpersonal process chosen for the benefit of freeing oneself from anger.

Enright, Gassin, and Wu (1992) note that forgiveness includes recognizing actual injustice and making a deliberate choice to respond with mercy instead of retribution. As a result, Enright et al. believe that a person may experience a sense of empowerment, personal growth and insight, improvements in physical and mental health, and potential reconciliation with the offender. Forgiveness is not pardoning, condoning, excusing, forgetting, or denying. In addition, forgiveness does not equal reconciliation, but can lead to it, allowing the opportunity to earn trust back over time (Enright et al.).

Forgiveness is a difficult process of change on emotive, cognitive, and affective levels. Knight and Hugenberg (2007) state that “genuine forgiveness is astonishingly hard because it takes place only in the context of pain, whether it be the forgiveness of

others, self-forgiveness, or divine forgiveness” (p. 1). The complexity of the forgiveness process is further described by Enright et al. (1998) in an article in which they claim the importance of distinguishing forgiveness from pseudo-forgiveness. They define pseudo-forgiveness as exerting “power or moral superiority over the transgressor by making him or her feel eternally indebted to the original victim” (p. 49, as cited in Van Dyke & Elias, 2007). Therefore, in addition to freeing oneself from anger, true forgiveness also manifests itself in fostering undeserved qualities of mercy, compassion, generosity and possibly love toward the offender (Van Dyke & Elias, 2007).

The vast majority of work studying the benefits of forgiveness to date has focused on adults, without giving substantial consideration to the developmentally unique experiences of youth who forgive. Several scholars suggest that forgiveness is a developmental construct, relates with justice development (Enright, Santos & Al-Mabuk, 1989; see also Enright, Gassin & Wu, 1992), and may differ by gender (Denham, Neal, Wilson, Pickering, & Boyatsis, 2005; Enright, et al., 1989; Miller, Worthington, & McDaniel, 2008; Mullet, Rivière & Muñoz Sastre, 2006).

Enright et al. (1989) developed and examined the model of moral development of forgiveness. This model includes six stages that correspond with levels of justice development by Kohlberg (1958; as cited in Enright et al., 1989). *Revengeful Forgiveness* (Level 1) and *Restitutional Forgiveness* (Level 2) are the lower stages, where forgiveness is conceived after the wrongdoer has been subjected to revenge or appropriate punishment. *Expectational Forgiveness* (Level 3), and *Lawful Expectational Forgiveness* (Level 4) are the middle stages, where forgiveness is granted only if pressures from significant others are present. *Forgiveness as Social Harmony* (Level 5) and *Forgiveness*

as *Love* (Level 6) conceived as the highest stages, where forgiveness is presented as a way of maintaining peaceful relations and as an unconditional attitude toward promoting positive regard and good will (Enright et al., 1989). The authors suggest that children ages nine to ten and younger adolescents ages 12 and 13 tend to score in the lower stages of forgiveness. Fifteen- to 16-year-olds progress to the middle stage of forgiveness, where they are more willing to think that forgiveness occurs as a result of favorable attitudes. College students and middle adults were more inclined towards forgiveness as a *Social Harmony*, which occurred as a result of religious and philosophical attitudes. Finally, only a few adults ($n=7$) in the sample perceived forgiveness from the love stage level (Enright et al., 1989). Conversely, the study by Chiaramello, Mesnil, Munoz Sastre and Mullet (2008) showed that younger adolescents (11- to 13-year-olds) were more willing to forgive and reported lower tendencies to avenge and lasting resentment than older adolescents (15- to 16-year-olds). As Chiaramello et al. comment, controversial differences in findings may account for the variances in study methods.

Studies that examine gender differences in forgiveness report mixed results. Some do not find differences (Carver, 2005; Toussaint & Webb, 2005), while others do (Enright, Santos, & Al-Mabuk, 1989; Toussaint et al., 2008). Miller et al. (2008), in meta-analytical review on gender and forgiveness, found that females tend to be more forgiving than males; however, the effect size of this significance is modest and might be explained by other factors (e.g., variability of forgiveness measures). Similar results have been found among adolescents (Chiaramello et al., 2008; Mullet et al., 2006). For example, a gender effect was detected in the revenge factor, where female adolescents declared being less revengeful than male participants (Chiaramello et al., 2008).

Likewise, children's forgiveness was related to forgiveness of their mothers and not fathers, and mother's parenting practices were more significantly correlated with a child's propensity to forgive (Denham et al., 2005).

Literature on assessment and measurement of forgiveness recognizes a multifaceted nature of this important and yet complex dimension of religiousness/spirituality (Chiaramello et al., 2008; Johnson, Wernli & LaVoie, 2013; Miller et al., 2008; Peets, Hodges & Salmivalli, 2013). Similar to the above mentioned difficulty in defining forgiveness, the author finds it challenging to differentiate forgiveness types. Two types of forgiveness are primarily recognized and examined in the literature: (a) state or situational forgiveness (Johnson et al., 2013); and (b) trait or dispositional forgiveness (Chiaramello et al., 2008). State or situational forgiveness refers to the forgiveness of a particular offender or situation (Johnson, et al., 2013). Some scholars refer to this type of forgiveness as interpersonal forgiveness, meaning that there is an interaction in which an offender needs to be forgiven by a victim (Subkoviak & Enright, 1995). Johnson et al. (2013) suggest that when examining this type of forgiveness, it is worthwhile to examine contextual factors such as transgression, relationship and intrapersonal characteristics that contribute to the severity of the offence. Among many assessments of the state of forgiveness in empirical research studies, the Enright Forgiveness Inventory (EFI) is the most commonly used measurement. EFI is an objective self-reported measure of situational forgiveness and is often employed when one of the parties involved has been deeply and unfairly hurt.

Assessments of the state of forgiveness in children and adolescents also exist. To assess situational forgiveness, the Enright Child Forgiveness Inventory (ECFI) is applied.

ECFI is a similar instrument to the EFI, and includes a self-reported orally administered measure of forgiveness in children. It includes 30 items assessing a child's degree of forgiveness toward one person for one hurtful event (Anonymous, n. d.). The Children's Forgiveness Inventory (CFI) is another questionnaire, which consists of various scenarios that model a child as a victim of an offender and measures the dispositional type of forgiveness. After listening to a scenario, the child describes the likelihood of forgiveness (Van Dyke & Elias, 2007). This measurement allows a child to reflect on forgiveness from the outside perspective and assist with the development of insight.

Many studies focus on forgiveness as a single offence, addressing the development of forgiveness in one situation rather than a personal tendency to use forgiveness across many situations (Rye et al., 2001; Subkoviak & Enright, 1995). Trait forgiveness refers to the personal tendency/ likelihood to forgive in most life circumstances and is referred to in the literature as dispositional forgiveness (Chiaramello et al., 2008). As mentioned above, the concept of forgiveness is encouraged by teachings of major religions and is based on philosophical constructs. Frequently, trait forgiveness has been measured by a single or dual dimension, limiting its complexity to only forgiving the self (Wohl, DeShea & Wahkinney, 2008; Wohl, Pychyl & Bennett, 2010), forgiving others (Chiaramello et al., 2008) or including both dimensions (Maltby, Macaskill & Day, 2001).

Fetzer Institute (1999) proposed five dimensional measure of forgiveness including forgiveness of self, others, forgiveness by others, by God, and confession. The BMMRS became a widely used assessment for research, teaching and practice (Fretzer Institute, 2003; Stewart & Koeske, 2006). For example, at least eight adolescents studies

have utilized this measure (Cotton et al., 2010), and other studies validated this instrument in different geographic locations (Bodling, Heneghan, Walsh, Dong Pil, & Johnstone, 2013; Stewart & Koeske, 2006), settings (Johnstone, Dong Pil, Franklin, Schopp, & Hinkebein, 2009), and developmental stages (Harris et al., 2008; Masters et al., 2009).

2.3.2.1 Forgiveness in Adulthood

Research on forgiveness has shown the psychological, social, and physical benefits that come from the act of forgiving (Toussaint & Jorgensen, 2008). The evidence from empirical intervention studies in adults supports that learning to forgive significantly increases hope, self-esteem, and life satisfaction while decreasing anxiety and depression (Van Dyke & Elias, 2007). Forgiveness education improves social functioning and interpersonal relationships in adults (Toussaint et al., 2008). Forgiveness is also positively correlated with favorable outcomes for clients diagnosed with post-traumatic stress disorder (Witvliet, Phipps, Feldman, & Beckham, 2004), attention-deficit/hyperactivity and oppositional defiant disorders, substance abuse, anxiety disorders, mood disorders, dissociative disorders, and personality disorders (Van Dyke & Elias, 2007).

Forgiveness in adults increases empathy, compassion, and perspective-taking (Denton & Martin, 1998; Knutson, Enright, & Garbers, 2008; McCullough, Worthington, & Rachal, 1997; Takaku, 2001). As people forgive, anger, depression, and anxiety decreases, self-esteem and hope increase (Baskin & Enright, 2004; Coyle & Enright, 1997; Freedman & Enright, 1996; Lin Mack, Enright, Krahn, & Baskin, 2004; Rye et al., 2001), and quality of relationships may improve (Berry & Worthington, 2001).

Forgiveness may provide an effective coping strategy during times of interpersonal misunderstandings and conflict (Toussaint & Jorgensen, 2008).

2.3.2.2 Forgiveness in Adolescence

Research on forgiveness in children and adolescents remains sparse, but has gained attention from scholars in educational and clinical settings over the past decade. Forgiveness education helps build character, improves academics, and reduces behavioral delinquency in children and adolescents (Ashton, Paunonen, Helmes, & Jackson, 1998; Benda, 2002; DiBlasio & Benda, 2001; Gambaro, Enright, Baskin, & Klatt, 2008; Klatt & Enright, 2009; Lin, Enright, & Klatt, 2011). Educational programs and interventions with youth demonstrate that forgiveness can reduce hostility and self-reported aggression and increase empathy (Park, 2003; Park, Enright, Essex, Zahn-Waxler, & Klatt, 2013), reduce shame and bullying (Ahmed & Braithwaite, 2006), improve relationships in parent-adolescent interactions (Al-Mabuk, Enright, & Cardis, 1995; Paleari, Regalia, & Fincham, 2003), and improve peer interactions (Hui & Ho, 2004). For example, Flanagan, Vanden Hoek, Ranter, and Reich (2012) found forgiveness to be positively associated with conflict resolution, advice and support seeking strategies, as well as a reduction in revenge seeking among middle schoolers who experienced bullying. Furthermore, they found positive associations with concurrent self-esteem and negative associations with social anxiety after accounting for bullying behavior and victimization experiences. Similarly, Freedman and Knupp (2003) in a small quasi-experimental study examined the effect of forgiveness education with adolescents of divorced parents. The authors found that the adolescent feelings of forgiveness toward parents increased and the

intervention served as a positive influence on their psychological well-being in terms of hope. They also noted a decrease in anxiety.

Clinical research on psychosocial outcomes of forgiveness among adolescents is still limited compared with the other interests of scholars in educational settings. Nevertheless, a few studies indicate that forgiveness is related to the excessive anger associated with childhood psychological disorders, such as attention-deficit/hyperactivity disorder, conduct disorder, oppositional defiant disorder, separation anxiety disorder, and panic disorder. Anger in these settings has been shown to decrease as a result of engagement in the forgiveness intervention (Park et al., 2013). Forgiveness has also been positively associated with a traumatic growth, which is defined as a change in the perception of self, relationships with others and life view due to coping with trauma and its aftermath (Laufer, Raz-Hamama, Levine, & Solomon, 2009). Furthermore, a few extant studies report less depressive symptoms among adolescents who score higher on forgiveness measures (Dew et al., 2008; Dew, et al., 2010).

2.4. Summary

Depression is a leading cause of illness and disability among adolescents worldwide (WHO, 2014b). Depression in adolescence impacts the psychosocial and psychological development of teens (Gotlib, et al., 1995), increases re-occurrence of depression into adulthood (Angst et al., 2000) and increases teen fatality (Tuisku et al., 2014).

Epidemiological research involving depression in adolescence has focused on the phenomenology of this disorder from a multifaceted perspective. It has been found that depressive symptoms among boys and girls differ considerably, with girls exhibiting up

to two-fold greater mean number of depressive symptoms (Thapar et al., 2012, Essau et al., 2000). Usually, depressed adolescents have similar prevalence and severity of depressive symptoms (Benner et al., 2005); however, some gender differences in expression and length of depression in teens have been observed (Barron & Campbell, 1993; Essau et al., 2010; Felczak, 2011). In an attempt to explain gender differences in the presentation of depression, the most common findings note the morphological maturation associated with puberty (Ge et al., 2001), perceptual differences (Vogt Yuan, 2007), cognitive orientation [e.g. positive vs. negative] (Calvete & Cardenoso, 2004), excessive stress (Leadbeater et al., 1995), and rapid increase in androgen and estrogen levels (Angold et al., 1999).

The majority of studies agree that rates of depressive symptoms among adolescents begin around age 13 (Wang et al., 2008), increase with age, and peak around middle adolescence at ages 15 to 16 (Hankin et al., 1998; Rawana & Morgan, 2014). However, not every study reports this pattern (Cohen et al., 1993; Hankin et al., 1998; Rawana & Morgan, 2014). Among a plethora of factors examined in an attempt to identify positive and negative correlates in reducing depressive symptoms among adolescents (Allison et al., 2005; Bilski et al., 2013; Koivumaa-Honkanen et al., 2004; Muris et al., 2001), religiousness/spirituality has also received an attention. Religiousness/spirituality has been acknowledged by a vast majority of people in U.S. (Child Trends Data Bank, 2014; Gallup, 2000; Wallace, Jr., Brown, Bachman, & LaVeist, 2003) and recognized as a protective health factor (Cotton et al., 2006; Rew et al., 2006; Wong et al., 2012), including association with lower number of depressive symptoms in both adults (Thompson et al., 2005) and adolescents (Petts & Jolliff, 2008).

Forgiveness is a universal construct and domain of religiousness/spirituality has been vigorously researched and associated with depression in adults (Baskin & Enright, 2004; Van Dyke & Elias, 2007) and behavioral and psychosocial outcomes of adolescents (Ashton et al., 1998; Benda, 2002; DiBlasio & Benda, 2001; Gambaro et al., 2008; Klatt & Enright, 2009; Knight et al., 2007; Lin et al., 2011); but less is known about association between forgiveness and depressive symptoms among adolescents. Therefore, the aim of this study was retrospectively examine whether there is a relationship between forgiveness and depressive symptoms reported by 12 to 18 year old adolescents coming for a routine visit at the New England region. In addition, other relationships were examined as they relate to gender and developmental stages of young, middle, and late adolescence.

Chapter III

3.1 Method

The first chapter of this study was an introduction to the topic of forgiveness and depressive symptoms among adolescents. The second chapter reviewed the research regarding depressive symptoms and forgiveness in adolescents. In this chapter, the author concentrates on the method used in the present study, which examined the possible association between forgiveness and depressive symptoms among male and female participants during early, middle, and late adolescence. The study used a stratified analysis because associations between forgiveness and depressive symptoms in adolescents were likely to be confounded by gender and age.

3.1.1 Hypotheses

In order to answer the research questions related to the three dimensions of forgiveness (i.e., intrapersonal [forgiveness of self], interpersonal [forgiveness of others] and divine forgiveness [believing that God forgives]), the following null hypothesis were tested in males and females in young, middle and late adolescence:

Research question 1. Is there a relationship between depressive symptoms and the three dimensions of forgiveness for a sample of adolescents?

Null Hypothesis 1.A. There is no significant difference between depressive symptoms and intrapersonal forgiveness for the entire sample of adolescents.

Null Hypothesis 1.B. There is no significant difference between depressive symptoms and interpersonal forgiveness for the entire sample.

Null Hypothesis 1.C. There is no significant difference between depressive symptoms and divine forgiveness for the entire sample.

Research question 2. Is there relationship between depressive symptoms and the three dimensions of forgiveness across young, middle and late adolescence?

Null Hypothesis 2. A. There is no significant relationship between depressive symptoms and intrapersonal forgiveness among young adolescents.

Null Hypothesis 2. B. There is no significant relationship between depressive symptoms and intrapersonal forgiveness among middle adolescents.

Null Hypothesis 2. C. There is no significant relationship between depressive symptoms and intrapersonal forgiveness among late adolescents.

Null Hypothesis 2. D. There is no significant relationship between depressive symptoms and interpersonal forgiveness among young adolescents.

Null Hypothesis 2. E. There is no significant relationship between depressive symptoms and interpersonal forgiveness among middle adolescents.

Null Hypothesis 2. F. There is no significant relationship between depressive symptoms and interpersonal forgiveness among late adolescents.

Null Hypothesis 2. G. There is no significant relationship between depressive symptoms and divine forgiveness among young adolescents.

Null Hypothesis 2. H. There is no significant relationship between depressive symptoms and divine forgiveness among middle adolescents.

Null Hypothesis 2. I. There is no significant relationship between depressive symptoms and divine forgiveness among late adolescents.

Research question 3. Is there a relationship between depressive symptoms and the three dimensions of forgiveness by gender?

Null Hypothesis 3. A. There is no significant relationship between depressive symptoms and intrapersonal forgiveness among males.

Null Hypothesis 3. B. There is no significant relationship between depressive symptoms and intrapersonal forgiveness among females.

Null Hypothesis 3. C. There is no significant relationship between depressive symptoms and interpersonal forgiveness among males.

Null Hypothesis 3. D. There is no significant relationship between depressive symptoms and interpersonal forgiveness among females.

Null Hypothesis 3. E. There is no significant relationship between depressive symptoms and divine forgiveness among males.

Null Hypothesis 3. F. There is no significant relationship between depressive symptoms and divine forgiveness among females.

3.1.2 Variables

The current study used one criterion and three predictor variables. The predictor variables examined were forgiveness (intrapersonal, interpersonal, and divine), gender, and age group (young, middle, and late adolescence). The different dimensions of forgiveness were measured using questions 9, 10 and 11 of the BMMRS (Fetzer Institute, 2003; see Appendix A). Intrapersonal forgiveness was measured using the response to statement 9 (i.e., “I have forgiven myself for things that I have done wrong”). Interpersonal forgiveness was be measured using item 10 (i.e., “I have forgiven those who hurt me”). Divine forgiveness was measured using item 11 (i.e., “I know that God forgives me”). Each type of forgiveness was operationally defined categorically as either always or almost always, often, and seldom/never. The category seldom/never was

combined from original data to reduce the skewedness of the distribution. This decision was based on a preliminary data review indicating a limited number of cases in the ‘never’ category, which would be too small to permit statistical analysis as a separate category.

Information on participants’ gender was extracted from responses to question 2 on the demographic information section of the study questionnaire (see Appendix B). This was a dichotomous variable with values ‘0’ for males and ‘1’ for females. Developmental stage was defined as either young (12 to 14 years of age), middle (15 to 16 years of age), and late (17 to 18 years of age) adolescence. Age stratification for these developmental stages was based on recommendations from Spano (2004). Age was extracted from responses to question 3 on the demographic information section. Data was tabulated into and analyzed using IBM SPSS 21.0 software.

The criterion variable examined in this study was depression. Depression was measured by responses to the BDI-II (Beck et al., 1996). Responses to the 21 items on the BDI-II were scored according to instructions provided in the manual. The total score for each participant was evaluated in one of three categories, including none to mild depression (score equals 0 to 10), moderate depression (score equals 11 to 16), and severe depression (score of 17 or above). The author’s literature review found very little information on recommended BDI-II cut-off scores for a diverse group of adolescents (Barrera & Garrison-Jones, 1988). Therefore, the author elected to use the cut-off scores for depression categories recommended in the manual and those suggested in the few studies that existed (Adewuya et al., 2007; Araya et al., 2013; Canals et al., 2001; Coelho

et al., 2002; Dolle et al., 2012; Gorenstein, Andra, Zanola, Artes, 2005; Knight et al., 2007; Russell et al., 2012; Uslu et al., 2008).

3.1.3 Study Design

The nature of the research questions calls for a post hoc retrospective correlational design. According to Johnson (2001), correlational research involves collecting data for the purpose of determining whether and to what degree a relationship between two quantifiable variables exists. Correlational design was a type of non-experimental quantitative research. The purpose of non-experimental research was to describe existing characteristics of the participants without manipulating the independent variable(s) (Onwuegbuzie, 2000). As indicated earlier, the focus of this study was to determine if there is a relationship between depressive symptoms and forgiveness and, if so, the extent of that relationship. Therefore, the results of the study were used to generate inferences about the relationship between study variables without implying causation.

3.1.4 Sampling Procedures

The original study conducted by the Center for Adolescent Substance Abuse Research (CeASAR) used a non-randomized convenience sampling method to recruit participants based on their availability and voluntary participation in the original study. A total of 353 potential participants were pre-screened through their clinical records for age-eligibility and were invited to participate in the research study on the day of their visit. Participants who were unable to read and understand English ($n=14$), who had acute medical or psychiatric problems at the time of the visit ($n=18$), or whose parents could not be reached to obtain consent ($n=16$) were excluded (Knight et al., 2007). The total sample size ($n=305$) was comprised of 12 to 18 year old adolescents. The researcher

has already obtained written permission from the CeASAR team to use this data set for the proposed study (see Appendix C). Permission from the University of Toledo Institute Review Board (IRB) and Boston Children's Hospital Institute Review Board (IRB) to access the data were obtained (see Appendix D & E)..

3.1.5 Sample

The researcher was interested in studying adolescents who reside in the greater Boston area. The sample for this study was taken from a database collected for a previous study (Knight et al., 2007). The sample ($n=305$) was comprised of 12 to 18 year old adolescents who received routine care at one of three adolescent primary care medical clinics in Boston, Massachusetts. The clinics included the Adolescent/Young Adult Medical Practice at Boston Children's Hospital (BCH) ($n=193$), the Adolescent Clinic at the Martha Eliot Health Center (MEHC) ($n=50$), and the Adolescents Clinic at the Floating Hospital for Children (FHC) ($n=62$). These clinics serve suburban and inner city youth from a wide range of ethnic backgrounds, racial groups, and social strata (Knight et al., 2007).

3.1.6 Data Collection Procedures

For the current study, the researcher intended to use data that were collected by the CeASAR team between May, 2001, and April, 2002. Data for the original study were collected using a structured interview with self-administered questionnaires at the time of the interview. A research assistant invited patients to participate in the research while they were sitting in the waiting room. Interested individuals were instructed that the purpose of the study was to assess the relationship between spirituality and substance use and that their responses would be kept confidential. Parental consent, whether in person

or by telephone, and the adolescent's assent were obtained. At the end of the assessment, each participant received a \$25 merchandise certificate as compensation for their time (Knight et al., 2007).

3.1.7 Instrumentation

The current study used two self-report measures: a 66-item modified Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS; Fetzer Institute, 2003) and the Beck Depression Inventory-Second Edition (BDI-II; Beck et al. 1996). The BMMRS and BDI-II were utilized as a part of the original assessment battery by the Center for Adolescent Substance Abuse Research (CeASAR) team.

3.1.7.1 Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS)

The first instrument used in the original study and relevant for this study is the BMMRS. A national work group supported by the National Institutes of Health (NIH) and the Fetzer Institute set out to identify the main dimensions of religiousness/spirituality as they relate to physical and mental health (Fetzer Institute, 2003), and this resulted in the development of the BMMRS. The BMMRS is a self-report measure consisting of 66-items representing 14 domains. One of these domains is forgiveness, which is represented by five dimensions: confession (i.e., It is easy for me to admit that I am wrong), forgiveness by God (i.e., I believe that God has forgiven me for the things I have done wrong), forgiveness by others (i.e., I believe that when people say they forgive me for something I did they really mean it), forgiveness of others (i.e., I am able to make up pretty easily with friends who have hurt me in some way), and forgiveness of oneself (i.e., I have forgiven myself for things that I've done wrong) (Idler, 2003). The BMMRS provides two versions for measuring forgiveness domain. The long

version assesses five-dimensional forgiveness, and the short version assesses three-dimensional forgiveness. The current study will examine a short version of forgiveness domain (i.e., forgiving self, forgiving others, and forgiveness by God). The choice to collect information on three-dimensional forgiveness was made by the primary investigators of the original study. The study team decided to utilize a short version of forgiveness domain offered by the BMMRS developers, concluding that these three questions are sufficient to access this spiritual domain (personal communication, Harris, October 1st, 2014).

The BMMRS or its subscales have been used frequently in studies with adults and has established psychometric properties (Pargament, 1999; Stewart & Koeske, 2006; Underwood & Teresi, 2002). For the forgiveness domain on the short form, internal consistency and test-retest reliabilities were established with adolescents (Harris et al., 2008). For the forgiveness domain, they reported adequate internal consistency (Cronbach's alpha = .68) and one-week response stability (ICC = 0.81). Harris et al. also assessed construct validity of the BMMRS, and found that the majority of measure domains discriminated the groups that were supposed to differ (i.e., the BMMRS scores were higher in the group who reported religious affiliation as opposed to the "None/Atheist" group). Construct validity was also supported by correlation between forgiveness domains and BDI-II scores ($p=.002$), however, association between forgiveness domains and BDI-II score varied across the different dimensions indicating the need to examine construct validity further (Harris et al., 2008). The group concluded that the BMMRS is reliable and valid for use among adolescents; however, validity for the forgiveness domain needs further evaluation. Nevertheless, this is the only study to

date that assessed the psychometric properties of the instrument when used with adolescents. Thus, more studies are needed to confirm the psychometric properties of the BMMRS in comparison with established measurements of religiousness/spirituality (e.g., Enright Child Forgiveness Inventory) with adolescents.

3.1.7.2 Beck Depression Inventory [Second Edition] (BDI-II)

The second instrument used in the original study and relevant for this study is the BDI-II. This is a screening questionnaire developed as an indicator of the presence and severity of depression in psychiatric patients from age 13. This instrument includes 21 depressive symptoms on a 4-point rating scale representing the severity of the symptoms (Dolle et al., 2012). For example, the item that relates to loss of interest is represented by the following statements: (0) "I have not lost interest in other people," (1) "I am less interested in other people than I used to be," (2) "I have lost most of my interest in other people," and (3) "I have lost all of my interest in other people."

The validity and reliability of the BDI-II has been examined in numerous studies with various populations and has been shown to be adequate (Osman, Kopper, Barrios, Gutierrez, Bagge, 2004; Osman, Barrios, Gutierrez, Williams, Bailey, 2008; Smith & Erford 2001). However, few studies evaluated the psychometric characteristics of the BDI-II among non-clinical adolescents in the U.S. As far as the author can tell, only one study attempted to do so (Osman et al., 2008). Clinical psychometric studies of the BDI-II report good internal consistency reliability with college students [coefficient alpha = .93] (Smith & Erford, 2001) and with adolescents in mental health care [coefficient alpha = .84] (Dolle et al., 2012). Kumar et al. (2002) reported an alpha estimate of .94 for the

BDI-II with adolescent outpatients, and Osman et al. (2004) reported a similar alpha estimate of .93 with adolescent psychiatric inpatients.

The BDI-II total scores have been correlated with other psychological tests designed to measure depression. Concurrent validities reportedly range from .37 to .71, indicating a “substantial diagnostic efficiency and correlations with other tests purporting to measure the construct of depression” (Smith & Erford, par. 27). For example, good evidence for convergent validity has been reported and closely associated with the Reynolds Adolescent Depression Scale score $r=.84$ (Krefetz et al., 2002). Kumar et al. (2002) reported conditional probabilities (sensitivity =85% and specificity =83%) based on a cutoff score of 21 when examining samples of adolescents with or without a DSM-IV diagnosis of major depression. A cutoff score of 10 resulted in a sensitivity of 86.8% and a specificity of 56.8% among a non-clinical sample of adolescents (Osman et al., 2004).

3.1.8 Data Analysis

A 3 x 3 Chi square analysis were used to test the hypotheses for research questions one and two in this study (i.e., each dimension of forgiveness and depression; each dimension of forgiveness and developmental stage). A 2 x 3 Chi square analysis were used to test the hypotheses for research question three (i.e., gender and each type of forgiveness). Chi square has been selected due to the categorical and dichotomous (i.e., gender) nature of the predictor and criterion variables to be examined. The Chi square procedure were used to determine if observed frequencies of the dependent variable differ from what would be expected by chance. It is suited for use with categorical data where

employing a parametric test would be inappropriate (Hinkle, Wiersma, & Jurs, 2003) and is, therefore, appropriate for use with these data.

Chi square analyses were performed for the entire sample and then for males and females separately for each combination of dependent and independent variables, resulting in 18 individual analyses. The significance level was set at $p < .05$. Because of the large number of analyses performed using the same data set, the chance that significant results will be found increases, effectively inflating the alpha level (Abdi, 2007). The Bonferroni correction (p/n , where n = the number of analyses) were implemented to reduce the alpha level to .003 and decrease the chance of Type I error (i.e., the incorrect rejection of a true null hypothesis) (Abdi, 2007). If results were found to be significant, post hoc analyses of standardized residuals were planned to be performed to determine which categories of independent and dependent variables contribute to positive results. Forgiveness considered to be associated with lower threshold of depressive symptoms if the relative risk ratio (RRR) was < 1.00 and the standardized residual was ≤ -2.00 . The same considerations applied to gender and age categories in its association with forgiveness.

3.2 Summary

The method of this study addressed depression in teens, which is a significant mental health problem that manifests in prolonged consequences and reoccurrence in early adulthood. Data from an original study by The Center for Adolescent Substance Abuse Research (CeASAR) collected between 2001 and 2002 were retrospectively examined to determine if there was an association between a three dimensional model of forgiveness and depression in adolescents that routinely visited three ethnically diverse

family medicine clinics in the New England area. The researcher used Chi square analyses to test each dimension of forgiveness and depression, each dimension of forgiveness and developmental stage, and each type of forgiveness. The Chi square procedure was used to determine if observed frequencies of the dependent variable differed from what would be expected by chance. Chi square analyses were performed for the entire sample and then for males and females separately for each combination of dependent and independent variables, resulting in 18 individual analyses. The Bonferroni-corrected significance level was set at $p \leq .003$.

Chapter IV

4.1 Overview

The author's purpose for this study was to retrospectively examine whether there was a relationship between forgiveness and depressive symptoms as reported by 12 to 18 year old adolescents that routinely visited three ethnically diverse family medicine clinics in the New England area (Knight et al., 2007). The study focused primarily on three dimensions of forgiveness: intrapersonal (forgiving self), interpersonal (forgiving others), and divine (knowing that God forgives). Other relationships were also examined, as they related to gender and young, middle, and late adolescent developmental states.

The researcher used 2 x 3 Chi square analysis to examine whether gender correlated with each type of forgiveness. Results indicated that there was no relationship between these two variables. The author used 3 x 3 Chi square analyses to examine whether depression correlated with developmental stage and whether depression correlated with each dimension of forgiveness. No significant correlations were observed. Chi square was used because it was appropriate for categorical data where employing a parametric test would be inappropriate (Hinkle et al., 2003).

Study participants ($n=305$) were comprised of 12 to 18 year old adolescents who received routine care at one of three adolescent primary care medical clinics in Boston, Massachusetts. The clinics included the Adolescent/Young Adult Medical Practice at Boston Children's Hospital (BCH) ($n=193$), the Adolescent Clinic at the Martha Eliot Health Center (MEHC) ($n=50$), and the Adolescents Clinic at the Floating Hospital for Children (FHC) ($n=62$). These clinics serve suburban and inner city youth from a wide range of ethnic backgrounds, racial groups, and social strata. Demographic

characteristics for this sample population have been previously published (Knight et al., 2007).

A short summary of participant demographics will be described here, and is also included in table 4-1. Girls ($n=203$) made up 67 percent of the entire sample, while boys ($n=102$) represented 33 percent. The mean \pm SD age was 16 ± 1.8 years. The distribution of age groups was fairly equal. The sample was diverse, with Whites comprising only 15 percent. Slightly over three-quarters of the participants reported their religious affiliation as Christian (67%) or other (13%), while one-quarter of the participants identified themselves as not religious or spiritual. Roughly one-fourth of all participants reported having 11 or more depressive symptoms on the Beck Depression Inventory-II (BDI-II; Beck, 1996), while 61 percent reported having 10 or fewer depressive symptoms. For sixteen percent ($n=48$) of the sample ($N=305$), some data were missing on the BDI-II.

Table 4-1: Demographic Information

Demographic Variable	Total N (%)	Intrapersonal Always/almost always N (%)	Interpersonal Always/almost always N (%)	Divine Always/almost always N (%)
Age				
Median Age (16.0 ± 1.8 years)				
12-14	104 (34.1)	29 (34.1)	20 (23.8)	59 (68.6)
15-16	97 (31.8)	26 (31.3)	12 (14.6)	43 (53.1)
17-18	103 (33.8)	22 (25.3)	19 (21.8)	46 (53.5)
Total	304 (99.7)			
Missing	1 (.3)			
Gender				
Girls	203 (66.6)	58 (32.8)	40 (22.9)	104 (59.4)
Boys	102 (33.4)	20 (25.3)	11 (13.9)	45 (57)
Depressive	257 (84.3)			

Symptoms	missing – 48 (15.7)			
None/minimal	186 (61.0)	61 (32.8)	39 (21.1)	109 (59.2)
Moderate	34 (11.1)	10 (29.4)	6 (18.2)	20 (60.6)
Severe	37 (12.1)	7 (19.4)	6 (16.7)	20 (54.1)
*Race/ethnicity				
Asian non-Hispanic	45 (7.2)			
Black non-Hispanic	103 (33.8)			
Hispanic	123 (40.3)			
White non-Hispanic	22 (14.8)			
Other non-Hispanic	3 (3.9)			
*Religious preference				
None/Atheist	30 (13.8)			
Don't know/ Confused	23 (8.7)			
Christian	177 (67.0)			
Other	34 (12.9)			

*This portion of the table has been adapted from Knight et al., 2007

4.2 Data preparation

The researcher received the survey data in SPSS 21.0 data file format. The data for the predictor variable of forgiveness (intrapersonal, interpersonal, and divine) were re-coded from four categories into three: response categories “seldom” and “never” were combined in order to reduce distribution skew due to the limited number of cases in the “never” category. The “always/almost always” responses were coded as 1, “often” as 2, and “seldom/never” as 3. The data for the gender predictor variable were coded as ‘0’ for boys and ‘1’ for girls. The data for the age predictor variable were categorized into three

groups and coded as '1' for young adolescents (age range 12 to 14), '2' for middle adolescents (age range 15 to 16), and '3' for late adolescents (age range 17 to 18).

The values for the independent variable of depressive symptoms were aggregated into three categories and coded as '1' if respondents reported a BDI-II score from zero to ten, '2' if they obtained a score of 11 to 16, and '3' if they obtained a score of 17 or higher. Depressive symptoms were labeled as none/minimal, moderate, and severe, respectively. Responses for cases that contained missing data for any of the dependent or independent variables were coded as '9'.

4.3 Sample and analysis procedures

As proposed in Chapter Three, the entire sample of 305 participants was used for analysis in this study. Chi square analyses were performed for the entire sample first, followed by young, middle, and late adolescents, and then boys and girls for each combination of dependent and independent variables. The entire procedure resulted in 18 individual Chi square analyses. Significance levels were adjusted due to the high number of analyses. The Bonferroni adjusted significance level was set at $p \leq .003$. Post hoc analyses of standardized residuals and relative risk ratios were unnecessary because no significant results were obtained.

4.4 Results

4.4.1 Research question 1

Is there a relationship between depressive symptoms and the three dimensions of forgiveness for a sample of adolescents?

Null Hypothesis 1.A. There is no significant difference between depressive symptoms and intrapersonal forgiveness for the entire sample of adolescents.

Results for the entire sample of adolescents indicate that there is no significant relationship between depressive symptoms and intrapersonal forgiveness (Chi square = 6.345, $p=0.175$). Therefore, the null hypothesis was failed to reject. Table 4-2 presents the results for this group.

Table 4-2: Depression and Intrapersonal Forgiveness

Depression	Intrapersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	61 (32.8)	86 (46.2)	39 (21.0)	186 (72.7)
Moderate	10 (29.4)	14 (41.2)	10 (29.4)	34 (13.3)
Severe	7 (19.4)	15 (41.7)	14 (38.9)	36 (14.1)
Total	78 (30.5)	115 (44.9)	63 (24.6)	256 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 1.B There is no significant difference between depressive symptoms and interpersonal forgiveness for the entire sample.

Results for the entire sample of adolescents indicate that there is no significant relationship between depressive symptoms and interpersonal forgiveness (Chi square = 1.314, $p=0.859$). Therefore, the null hypothesis was failed to reject. Table 4-3 shows the results for this group.

Table 4-3: Depression and Interpersonal Forgiveness

Depression	Interpersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	

None/Minimal	39 (21.1)	86 (46.5)	60 (32.4)	185 (72.8)
Moderate	6 (18.2)	15 (45.5)	12 (36.4)	33 (13)
Severe	6 (16.7)	15 (41.7)	15 (41.7)	36 (14.2)
Total	51 (20.1)	116 (45.7)	87 (34.3)	254 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 1.C There is no significant difference between depressive symptoms and divine forgiveness for the entire sample.

Results for the entire sample of adolescents indicate that there is no significant relationship between depressive symptoms and divine forgiveness (Chi square = 1.355, $p=0.852$). Therefore, the null hypothesis was failed to reject. Table 4-4 presents the results for this group.

Table 4-4: Depression and Divine Forgiveness

Depression	Divine Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	109 (59.2)	51 (27.7)	24 (13)	184 (72.4)
Moderate	20 (60.6)	7 (21.2)	6 (18.2)	33 (13)
Severe	20 (54.1)	11 (29.7)	6 (16.2)	37 (14.6)
Total	149 (58.7)	69 (27.2)	36 (14.2)	256 (100)

*Reported as counts with percent in parentheses

4.4.2 Research question 2

Is there relationship between depressive symptoms and the three dimensions of forgiveness across young, middle and late adolescence?

Null Hypothesis 2.A There is no significant relationship between depressive symptoms and intrapersonal forgiveness among young adolescents.

Results for young adolescents in this sample indicate that there is no significant relationship between depressive symptoms and intrapersonal forgiveness (Chi square = 2.233; $p= 0.693$). Therefore, the null hypothesis was failed to reject. Table 4-5 presents the results for this group.

Table 4-5: Depression and Intrapersonal Forgiveness among Young Adolescents

Depression	Intrapersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	25 (36.8)	33 (48.5)	10 (14.7)	68 (80)
Moderate	1 (12.5)	5 (62.5)	2 (25)	8 (9.4)
Severe	3 (33.3)	4 (44.4)	2 (22.2)	9 (10.6)
Total	29 (34.1)	42 (49.4)	14 (16.5)	85 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 2.B There is no significant relationship between depressive symptoms and intrapersonal forgiveness among middle adolescents.

Results for middle adolescents in this sample indicate that there is no significant relationship between depressive symptoms and intrapersonal forgiveness (Chi square = 2.825; $p=0.588$). Therefore, the null hypothesis was failed to reject. Table 4-6 presents the results for this group.

Table 4-6: Depression and Intrapersonal Forgiveness among Middle Adolescents

Depression	Intrapersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	

None/Minimal	18 (32.1)	25 (44.6)	13 (23.2)	56 (67.5)
Moderate	6 (40.0)	5 (33.3)	4 (26.7)	15 (18.1)
Severe	2 (16.7)	5 (41.7)	5 (41.7)	12 (14.5)
Total	26 (31.3)	35 (42.2)	22 (26.5)	83 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 2.C There is no significant relationship between depressive symptoms and intrapersonal forgiveness among late adolescents.

Results for late adolescents in this sample indicate that there is no significant relationship between depressive symptoms and interpersonal forgiveness (Chi square = 4.621; $p=0.328$). Therefore, the null hypothesis was failed to reject. Table 4-7 presents the results for this group.

Table 4-7: Depression and Intrapersonal Forgiveness among Late Adolescents

Depression	Intrapersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	18 (29)	28 (45.2)	16 (25.8)	62 (71.3)
Moderate	3 (27.3)	4 (36.4)	4 (36.4)	11 (12.6)
Severe	1 (7.1)	6 (42.9)	7 (50)	14 (16.1)
Total	22 (25.3)	38 (43.7)	27 (31)	87 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 2.D There is no significant relationship between depressive symptoms and interpersonal forgiveness among young adolescents.

Results for young adolescents in this sample indicate that there is no significant relationship between depressive symptoms and interpersonal forgiveness (Chi square = 3.803, $p=0.433$). Therefore, the null hypothesis was failed to reject. Table 4-8 displays the results for this group.

Table 4-8: Depression and Interpersonal Forgiveness among Young Adolescents

Depression	Interpersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	18 (26.9)	27 (40.3)	22 (32.8)	67 (79.8)
Moderate	2 (25)	3 (37.5)	3 (37.5)	8 (9.5)
Severe	0 (0)	6 (66.7)	3 (33.3)	9 (10.7)
Total	20 (23.8)	36 (42.9)	28 (33.3)	84 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 2.E There is no significant relationship between depressive symptoms and interpersonal forgiveness among middle adolescents.

Results for middle adolescents in this sample indicate that there is no significant relationship between depressive symptoms and interpersonal forgiveness (Chi square = 2.903, $p=0.574$). Therefore, the null hypothesis was failed to reject. Table 4-9 presents the results for this group.

Table 4-9: Depression and Interpersonal Forgiveness among Middle Adolescents

Depression	Interpersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	7 (12.5)	26 (46.4)	23 (41.1)	56 (68.3)
Moderate	4	6	4	14

	(28.6)	(42.9)	(28.6)	(17.1)
Severe	1 (8.3)	6 (50)	5 (41.7)	12 (14.6)
Total	12 (14.6)	38 (46.3)	32 (39)	82 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 2.F There is no significant relationship between depressive symptoms and interpersonal forgiveness among late adolescents.

Results for late adolescents in this sample indicate that there is no significant relationship between depressive symptoms and interpersonal forgiveness (Chi square = 8.499, $p=.075$). Therefore, the null hypothesis was failed to reject. Table 4-10 presents the results for this group.

Table 4-10: Depression and Interpersonal Forgiveness among Late Adolescents

Depression	Interpersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	14 (22.6)	33 (53.2)	15 (24.2)	62 (71.3)
Moderate	0 (0)	6 (54.5)	5 (45.5)	11 (12.6)
Severe	5 (35.7)	3 (21.4)	6 (42.9)	14 (16.1)
Total	19 (21.8)	42 (48.3)	26 (29.9)	87 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 2.G There is no significant relationship between depressive symptoms and divine forgiveness among young adolescents.

Results for young adolescents in this sample indicate that there is no significant relationship between depressive symptoms and divine forgiveness (Chi square = .939,

p=0.919). Therefore, the null hypothesis was failed to reject. Table 4-11 presents the results for this group.

Table 4-11: Depression and Divine Forgiveness among Young Adolescents

Depression	Divine Forgiveness			Total*
	Always*	Often *	Seldom/Never*	
None/Minimal	48 (70.6)	16 (23.5)	4 (5.9)	68 (79.1)
Moderate	5 (62.5)	2 (25.0)	1 (12.5)	8 (9.3)
Severe	6 (60)	3 (30)	1 (10)	10 (11.6)
Total	59 (68.6)	21 (24.4)	6 (7)	86 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 2.H There is no significant relationship between depressive symptoms and divine forgiveness among middle adolescents.

Results for middle adolescents in this sample indicate that there is no significant relationship between depressive symptoms and divine forgiveness among middle adolescents (Chi square = 4.299, p=0.355). Therefore, the null hypothesis was failed to reject. Table 4-12 presents the results for this group.

Table 4-12: Depression and Divine Forgiveness among Middle Adolescents

Depression	Divine Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	28 (50.9)	18 (32.7)	9 (16.4)	55 (67.9)
Moderate	10 (71.4)	1 (7.1)	3 (21.4)	14 (17.3)
Severe	5 (41.7)	4 (33.3)	3 (25)	12 (14.8)

Total	43 (53.1)	23 (28.4)	15 (18.5)	81 (100)
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*Reported as counts with percent in parentheses

Null Hypothesis 2.I There is no significant relationship between depressive symptoms and divine forgiveness among late adolescents.

Results for late adolescents in this sample indicate that there is no significant relationship between depressive symptoms and divine forgiveness (Chi square = .500, p=0.973). Therefore, the null hypothesis was failed to reject. Table 4-13 presents the results for this group.

Table 4-13: Depression and Divine Forgiveness among Late Adolescents

Depression	Divine Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	33 (54.1)	17 (27.9)	11 (18)	61 (70.9)
Moderate	5 (45.5)	4 (36.4)	2 (18.2)	11 (12.8)
Severe	8 (57.1)	4 (28.6)	2 (14.3)	14 (16.3)
Total	46 (53.5)	25 (29.1)	15 (17.4)	87 (100)

*Reported as counts with percent in parentheses

4.4.3 Research question 3:

Is there a relationship between depressive symptoms and the three dimensions of forgiveness by gender?

Null Hypothesis 3. A. There is no significant relationship between depressive symptoms and intrapersonal forgiveness among males.

Results for boys in this sample indicate that there is no significant relationship between depressive symptoms and intrapersonal forgiveness (Chi square = 1.459,

p=0.834). Therefore, the null hypothesis was failed to reject. Table 4-14 presents the results for this group.

Table 4-14: Depression and Intrapersonal Forgiveness among Boys

Depression	Intrapersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	15 (25)	29 (48.3)	16 (26.7)	60 (75.9)
Moderate	1 (14.3)	4 (57.1)	2 (28.6)	7 (8.9)
Severe	4 (33.3)	4 (33.3)	4 (33.3)	12 (15.2)
Total	20 (25.3)	37 (46.8)	22 (27.8)	79 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 3.B There is no significant relationship between depressive symptoms and intrapersonal forgiveness among girls.

Results for girls in this sample indicate that there is no significant relationship between depressive symptoms and intrapersonal forgiveness (Chi square = 9.254, p=0.055). Therefore, the null hypothesis was failed to reject. Table 4-15 presents the results for this group.

Table 4-15: Depression and Intrapersonal Forgiveness among Girls

Depression	Intrapersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	46 (36.5)	57 (45.2)	23 (18.3)	126 (71.2)
Moderate	9 (33.3)	10 (37)	8 (29.6)	27 (15.3)
Severe	3 (12.5)	11 (45.8)	10 (41.7)	24 (13.6)
Total	58	78	41	177

	(32.8)	(44.1)	(23.2)	(100)
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*Reported as counts with percent in parentheses

Null Hypothesis 3.C There is no significant relationship between depressive symptoms and interpersonal forgiveness among boys.

Results for boys in this sample indicate that there is no significant relationship between depressive symptoms and interpersonal forgiveness (Chi square = 4.605, p=0.330). Therefore, the null hypothesis was failed to reject. Table 4-16 presents the results for this group.

Table 4-16: Depression and Interpersonal Forgiveness among Boys

Depression	Interpersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	7 (11.7)	28 (46.7)	25 (41.7)	60 (75.9)
Moderate	1 (14.3)	2 (28.6)	4 (57.1)	7 (8.9)
Severe	3 (25)	2 (16.7)	7 (58.3)	12 (15.2)
Total	11 (13.9)	32 (40.5)	36 (45.6)	79 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 3.D There is no significant relationship between depressive symptoms and interpersonal forgiveness among girls.

Results for girls in this sample indicate that there is no significant relationship between depressive symptoms and interpersonal forgiveness (Chi square = .701, p=0.701). Therefore, the null hypothesis was failed to reject. Table 4-17 presents the results for this group.

Table 4-17: Depression and Interpersonal Forgiveness among Girls

Depression	Interpersonal Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	32 (25.6)	58 (46.4)	35 (28)	125 (71.4)
Moderate	5 (19.2)	13 (50)	8 (30.8)	26 (14.9)
Severe	3 (12.5)	13 (54.2)	8 (33.3)	24 (13.7)
Total	40 (22.9)	84 (48)	51 (29.1)	175 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 3.E There is no significant relationship between depressive symptoms and divine forgiveness among boys.

Results for boys in this sample indicate that there is no significant relationship between depressive symptoms and divine forgiveness (Chi square = 4.709, p = 0.318).

Therefore, the null hypothesis was failed to reject. Table 4-18 presents the results for this group.

Table 4-18: Depression and Divine Forgiveness among Boys

Depression	Divine Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	32 (53.3)	20 (33.3)	8 (13.3)	60 (75.9)
Moderate	5 (71.4)	0 (0)	2 (28.6)	7 (8.9)
Severe	8 (66.7)	2 (16.7)	2 (16.7)	12 (15.2)
Total	45 (57)	22 (27.8)	12 (15.2)	79 (100)

*Reported as counts with percent in parentheses

Null Hypothesis 3.F There is no significant relationship between depressive symptoms and divine forgiveness among girls.

Results for girls in this sample indicate that there is no significant relationship between depressive symptoms and divine forgiveness (Chi square = 1.856, p=0.762). Therefore, the null hypothesis was failed to reject. Table 4-19 presents the results for this group.

Table 4-19: Depression and Divine Forgiveness among Girls

Depression	Divine Forgiveness			Total*
	Always*	Often*	Seldom/Never*	
None/Minimal	77 (62.1)	31 (25)	16 (12.9)	124 (70.9)
Moderate	15 (57.7)	7 (26.9)	4 (15.4)	26 (14.9)
Severe	12 (48)	9 (36)	4 (16)	25 (14.3)
Total	104 (59.4)	47 (26.9)	24 (13.7)	175 (100)

*Reported as counts with percent in parentheses

4.5 Summary

For the current study, data from an original study by The Center for Adolescent Substance Abuse Research (CeASAR) collected between 2001 and 2002 were retrospectively examined to determine if there was an association between a three dimensional model of forgiveness and depression in adolescents that routinely visited three ethnically diverse family medicine clinics in the New England area. The data were examined for the entire sample first, then for boys and girls, followed by developmental stage. Due to the categorical nature of the data, Chi square analyses were used to test each dimension of forgiveness and depression, each dimension of forgiveness and developmental stage, and each type of forgiveness. The Chi square procedure was used to determine if observed frequencies of the dependent variable differed from what would

be expected by chance. Chi square analyses were performed for the entire sample and then for males and females separately for each combination of dependent and independent variables, resulting in 18 individual analyses. The Bonferroni-corrected significance level was set at $p \leq .003$. Because the results were found to be non-significant, relative risk ratios and post hoc analyses of standardized residuals were not performed.

Chapter V

Discussion

5.1 Overview

Depression is the number one cause of illness and disability among adolescents globally, and suicide is the third leading cause of death in this age group (WHO, 2014b). Research suggests that five to fifteen percent of the general population in the United States (U.S.) are diagnosed with depression before adulthood (Bhatia & Bhatia, 2007; Zuckerbrot & Jensen, 2006). Noticeable increases in depression begin in middle adolescence (15 to 16 years old) and continue to progress with age (Pullen & Modrcin-McCarthy, 2000). Depression in adolescence affects the psychosocial development and educational environment of teens (Gotlib et al., 1995). Over time, this can lead to recurring depression, substance abuse, health-related issues, and suicide (Gladstone et al., 2011; Tuisku et al., 2014). Because depression is a prevalent psychiatric disorder among adolescents, it is important to reduce the incidence of depressive symptoms among teens in order to prevent the associated delinquent and risky behaviors among teens and the recurrence of depression in adulthood.

Researchers have sought to identify positive and negative correlates for the reduction of depressive symptoms among adolescents (Allison et al., 2005; Bilski et al., 2013; Koivumaa-Honkanen et al., 2004; Muris et al., 2001). Religiousness/spirituality has been consistently identified as a negative correlate in adult depression (Bonelli et al., 2012; Koenig et al., 2001) as well as adolescent substance use and other health related problems (Amoateng & Bahr, 1986; Dew et al., 2008; Kent, 1990; Knight et al., 2007; Rew & Wong, 2006; Ritt-Olson et al., 2004). However, the relationship between

religiousness/spirituality and adolescent depression remains ambiguous and requires further study (Dew et al., 2008).

Recently, the nature of the religiousness/spirituality construct was recognized as multidimensional and inter-related (Fetzer Institute, 2003; Wong et al., 2006).

Forgiveness, as one of the dimensions of religiousness/spirituality, has been vigorously researched in adult health-related outcomes (Toussaint et al., 2008), including adult depression (Thompson et al., 2005). However, only a few studies have examined the relationship between forgiveness and depressive symptoms among adolescents. Dew et al. (2008) discovered that a lack of forgiveness significantly correlated with being more depressed among a sample of treatment-seeking, predominantly White adolescents from the Southern U.S. Similarly, Dew et al. (2010) found in a longitudinal study, that even after controlling for gender, substance abuse, and social support variables, forgiveness still retained significance among psychiatric outpatient adolescents.

Epidemiological reviews have indicated gender differences in the prevalence (Thapar et al., 2012) and duration (Essau et al., 2010) of depressive symptoms, with girls exhibiting twice as many symptoms as boys (Essau et al., 2000). Developmental differences have also been reported in depression among adolescents. The majority of studies agree that the incidence of depressive symptoms among adolescents increased with age (Jorm, 1987; Maughan et al., 2013). Nevertheless, a few studies reported slight decreases in depression around ages 12 to 14 (Rawana & Morgan, 2014; Wang et al., 2008) followed by a significant increase in depression between ages 14 and 18 (Cohen et al., 1993; Hankin et al., 1998).

The growing interest in studying forgiveness and its related health outcomes in adults and adolescents has directed scholars to suggest that forgiveness is a developmental construct (Enright, Santos & Al-Mabuk, 1989; see also Enright, Gassin & Wu, 1992) and may differ by gender (Denham et al., 2005; Enright, et al., 1989; Miller et al., 2008; Mullet et al., 2006). However, not all research clearly supported developmental and gender differences (Chiaramello et al., 2008; Mullet et al., 2006; Toussaint et al., 2008; Toussaint & Webb, 2005). Therefore, this study contributes to the literature base on forgiveness by examining the relationship between forgiveness and depression among a diverse sample of adolescents, including a thorough analysis of developmental and gender differences.

5.2 Methods

This was a retrospective study that used data from previously collected and published research by CeASAR (Knight et al., 2007). The purpose of the study was to examine the relationship between forgiveness and depressive symptoms as reported by 12 to 18 year old adolescents that routinely visited one of three ethnically diverse family medicine clinics in the New England area. The study focused on three dimensions of forgiveness: intrapersonal (forgiving self), interpersonal (forgiving others), and divine (knowing that God forgives). Additionally, other relationships were examined as they relate to gender and the developmental stages of young, middle, and late adolescence.

The predictor variables examined were forgiveness (intrapersonal, interpersonal, and divine), gender, and age group (young, middle, and late adolescence). The criterion variable examined in this study was depression. A post hoc retrospective correlational design was implemented to answer the research questions (Johnson, 2001). Thus, the

results of the study can be used to generate inferences about the relationship between study variables without implying causation.

Chi square analyses were used to examine whether observed frequencies between each dimension of forgiveness and depression; each dimension of forgiveness and developmental stage; and each dimension of forgiveness and gender significantly differ from what would be expected by chance. Chi square analyses were chosen because the Chi square test is best suited for categorical data where employing a parametric test would be inappropriate (Hinkle et al., 2003). Chi square analyses were performed for the entire sample first and then for males and females separately. The significance level was set at $p \leq .05$. Because of the relatively large number of analyses, a Bonferroni correction was implemented to reduce the alpha level to $p \leq .003$ in order to decrease the chance of a Type I error.

5.3 Research Results

5.3.1 Research Question 1

Is there a relationship between depressive symptoms and the three dimensions of forgiveness in a sample of adolescents?

The results indicated that there was no significant relationship between each of the three dimensions (intrapersonal, interpersonal, and divine), forgiveness and depression among adolescents. Therefore, the null hypotheses for this question were not rejected.

5.3.2 Research Question 2

Is there relationship between depressive symptoms and the three dimensions of forgiveness across young, middle and late adolescence?

The results indicated no significant relationship between each of the three dimensions (intrapersonal, interpersonal, and divine), forgiveness and depression among adolescents across developmental stages. Therefore, the null hypotheses for this question were not rejected.

5.3.3 Research Question 3

Are there gender-specific relationships between depressive symptoms and the three dimensions of forgiveness?

Results indicated that there was no significant relationship between each of the three dimensions (intrapersonal, interpersonal, and divine), forgiveness and depression among adolescents across gender. Therefore, the null hypotheses for these questions were not rejected.

5.4 Discussion

5.4.1 Forgiveness and Depression

Although previous research suggested a significant association between forgiveness and depression among adolescents in psychiatric settings (Dew et al., 2008; Dew et al., 2010), the results of the current study suggest that forgiveness does not share this association. This study is one of the first (Harris et al., 2008) to date that examined each of three dimensions of forgiveness and depression among adolescents that are likely to represent a general population.

There could be several reasons why an association between forgiveness and depression was not found. First, the lack of association might indicate the absence of a relationship between forgiveness and depression among adolescents. Second, forgiveness questions were asked in the context of religious or spiritual beliefs (e.g.,

“Because of my religious or spiritual beliefs...” [Fetzer Institute, 2003]). These instructions might have confused participants while answering, specifically those who do not hold any religious or spiritual beliefs. Lastly, each facet of forgiveness was measured using a single item. Single item measures are at a relative disadvantage to a multi-item measures because the latter are less prone to bias which “enables the random error of the measure to be canceled out” (Bowling, 2005, p. 343). Similarly, Bergkvist and Rossiter (2007) summarize that multi-item measures tend to be more reliable and are likely to capture more information about the construct of interest. Bergkvist and Rossiter state that multi-item measures are more appropriate when the construct of interest is multifaceted. Therefore, well developed multi-item measures tend to be more stable, reliable, and precise. This might explain the differences in findings with previous researchers (Dew et al., 2008; Dew et al., 2010) who used a long form that consisted of 10 items of forgiveness (Fretzer Institute, 2003).

5.4.2 Forgiveness and Depression across Developmental Stages

Epidemiological research examining depression in adolescents provides evidence of developmental differences, specifically an increase in depressive symptoms with age (Jorm, 1987; Maughan et al., 2013). Although, some studies provide mixed results, the majority of researchers agree that a significant increase in depression has been shown in middle adolescence (ages 15 to 16) (Pullen & Modrcin-McCarthy, 2000). Similarly, the literature suggests that forgiveness is also a developmental construct (Enright, Santos, & Al-Mabuk, 1989; see also Enright, Gassin, & Wu, 1992). The current study is the first to assess forgiveness and depression across different adolescent developmental stages. The results of this study did not support the presence of an association between forgiveness

and depression in young, middle, or late adolescence. This might indicate the absence of an association between these variables across the developmental stages; however, more research needs to be done on this matter.

5.4.3 Forgiveness and Depression across Gender

In previous research, gender was shown to be a significant factor in the rates of depression among adolescents, with a twofold prevalence of depression and depressive symptoms in girls (Essau et al., 2000; Nolen-Hoeksema & Girgus, 1994; Parker & Brotchie, 2010; Thapar et al., 2012). However, research on gender differences and forgiveness is sparse and indicates mixed results (Carver, 2005; Toussaint & Webb, 2005; Enright et al., 1989; Toussaint et al., 2008). The results of the current study indicate the lack of a significant relationship between forgiveness and depression across gender. The lack of a relationship between these variables might indicate the absence of this association. Nevertheless, Dew et al. (2010), using regression models and controlling for gender, reported a significant relationship between forgiveness and depression among adolescents in psychiatric settings. Therefore, further investigation using more sophisticated research models may be needed to fully understand the association between forgiveness and depression among adolescents across gender.

5.5. Recommendations for Future Research

This study was the preliminary step in examining the relationship between a three-dimensional forgiveness model and depression across developmental stages and gender among adolescents who are more likely to be representative of the general population. However, it has been suggested that future research incorporate a diverse population with a more proportional distribution to ensure that each racial/ethnic group is

equally represented. Moreover, future research should also focus on assessing the dimensions of forgiveness using a multi item measure instead of a single item measure. According to Churchill (1979) a well-developed multi item measure ensures higher levels of internal consistency and better captures different facets of the construct under study. Thus, it might be more appropriate to use a multi-item measure to study a multifaceted construct such as forgiveness. For instance, future researchers could consider using the Heartland Forgiveness Scale (HFS; Thompson et al., 2005) or an adapted version of HFS for children and adolescents Child/Adolescent Dispositional Forgiveness Inventory (CADFI; Leever, 2006). Both tools focus on measuring forgiveness of self, others, and situations, and were developed to assess the dispositional tendency to forgive. Each of these tools consist of 18 items that are endorsed on a 7-point Likert scale ranging from almost always false to almost always true (Leever, 2006; Thompson et al., 2005).

Some consideration should be also given to measuring an outcome variable when studying healthy adolescents. The current study used the Beck Depression Inventory-II (BDI-II; Beck, 1996). This inventory was originally developed as an indicator of the presence and severity of depression in psychiatric patients from age 13 (Beck, 1996). After examining three measures of depressive symptomology among adolescents, Olino et al. (2012) concluded that “the BDI may be more useful for measuring depressive severity in clinical populations and measuring depressive severity as an index of treatment response” (p. 83). The author suggests that future research studying healthy adolescents use the Center for Epidemiologic Studies–Depression (CES-D) scale (Radloff, 1977). The CES-D is a short self-reported, twenty-item measure of depressive symptoms in the general population. The items on this scale include assessments of

depressive symptoms during the past week with ratings between “0” (rarely or none of the time) and “3” (most of the time). The score ranges between 0 and 60 with a higher scores indicating depression (Radloff, 1977). The CES-D scale has been frequently used nationally and internationally in epidemiological research on various populations, including children and adolescents (Myers & Winters 2002; Tatar, Kayiran, Saltukoglu, Emel Sebnem Zeybek, & Emeksiz, 2013). Moreover, Olino et al. (2012) concluded that the “CES-D scale may be more useful for measuring depressive severity in larger, epidemiological samples where the expected average level of depressive is lower” (p. 83).

More sophisticated statistical models might provide more specific information regarding the relationship between multi-faceted forgiveness and depression in adolescents. For example, using logistic regression models developed to examine interactions and cumulative effects could provide information on how forgiveness relates to depression in adolescents.

Alternatively, retrospectively the same dataset could be examined using odds ratios and confidence interval statistical analysis. Odds ratios are used to measure an association between an exposure and outcome and can be utilized for cross-sectional studies (Szumilas, 2010). The 95 percent confidence interval (CI) is used to evaluate the accuracy of the OR by providing a range about the observed effect size. The role of the 95 percent CI is not to report a measure of statistical significance, however, in practice it is used as a proxy when it does not overlap with the null value (Szumilas, 2010). Furthermore, the author suggest to analyze data excluding the group of participants who indicated “atheist/none” category on the sociodemographic checklist. The category

“atheist/none” represents almost 14 percent of the participants population who may not responded the questions about forgiveness or those questions were not answered as directed. For instance, a participant who indicated being an atheist may have skipped forgiveness questions implying a person forgives on the basis of religious/spiritual beliefs.

5.6. Limitations

This study has several limitations. One of these is the use of existing data. As a result, the researcher was not able to use a probabilistic sampling method to increase the generalizability of the results to all urban primary care clinics or the larger population of adolescents. In the future, this limitation can be addressed by incorporating a probabilistic sampling method.

Another limitation is related to measurement. As the literature reports, the construct of forgiveness has questionable reliability and validity (Idler, 2003). Although the BMMRS subscales of forgiveness of self and forgiveness of others have demonstrated reliability and validity, the subscale being forgiven by God did not have demonstrated reliability and validity (Mauger et al., 1992, as cited in Idler, 2003). Similarly, Harris et al. (2008) reported adequate reliability for a short version of the forgiveness domains; however, they conclude that construct validity for forgiveness domains needs to be examined further. This creates a potential limitation that needs to be considered when interpreting the results of the current study.

Although the BDI-II (Beck et al., 1996) has been standardized for ages 13 and older, the author decided to keep 12 year olds as a part of the study to ensure group equivalence and consistency with recommended age stratification for developmental

stages, as well as to have comparable results to the original study. Lastly, teens undergo rapid development of cognitive, emotional, psychological and social processes, and the relationship between forgiveness and depression may be fragile. This limitation could be overcome by incorporating an experimental or a longitudinal study design in the future. Johnson (2001) describes three dimensions of non-experimental longitudinal study designs, which are comprised of trend, cohort, and panel surveys. Based on the limited number of correlational studies conducted in examining the relationship between forgiveness and depression in adolescents, the researcher recommends using a longitudinal trend study design for future research.

5.7. Conclusions

Depression is a leading cause of illness and disability among adolescents worldwide (WHO, 2014b). Depression in adolescence impacts the psychosocial and psychological development of teens (Gotlib, et al., 1995), increases the likelihood of depression in adulthood (Angst et al., 2000), and increases teen mortality (Tuisku et al., 2014). Among a plethora of factors examined in an attempt to identify positive and negative correlates for reducing depressive symptoms among adolescents (Allison et al., 2005; Bilski et al., 2013; Koivumaa-Honkanen et al., 2004; Muris et al., 2001), religiousness/spirituality has received attention.

Recently, researchers have begun to recognize the multidimensional (Fetzer Institute, 2003) and intertwined (Wong et al., 2006) nature of the religiousness/spirituality construct. This is in contrast to published health-related outcomes research, which tends to be limited to behavior items, such as attendance at religious services or religious affiliation (e.g., Cotton, McGrady & Rosenthal, 2010).

Grounded on previous research and theory, a Fetzer Institute (2003) working group developed an instrument designed to assess the behavioral, cognitive, and affective aspects of religiousness/spirituality. This has enabled studies to better and more accurately define the constructs that they seek to measure across religious and secular populations as they are related to outcomes. Forgiveness is a universal construct and domain of religiousness/spirituality. Religiousness/spirituality has been vigorously researched and found to be associated with depression in adults (Baskin & Enright, 2004; Van Dyke & Elias, 2007) as well as in behavioral and psychosocial outcomes of adolescents (Ashton et al., 1998; Benda, 2002; DiBlasio & Benda, 2001; Gambaro et al., 2008; Klatt & Enright, 2009; Knight et al., 2007; Lin et al., 2011). However, less is known about the association between forgiveness and depressive symptoms among adolescents.

This study retrospectively examined the relationship between forgiveness and depressive symptoms reported by 12 to 18 year old adolescents who routinely visited three ethnically diverse family medicine clinics in the New England area. The study focused on three dimensions of forgiveness: intrapersonal (forgiving self), interpersonal (forgiving others), and divine (knowing that God forgives). Additionally, other relationships were examined as they related to gender and developmental stages of young, middle, and late adolescence.

The study used previously collected data that was used for publication by the Center for Adolescent Substance Abuse Research [CeASAR] (Knight et al., 2007). The predictor variables examined were forgiveness (intrapersonal, interpersonal, and divine), gender, and age group (young, middle, and late adolescence). The criterion variable

examined in this study was depression. Chi square analyses were used to examine whether observed frequencies between each dimension of forgiveness and depression, each dimension of forgiveness and developmental stage, and each dimension of forgiveness and gender would significantly differ from what would be expected by chance.

Results of the current study were not found to be statistically significant, which is incongruent with previous studies examining depression and forgiveness among adolescents in psychiatric outpatient (Dew et al., 2008) and inpatient (Dew et al., 2010) settings. The lack of significant findings and inconsistency with previous research might indicate the absence of an association between the three dimensions of forgiveness and depression across gender and developmental stages among healthy adolescents. However, more research needs to be done on this matter, as this the first study to focus on examining these variables among healthy adolescents.

Sampling refinement in terms of proportional distribution of each racial/ethnic group, using multi-item measures for forgiveness constructs, epidemiological measures for depression, and more sophisticated research designs may lead to different results than those found in this study. Alternately, the author suggests retrospectively examining the same dataset collected by the CeASAR using odds ratio and confidence interval statistical analyses.

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Appendix A: The BMRRS (Forgiveness: short form)

Forgiveness

Because of my religious or spiritual beliefs:

1. I have forgiven myself for things that I have done wrong.

- Always or almost always
- Often
- Seldom
- Never

2. I have forgiven those who hurt me.

- Always or almost always
- Often
- Seldom
- Never

3. I know that God forgives me.

- Always or almost always
- Often
- Seldom
- Never

Appendix B: Demographic Information Section

First, I would like to ask you some general background questions.

1. **Today's Date:** ____ / ____ / ____

2. **Gender:**
 Male Female

3. **Date of Birth:** ____ / ____ / ____

4. **Weight:** ____ (lbs.)

5. **Height:** ____ (inches)

6. **Currently living with (check all that apply):**

- | | |
|---|--|
| <input type="checkbox"/> Natural mother | <input type="checkbox"/> Grandparent(s) |
| <input type="checkbox"/> Natural father | <input type="checkbox"/> Other relative(s) |
| <input type="checkbox"/> Stepdad | <input type="checkbox"/> Friend(s) |
| <input type="checkbox"/> Stepmom | <input type="checkbox"/> Spouse or partner |
| <input type="checkbox"/> Adoptive parent(s) | <input type="checkbox"/> Alone |
| <input type="checkbox"/> Foster parent(s) | <input type="checkbox"/> Other: ____ |
| <input type="checkbox"/> Sibling | |

7. **Insurance:** (check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Blue Cross Blue Shield | <input type="checkbox"/> No insurance listed |
| <input type="checkbox"/> Free care | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Harvard Pilgrim Health Care | <input type="checkbox"/> Self-pay |
| <input type="checkbox"/> Mass Health | <input type="checkbox"/> Tufts |
| <input type="checkbox"/> Neighborhood Health Plan | |

8. **Parent(s) Education:** [please check for both mother (or female guardian) and father (or male guardian)]:

- | Mother | Father | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Graduate professional training (Graduate degree) |
| <input type="checkbox"/> | <input type="checkbox"/> | Standard college or university graduation |
| <input type="checkbox"/> | <input type="checkbox"/> | Partial college training (at least one year) |
| <input type="checkbox"/> | <input type="checkbox"/> | High school graduation |
| <input type="checkbox"/> | <input type="checkbox"/> | Partial high school (completed 10 th or 11 th grade) |
| <input type="checkbox"/> | <input type="checkbox"/> | Junior high school (completed 7 th grade) |
| <input type="checkbox"/> | <input type="checkbox"/> | Less than seven years of school |

Appendix C: Permission Letter



HARVARD MEDICAL SCHOOL
Department of Pediatrics
Associate Professor of Pediatrics



CHILDREN'S HOSPITAL BOSTON
Senior Associate in Medicine
Associate in Psychiatry
Developmental Medicine Chair

John R. Knight, MD

Director, Center for Adolescent Substance Abuse Research
Children's Hospital Boston
300 Longwood Avenue
Boston, MA 02115
Tel: (617) 355-5433
Fax: (617) 730-0049

September 1, 2014

To: Nick Piazza, PhD
Kateryna Kuzubova, MA

This letter of agreement is between Ms. Kateryna Kuzubova, doctoral student at The University of Toledo; Dr. Nick Piazza, professor at The University of Toledo and dissertation advisor to Ms. Kuzubova, and Dr. John R. Knight, Director of the Center for Adolescent Substance Abuse Research (CeASAR) at Boston Children's Hospital.

Dr. Knight grants permission for Ms. Kuzubova and Dr. Piazza to access the May 2001 – April 2002 study database “Studying Spirituality and Alcohol” as part of Ms. Kuzubova’s doctoral dissertation research.

No party to this agreement has any financial relationship or interest to disclose.

Sincerely,

John R. Knight, MD

“Hope for teens and families”

Appendix D: Boston Children's Hospital Institutional Review Board Approval Letter



Boston Children's Hospital

Office of Clinical Investigation
300 Longwood Avenue
Boston, MA 02115
phone 617-355-7052 fax 617-730-0226

Principal Investigator Kateryna Kuzubova
Protocol Number IRB-P00016646
Protocol Title Forgiveness and Depression among Adolescents
Date: January 15, 2015

NOTICE OF EXEMPTION
IRB Exemption Date: 1/15/2015

The Committee on Clinical Investigation has reviewed the above referenced protocol and determined that it qualifies as exempt from the requirements of 45 CFR 46.

This protocol was determined to be exempt because it is limited to research activities in which the only involvement of human subjects will be in the following category/ies described in 45 CFR 46.101.(b):

- (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew J. Stafford".

Matthew Stafford, Assistant Director
For the Committee on Clinical Investigation

Tell us how we are doing! <https://www.surveymonkey.com/s/irbsatisfactionsurvey>

Appendix E: The University of Toledo Institutional Review Board Approval Letter



The University of Toledo
Department for Human Research Protections
Social, Behavioral & Educational Institutional Review Board
Office of Research, Rm. 2300, University Hall
2801 West Bancroft Street, Mail Stop 944
Toledo, Ohio 43606-3390
Phone: 419-530-2844 Fax: 419-530-2841
(FWA00010686)

To: Nick Piazza, Ph.D. and Kateryna Kuzubova
Department of School Psychology, Legal Specialties and Counselor Education

From: Walter Edinger, Ph.D., Chair
Kamala London Newton, Ph.D., Vice Chair
Mirella Pardee, Chair Designee
Patricia Case, Ph.D., Chair Designee

Signed: Kamala Newton

Date: 2-9-2015

Subject: IRB #200553
Title: *Forgiveness and Depression among Adolescents*

On 02/6/15, the above research was reviewed and approved as Exempt (Category, #4) by the Chair and Chair Designee of the University of Toledo (UT) **Social Behavioral & Educational** Institutional Review Board (IRB). The requirement to obtain a signed consent form has been waived as this research is determined to be minimal risk and a signed consent document would be the only record linking the subject to the data. It was determined that this waiver for signed consent will not adversely affect the rights and welfare of the participants. This action will be reported to the committee at its next scheduled meeting.

Please Note: A consent form is not required for this study. However an information sheet regarding the study should be distributed to potential participants. This Information Sheet should include the name and telephone number of a contact person in case the subjects need additional information. It is also strongly encouraged that the study be explained verbally to potential subjects.

Items Reviewed: IRB Application Requesting Exempt Review

Designated as EXEMPT RESEARCH on: 02/06/15

Please read the following attachment detailing Principal Investigator responsibilities.