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The Role of Family Functioning, Family Messages and Child Cognitions in the Development and Maintenance of Depression

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The Role of Family Functioning, Family Messages and Child Cognitions in the Development and Maintenance of Depression

by

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Dissertation

Presented to the Faculty of the Graduate School of the

University of Texas at Austin in

Partial Fulfillment of the

Requirements for the

Degree of

Doctor of Philosophy

The University of Texas at Austin

August 2013

ACKNOWLEDGEMENTS

I would like to thank my family for instilling in me strength and courage to follow my dreams. In particular, I would like to thank my father, who taught me to shoot for the stars, and my mother, who knows the exact words to turn a dark day bright. Words cannot express my gratitude and appreciation for all the blessings with which they have provided me.

I want to acknowledge all the mentors I have had during my graduate experience at the University of Texas. I am thankful for the many incredible experiences that have provided me the opportunity for both academic and personal growth. In particular, I would like to thank Dr. Stark for the guidance and support he has provided me throughout the years. His investment in my clinical and research training has provided me with a plethora of amazing opportunities for which I am extremely grateful. I would like to thank Dr. Keith for always responding to my many statistical questions with patience and encouragement as well as providing guidance throughout my academic career. I thank Deborah Tharinger for her guidance and supervision that has greatly contributed to my clinical and personal growth. I would like to thank Greg Roberts for always being so open to providing me with help, guidance and support in my research endeavors as well as always cracking a good joke to lighten the mood. I thank Puja Patel for being a warm and supportive supervisor that has greatly contributed to my professional and clinical growth.

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by

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Pre-adolescent females are at an increased risk for the development of depression; therefore, it is important to understand the factors that contribute to the development and maintenance of depression in this population. Previous research indicates that cognitive style, including beliefs about the self, world, and future, is a vulnerability to the development and maintenance to depression. Research has found that cognitive style is malleable until early adolescence, at which time it begins to solidify and become more difficult to alter. Both parent-child relationships and family messages have been found to be associated with depression and previous research indicates that these factors may contribute to the development of a negative cognitive style.

The purpose of the current study was to expand previous research by examining the roles of family functioning, perceived family messages and the cognitive triad in the development of depression for early adolescent girls. The study also explored whether family functioning and

perceived family messages contributed to the development of girls' cognitive style (cognitive triad). The study additionally evaluated the proposed model across two ethnic groups (Hispanic, Caucasian) as well as across age (9-10, 11-14) and grade (4-5, 6-8) groups. Participants included early adolescent girls (age 9-14) at risk for the development of, or diagnosed with, a depressive disorder (N = 198). Family functioning, family messages, cognitions, and depressive symptoms were obtained via girls' self-report on a variety of questionnaires.

Results from latent variable structural equation modeling indicated a significant direct effect of family functioning on perceived family messages, of perceived family messages on girls' cognitive triad, and of girls' cognitive triad on depressive symptoms. Furthermore, family functioning had a significant indirect effect on girls' cognitive triad while both family functioning and perceived family messages had a significant indirect effect on girls' depressive symptoms. No significant differences were found in the model pathways across ethnicities (Hispanic, Caucasian); however, the cohesion factor loading that was an aspect of family functioning was significantly different across groups, with Hispanic girls' perceptions of family cohesion having a stronger association with family functioning than Caucasian girls. This finding seemingly indicates that cultural components may impact family attributes that are important to family functioning and, thus, role in the development and maintenance of depression in early adolescent girls. No significant differences were found between age or grade groups. Supplemental analyses, in which the model was investigated while controlling for depression, highlighted that the model was not driven by depressive symptoms (i.e. distorted perceptions). Implications, limitations, and areas for further research are discussed.

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CHAPTER 1

Introduction

Depression is a chronic and recurrent disorder (Keller, 2003) that interferes with the daily functioning of approximately 3% of school-aged children and 14% of adolescents (Lewinsohn, Rohde, Seeley & Fischer, 1993). Depressed youth often experience significant impairment in school, and in peer and family functioning (Garber & Horowitz, 2002); they are also at an increased risk of future school dropout, substance abuse, and suicide (Birmaher, Ryan, Williamson, Brent, & Kaufman 1996; Waslick, Kandel, & Kakouros, 2002). Additionally, the development of a depressive disorder in youth increases an individual's risk for lifelong and recurrent depression throughout adulthood (Jacobs, Reinecke, Gollan, & Kane, 2008).

A sharp increase in depressive symptoms occurs in early adolescence (Nolen-Hoeksema, 1995) with approximately 18% of early adolescent American youth reporting depressive symptoms (Saluja, Iachan, Scheidt, Overpeck, Sun, & Giedd, 2004). This significant increase in depressive symptoms is particularly salient among girls. (e.g., Angold, Erkanli, Silberg, Eaves, & Costello 2002; Holsen Kraft, & Vittersø 2000**;** Twenge and Nolen-Hoeksema 2002). Girls are twice as likely as boys to develop and maintain depression throughout their life (Angold, Erkanli, Silberg, Eaves, & Costello, 2002; Compas, Ey, & Grant, 1993; Hankin Abramson, Moffitt, Silva, McGee, Angell 1998; Kessler, McGonagle, Swartz, M., Blazer, & Nelson, 1993; Lucht et al., 2003; Petersen, Seligman, & Kennedy, 1991; Twenge & Nolen- Hoeksema, 2002; Weissman, Warner, Wickramaratne, Moreau, & Olfson, 1997; Weissman & Klerman, 1977). Therefore, examining this vulnerable population is of particular importance.

Several theories have been suggested in order to further understand the development and maintenance of depression. Beck's (1967, 1983) diathesis-stress model of depression places emphasis on cognitive structures as critical elements in the development and maintenance of depression (Beck, 1967, 1983; Kovacs & Beck, 1978). Beck (1967, 1983) hypothesized that a depressogenic schema, particularly a negative cognitive triad (views of the self, world, and future), serves as a vulnerability factor to depression. Research has supported Beck's (1967, 1983) theory with findings that the negative cognitive triad appears to produce a distortion in information processing (Kendall, Stark, & Adam, 1990) and even mediates the effects of environmental factors, such as family messages, on depression (Stark, Schmidt, & Joiner, 1996). Such findings suggest that an individual's cognitive triad is of central importance in the development of depression (Stark, et al. 1996).

Studies have additionally shown that cognitive style is a developing construct and that it becomes more stable with age (Cole et al, 2008; Garber & Flynn, 2001; Nolen-Hoeksema, Girgus, & Seligman, 1992). In particular, cognitive style likely becomes more trait-like by mid-adolescence (Burns & Seligman, 1989; Gotlib, Lewinsohn Seeley, Rohde, & Redner, 1993) with females being more likely to have increasingly negative cognitive styles across early to mid-adolescence (Mezulis et al., 2011). This finding may indicate that by mid-adolescence, girls are more likely to have developed a trait-like negative cognitive style, which would increase their likelihood for the maintenance and reoccurrence of depression. The stabilization of cognitive style around adolescence and high risk for a negative cognitive style in females highlights the need for investigations into the development and role of the cognitive triad in early adolescent females. Further examination is needed in order to further understand and potentially prevent the development of a negative solidified cognitive style.

Beck's (1967, 1983) diathesis-stress theory of depression also highlights the importance of environmental stressors that aid in the development and interact with a negative cognitive triad. Environmental stressors are particularly important to investigate in youth as Beck (1963, 1987) suggested that depressogenic schema, which potentially leads to a trait-like cognitive style by mid-adolescence (Mezulis, Funasaki & Hyde, 2011), primarily develops in childhood. Most life events and chronic stressors associated with childhood depression are embedded in a family context. Therefore, it appears to be important to investigate the effects of family variables on the development and maintenance of depression as well as their relation to the development and maintenance of a negative cognitive style.

There is a substantial amount of documentation in the literature that links dysfunctional family environment and depression (Allen et al, 1994; Aydin & Oztutuncu, 2001; Delaney 1996). These negative family interactions are considered to be fairly stable over time and contribute to youth's vulnerability to depression (Sheeber et al, 2001). Dysfunctional family environments decrease the likelihood of recovering from depression and increase risk of re-occurrence (Hooley, Orley, & Teasdale, 1986; Keitner et al., 1995). In particular, high levels of conflict, low cohesion, difficulties with communication and reduced family sociability have been found to be common characteristics of families of depressed youth (Messer & Gross, 1995; Puig-Antich, Lukens, Davies, Goetz, Brennan-Quattrock, & Todak, 1985; Puig-Antich et al., 1993; Stark, Humphrey, Crook, & Lewis, 1990; Stark, Humphrey, Laurent, Livingston, & Christopher, 1993). These family functioning attributes may be particularly important to the development of depression in girls as they gain their independence more slowly than boys (Huston & Alzarez, 1990), making the family a more significant developmental context for girls (Sheeber, Hops, Alpert, Davis, & Andrews, 1997).

Parent-child interactions have also been identified as environmental factors associated with the development and maintenance of depression (Alloy, Abramson, Smith, Gibb, & Neeren, 2006). Negative parent-child interactions not only increase stress in youth, but also may send negative messages to the child regarding their self, world, and future. These interactions may include direct verbal feedback, such as the reason for a child's failure or negative event, as well as indirect feedback, such as a parent modeling how to deal with negative events (Abramson, Alloy, Hogan, Whitehouse, Donovan, Rose, Panzarella, & Raniere, 1999; Alloy et al, 2001). Such parental messages have been found to be strongly linked to youth's cognitive styles (Joiner & Wagner, 1996) and, over time, may potentially assist in the development of a trait-like negative cognitive style (Mezulis Funasaki & Hyde, 2011). Both maternal and paternal messages have been found to be associated with youth cognitive schema in regards to the self, world, and future (Funk, 2010). Interestingly, parental messages have been found to contribute to the development of depression indirectly through the cognitive triad, which is associated with depressive symptoms (Funk, 2010; Stark et al, 1996). Therefore, examining both parent messages and family functioning may provide further insight into the development of both a negative cognitive triad and depression.

In addition to a need to further understand the development of depression in youth, a large gap exists in understanding how current models of depression apply to various ethnic groups. Although youth depression models have been primarily developed with Caucasian samples, the models have been applied to ethnically diverse communities often without examining their validity (Stewart, 2008). However, literature indicates that attributes of current depression models may vary across ethnicity. For example, environmental factors that contribute to depression, including family functioning and parent-child interactions, may vary across culture.

Additionally, research indicates that cognitive factors, including the association between cognitive style and depression, may vary among ethnic groups (Cardemil, Reivich, & Seligman, 2002; Kistner et al., 2003; Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998; Waschbusch, Sellers, LeBlanc, & Kelley, 2003). Therefore, examining cognitive models across ethnicities is warranted and needed.

Overall, a good foundation for understanding the development and maintenance of depression exists. Research supports Beck's (1967, 1983) theory regarding the importance of an individual's cognitive style as a major contributor to the development and maintenance of depression. Further research has also indicated several environmental factors, including family functioning and parent messages, as influences on depressive symptoms. However, no models have looked at the role of family functioning in combination with parent messages and cognitive style in order to determine the most pertinent factors in the development and maintenance of depression. Additionally, no models have examined family functioning factors that may contribute to the development of a negative cognitive style. Furthermore, cognitive models, although including minority ethnic and racial participants in the sample, have rarely been cross-culturally examined. Validation of such a model across ethnic and racial groups is needed as cultural values and beliefs may impact developmental paths of depression. Understanding a more complex model of depression that includes family functioning variables, parent messages and cognitive style's effects on depression could help to inform and guide treatments. If differences exist between ethnicities across such a model, it would provide insight in order to create a more culturally sensitive and, potentially, effective treatment plan for these ethnic groups.

The purpose of the present study is to test a model of depression that combines distinct familial risk factors and vulnerabilities, such as family functioning variables and girls'

perceptions of parent messages, with both girls' cognitive triad and depressive symptoms. Furthermore, the study examines whether differences in the models exist across ethnic groups. To meet the objectives of the current study, the sample was drawn from a larger depression intervention study and includes 9- to 14- year-old girls either at risk for the development of, or diagnosed with, a depressive disorder. Ratings of family functioning (cohesion, conflict, communication, and family sociability), perceived parent messages from each parent, ratings of each girl's cognitive triad (thoughts of self, world, and future), and severity of depressive symptoms were obtained from the girls and their parents. The proposed study examines a model of depression that combines these important theoretical constructs (i.e. family functioning, perceived parent messages from each parent, ratings of each girl's cognitive triad, and girls' depressive symptoms) and examine how race and ethnicity interacts with the model.

CHAPTER 2

Review of the Literature

Depression in Youth

Depression is a chronic and recurrent disorder (Keller, 2003) that can onset in childhood, adolescence or adulthood (Jacobs, Reinecke, Gollan, & Kane, 2008). Depressed youth often experience significant impairment in academic, social, and family functioning (Weisz, McCarty, & Valeri, 2006; Garber & Horowitz, 2002) and are at an increased risk of academic failure, school attendance problems, future school dropout, unplanned pregnancy, substance abuse, and suicide (Birmaher, Williamson, Brent, & Kaufman 1996; Hammen, Rudolph, Weisz, Rao, & Burge, 1999; Waslick, Kandel, & Kakouros, 2002). Additionally, depressed youth are at an increased risk for the development of other psychological problems (Kovacs, Akiskal, Gatsonis, & Parrone, 1994) and the development or continuance of depressive disorders throughout their life span (Hammen & Rudolph, 2003).

Three types of unipolar depression currently exist, including Major Depressive Disorder (MDD), Dsythymic Disorder (DD), and Depressive Disorder Not Otherwise Specified (NOS) (DSM-IV TR; American Psychiatric Association, 2000). MDD is characterized by a single episode or recurrent episodes of depressed mood. Youth with MDD may demonstrate mood liability, low frustration tolerance, irritability, temper tantrums, somatic complaints, and/or social withdrawal as well as potentially verbalizing feelings of depression or sadness (DSM-IV-TR, 2000). DD is characterized as a disturbance of mood that presents as a low grade form of depression with potential symptoms including change in appetite, sleep difficulties, low energy or fatigue, low self-esteem, difficulty concentrating, and feelings of hopelessness that last for at

least one year (DSM-IV-TR, 2000). Depression NOS is used to describe the presence of depressive symptoms that do not meet criteria for MDD or DD, but still impair the youth's functioning. See Appendix A for specific descriptions of the diagnostic criteria for each depressive disorder.

Prevalence of Depression in Youth

The prevalence rate of depression in school-aged children (age 5-12) is approximately 3% while the prevalence rate of depression is approximately 14% in adolescents (age 13-17) (Lewinsohn, Rohde, Seeley & Fischer, 1993). Diagnosis specific, the prevalence of MDD in children is approximately 2% and increases to approximately 8% in adolescents (Fleming & Offord, 1990**;** Lewinsohn, Clarke, Seeley, & Rohde, 1994**;** SAMHSA, 2008) with the average length of a depressive episode lasting seven to nine months within clinic-referred youth (Biramher et al, 1996) and one to two months within community samples (AACAP, 2007). Approximately 90% of depressive episodes remit, including relapse and recurrence, within two years of onset and last for longer periods of time (Biramher et al, 1996; Simons, Rohde, Kennard, & Robins, 2005). The prevalence of DD is between 0.6% and 1.7% in children and between 15% and 20% in adolescents (Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993) with a mean duration of 3 to 4 years for both community and clinic samples (Kovacs et al, 1994). Development of MDD or DD in childhood or adolescence puts youth at risk for recurrent MDD in adulthood (Jacobs et al, 2008). Overall, approximately 75% of adults with MDD report their first episode of depression in childhood or adolescence (Kim-Cohen, Caspi, Moffitt, Harrington, Milne, & Poulton, 2003).

As noted in the prevalence rates above, the risk for depression rises from childhood to adolescence (Birmaher et al., 1996). A sharp increase in depressive symptoms occurs in early adolescence (Nolen-Hoeksema, 1995). In the United States, the prevalence rate for depressive symptoms during early adolescence is approximately 18% (Saluja, Iachan, Scheidt, Overpeck, Sun, & Giedd, 2004). This sudden increase in prevalence may be due to several developmental processes, including puberty-related hormonal changes (Ge, Conger, & Elder, 2001a, 2001b), greater capacity for abstract thinking, self-reflection, rumination associated with cognitive maturation (Nolen-Hoeksema & Girgus 1994), and increased psychological stress due to developmental transitions (Koenig & Gladstone, 1998), such as changes in relationships with parents and peers (Hankin, Mermelstein, & Roesch, 2007).

The significant increase in depressive symptoms from late childhood through early adolescence is particularly salient among girls. (e.g., Angold, Erkanli, Silberg, Eaves, & Costello 2002; Holsen Kraft, & Vittersø 2000**;** Twenge and Nolen-Hoeksema 2002). Rates of depressive symptoms and disorders in prepubescent boys are equivalent to that of prepubescent girls (Anderson, Williams, McGee, & Silva, 1987; Nolen-Hoeksema, Girgus, & Seligman, 1992); however gender differences emerge in early adolescence (age 13-15) with girls becoming much more likely to report symptoms of depression and/or be diagnosed with a depressive disorder than boys (Crick & Zahn-Waxler 2003; Meadows et al. 2006; Petersen, Seligman, & Kennedy, 1991). From mid-adolescence through adulthood, women are twice as likely as young men to become depressed (Compas, Ey, & Grant, 1993; Hankin Abramson, Moffitt, Silva, McGee, Angell 1998; Kessler, McGonagle, K., Swartz, M., Blazer, D., & Nelson, 1993; Lucht et al., 2003; Twenge & Nolen- Hoeksema, 2002; Weissman & Klerman, 1977).

Summary

Overall, depression is a chronic disorder (Keller, 2003) that has a sharp increase in prevalence during early adolescence (Nolen-Hoeksema, 1995). Early adolescent girls are at a significantly increased risk for the development of depression (e.g., Angold, Erkanli, Silberg, Eaves, & Costello 2002; Holsen Kraft, & Vittersø 2000**;** Twenge and Nolen-Hoeksema 2002) and continue to be at higher risk than boys throughout mid-adolescence and adulthood (Compas, Ey, & Grant, 1993; Hankin Abramson, Moffitt, Silva, McGee, Angell 1998; Kessler, McGonagle, K., Swartz, M., Blazer, D., & Nelson, 1993; Lucht et al., 2003; Twenge & Nolen-Hoeksema, 2002; Weissman & Klerman, 1977). This highlights the need for further research of depressive disorders within this at-risk population.

Assessment of Depression in Youth

A variety of methods, including self-report questionnaires, parent and teacher rating scales, diagnostic interviews, observational methods and projective techniques, are utilized to assess youth depressive symptoms. Research highlights the importance of utilizing different methods and raters in order to obtain the most accurate ratings of depressive symptoms (Fristad, Emery, & Beck, 1997). In particular, it is highly recommended to utilize a multi-gate strategy in order to screen and diagnose depression (Kendall, Cantwell, & Kazdin, 1989). A multi-gate strategy includes a screening measure (cut-off score) and another self-report measure or diagnostic interview (cut-off score), such as the Diagnostic and Statistical Manual Brief Symptom Interview for Depression (DSM interview). Individuals who exceed a cutoff score or who present with a clinically significant level of depressive symptoms on a short diagnostic interview are then selected to continue with a more time-consuming and accurate diagnostic

interview. This method of utilizing several screeners reduces the amount of false positives prior to the diagnostic interview, making the process more time and cost-effective (Kendall et al., 1989).

The Beck Depression Inventory for Youth (BDI-Y) is a commonly used self-report measure for screening youth depression. The 20-item measure is designed to identify symptoms of depression in children and adolescents, including negative views about the self, world and/or future, hopelessness, and psychological and emotional indications of depression (BYI; Beck, Beck & Jolly, 2001). The BDI-Y has been found to have high internal consistency (.90-.92) across gender and two broad youth age groups (7- to 10-year-olds and 11- to 14-year-olds) and good test-retest reliabilities (.74-.93) over a 7-day period (Beck et al, 2001) as well as high convergent reliability (.72-.81) with the Children's Depression Inventory, a commonly utilized measure of youth depression, regardless of age and gender (Beck et al, 2001; Shannon, Schwartz, George, & Panke, 2004). The BDI-Y's brief nature (approximately 5 to 10 minutes to complete) as well as its high reliability and convergent validity, make it an ideal screening measure for youth depression.

Various types of interviews, including unstructured, fully structured and semi-structured, are also often utilized in order to better assess depressive symptoms. The use of semi-structured interviews is recommended (Klein, Dougherty, & Olino, 2005) as unstructured interviews may show bias towards initial diagnostic impressions (Angold & Fisher, 1999) and structured interviews specific questioning can limit the clinician from gathering additional information or utilizing their professional judgment (Lewczyk, Garland, Hurlburt, Gearity, & Hough, 2003). Semi-structured interviews allow the clinician to systematically cover key areas of psycholopathology, psychosocial functioning and family history while using all information at

his or her disposal in order to accurately rate the criteria as well as ask additional questions to clarify any inconsistencies in the respondent's answers (Klein et al., 2005).

The Schedule for Affective Disorders and Schizophrenia in School Age Children (K-SADS; Puig-Antich & Chambers, 1978) is a widely used semi-structured diagnostic interview (Klein et al., 2005). There are several versions of the K-SADS that vary in what they measure. Some versions measure a present state of psychopathology while others measure a present state as well as lifetime episodes of psychopathology (see Ambrosini, 2000, for comparisons of the versions). Selecting an appropriate version of the K-SADS depends on the particular information the clinician would like to obtain from the diagnostic interview. The K-SADS is a lengthy interview and all versions of the K-SADS require a sufficient amount of clinical training to obtain adequate inter-rater reliability prior to the administration by the clinician, therefore, the screening process is important in order to reduce unnecessary interview completions.

The Role of Cognitions in Youth Depression

Many theories have been examined to explain the development and maintenance of depression. The diathesis-stress model of depression highlights that genetic factors render children and adolescents vulnerable to depression and that when these factors interact with certain environmental factors, mood disorders, such as depression, can result (Carr, 2007). Many diathesis-stress models have placed an emphasis on the role of cognitive variables in the development and maintenance of depression. These theories attempt to explain different responses to environmental factors or stressful life events in terms of cognitive distortions and maladaptive thoughts (Alloy, Abramson, & Francis, 1999). Several cognitive diathesis-stress models have been suggested (e.g. The Hopelessness Theory, Abramson, Metalsky, & Alloy, 1989; Alloy, Abramson, Metalsky, & Hartlage, 1988) as well as many multi-dimensional models

have included a major cognitive component (e.g. Livingston, 1991); however, this study focuses on the application of Beck's Cognitive Theory (Beck, 1967, 1987).

Beck's Cognitive Theory

Beck's diathesis-stress theory of depression emphasizes cognitive structures as critical elements in the development, maintenance and recurrence of depression (Beck, 1967, 1983; Kovacs & Beck, 1978). Beck believed that schema, stored bodies of knowledge that interact with new information to influence selective attention and memory search (Williams, Watts, MacLeod, & Mathews, 1997), influenced individuals' interpretations of events. In general, when an individual is confronted with a new situation or event, the schema most relevant to the situation is activated and, subsequently, influences how the individual perceives, encodes, and recalls information regarding the event (Abela & Sullivan, 2003).

Beck (1967, 1983) hypothesized that a depressogenic schema serves as a vulnerability factor to the development, maintenance and reoccurrence of depression. Individuals with a depressogenic schema have systematic errors in thinking (Abela & Sullivan, 2003), such as overgeneralization and personalization, that guide attention towards negative rather than positive experiences and lead to an enhanced recall of those negative experiences (Scher, Segal, & Ingram, 2004). For example, an individual with depressogenic schema might amplify the negative outcomes or implications of an event or interpret neutral stimuli in their environment as negative. Beck (1963, 1987) suggests that depressogenic schema, which primarily develops in childhood, and negative distortions increase the likelihood of an individual developing a negative cognitive triad, which includes a negative view of the self, the world, and the future. Beck (1967, 1983) hypothesized that the negative cognitive triad is a likely cause of depression. Therefore, if

an individual developed a negative cognitive triad and experienced stress, it was likely that he or she would develop depression.

Consistent with Beck's (1967, 1983) theory on a negative cognitive triad, research indicates that disturbances in cognitions are associated with youth depressive disorder. Depressed youth have been found to possess a negative self-schema (Zupan, Hammen, & Jaenicke, 1987), a negative view of the world (Kaslow, Stark, Printz, Livingston, and Tsai, 1992), and negative expectations for the future (e.g., Kazdin, Rodgers, & Colbus, 1986). A negative cognitive triad has been found to be associated with negatively biased information processing (e.g., Haley, Fine, Marriage, Moretti, & Freeman, 1985) and appears to produce a distortion in information processing (Kendall, Stark, & Adam, 1990). Additional research that examined cognitive, behavioral, and family domains of depressed youth has found the cognitive triad to be of central importance (Stark, Schmidt, & Joiner, 1996) to the development, maintenance, and reoccurrence of depression as well as related to the severity of depressive symptoms (Stark, et al, 1996). Furthermore, research has consistently shown that a depressogenic cognitive style, especially in the context of stressful events, predicts later depression among youth (e.g., Abela, 2001; Cole et al., 2008; Hankin, 2008a; Hankin & Abramson, 2001; see reviews by Abela & Hankin, 2008a; Lakdawalla, Hankin, & Mermelstein, 2007).

Cognitive Style Trajectories

Studies have found that cognitive-related structures, such as attributional style, become more trait-like from 7 to 15 years of age, particularly stabilizing after 11 or 12 years of age (Cole et al, 2008; Garber & Flynn, 2001; Nolen-Hoeksema, Girgus, & Seligman, 1992). In a review of the literature, Abela and Hankin (2008) noted that cognitive style displays moderate trait-like stability as early as sixth grade (about 12 years of age), but that cognitive style continues to

change and stabilize into middle adolescence. However, by late adolescence, youth display a more stable cognitive style with 1-year test-retest correlations comparable to those observed in adults (Burns & Seligman, 1989; Gotlib, Lewinsohn Seeley, Rohde, & Redner, 1993). Therefore, the transition from late childhood into adolescence may be an important developmental period in which cognitive style is emerging and stabilizing.

Based on research, distinct trajectory patterns have been suggested in the development and stabilization of cognitive style over early to mid adolescence. Mezulis and colleagues (2011) evaluated cognitive style and depressive symptoms in youth at ages 11, 13, and 15 and found three unique trajectory patterns of negative cognitive style: normative, increasing, and decreasing. The normative group (71%) displayed the least negative cognitive style and the lowest depression scores across at all points in time; in simpler terms, the group was normatively emotionally healthy and remained that way across all points in time. The increasing group (22%) displayed a cognitive style that was comparable to the normative group at age 11, but significantly increased over time. This group reported the highest depression scores at age 13 and 15 and youth in this group were most likely to have reported clinically significant depressive symptoms across the course of the study. The decreasing group (7%) displayed the most negative cognitive style at age 11 but an overall decline in negative cognitive style over the course of the study. Gender differences were found in these trajectories with boys being significantly more likely to belong to the decreasing class while females were more likely to belong to the increasing class. The finding that girls are more likely to be on a trajectory of increasingly negative cognitive style continues to implicate cognitive vulnerability as a main factor in the development and maintenance of depression that contributes to the emergence of gender differences in depression rates among early and middle adolescents.

Overall, strong evidence supports the theory that cognitive style, including the presence of a negative cognitive triad, is linked to the development and maintenance of depression. However, given the malleable nature of early adolescent cognitive styles and the potential for various depression trajectories, other factors that directly contribute to the development and maintenance of depression as well as negative cognitive styles during the early adolescent years merits attention. In particular, further understanding of the emergence and development of a negative cognitive triad is needed to understand both the increase in depression and gender difference in depressive prevalence during early adolescence (Hyde, Mezulis, and Abramson, 2008).

Assessment of Negative Cognitions

As it theorized that depression is related to distorted thoughts of the self, world and future (Beck, 1967, 1983), it is important to accurately assess such constructs. Given the unobservable nature of cognitions, cognitive vulnerability and style are usually assessed via self-report questionnaires. Some of the commonly utilized instruments to further assess Beck's theory of negative cognitive style and cognitive vulnerability to depression will be reviewed.

Most research examining attributional or cognitive style as vulnerability factor in the development and maintenance of depression in children and adolescents have utilized the Children's Attributional Style Questionnaire (CASQ; Kaslow, Tannenbaum & Seligman, 1978) or the Children's Attributional Style Questionnaire Revised version (CASQ-R; Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998). The CASQ-R consists of 24 hypothetical scenarios that assess an individual's attributional style. However, despite its frequent use, the CASQ-R demonstrates poor internal consistency reliability (.35-.6; Abela, 2001; Gladstone & Kaslow,

1995; Seligman, & Girgus, 1992; Robinson Garber, & Hilsman., 1995) indicating that the tool is not appropriate for research use (Hankin & Abramson, 2002).

The Adolescent Cognitive Style Questionnaire (ACSQ; Hankin & Abramson, 2002) is also often used to identify cognitive styles and vulnerability. The measure consists of 12 hypothetical negative event scenarios which assess cognitive style (i.e. negative). The ACSQ has demonstrated reliability and internal consistency for cognitive vulnerability among high school adolescents (Hankin & Abramson, 2002); however, the measure is not valid for children. Therefore, it is not suitable for the current study.

Measures have additionally been utilized to assess negative cognitive style as postulated by Beck's (1967, 1976) theory. The Automatic Thoughts Questionnaire-Negative (ATQ-N; Hollon & Kendall, 1980) is a self-report instrument designed to measure the frequency of negative self-statements described in Beck's (1967, 1976) theory of depression. The ATQ-N has demonstrated good psychometric properties, particularly in regards to depression, and shows sensitivity to changes in mood state (Dobson & Breiter, 1983; Hill, Oei, & Hill, 1989; Hollon & Kendall, 1980). Other measures that assess these cognitive constructs include Roseneberg's Self-Esteem (Rosenberg, 1965), which measures views of the self, and the Hopelessness Scale (Beck, Weissman, Lester & Traxler, 1974), which measures views of the future. However, these measures only capture one facet (i.e. self, world, or future) of negative cognitive style while all three are hypothesized to be of importance in the development and maintenance of depression (Beck's, 1967, 1976). The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) has items that assess all three domains (views of self, world, and future) posited in Beck's theory (1967, 1987); however, this measure fails to evaluate the three domains in a systematic manner.

The Cognitive Triad Inventory (CTI; Beckham, Leber, Watkins, Boyer, & Cook, 1986) was specifically created to measure the three distinct domains of the cognitive triad in adult populations. Kaslow and colleagues (1992) created a modified version of the CTI to assess the cognitive triad of children (CTI-C; Kaslow, Stark, Printz, Livingston, & Tsai, 1992). Psychometric properties of the CTI-C have shown high internal consistency, good concurrent validity (Kaslow et al, 1992), and good discriminant validity (Greening, Stoppelbein, Dhossche, & Martin, 2005). Additionally, the 36-item questionnaire takes a short amount of time to complete (Beckham et al., 1986; Kaslow et al., 1992). The proposed study will utilize the CTI-C to assess cognitive style in early adolescent girls.

Family Functioning and Youth Depression

Although a portion of a family's contribution to depression is explained by genetic factors, (Goldberg, 2006), a significant amount of variance is not attributable to genetic mechanisms (Eley, Deater-Deckard, Fombonne, Fulker, & Plomin, 1998; Fendrich, Warner, & Weissman, 1990; Strober, 1995). There is overwhelming documentation in the literature that links dysfunctional family environment and depression (Allen, Hauser, & Eickholt, 1994; Aydin & Oztutuncu, 2001; Delaney 1996). These negative family interactions are considered to be fairly stable over time and contribute to youth's vulnerability to depression (Sheeber Hops, & Davis, 2001). Studies have additionally found that dysfunctional family environments decrease the likelihood of recovering from depression and increase the risk of re-occurrence (Hooley, Orley, & Teasdale, 1986; Keitner, Ryan, Miller, Kohn, Bishop, & Epstein, 1995). In particular, high levels of conflict, low cohesion, difficulties with communication and reduced family sociability have been linked as common characteristics of families of depressed youth (Messer & Gross, 1995; Puig-Antich, Lukens, Davies, Goetz, Brennan-Quattrock, & Todak, 1985; Puig-

Antich et al., 1993; Stark, Humphrey, Crook, & Lewis, 1990; Stark, Humphrey, Laurent, Livingston, & Christopher, 1993).

The Roles of Conflict, Cohesion, Communication, and Family Sociability

Depressed children and adolescents as well as their parents report high levels of conflict within their families (Fendrich et al., 1990; Stark et al., 1990; Hops, Lewinsohn, Andrews, & Roberts, 1990). Conflict exists in parent-child relationships as well as in other relationships with household members. Conflict between parents and their adolescents has been found to significantly related to youth depression (Forehand, McCombs, Long, Brody, & Fauber 1988; Sheeber Hops, Alpert, Davis, & Andrews, J. 1997). In particular, depressed youth often rate more tension and antagonism in the mother-child relationship (Puig-Antich et al., 1993), more tension, less warmth and increased hostility in the father-child relationship (Puig-Antich et al, 1985), and more antagonism and fighting in sibling relationships than their non-depressed peers (Puig-Antich et al., 1993). Barber and Delfabbro's (2000) research indicates that level of family conflict was one of the best predictors of overall adolescent adjustment, with high levels of family conflict being linked with low-self esteem (Slater & Haber, 1984), and depressive symptoms (Sheeber & Sorensen, 1998) in youth and may contribute to increased self-criticism and the development of a negative cognitive style (Shortt & Spence 2006). High levels of parent-child conflict have additionally been linked to poorer treatment outcomes (TADS: Feeney et al, 2009).

Cohesion, the emotional closeness between family members, creates a solid foundation for youth to develop a sense of self and navigate through adolescence (Peterson, 2005). Low ratings of family cohesion have been linked to low-self esteem (Plunkett, Henry, Robinson,

Behnke, & Falcon, 2007) and the development of depression in youth (Messer & Gross, 1995). Similarly, increased depressive symptomatology is associated with disengagement between family members (Barrera & Garrison-Jones, 1992; Hops et al., 1990). In contrast, high ratings of positive family interactions, including family cohesion and support, are associated with strengthening self-esteem (Plunkett et al. 2007), and found to be a protective factor against the development of depression among youth experiencing stressors (McFarlane, Bellissimo, Norman, & Lange, 1994). Studies have found that both mother-child and father-child cohesion are important factors to protect against the development of depression in youth (Houltberg, Henry, Merten &. Robinson, 2011). Cohesion with additional family variables has been found to moderate treatment outcomes, with low ratings of family involvement being associated with poorer psychosocial treatment outcomes (TADS: Feeney et al, 2009).

Communication, including lack of perceived parent attunement and expressions of support, are significant sources of stress for youth (Shortt & Spend, 2006). Decreased levels of the depth and amount of communication between parents (both mother and/or father) and children have been noted in depressed youth (Puig-Antich, 1985; Puig-Antich et al., 1993). In addition, depressed youth report less communication between siblings compared to non-depressed youth (Puig-Antich et al., 1993). These factors may result in increased self-criticism, a lower sense of control over one's life, a negative cognitive style, and poor emotional regulation (Shortt & Spence, 2006). Family communication along with additional family functioning variables has been found to moderate treatment outcomes, with low ratings of communication being associated with poorer psychosocial treatment outcomes (TADS: Feeney et al, 2009).

Family Sociability, the extent to which families engage in pleasurable activities together as a unit or with other non-family members, has been linked with depression in youth. Depressed

youth as well as their parents rate their families as less involved in social and recreational activities than non-depressed youth and their parents (Stark et al., 1993). Additionally, depressed youth report less family sociability than socially anxious youth (Johnson, Inderbitzen-Nolan, & Schapman, 2005). Therefore, family sociability appears to be a factor of family functioning that contributes to depression in youth.

Overall, there is a large amount of literature linking family dysfunction to youth depression (Allen et al, 1994; Aydin & Oztutuncu, 2001; Delaney 1996). In particular, levels of family conflict, cohesion, communication, and sociability seem to be key family factors that are related to youth depression (Messer & Gross, 1995; Puig-Antich et al, 1985; Puig-Antich et al., 1993; Stark et al, 1990; Stark et al, 1993). However, the extent that family dysfunction is predictive of child and adolescent depression may vary across age (Shanahan, Copeland, Costello & Angold, 2011), given that adolescents have more independence and decreased family developmental context. Further investigation is needed to determine how these variables interact with child and adolescent development of depression.

Family Functioning and Gender

Family functioning may serve as a vulnerability or protective factor in regards to the development of depressive symptoms, particularly for young girls (Compton, Snyder, Schrepferman, Bank, & Shortt, 2003). Research suggests that stressful family environments may interact with the socialization of girls in a way that makes them more vulnerable to depression (Kavanagh & Hops, 1994). As girls gain their independence more slowly than boys (Huston & Alvarez, 1990), the family may be a more significant developmental context for girls and enhance girls' sensitivity to the quality of family interactions and relationships (Sheeber, et al,

1997). Girls tend to respond to coercive family patterns in a more passive manner than boys, which can result in more internalizing behaviors for girls when faced with family conflict (Compton et al, 2003). Research has found that family variables account for 17.2% of the variance in girls, compared to 16.3% of boys, emphasizing the role of the family in the development of depression in girls.

Family Functioning and Negative Cognitive Style

Theorists and researchers have hypothesized that family members play an important role in the development of adaptive and maladaptive cognitive processes (Beck, Rush, Shaw, & Emery, 1979; Freeman, 1986; Stark et al, 1996; Young 1991). Several studies have indicated that increased reports of negative life events are associated with increases in depressogenic cognitive styles (Garber & Flynn, 2001; Rose, Abramson, Hodulik, Halberstadt, & Leff, 1994; Rudolph, Kurlakowsky, & Conley, 2001). As a large portion of youth's developmental context occurs in the family environment, it is possible that a family environment characterized by stressful or negative interactions may increase a youth's probability of developing a depressogenic cognitive style. In particular, stressful family environments, or families characterized by dysfunction, may provide youth with increased opportunities to make negative inferences about cause and self, which, over time, may consolidate into a negative cognitive style (Mezulis Hyde, & Abramson, 2006).

Few studies have investigated the effects of overall family functioning on the development of cognitive style; however, the few studies that have explored this area suggest that family functioning does effect the development of a depressogenic cognitive style. Aydin and Oztutuncu (2001) found that reported lower levels of family cohesion was associated with negative thoughts in adolescents (age 16 and 17 years) while higher levels of family cohesion

was associated with fewer negative thoughts. Additionally, high levels of family conflict are associated with the development of a negative cognitive style (Shortt & Spence 2006). However, the impact of conflict on the development of depression is in part mediated by children's cognitions (Grych & Cardoza-Fernandez 2001; Grych & Fincham 1990).Therefore, it appears that overall family functioning variables may directly affect the development of a youth's cognitive style, but few studies have investigated this theory as many studies have focused particularly on the parent-child relationship and interactions as a pathway of development for cognitive style.

Parental Messages and Youth Depression

Parent-child interactions have been linked with the development and maintenance of mood disorders, including youth depression (Alloy, Abramson, Smith, Gibb, & Neeren, 2006). Parenting styles characterized by a lack of warmth and negative psychological control, including criticism, intrusiveness and guilt-induction have been hypothesized to contribute to the development of depression in youth (Parker, 1983). Additionally, parents of depressed youth have been found to display less positive, rewarding and responsive behaviors than do parents in families with youth who are not depressed (Cole & Rehm, 1986; Messer & Gross, 1995). These parent-child interactions may contribute to the development and maintenance of depression in youth by not only providing negative, stressful experiences, but by sending negative messages to the child about their self and surroundings.

Parental Messages and Cognitive Style

It is suggested that youth's cognitive style can be particularly influenced by the messages the children receive from their parents (e.g., Alloy, Abramson, Tashman, Berrebbi, Hogan, Whitehouse, Crossfield, & Morrocco, 2001; Bowlby, 1988; Garber & Flynn, 1998; Garber &

Flynn, 2001; Hokoda & Fincham, 1995; Rudolph, Hammen, & Burge, 1994; Stark et al., 1996). Research has suggested that parents may directly or indirectly provide messages to their children regarding whether negative events in the child's life are attributable to internal, stable, and global causes, are linked with negative characteristics about the child, or may lead to negative consequences (Ingram, 2003; Mezulis et al., 2006). Parents may model a negative cognitive style to their own life events, indirectly influencing the child's cognitive style. Additionally parents may directly affect a child's cognitive style via negative inferential feedback, negative parenting practices (i.e. controlling, coercive behaviors) and/or coaching their children how to appraise and cope with stressful events (Abramson, Alloy, Hogan, Whitehouse, Donovan, Rose, Panzarella, & Raniere, 1999; Alloy et al, 2001).

Parental messages, including parental attributions for child events via verbal feedback and parental attitudes, were found to be strongly linked to youth's cognitive styles (Joiner & Wagner, 1996). Similar research found that maternal negative attributions for child failure was associated with greater child cognitive vulnerability (Mezulis Hyde & Abramson, 2006) and that mothers' verbal criticism of their children was associated with their children's tendency to make self-blaming attributions for negative events (Jaenicke et al., 1987). Mezulis and colleagues (2011) found that maternal emotional and verbal feedback was associated with youth's cognitive style over a four-year period (age 11 to 15). In particular, the development and maintenance of a negative cognitive style was associated with mothers who displayed more overt frustration in response to and more negative attributions for their child's failure. Research also supports the importance of father messages in the development of youth's cognitive style with findings showing that both perceived mother and father messages are associated with youth cognitive schema in regards to the self, world, and future (Funk, 2010). This suggests that negative verbal

messages from parents to children are related to the development of children's negative cognitive style (Stark et al, 1996).

Research has shown that the role of family and parent messages in the development of negative cognitions related to the self, world and future may be particularly salient for girls as they are more sensitive to family interactions (Hankin & Abramson, 2002; Sheeber, et al., 1997). Studies have shown that girls' cognitive vulnerability, including a negative cognitive style, attributional style and negative inferences about the self, accounts for more elevated levels of depressive symptoms than their male counterparts greater level of general negative cognitive style, attributional style, and negative inferences about the self (Hankin & Abramson, 2002). Therefore, girls' development of depression may be more influenced by their family functioning and perceived parental messages, however, the presence of a negative cognitive style appears to mediate the effects of family functioning and family messages on the development of depression.

Parental Messages, the Negative Cognitive Triad, and Depression

Stark and colleagues (1996) examined early adolescents (age 9 to 14) and found that perceived parental messages about the self, world, and future were only predictive of girls' depression in the presence of negative cognitive beliefs about the self, world and future. In short, the girl's cognitive style mediated the effects of parent messages on the development of depression (Funk, 2010; Stark et al, 1996). Furthermore, Stark and colleagues (1996) found that when the model was reversed, it was not significant; indicating that the youth's cognitive distortions that reinforce depressive symptoms, such as low self-worth and negative outlooks, were not the cause of the negative cognitive beliefs and/or perceived parental messages. This highlights the importance of the cognitive triad in the development and maintenance of depression, as well as the role of parental messages in the development of the cognitive triad.

More research is required to further understand the impact of parental messages, a negative cognitive style, and the development of depression as well as understand the impacts of family functioning within the context of these variables.

Assessment of Family Functioning and Parental Messages

For the assessment of family functioning, it is suggested to use a multi-rater approach, as convergent validity of the various family member perspectives is generally fairly weak (Alexander, Johnson, & Carter, 1984; Cole & Jordan, 1989; Friedman, Utada, & Morrissey, 1987; Olson, Portner, & Lavee, 1985). Family assessment should typically begin at the whole family level (Snyder, Cavell, Heffer, & Mangrum, 1995), however, analyzing multiple levels of the family context, including individuals, dyads, and the nuclear family is considered beneficial in order to more closely capture the complex functioning in family environments (Carlson, 2003).

The method and measures utilized to assess family variables should be consistent with the purpose of assessment (Grotevant, 1989). In regards to assessing family functioning, the main objective is to reliably quantify abstract theoretical constructs of interest to the research questions (Carlson, 2003). There are several ways to measure family functioning, including self-report, observations and interview methodologies (Carlson, 2003); however, in research, family members typically complete self-report questionnaires on family functioning as they are brief and have clearly specified procedures for administration.

Several self-report measures have been created to assess the family context (Schumm, 2001). Due to previous research that indicates that the family functioning of depressed youth is characterized by high conflict, low cohesion, communication difficulties, and reduced family sociability (Messer & Gross, 1995; Normura et al., 2002; Puig-Antich et al., 1985; Puig-Antich

et al., 1993; Stark et al., 1990; Stark et al., 1993), the family measure utilized in this study must reliably and validly assess these constructs.

The Self-Report Measure of Family Functioning (SMRFF; Bloom, 1985) is a self-rating scale designed for adults to assess key aspects of the family environment (e.g., Conflict, Cohesion, Communication, and Family Sociability). The SMRFF was developed based on a factor analysis of several prominent measures of family functioning and has been revised several times to increase its validity and reliability for youth reporters. Stark and colleagues (1990) modified the SMRFF to increase accessibility to youth by simplifying the language and removing double negatives, creating the SMRFF-C. The current version of the measure (SMRFF-CR; Stark, 2002) was the result of improving the SMRFF-C by removing scales with low alphas, eliminating items with low factor loadings, and making the items more child-friendly. The SMRFF-CR scales, which include Conflict, Cohesion, Communication, and Family Sociability, are appropriate for use with children and adolescents, and are pertinent to the assessment of families of depressed youth.

Parent message measures are much less often utilized in research. The Family Messages Measure (FMM; Lux, 1989) is an instrument derived from the Cognitive Triad Inventory. The measure examines youth's perceptions of the frequency of positive and negative parent messages regarding the child's self, world, and future. The measure has both a perceived messages from mother (FMM-M) and perceived messages from father (FMM-F) form. The measure has demonstrated acceptable internal consistency for both FMM-M and FMM-F measures amongst early adolescent females (Stark et al, 1996).

Ethnicity and Depression in Youth

Understanding the potential ethnic differences in the presentation of youth depression is important as these differences may have implications for diagnosis and treatment. The current understanding of youth depression has been primarily developed with Caucasian samples; however, models of depression have been applied to racially and ethnically diverse communities without examining their validity (Stewart, 2008). Examination of the potential ethnic differences in the influences on the development and maintenance of depression is needed in order to better serve minority populations.[1]

Prevalence Rates

Some studies have reported minimal differences in depression prevalence rates between ethnic groups (Brooks, Harris, Thrall, & Woods, 2002; Costello, Angold, Burns, Stangl, Tweed, & Erkanli 1996; Dornbusch, Ritter, & Steinberg 1991; McLeod & Owens 2004), while others indicate increased depressive symptoms among minority groups compared to their Caucasian counterparts (Kubik, Lytle, Birnbaum, Murray, & Perry, 2003; Roberts & Sobhan, 1992; Wickrama, Noh, & Bryant, 2005; Wight, Aneshensel, Botticello, Sepulveda, 2005). The Longitudinal Study of Adolescent Health study, which is one of the most prominent longitudinal, school-based studies of youth depression, with a diverse ethnic and social economic sample, found that ethnic minority youth were more likely to report higher baseline levels of depression

[1] Note that the following portion of the literature review contains both racial and ethnic terminology. The terminology utilized reflects how the participants in each study self-identified. Therefore, terminology referring to race and ethnicity may include Hispanic, Latino/Latina American, Asian American, African American, Caucasian and European American. As this study is primarily interested in cultural factors that affect youth's development of depression, the term ethnicity is utilized. It is noted that Caucasian, Asian and African American are racial identifiers, but given the context of these studies, the cultural attributes of the studied population is the major component being researched. However, the terminology utilized (i.e. race or ethnicity) is reflective of the terminology utilized in the cited study.

(Brown, Meadows & Elder, 2007). Furthermore the study found that being of African American, Asian American or Latino American was a risk factor for the onset of a depressive episode (Van Voorhees et al, 2008). In particular, Latino Americans reported the highest levels of depressive symptoms of all ethnic groups and Asian American reported similarly high levels, followed by African Americans (Brown et al, 2007) while European American youth had the lowest depressive scores across all time points. Additional studies support that Latino American, African American and Asian American youth have significantly higher levels of depressive symptoms than their Caucasian counterparts (Blazer, Kessler, McGonagle, & Swartz, 1994; Gore & Aseltine 2003; Kubik, et al (2003); Moon & Rao, 2010; Roberts, Roberts, & Chen, 1997; Roberts & Sobhan,1992; Twenge & Nolen-Hoeksema, 2002; Wickrama, Noh, & Elder, 2009) and that amongst ethnic groups, Latino American youth are significantly more at risk for the development of depression (McLaughlin, Hilt, & Nolen-Hoeksema, 2007; Paxton, Valois, Watkins, Huebner, & Drane, 2007).

Prevalence rates among girls also vary by ethnicity and race. Latino girls have been found to be the most at risk for the development of depression compared to Latino boys as well as African American and Caucasian boys and girls (McLaughlin, et al 2007) while African American girls and Caucasian girls rates of depressive symptoms have been found to be similar (Kistner, David, & White, 2003). As previously reported, Caucasian girls have a higher prevalence rate than Caucasian boys; however, this trend in girls reporting higher levels of depressive symptoms does not hold true for African American youth. African American boys tend to report more depressive symptoms than Caucasian boys and girls as well as African American girls (Kistner et al, 2003). Therefore, discrepancies by ethnicity and gender also vary across group.

Many individuals have considered the effects of social economic status (SES) when exploring differences in prevalence rates across ethnic groups. Research consistently shows that low- SES individuals are at an increased risk for depressive symptoms since they are most likely to experience distressing life conditions associated with financial constraints as well as reside in disadvantaged neighborhoods (Aneshensel & Sucoff, 1996; Boardman, Finch, Ellison, Williams,, Williams, & Jackson 2001; Goodman, Huang, Wade, Robert Kahn, 2003; Hill, Ross, & Angel, 2005; Kim, 2010; McLeod & Owens 2004; Ross, 2000; Wight, Botticello, & Aneshensel. 2006). However, other studies suggest that SES is not a significant predictor of depression in most racial/ethnic groups (Moon & Rao, 2010), and that youth depressive symptoms vary significantly by both race and social class (Miller & Taylor, 2012). Therefore, racial differences across SES (LaVeist, 2005) and depressive symptoms (Wight et al, 2006) suggest that these variables may operate differently across ethnic groups.

Ethnicity, Family Functioning, and Depression

The influences of ethnicity and social class on youth depressive symptoms have been found to be strongly influenced by family context, including family structure, family related stressors, and emotional support from family members (Miller & Taylor, 2012). Miller and Taylor (2012) found that family context explains 17% of the racial differences and over 90% of the SES variation in depressive symptoms among African American and Caucasian youth. Particularly, family context explains 78% of the SES variation in depressive symptoms among African American youth and nearly all of the disparities among Caucasian youth. Differences may also exist within the Latino American youth population. Few studies have considered the associations between family environments and depression may vary across social and ethnic groups (Sagrestano, Paikoff, Holmbeck & Fendrich, 2003). Therefore, examining the effects of family

context across ethnic groups may highlight different protective or risk factors across ethnic groups above and beyond SES.

Latina American Youth. Moon and Rao, (2010) found that contributions of youth-family relationship were more significantly related to depressive symptoms of Latino American youth than their Caucasian counterparts, while Perriera and colleagues (2006) report that family attributes are one of the most important factors in Latino American youth mental health. It is hypothesized that Latino American youth may have additional family tension due to acculturative factors, such as discrepancies between youth beliefs and traditional attitudes and beliefs of their immigrant parents, leading to greater family conflict and lower cohesion (Gonzales, Deardorff, Formoso, Barr, & Barrera, 2006).

Among Latino American youth, cohesion, communication and conflict levels within the family have been found to serve as either protective or risk factors for the development of depression. Family connectedness, or cohesion, seems to serve as a prominent factor of importance within the Latino American family. Garcia, Skye, Sieving, Naughton and Bearinger, (2008) found that level of family connectedness in Latino American youth was associated with elevated levels of emotional distress and that the odds of suicide attempts were 3 to 12 times higher among those with perceived low levels of connectedness. Additionally, among Latina youth, the mother-daughter relationship appears to play a prominent role in mental health. Latina youth report substantially higher levels of communication with their mothers than their fathers and that lack of communication or inability to talk with their mother or father increases their risk of emotional distress by 4 to 9 times (Garcia et al, 2006). This highlights the role of family cohesion and maternal communication as prominent factors that contribute to Latina mental health.

African American Youth. Family cohesion has been found to be the most critical family variable in predicting depression among African American youth, particularly among low-income families (Carlton-Ford, Paikoff, Oakley, & Brooks-Gunn, 1996; Sagrestano et al, 2003). A cohesive family environment, including living in smaller households with both biological parents and in close proximity to extended kin, is strongly associated with psychological adjustment (Miller & Taylor, 2012; Street, Harris-Britt, & Walker-Barnes 2009). Research has emphasized the importance of extended kin as a protective factor for African American youth (Miller & Taylor, 2012). In addition, the mother/daughter relationship is highlighted as being of major importance to African American girls' psychological adjustment and, of particular importance, is the perceived mother/daughter communication (Taylor, Seaton, & Dominguez, 2008). Low level of mother/child communication is linked to elevated levels of depressive symptoms (Taylor et al, 2008); however, this relationship is not noted in father/daughter relationship. Furthermore, although family conflict has been found to be associated with depression levels in African American youth (Miller & Taylor, 2012), it does not appear to be a prominent family factor that predicts depressive symptoms (Herman, Ostrander, & Tucker 2007). This highlights the roles of family cohesion and the mother/daughter relationship as most important in aiding as a protective/risk factor for African American girls.

Summary. Overall, findings indicate that there may be discrepancies across ethnic groups in the family functioning variables that contribute to the development of depressive symptoms. For Latina youth and African American girls, it appears that cohesion and mother/daughter relationships are of most importance, while conflict seems to be a larger factor in the development of depressive symptoms within Caucasian youth (Miller & Taylor, 2012). Further

investigation of these factors on depressive symptoms as well as cognitive style is needed in order to better understand the development and reoccurrence of depression across ethnic groups.

Ethnic Differences in Cognitive Style

Cognitive factors may vary among ethnic groups (Cardemil, Reivich, & Seligman, 2002; Kistner et al., 2003). Research examining the mean levels of cognitive attributes are inconclusive with some studies finding no ethnic differences (Kennard, Stewart, Hughes, Patel, & Emslie, 2006), others indicating that Caucasians demonstrate a more negative cognitive style (Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998; Waschbusch, Sellers, LeBlanc, & Kelley, 2003) and one study finding that African Americans report the most negative cognitive biases (Greening, Stopplebein, Dhossche, & Martin, 2005). Additionally, some research suggests that the relationship between cognitive style and depressive symptoms may be stronger for Caucasian youth compared to African American youth (Herman et al, 2007; Kennard et al., 2006). However, Stein and colleagues (2010) found that although African Americans reported fewer negative cognitive symptoms compared to Caucasians, cognitive symptoms were correlated with depression severity across both groups. Furthermore, research regarding the mediating effects of cognitive style between family variables and depressive symptoms is also inconclusive. Some findings that cognitive variables mediate the effects of family variables on depressive symptoms for Caucasian youth and not for African American youth (Herman et al, 2007) while other research indicates that negative cognitions mediated the relationship between negative life events and depressive symptoms in African American youth (Reinemann and Teeter-Ellison, 2004). Overall, there is evidence that the cognitive model of depression is applicable across ethnicities (Kennard et al, 2006; Reinemann & Teeter-Ellison, 2004); however, further understanding of mean levels of depressive cognitions, such as views of self, world and

future, across ethnic groups as well as their relation with the development of depression is needed.

Ethnic Differences in Depressive Symptomology

Ethnic groups may exhibit different symptoms for the same underlying disorder (Gray-Little, 2002). A culture's view of depression and the acceptability of the expression of sadness may lead to differences in symptom presentation across ethnic groups (Escobar, Rubio-Stipec, Canino, & Karno, 1989). It is important to examine whether ethnic groups vary systematically in their presentations of clinical diagnoses in order to understand our current theoretical models of depression. Previous research has shown that mean level differences across ethnic groups supports the idea that African Americans and Latinos exhibit a different depressive symptom pattern than their Caucasian counterparts.

Both African American and Latino American adults and youth have been found to have more somatic symptoms of depression (Canino, Rubio-Stipec, Canino, & Escobar, 1992; Choi, Meninger, & Roberts, 2006; Coyne, Schwenk, & Fechner-Bates, 1995; Iwata, Turner, & Lloyd, 2002). The increase in somatic symptoms may be reflective of a cultural belief regarding acceptable ways to express sadness (Choi & Park, 2006). Additionally, African Americans are less likely to endorse sadness than Caucasians (Iwata et al., 2002). It has been hypothesized that instead of expressing depression as sadness, African Americans may demonstrate greater irritability and anger (Baker, 2001). It has been suggested that "psychological" symptoms may reflect Western cultural bias (Kirmayer, Robbins, Dworkind, & Yaffe 1993), which may result in the over- or under- diagnosis of ethnic minorities. Further exploration of depressive symptoms via self-report measures and clinical interviews is needed in order to determine ethnic group's

symptomology presentation as well as the most effective methods for determining mental health diagnoses.

Summary

Overall, depression models have been historically representative of Caucasian samples. Exploration of depression models across ethnic groups is needed in order to determine their validity for each subsample population. Previous research indicates different family functioning variables may contribute to depression across ethnic groups. Additionally, the impact of cognitive style on depressive symptoms as well as the mediating effect of cognitive style between family variables and depressive symptoms may vary across ethnic groups. Furthermore, there is evidence that ethnic groups vary in their depressive symptomology presentation. Therefore, further investigation of the different interactions across ethnic groups in these areas is needed to inform models of depression as well as treatment.

Treatment of Youth Depression

Many psychosocial treatments have been created to reduce depressive symptomology in youth. A recent literature review by Wanatabe, Hunot, Omori, Churchill and Furukawa (2007) found that common psychosocial treatments for children (6-12 years) and adolescents (13-18 years) diagnosed with depression included Cognitive Behavioral Therapy (CBT), individual components of CBT, such as treatments that utilize only behavioral therapy or cognitive therapy, problem-solving therapy (PST), interpersonal therapy, and supportive therapy (ST). For the purpose of this paper, which is theoretically driven by a cognitive model, CBT will be reviewed.

Cognitive Behavioral Therapy

Cognitive-behavioral therapy (CBT) is the most extensively studied form of psychotherapy (Varley, 2006). CBT is based on behavioral and cognitive conceptualizations of

depression and utilizes techniques from both theoretical perspectives. CBT particularly focuses on helping youth to develop coping skills, problem-solving, and utilizes cognitive restructuring. The goal is for youth to independently apply these techniques to their lives (Stark, 1990) and for the youth to feel empowered (Reinecke & Ginsburg, 2008). Stark and colleagues (2006) describe several key components of CBT, including affective education, goal setting, coping skills, problem-solving, and cognitive restructuring.

Lewinsohn & Clarke (1999) conducted a meta-analysis analyzing CBT and adolescent depression and found an effects size of 1.27 with 63% of the participants demonstrating clinically significant improvement compared to the control by the end of treatment. However, in a later meta-analyses examining treatment effects of CBT among adolescents (Reinecke, Ryan, & DuBois, 1998; Klein, Jacobs, & Reinecke, 2007), effect sizes were smaller. Despite promising results, findings from outcome studies suggest that 40-50% of youth who receive treatment for depression do not make significant improvements (Asarnow, Jaycox, & Tompson, 2001). Perhaps, more importantly, previous research demonstrates that CBT treatment effects are maintained the initial months after treatment, but often diminish over time and are not maintained beyond one year following treatment (Weisz, McCarty, & Valeri, 2006).

A variety of approaches to prevent relapse and recurrence of youth depression exist, including the utilization of acute pharmacotherapy treatment after the disappearance of depressive symptoms, continuance of treatment with booster sessions, and incorporation of factors known to enhance the maintenance of treatment effects in current interventions (Simons, Rohde, Kennard, & Robins, 2005). One such factor believed to potentially enhance treatment is the inclusion of caregivers (Sander & McCarty, 2005) as youth depression emerges in the context of the family and is associated with poor family functioning that likely contributes to the

development and maintenance of depressive symptoms (Cicchetti & Toth, 1998; Dujovne, Barnard, & Rapoff, 1995; Hammen, 1995). It is hypothesized that including caregivers in treatment could help indirectly address certain family functioning attributes, such as conflict and communication, that appear to be related to depression in youth (Kazdin & Weisz, 1998; Sanders, Dadds, Johnston, & Cash, 1992) as well as family issues that as associated with negative cognitive style (Stark, Sander, Yancy, Bronik, & Hoke, 2000).

Unfortunately, in existing clinical trials, a caregiver component was only included in 32% of the treatment protocols (Weisz et al., 2006) with the extent of caregiver involvement varying greatly. Parental involvement in depression treatment for youth has included primary caregivers learning about depression and therapeutic goals and ranged from one session to many (see Sander & McCarty, for review). A few studies have a large primary caregiver component with caregivers receiving a dose of treatment lasting between 8 and 14 hours, which was basically equivalent to the treatment received by their children (see Sander & McCarty, for review). The effects of parent components vary greatly, including larger therapeutic effects with an adolescent plus parent group compared to adolescent group alone or waitlist (Lewinsohn et al., 1990) while other studies found no significant difference between an adolescent alone and adolescent plus parent group (Clarke et al, 1999). In a large meta-analysis, Sander and McCarty (2005) found that treatments with parent components yielded a similar effect size (.40) to that of youth only treatments (.45). However, a recent study found that including caregiver/caregiver-child sessions over 12 weeks in addition to 16 individual youth CBT sessions resulted in a significant decrease in youth depressive symptoms, mother and teacher reports of significantly improved child functioning, and mother reported improved caregiver-child relationships and less parenting stress (Eckshtain & Gaynor, 2011). But, these treatment effects were not assessed longitudinally. In a

study of the effective of a CBT plus parent component, Funk (2010) found that the amount of parent sessions attended were an important factor in child outcomes. Particularly, parent attendance was negatively associated with child depressive symptoms. Furthermore, caregiver attendance impacted the youth's cognitive style as well as perceived parental messages. However, these findings did not maintain past a year after treatment.

Overall, CBT treatments have been found to be fairly effective and evidence exists that the addition of a parent component may enhance treatment effects. However, there exists an apparent need to further understand family and parental attributes that contribute to youth's cognitive style as well as depressive symptoms in order to create more effective interventions. Additionally, further investigation of the validity of depressive models across cultures is needed. Particularly, understanding cultural implications on the development and maintenance of depression is needed in order to tailor effective interventions for minorities based upon empirical findings.

Statement of Problem and Purpose

Depression is a chronic and recurrent disorder (Keller, 2003) that often results in significant impairment in school, peer and family functioning (Garber & Horowitz, 2002) as well as puts youth at risk for dropping out of school, substance abuse, and suicide (Birmaher, Ryan, Williamson, Brent, & Kaufman 1996; Waslick, Kandel, & Kakouros, 2002). Rates of depression increase drastically from early to late adolescence (Hankin & Abela, 2005) with females particularly being vulnerable to the development of depression (Angold, Erkanli, Silberg, Eaves, & Costello, 2002; Petersen, Seligman, & Kennedy, 1991; Weissman, Warner, Wickramaratne, Moreau, & Olfson, 1997). The surprising rate at which depression increases for early adolescent girls (Hankin et al, 1998; Nolen-Hoekseam, 1990) suggests the need to better understand the development of depression in order to create effective treatments for pre- to early adolescent girls.

The development of beliefs about the self, world and future (known as the cognitive triad) serves a potential cognitive vulnerability to depression (Beck, 1963). Depressed youth are reported to have negative beliefs about the self (Zupan, Hammen, & Jaenicke, 1987), a negative outlook of the world (Kaslow, Stark, Printz, Livingston, and Tsai, 1992), and negative expectations for the future (e.g., Kazdin, Rodgers, & Colbus, 1986). These negative views, or negative cognitive style, have been found to be more malleable among early adolescents and becomes more of a trait-like attribute by mid-adolescence (Burns & Seligman, 1989; Gotlib, Lewinsohn Seeley, Rohde, & Redner, 1993) with girls at the greatest risk for developing a negative cognitive style (Mezulis et al., 2011). Therefore, early adolescence may be a critical time period to examine, especially for girls, prior to the development of a more stable cognitive style. Further understanding of influential factors of the development of a negative cognitive triad in early adolescent girls is needed to determine ways to potentially intervene in this process.

Theories have also highlighted the importance of family functioning as a contextual environment for the development of youth depression. Negative family interactions are thought to create an ongoing stressful environment for youth and, thus, contribute to youth's vulnerability to depression (Sheeber et al, 2001). Family functioning, including levels of conflict, cohesion, communication and family sociability, may be particularly important as it is a more significant developmental context for girls (Sheeber, Hops, Alpert, Davis, & Andrews, 1997). Additionally, parent messages, including messages regarding the child's self, world, or future, have been found to be of particular importance in the development of depression (Joiner & Wagner, 1996) and may contribute to the development of a negative cognitive triad (Funk, 2010; Stark et al, 1996). This highlights the importance of understanding the variables, including family functioning and both mother-child and father-child messages, that contribute to youth's cognitive triad as well as overall depressive symptoms.

An additional gap in the literature exists on the applicability of cognitive models across ethnic groups. In particular, family functioning variables associated with the development of depression as well as importance of the maternal figure has been found to vary across cultures (Coastsworth et al, 2000; Herman, Ostrander, & Tucker 2007; Miller & Taylor, 2012). Potential differences across ethnic groups in cognitive style and its impact on the development of depression have also been suggested (Cardemil, Reivich, & Seligman, 2002; Kistner et al., 2003). Although there is some evidence that the cognitive model of depression is applicable across ethnicities (Kennard et al, 2006; Reinemann & Teeter-Ellison, 2004), further validation of the cognitive model across ethnic groups is needed. This is particularly true of a model that considers family variables, which are largely culturally loaded. Investigation of ethnic differences is needed in order to inform treatment if variations do exist.

Overall, there exists a good foundation for the understanding of the development and maintenance of depression. Research supports Beck's (1967, 1983) theory regarding the importance of an individual's cognitive style as a major contributor to the development and maintenance of depression. Further research has also indicated several environmental factors, including family functioning and parent messages, as influences on depressive symptoms. However, no models have looked at the role of family functioning in combination with parent messages and cognitive style in order to determine the most pertinent factors in the development and maintenance depression. Additionally, no models have examined family functioning factors that may contribute to the development of a negative cognitive style. Furthermore, cognitive models, although including various racial and ethnic participants in the sample, have been rarely examined across specific ethnic groups. Validation of such a model across ethnic groups is needed as cultural values and beliefs may impact developmental paths of depression.

Understanding a more complex model of depression that includes family functioning variable, parent messages and cognitive style's effects on depression could help to inform treatments. Particularly, if differences exist between ethnicities across such a model, it would provide a new basis to create a more culturally sensitive and, potentially, effective treatment plan for these ethnic groups.

The purpose of the present study is to test a model of depression that combines distinct familial risk factors and vulnerabilities, such as family functioning variables and girls' perceptions of parent messages, with both girls' cognitive triad and depressive symptoms. Furthermore, the study examines whether differences in the models exist across ethnic groups. To meet the objectives of the current study, the sample was drawn from a larger depression intervention study and will include 9- to 14- year old girls both from a normative sample and girls with a diagnosed with a depressive disorder. Ratings of family functioning (cohesion, conflict, communication, and family sociability), perceived parent messages from each parent, ratings of each girl's cognitive triad (thoughts of self, world, and future), and severity of depressive symptoms were obtained from the girls and their parents. The proposed study examines a model of depression that combines these important theoretical constructs (i.e. family functioning, perceived parent messages from each parent, ratings of each girl's cognitive triad, and girls' depressive symptoms) and examine how ethnicity interacts with the model.

Building on previous research of family and cognitions, the present study attempts to further clarify the complex relations between several variables thought to contribute to the development of depression. The purpose of the present study is to test a model of depression that combines distinct familial risk factors and vulnerabilities, such as family functioning variables and girls' perceptions of parent messages, with girls' cognitive triad and depressive symptoms.

Furthermore, the study examines whether the model is valid across ethnic groups while controlling for effects of socioeconomic status.

Research Questions and Hypotheses

Research Question 1

Is family functioning associated with perceived family messages from maternal figures (Family Messages [M]) and perceived messages from paternal figures (Family Messages [F])?

Research Question 2

Is family functioning associated with daughters' cognitive triads (girls' cognitions) and is this association mediated by family messages from the maternal figure and paternal figure?

Research Question 3

Is family functioning associated with girls' depressive symptoms and is the association mediated by the girls' cognitive triad, FMM, and FMF?

Research Question 4

Is the proposed model different across ethnic groups when controlling for SES?

Hypothesis 1: It is hypothesized that factor loadings that contribute to family functioning will vary across ethnic group. In particular, it is hypothesized that family cohesion will have a higher factor loading on family functioning within the Hispanic/African American group than the Caucasian group.

Hypothesis 2: It is hypothesized that the association between parent messages and the cognitive triad will differ across ethnic group. In particular, it is hypothesized that maternal messages will have a stronger association with the cognitive triad within the Hispanic/African American group than the Caucasian group.

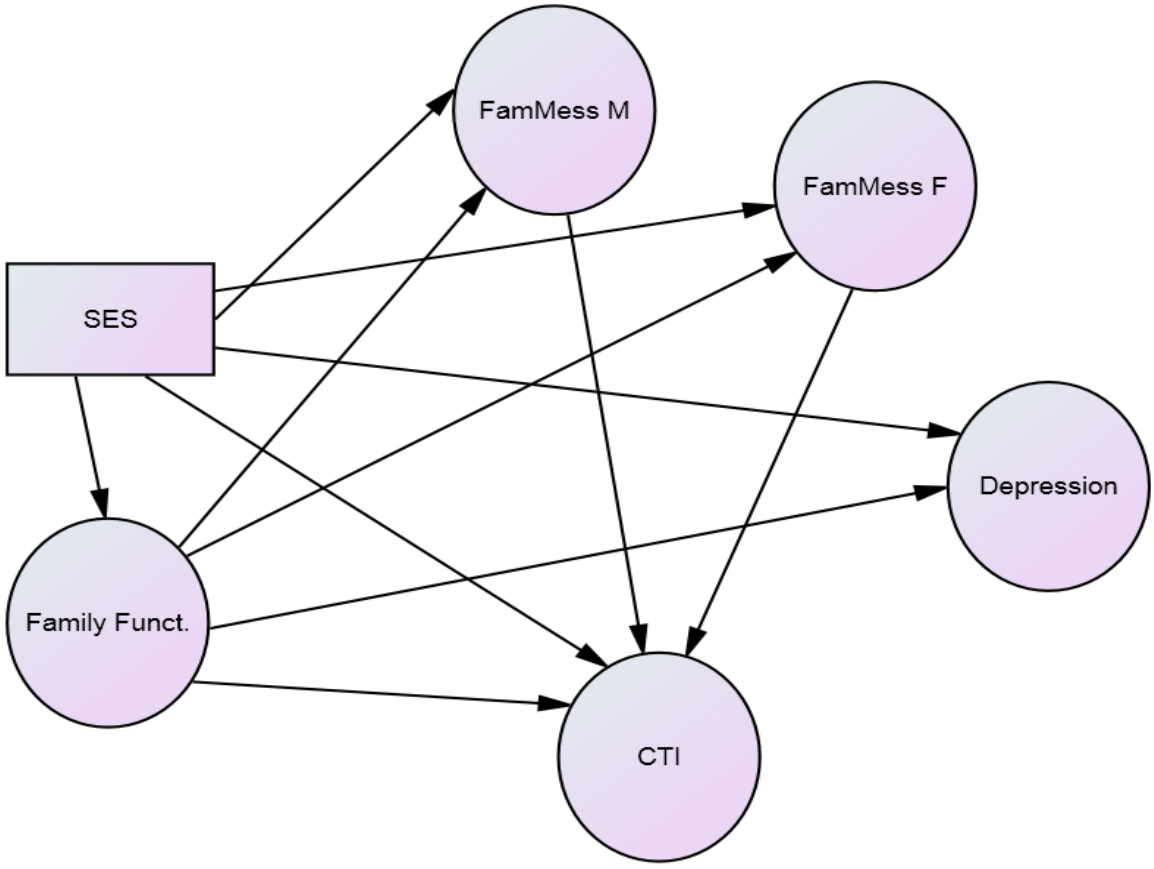

Figure 1. Hypothesized Structural Model of Depression

Notes: The following observed measures will comprise the latent variables: Family functioning: Cohesion, Family Sociability, Conflict, and Communication; FMM-M: Messages about self, world, and other; FMM-F: Messages about self, world, and other; CTI: beliefs about the self, world, and other; Depression: BYI-D and KSADS. See Figure 2 for measurement model.

CHAPTER 3

Methods

Data for the study was drawn from a treatment outcome study funded by the National Institute of Mental Health (NIMH). The overall purpose of the investigation, conducted by the Principal Investigator, Kevin Stark, Ph.D., was to evaluate the efficacy of CBT with and without a parent-training component for pre- and early adolescent girls with a depressive disorder. The participants, instrumentation and procedure presented in this study are a subset of those from the larger investigation. For the purpose of this study, only pre-treatment data was analyzed.

Participants

The total sample of participants included 198 pre- and early adolescent girls who completed measures prior to treatment. Of the 198 participants, 149 girls met criteria for a depressive disorder. Exclusion criteria included having a primary diagnosis other than a depressive disorder (n = 44); the diagnosis of a psychotic disorder (n = 3); an IQ below 85 (n = 1); a learning disability that could interfere with valid completion of measures (n = 0); and/or active suicidal or homicidal ideation (n = 1). The other 49 participants were volunteers drawn from a normative sample. All participants ranged in age from 9 to 14 years of age (M = 10.77, SD = 1.3) and were enrolled in grades 4 through 8 in two school districts in central Texas. Ethnicity of the girls was provided by self-report. Demographic information of the girls is provided in Table 1.

Table 1

Participant Demographic Variables for Sample

Variable	n	Percent
Age		
9	40	20.2
10	51	25.8
11	47	23.7
12	39	19.7
13	19	9.6
14	2	1.0
Grade		
4	46	23.2
5	57	28.8
6	45	22.7
7	49	24.7
8	1	0.6
Ethnicity		
White Non Hispanic	85	42.9
White Hispanic	65	32.8
African American	26	13.1
Asian	6	3.0
Multi-Racial	16	8.1

Participant family structure was determined by reviewing participant data files that indicated family members who were living in the home. Based on this information, the following broad categories were generated to capture the varying family structure: intact family, stepfamily, single parent family, multi-generation or extended family household, and multi-adult household. Intact family structures include those participants residing with biological parents, grandparents and/or adoptive parents as their primary caregivers. Stepfamilies consisted of a biological parent and a step-parent. Single parent households included single mothers or single fathers. Multi-generation/extended family household referred to immediate and extended family members living in the same home. Multi-adult household referred to when other adults that are non-relatives (i.e. mother's boyfriend, friends of parents, etc.) were living in the household. Table 2 lists the family structure and number of participants within each family structure.

Table 2

Participant's Family Structure

Family Structure	n	Percent
Intact family	82	41.4
Biological Parents	75	37.9
Grandparents	5	2.5
Adoptive Parents	1	0.5
Other	1	0.5
Single Parent	38	19.2
Mother	29	14.6
Father	9	4.5
Stepfamily	35	17.7
Stepfather	28	14.1
Stepmother	7	3.5
Multi-generation/extended	25	12.6
Multi-adult	15	7.6
Unknown	3	1.5

Instrumentation

Measures of Depression

The Beck Depression Inventory for Youth (BDI-Y; Beck, Beck & Jolly, 2001; See Appendix B*)* was utilized as a self-report measure of depressive symptoms. The BDI-Y was created as part of a group of questionnaires designed to assess youth's social and emotional functioning. The 20-item self-report questionnaire evaluates the presence and severity of negative thoughts, feelings of sadness and physiological symptoms of depression in children and adolescent between the ages of 7 and 14. Each item is rated on a 4-point scale of *never*, *sometimes*, *often*, and *always*. Scores for each item are summed to create a total score. Total scores range from 0 to 60 with higher scores reflecting greater severity of depressive symptoms. Severity of depressive symptoms range from average to extremely elevated based on age norms (Beck et al., 2001). For 7- to 10-years-olds, scores of 35 or higher are considered extremely elevated, scores of 20-40 are mildly elevated, and scores 20 and below are average. For 11- to 14-year olds, scores of 29 or higher are considered extremely elevated, scores of 21-28 are moderately elevated, scores of 17-20 are mildly elevated, and scores of 16 and below are average. The BDI-Y shows high internal consistence for females aged 7 to 14 (.91 to .92; Beck et al, 2001) as well as high convergent validity with the CDI total score (r = .72). These reliability and validity estimates have been replicated on a school-based sample of girls age 9 to 13 (Stapleton, Sander, & Stark, 2007) and showed similar reliability across ethnic groups; however, reliability and validity were lower for 9-year-old girls. Overall, the BDI-Y has been found to be an adequate screening tool for depression (Stapleton, Sander, & Stark, 2007). In this study, internal consistency for the BDI-Y was found to be good (Cronbach's alpha = .86).

The Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present State (K-SADS-P IVR; Ambrosini & Dixon, 2000) was utilized as a semi-structured interview to assess depressive symptoms. The KSADS-P IV is a semi-structured diagnostic interview designed to assess the present state of symptoms and psychological disorders in youth between the ages of 6 and 18. Psychological disorders assessed by the K-SADS-P IVR include the following: depressive disorders, mania, eating disorders, anxiety disorders, behavioral disorders, substance abuse, and psychosis. Both the child and primary caregiver are interviewed by a trained clinician in regards to the presence of symptoms in each of the previously mentioned areas. The interviewer speaks with both the parent and child separately and each interview lasts approximately 1.5 hours (3 hours total); however, administration time varies depending on rage and severity of psychopathology. Symptom ratings are obtained from both the child and parent. Symptoms are rated on a 4-point scale or a 6-point scale with higher ratings indicating greater symptom severity and a rating of 3 or higher being considered clinically significant. The interview determines a summary rating for each symptom based on both the parent and child's ratings. Each specific symptom severity is rated for both the present episode (past 12 months) and for the week prior to the date of the interview. The summary ratings for both the present episode and last week are used to determine diagnoses according to DSM-IV TR criteria.

Measure of Cognition

The Cognitive Triad Inventory for Children (CTI-C; Kaslow et al., 1992) was utilized to assess girls' negative cognitions about the self, world and future. The 36-item measure is comprised of three 12-item scales: View of Self, View of the World, and View of the Future (See Appendix C). Items are rated on a 3-point scale including *Yes*, *Maybe*, and *No* responses. A total score can be calculated by reverse scoring positive items and totaling item responses. Total

scores range from 0 to 72 and subscales (self, world, and future) scores range from 0 to 12. High scores indicate more positive cognitions. The scale has demonstrated acceptable internal consistency (.71-.87; Kovacs, 1992) and good convergent and discriminate validity (Kaslow et al., 1992). Test-retest reliability coefficients for intervals of one to four weeks ranged from 0.38 to 0.87, whereas for intervals of six weeks they ranged from 0.54 to 0.67 (Kovacs, 1992). In this study, internal consistency for the CTI-C was found to be high (Cronbach's alpha = .93).

Measure of Parent Messages

The Family Messages Measure (FMM; Lux, 1989) was utilized to assess girls' perceived mother and father messages regarding the self, world, and future. The FMM was derived from the CTI and designed to assess youth's perceptions of the messages they receive from their parents, and how those messages relate to the cognitive triad. The 36-item measure is comprised of three 12-item scales, including child's perceptions of the frequency of maladaptive and adaptive messages from a parent regarding the child herself, the world, and the child's future. Two parallel versions of the measure have been developed: perceived messages from mother (FMM-M) and perceived messages from father (FMM-F). See Appendix D for both versions of the FMM. Items are scored on a 3-point scale, including *Never, Sometimes,* and *Always.* Positive worded items were reverse scored. Subscale scores (self, world, future) range from 0 to 24 with a higher score indicating more negative messages on that subscale. Participants completed both one FMM-M and one FMM-F, when applicable. The FMM-F and the FMM-M have been found to have strong internal consistency (.87-.90; Funk, 2011). Additionally, the subscales of the FMM were found to have acceptable internal consistency (FMM-F Self, .81; FMM-F World, .65; FMM-F Future, .78; FMM-M Self, .76; FMM-M World, .57; FMM-M Future, .77; Funk, 2011).

In this study, internal consistency for the FMM-F (Cronbach's alpha = .88) and FMM-M (Cronbach's alpha = .88) were found to be good.

Measure of Family Functioning

The Self-Report Measure of Family Functioning-Child Revised (SMRFF-CR; Stark, 2002; see Appendix E) was used to assess family functioning. The SMRFF-CR is a revised version of the Self-Report Measure of Family Functioning (SMRFF; Bloom, 1985) meant to assess youth's perceptions of family functioning. The original SMRFF was modified by simplifying the language of the items to increase the measure's accessibility to children (Stark et al., 1990). The measure was additionally to improve the wording of items and to remove subscales that were not validly measuring the intended underlying constructs. The 40-item measure consists of four subscales: Conflict, Communication, Cohesion, and Family Sociability. Items are rated by youth on a 5-point scale, including *Never True, A Little True, Sometimes True, Mostly True,* and *Very True.* Subscale scores are obtained by totaling the item responses. High scores indicating a higher level of that family attribute. The SMRFF-CR has been found to have high internal consistency for these four scales: Conflict = 0.76, Communication = 0.89, Cohesion = 0.82 and Sociability = 0.84 (Graves, 2007). In this study, internal consistency for the SMRFF-C scales was found to be adequate to good (Conflict = 0.75, Communication = 0.87, Cohesion = 0.81 and Sociability = 0.81).

Measure of Socioeconomic Status

Self-reported parent educational attainment was used to determine Socioeconomic Status (SES). Education is rated by parents on a 6-point scale, including: *Less than high school, Some high school, Finished high school/GED, Some college/junior college, Finished 4-year college,* and *Advanced degree*. High scores indicating a higher level parent education attainment. If the

household was an intact family (biological parents, grandparents, adoptive parents), the higher of the two scores were used. If the household was a stepfamily, the biological parent's educational attainment score was used. In multi-generation/extended or multi-adult households, the biological or primary caregiver's educational attainment was used. Previous research has found parental educational attainment to be a core component of and highly correlated to SES (Cowan et al., 2005).

Procedure

Ethical Considerations

This study complies with the ethical standards of research delineated by the American Psychological Association and the University of Texas at Austin. Approval for the study was granted by the Departmental Review Committee for the Department of Educational Psychology and by the Institutional Review Board at the University of Texas at Austin. Additionally, before the start of the depression intervention study, the superintendent of the selected school districts received a written copy of the study proposal and provided their approval for the depression intervention outlined in the manuscript.

Recruitment of Participants

Recruitment letters and consents for initial screening were sent to guardians of girls attending public schools in two selected school districts in central Texas. Letters contained information regarding the multi-gate screening study as well as information regarding potential participation in the treatment portion of the study (See Appendix F). If parental consent and child assent (See Appendix G) were received for the girl to participate in the screening procedure, the daughter completed the first portion of the multi-gate screening process, the CDI, in a large group setting (See Appendix H). Graduate students were present during the group administration

of the CDI in order to ensure that each girl completed the measure independently, answer questions when needed, and translate the items for girls who did not speak English as their primary language.

For the first year of the study, girls with a score of 16 or greater on the CDI completed an additional CDI one week later to determine whether their depressive symptoms remained elevated at or above the cut-off. However, due to the second administration of the CDI being inefficient and over-identifying girls, subsequent years of the study utilized the DSM interview as the second gate to the screening procedure. The DSM Interview (See Appendix I) was administered by a trained graduate student on the same day as the first CDI. If girls exceeded the cut-off score on the second administration of the CDI during the first year of the study or reported elevated symptoms during the DSM Interview on subsequent years of the study, the girls' primary caregiver(s) were contacted in order to share results of the screening process as well as provide consent (See Appendix J) and assent (See Appendix K) forms to participate in the final gate of the screening process, the K-SADS-P IVR.

The KSADS-P IVR was administered to girls and their primary caregiver(s) by trained graduate students (see specific graduate training below). After completing the KSADS-P IVR, girls with a primary diagnosis of a depressive disorder and who did not meet the exclusionary criteria were recruited to participate in the treatment study. Parents were sent a letter describing the pre-treatment assessment, depression intervention, and parent training component of the study (See Appendix L). Parents who consented and girls who assented were enrolled in the depression intervention study (N = 149).

The control sample (n = 49) consisted of parents and girls that volunteered to complete the measures outlined in the study protocol. Parents and girls were provided the same

information as well as consent and assent (Appendix M) forms with adjustments made to not include participation in the treatment group. Girls included in this group were indicative of a typical population and may have had symptoms of various psychological disorders. No exclusionary criteria were applied to this portion of the sample. These girls were recruited via GRAs that described the study in the middle school students' math classrooms and elementary students' homerooms. If the student wished to participate, she took home a consent form for parental signature. If the consent form was signed and returned, indicating that the child and parent agreed to participate in the study, then the girls were individually interviewed with the K-SADS and individually completed the measures. Parents were given a packet of measures to complete and mail back to the investigators.

Safety Concerns

If a girl reported suicidal ideation or intent during the CDI, DSM interview or KSADS- P IVR, a suicidal risk assessment was conducted by a trained graduate student. Girls who presented with suicidal ideation or intent were supervised as necessary and completed a safety contract with the school counselor and a trained graduate student. The safety contract had the girls identify an individual with whom they could speak if they were to have additional suicidal thoughts as well as provided a list of contact numbers of mental health professionals. Parents of girls who were having suicidal thoughts were notified and provided with contact numbers of mental health professionals. If the girl was determined to be actively suicidal, the parent(s) and their daughter were immediately referred to the psychiatric consultant for the depression intervention study and appropriate action was taken to ensure the girl's safety.

Data Collection

After receiving both consent and assent forms allowing participation in the depression intervention study, girls and parents completed a number of measures in small groups. Trained graduate students were present to read the directions for the measures, answer questions if needed, and ensure the participants completed each item of every measure. Relevant to this investigation, the girls completed the SMRFF-C, FMM-M, FMM-F, CTI-C, and BYI-D. If girls did not have contact with or had a deceased parent, the FMM for that parent was not completed; however, girls were provided the option of completing the form for another parental figure (i.e. step-parent, etc) if warranted.

Training of Measure Administrators/Interviewers

All measure administrators were doctoral level graduate students in Educational Psychology who had at least one year of experience on the depression intervention project. The doctoral students were trained to administer and score the paper-and-pencil measures as well as to conduct the DSM Interview. During the administration of measures, at least one graduate student had prior training on the assessment of suicidal ideation and intent.

The K-SADS-P IVR was also conducted by doctoral level graduate students in Educational Psychology. The graduate students had completed relevant coursework in child psychopathology and formulation of psychiatric diagnoses. Additionally, over a six month period, each graduate student received approximately 50 hours of diagnostic training in the administration and scoring of the K-SADS-P IVR. This training was led by an advanced doctoral student with expertise on semi-structured diagnostic interviews. Additionally, the advanced doctoral student received supervision from the principal investigator. The training process for interviewers involved attending seminars in which general interview skills and differential

diagnoses were discussed, observing a live K-SADS- P IVR interview conducted by an experienced interviewer, reviewing and rating at least six audio recorded interviews, and practicing the diagnostic interview with volunteers. Prior to conducting interviews with participants, each interviewer had to demonstrate competence in providing reliable symptom ratings, including the absence, presence and severity of psychiatric disorders, when reviewing the audio taped interviews. Interviewers who had difficulty obtaining reliability received additional training until they established an adequate level of competence in administering and scoring the K-SADS-P IVR. Additionally, during graduate students' first diagnostic interview utilizing the K-SADS-P IVR, they received live supervision from a more experienced interviewer providing feedback following the interview. All interviewers participated in weekly group supervision on administration and scoring of the K-SADS-P IVR. Individual supervision was provided on an as-needed basis.

Hypothesized Model

Latent variable structural education modeling (SEM) was used to determine the effects of family functioning level on family messages, the cognitive triad and depressive symptomology as well as the moderating effect of ethnicity on the proposed model of depression while controlling for socioeconomic status. Using observed data to estimate latent constructs allows for modeling and control of measurement error, resulting in more precise parameter estimates (Keith, 2006). In Figure 2, latent variables are represented in ovals and observed variables are indicated in rectangles. Because error terms are model-derived, they are represented as latent.

The hypothesized latent variable SEM model, shown in Figure 2, was developed to assess a new model of youth depression that includes the effects of family functioning variables on the development and maintenance of both the cognitive triad and depressive symptoms. Measured,

or observed, variables are portrayed graphically in SEM with rectangles and squares while latent, or unobserved, variables are portrayed graphically with ovals and circles.

The family functioning latent variable will be measured using the following SMRFF-C scales: conflict, communication, cohesion and family sociability. The family messages father and family messages mother latent variables will be measured using the following the FMM-F and FMM-M scales: perceived messages about self, perceived messages about the world, and perceived messages about the future. The cognitive triad latent variable will be measured by the CTI-C scales: self, world, and future. The depression latent variable will be measured by the BDI-Y total score and K-SADS-P IVR last week severity score. The moderating variable, ethnicity, is not included in the model, but will be utilized in order to test moderation hypotheses. The small circles labeled d1-d4 indicate disturbance (also called residuals), represent all other sources of influence on the latent variables apart from those included in the model. The small circles labeled e1-e15 are error terms representing the effect of all other influences on the measured variable beside the latent construct, including the effects of measurement error. These factor loadings and error measurements comprise the measurement model.

The straight arrows, or paths, between the measured variables reflect the proposed influence of one variable on another. These paths, which hypothesize relationships between the latent constructs, comprise the structural model.

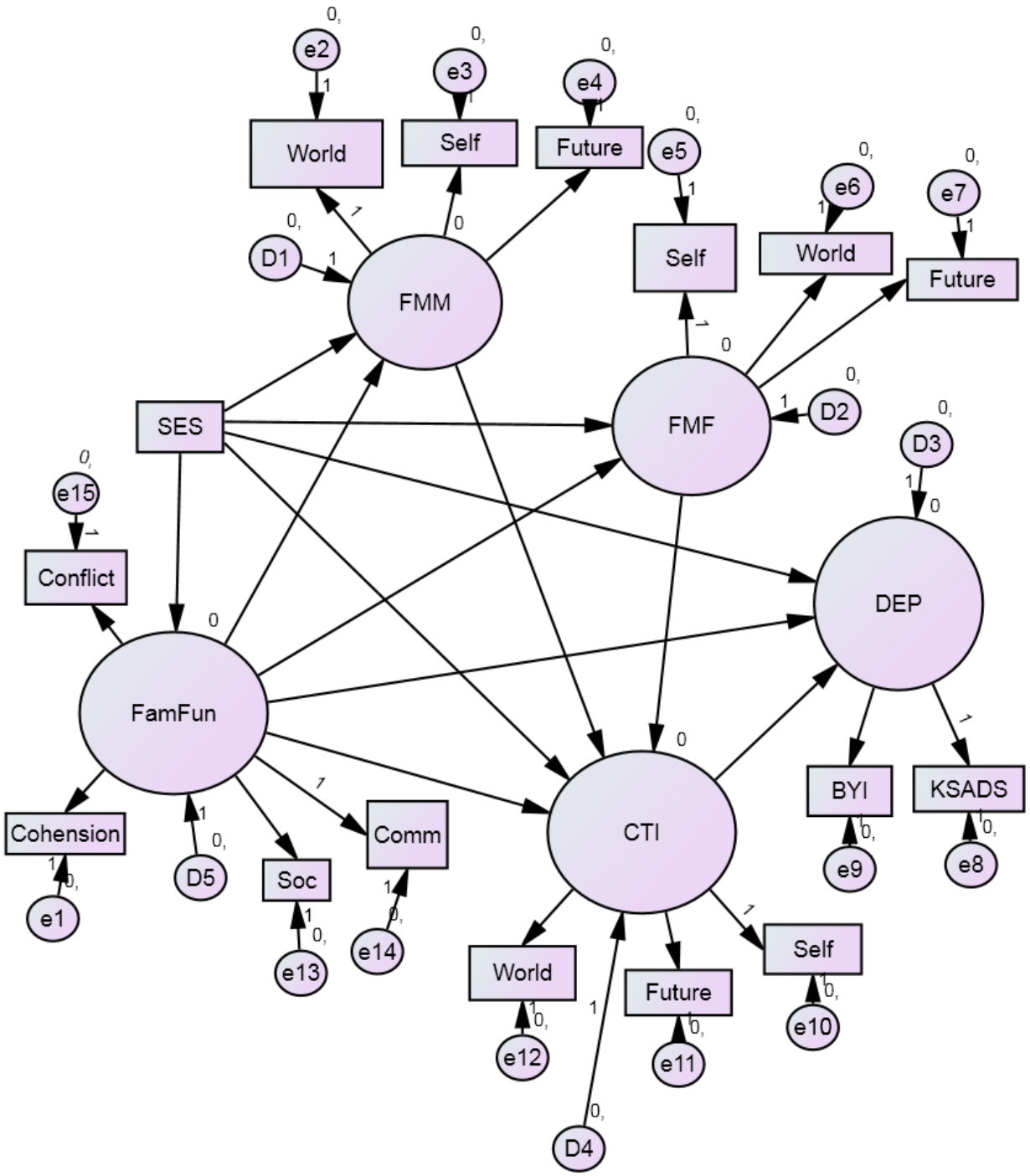

Figure 2. Hypothesized Model of Depression

CHAPTER 4

Results

Preliminary Analyses

Sample Size

Sample size required for an adequate amount of power (.80) was calculated utilizing the model's degrees of freedom as well as the desired power and RMSEA (Preacher & Coffman, 2006). With 93 degrees of freedom, a desired power of .8, and a null RMSEA of .05 and an alternative of .10, approximately 65 participants were needed. Given that the current study has 198 participants, sample size was considered adequate to be able to reject an inadequate model.

Data Screening

To ensure that all variables were normally distributed and reflected their appropriate scales of measurement, the data were checked by examining the descriptive statistics and bar graphs as well as skewness and kurtosis values using SPSS. Data were examined for outliers, defined by scores more than 3 standard deviations beyond the mean. Fourteen univarate outliers were detected across several scales, including Family Messages Father-Self (FMF-Self), Family Messages Father-World (FMF- World), Family Messages Father-Future (FMF-Future), Family Messages Mother-Self (FMM- Self), Family Messages Mother-Future (FMM-Future), Family Conflict, and Family Cohesion. Outliers were found across eight participants: Participant 239 had elevated responses on the FMF- Self, FMF- World, and FMF- Future scales; participant 463 had elevated responses on the FMF-Self and FMM- Self scales; participant 6023 had elevated responses on FMM- Self and FMM- World scales; participant 8829 has elevated responses on

the FMM- Self, FMM- World and Family Cohesion scales; participant 4230 had elevated responses on the FMM- Self; participant 8843 had elevated responses on the FMM- Future; and participants 167 and 2917 has elevated responses on the Family Conflict scale. Univariate outliers were examined and determined to accurately reflect that the participants' responses. All absolute skewness values were less than 2 while all kurtosis values were less than 7; indicating that all measured variables reflected reasonably normal distributions (Curran, West, & Finch, 1996). Since outliers represented did not lead to excessive skew or kurtosis, outliers were ***not*** removed from the data nor transformed, but included in the analyses. Table 3 shows the descriptive statistics for the raw scores of all observed variables.

Table 3

Descriptive Statistics of Observed Variables

Variable	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
Age	10.76	1.299	9	14
FMF Self	4.06	3.617	0	21
FMF World	5.93	2.784	1	20
FMF Future	5.34	3.627	0	17
FMM Self	3.79	3.481	0	14
FMM World	5.35	2.463	1	12
FMM Future	5.07	3.712	0	21
Communication	14.96	7.517	1	31
Cohesion	25.10	6.472	6	36
Conflict	6.22	4.294	0	20
Family Sociability	20.05	7.543	4	36
CTI-Self	17.49	5.503	4	24
CTI-World	16.78	4.619	6	24
CTI-Future	17.80	4.970	4	24
BYI	19.23	11.834	0	49
KSADS	36.17	11.986	16	66

Note. FMF=Family Messages Father; FMM=Family Messages Mother; CTI=Cognitive Triad Inventory; BYI=Beck Youth Inventory; KSADS= Kiddie-Schedule for Affective Disorders and Schizophrenia

Missing Data

The hypothesized over-identified model was analyzed using Analysis of Moment Structure (Amos; Arbuckle, 2009). Amos utilizes full-information maximum likelihood (FIML) estimation when analyzing datasets with incomplete data. FIML uses information from all observed data to estimate the means and covariances of missing portions of a variable (Wothke, 2000). The FIML process has been found to be superior to other methods of handling missing data, including pairwise deletion, listwise deletion, and conventional methods of missing data imputation (e.g., mean substitution, Enders, 2010; Wothke, 2000). FIML was used to create a covariance matrix of measured variables (See Table 4) which was used in subsequent analyses. By utilizing a covariance matrix to analyze data, modification indices as well as covariance residuals were able to be calculated, which allowed the author to determine appropriate changes, such as further constraints, that would increase the model fit. Additionally, the use of a covariance matrix allowed the author to utilize bootstrapping in order to determine indirect effects within the model.

Table 4

FIML-derived Correlation Matrix of Measured Variables

Variable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1. SES	1.19															
2. KSADS	- 1.36	142.93														
3. BYI	- 1.32	73.78	138.9													
4. CTI-Self	.79	- 27.94	- 47.4	30.13												
5. CTI-Future	.97	- 25.27	- 42.2	22.41	24.58											
6. CTI-World	.21	- 22.24	- 37.1	19.45	15.79	21.22										
7. Fam. Soc.	.36	- 33.34	- 39.6	16.76	15.63	17.75	56.52									
8. Conflict	- .94	8.09	16.1	- 5.93	- 5.27	- 5.14	- 5.12	18.33								
9. Cohesion	.67	- 14.30	- 28.0	11.88	12.89	13.98	31.76	- 12.68	41.59							
10. Community	.76	- 20.76	- 31.7	16.10	14.79	16.86	33.91	- 7.26	33.48	56.11						
11. FMM- Future	- .38	11.57	20.3	- 8.93	- 8.86	- 8.52	- 10.24	5.87	- 11.33	- 11.19	13.70					
12. FMM-World	- .31	6.23	12.5	- 6.34	- 5.02	- 6.09	- 7.16	2.67	- 7.34	- 7.09	6.29	6.02				
13. FMM-Self	- .51	7.59	17.1	- 8.41	- 7.04	- 7.70	- 9.28	4.59	- 12.05	- 10.23	5.71	9.57	12.04			
14. FMF-Future	- .94	11.22	18.0	- 7.39	- 7.46	- 7.10	- 8.62	6.10	- 11.22	- 12.95	7.06	3.55	5.42	13.35		
15. FMF-Self	- .73	8.59	17.2	- 8.62	- 7.08	- 7.33	- 10.21	4.73	- 12.10	- 13.22	5.71	3.24	7.31	9.88	13.33	
16. FMF-World	- .53	5.96	11.3	- 5.95	- 5.00	- 6.50	- 8.73	3.43	- 9.05	- 9.75	4.45	3.62	4.64	7.40	7.32	7.69
N	198	198	198	198	198	198	198	198	198	198	198	198	198	198	198	198
Mean	3.99	36.17	19.20	17.49	17.80	16.78	20.06	6.23	25.10	14.96	5.06	5.34	3.78	5.41	5.94	4.14

Note. FMF=Family Messages Father; FMM=Family Messages Mother; CTI=Cognitive Triad Inventory; BYI=Beck Youth Inventory; KSADS= Kiddie-Schedule for Affective Disorders and Schizophrenia

Evaluation of Model Fit

The fit of the model was assessed using several different statistics, including chi-square (χ^2), root mean square error of approximation (RMSEA), Tucker-Lewis Index (TLI), and comparative fit index (CFI). A small, non-significant χ^2 would indicate that a model may be a good fit; however, due to problems with $\chi 2$ as a measure of fit there is a need to consider other fit statistics of the model (Keith, 2006). RMSEA assesses how well a model reproduces the sample data without comparison to a reference model, whereas the CFI compares the target model to a more restricted baseline model (Hu & Bentler, 1999). A RMSEA value of .05 or below suggests that the model is a good fit, while values between .05 and .08 suggest an adequate fit. For the CFI and TLI, values above .95 suggest a good fit while values between .90 and .95 suggest an adequate fit (Hu & Bentler, 1999; Keith, 2006; Kline, 2005).

Multi-Group Analyses

To assess the modified model across ethnicity, multi-group analyses were used, including two ethnic/racial categories: Caucasian (n = 85) and Hispanic (n = 65). Due to limited sample size, African American (n = 26) participants were not included in the multi-group analysis.

Moderation of the model by ethnicity was investigated by comparing the change in CFI or chi-square across models. The model was explored systematically to determine configural invariance, metric invariance, intercept invariance and differences in latent variable paths. CFI was utilized to test invariance between the models with a change in CFI smaller than or equal to .01 indicating that the null hypothesis of invariance should not be rejected (Cheung & Rensvold, 2002). Change in chi-square was utilized to test Question 4 hypotheses, including differences factor loadings and paths, with a significant change suggesting the rejection of the null hypothesis that the factor loadings or paths are the same.

Primary Analyses

Fit of the Model

The fit of the hypothesized model was assessed utilizing the covariance matrix above (See Table 5). An initial test of the model revealed only marginal support for the proposed model, as suggested by the majority of the fit statistics that did not reach acceptable levels (i.e. RMSEA = .109, TLI = .863, CFI = .894; See Table 5). As a result, the modification indices and standardized residual covariance were examined to determine whether any modifications could be made that would create a better fitting model. Modification indices (MIs) suggested correlating the errors between family conflict and family communication, and family conflict and family sociability. As these measured variables all load onto the same latent variable (family functioning), these MIs may indicate that one of the suggested indicators is measuring something different than overall family functioning; therefore, factor loadings for observed variables were examined. It was found that the family conflict's factor loading (β = -.438), although significant (p = <.001), was much smaller than the other factor loadings (Communication β = .779; Cohesion β = .891; Family Sociability β = .721). Therefore the fit of the model when correlating these variables was compared to the fit of the model with family conflict variable removed. It was found that the fit of the model was better when removing the family conflict variable (RMSEA = .105. TLI = .884, CFI = .912) than when correlating the errors (RMSEA = .102. TLI = .880, CFI = .909). Therefore, family conflict was removed from the model as an indicator of family functioning.

Additional results suggested correlating the corresponding errors between the family messages father (FMF) and family messages mother (FMM) observed variables as well as

correlating the CTI-World error and family functioning error. Allowing the revisions suggests that these variables share or measure something in common other than the latent construct. The first suggestion, correlating between the corresponding errors related to the FMF and FMM observed variables, is theoretically relevant given that parents often share similar family values and parenting styles as well as the same environment that may inform the messages their child is receiving about the self, world, and future (Abramson et al., 1999; Alloy et al, 2001; Sander & McCarty, 2005; Sheeber et al, 2001). Similarly, a child's view of the world (CTI-world) and family functioning may share an underlying factor, such as loss of a parental job or other stressors, which affect both the child's view of the world as well as family functioning. The model is shown in Figure 3; the model with standardized paths is shown in Figure 4.

As shown in Table 5, these changes resulted in improvements in all fit indices. The modified model suggested an adequate to good fit when inspecting the fit indices. Additionally, factor loadings for all of the latent variables were statistically significant (p = <.01). Therefore, the modified model was utilized in conducting the rest of the analyses.

Table 5

Fit Statistics for Models

Model	$\chi 2$ (DF)	$\chi 2$ P-Value	RMSEA	RMSEA CI	TLI	CFI
Hypothesized Model	309.9 (93)	<.001	.109		.863	.894
Modified Model	133.2 (75)	<.001	.063	.045-.080	.958	.970

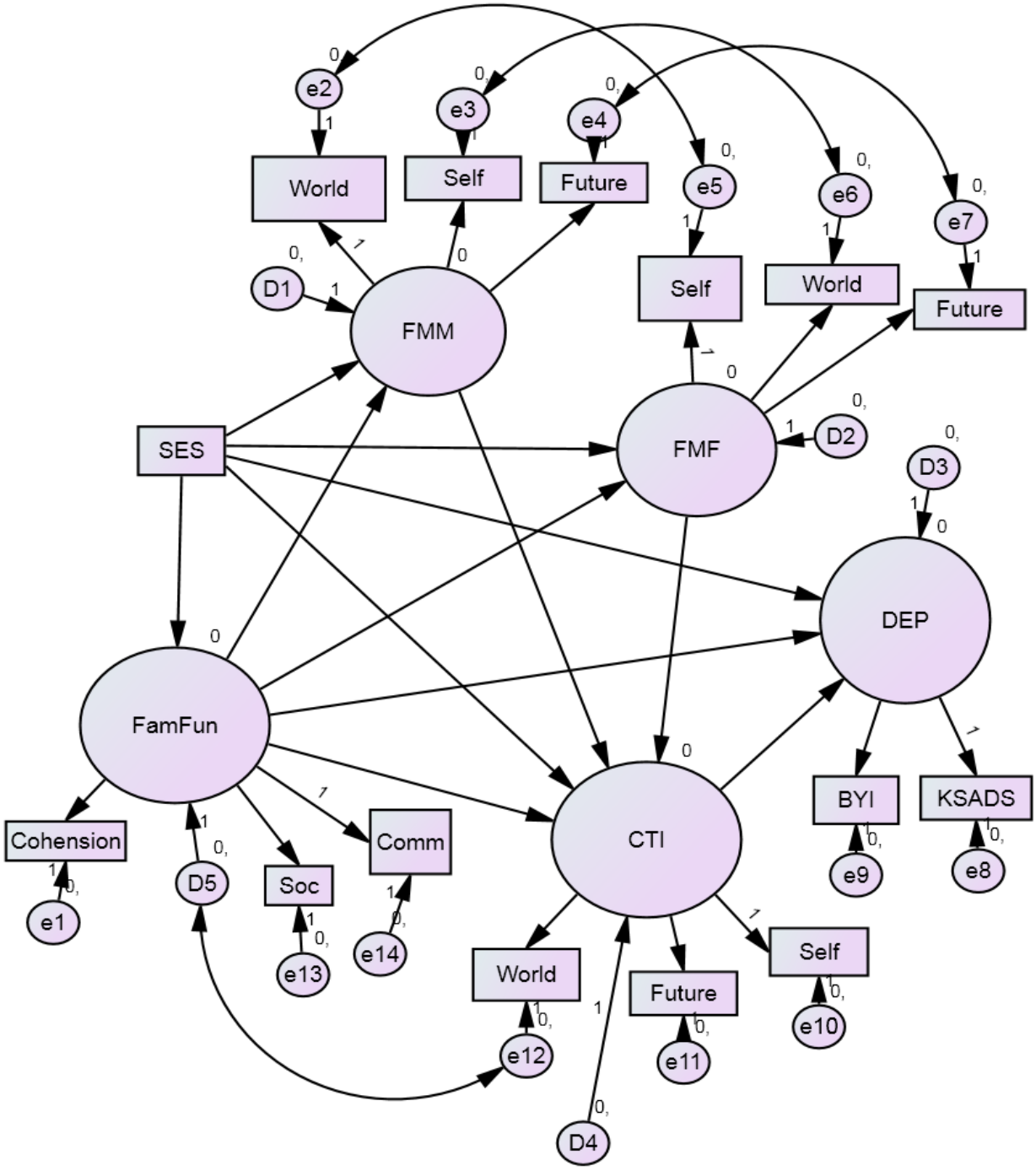

Figure 3. Modified Model

Note: FamFun=Family Functioning; CTI=Cognitive Triad Inventory; FMM=Family Messages Mother; FMF=Family Messages Father; Dep=Depression; Soc=Family Sociability; Comm= Family Communication; BYI=Beck Youth Inventory; KSADS= Kiddie-Schedule for Affective Disorders and Schizophrenia

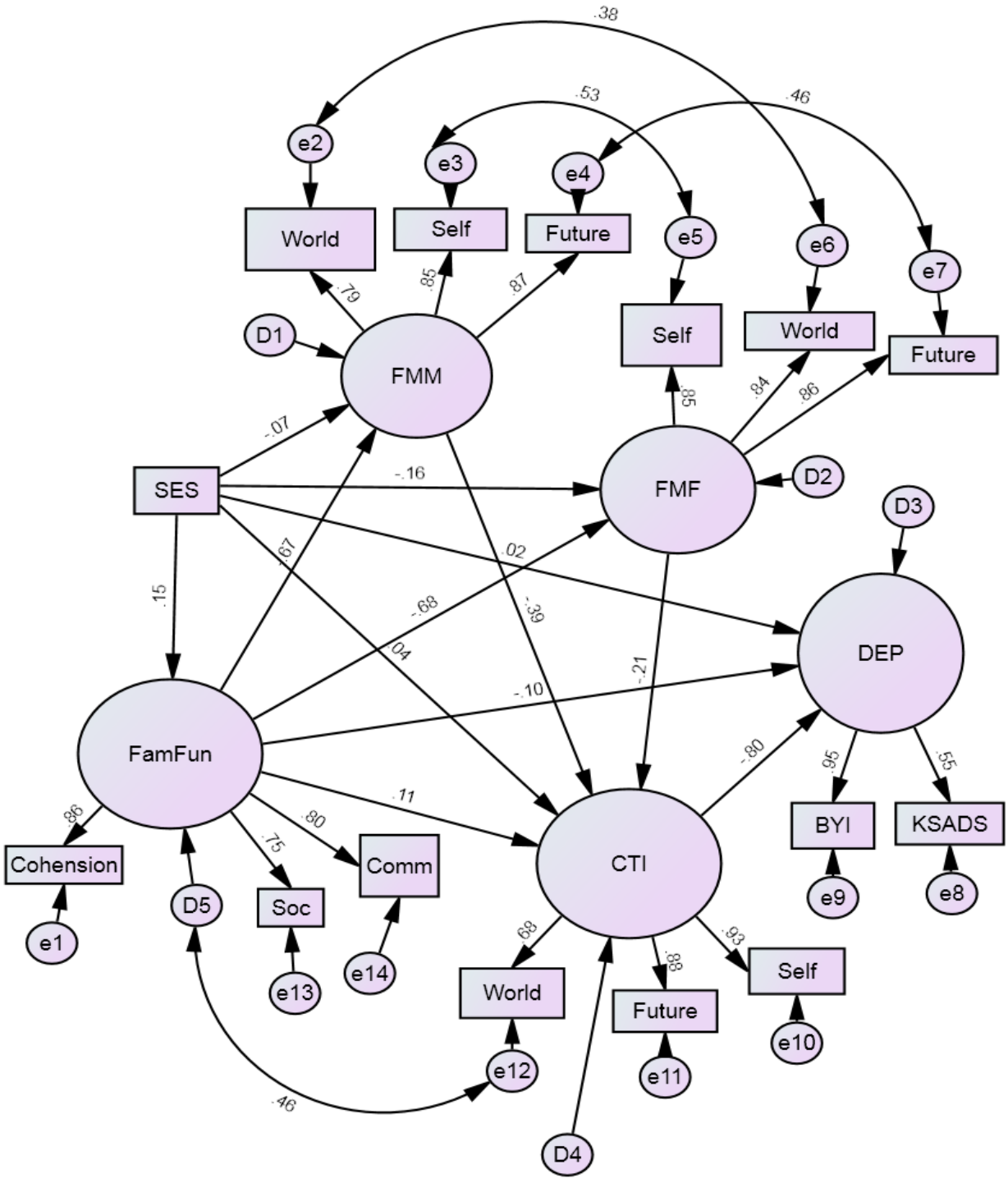

Figure 4. Modified Model Standardized Estimates.
Note: FamFun=Family Functioning; CTI=Cognitive Triad Inventory; FMM=Family Messages Mother; FMF=Family Messages Father; Dep=Depression; Soc=Family Sociability; Comm= Family Communication; BYI=Beck Youth Inventory;KSADS= Kiddie-Schedule for Affective Disorders and Schizophrenia

Tests of Research Questions

Consistent with previous findings in the literature, SEM analyses found an association between family messages, girls' cognitive triads, and depressive symptoms. Girls' cognitive triads (CTI) were found to be significantly associated with depressive symptoms (β = -.797, b= -1.03, p =< .001). Additionally, paternal family messages (FMF; β = -.208, b = -1.03, p = <.05) and maternal family messages (FMM; β = -.390, b = -.345, p = <.001) were found to be significantly associated to the CTI. However, only FMM, not FMF (p = .058), was found to have an indirect effect on depressive symptoms via CTI (p = < .001). Furthermore, MIs did not indicate that FMM or FMF should be directly associated with depressive symptoms. See Table 6 for standardized direct, indirect, and total effects. The following section discusses the results of research questions posed.

Research Question 1

Research Question 1 was whether family functioning is associated with perceived family messages from maternal figures (FMM) and perceived messages from paternal figures (FMF). To determine the relative influences of family functioning on FMM and FMF, the standardized direct effects from the full SEM model (Figure 4) were examined. Family Functioning had a significant direct effect on FMM (β = -.665, b = -.214, p = < .001) and FMF (β = -.677, b = -.348, p = < .001). See Table 6 for standardized direct, indirect and total effects. These findings indicate that for each standard deviation increase in family functioning, FMM decreased by .665 standard deviations. Similarly, for each standard deviation increase in family functioning, FMF decreased by .677 standard deviations. Therefore, as family functioning increases, or becomes a more positive home environment with increased cohesion, communication, and family sociability, messages about the self, world, and future from both the mother and father become more positive.

Research Question 2

Research Question 2 was whether family functioning is associated with girls' cognitive triad (CTI) and if this association was mediated by family messages from the maternal figure (FMM) and paternal figure (FMF). To determine the relative influence of family functioning on CTI the standardized direct and indirect effects from the full SEM model (Figure 4) were examined. Family functioning did not have a significant direct effect on CTI (β = .113, b = .096, p = .396). However, family functioning did have a significant indirect effect on CTI (β = .400, b = .341, p = < .001), indicating that family functioning significantly impacts CTI via FMM and FMF. Family functioning had a significant total effect on CTI (β = .513, b = .438, p = < .001), indicating that for each standard deviation increase in family functioning, CTI increases .513 standard deviations. Therefore, as family functioning increases, or becomes a more positive home environment with increased cohesion, communication, and family sociability, views about the self, world and future become more positive via increased positive messages being received from both parents. See Table 6 for standardized direct, indirect and total effects.

Research Question 3

Research Question 3 was whether family functioning is associated with girls' depressive symptoms and if the association is mediated by the girls' cognitive triad (CTI) and perceived parent messages (FMM & FMF). To determine the relative influences of family functioning on depressive symptoms, the standardized direct and indirect effects from the full SEM model (Figure 4) were examined. Family functioning did not have a statistically significant direct effect on depressive symptoms (β = -.100, b = -.110, p = .126). However, family functioning did have a significant indirect effect on depressive symptoms (β = -.409, b = -.451, p = < .01) via its effects on FMM, FMF, and CTI. Family functioning had a significant total effect on depressive

symptoms (β = -.509, b = -.561, p = < .01), indicating that for each standard deviation increase in family functioning, depressive symptoms decrease by .509 standard deviations via direct and indirect effects. See Table 6 for standardized direct, indirect and total effects.

Table 6.

Standardized Direct, Indirect, and Total Effects for Latent Variables

Latent Variables	Direct Effect	Indirect Effect	Total Effect
From Family Functioning			
→ FMM	-.665 **	----	-.665**
→ FMF	-.677**	----	-.677**
→CTI	.113	.400**	.513**
→ Depression	-.100	-.409**	-.509**
From Family Messages (M)			
→ CTI	-.390**	----	-.390**
→ Depression	----	.311**	.311**
From Family Messages (F)			
→ CTI	-.208*	----	-.208*
→ Depression	----	.166	.166
From CTI			
→ Depression	-.797**	----	-.797**
From SES			
→ Fam. Fun.	.148*	----	.148*
→ FMM	-.068	-.098*	-.166*
→ FMF	-.164**	-.100*	-.264**
→ CTI	.039	.136**	.176*
→ Depression	.018	-.155*	-.136

*p = <.05
**p = <.01
Note. Fam. Fun.= Family Functioning; FMM=Family Messages Mother; FMF= Family Messages Father; CTI= Cognitive Triad Inventory.

Research Question 4

Research Question 4 was whether there were discrepancies in the model across ethnic groups when controlling for SES. Two particular hypotheses were stated:

1) It is hypothesized that factor loadings of indicators of family functioning will vary across ethnic group. In particular, it is hypothesized that family cohesion will have a higher

factor loading on family functioning within the Hispanic/African American group than the Caucasian group.

2) It is hypothesized that the association between parent messages and the cognitive triad will differ across ethnic group. In particular, it is hypothesized that maternal messages will have a stronger association with the cognitive triad within the Hispanic/African American group than the Caucasian group.

To test these hypotheses, the model was tested systematically as to locate and adjust any differences in the measurement model in order to draw valid conclusions.

To determine the configural invariance, the multi-group model (Hispanic and Caucasian) was examined in Amos. The multi-group model showed an adequate to good fit (TLI = .936; CFI = .960; RMSEA = .072) across groups. Therefore, the configural model fit was considered adequate. See Table 7 for model fit statistics.

To determine metric invariance, as well as test hypothesis one, factor loadings were constrained across models. When compared to the configural model, the CFI change (-.01) was equal to .01, indicating the there were no significant differences between the models in metric variance. See Table 7 for model fit statistics. To specifically test hypothesis one, the metric model, in which all factor loadings were constrained, was compared to a model in which the family cohesion factor loading varied across groups. Change in chi-square was examined to determine if there was a significant difference in the family cohesion factor loading across ethnicities. Change in chi-square was significant (p = .035), indicating that there is a significant difference between the factor loading of family cohesion across ethnic groups. See Table 8 for change in chi-square statistics. See Table 9 for standardized and unstandardized estimates. Although family cohesion significantly loaded onto family functioning in both groups (p =

<.001), Hispanic girls' perceptions of family cohesion (b = 1.237, p = <.001) were more strongly associated with family functioning than Caucasian girls' (b = .862, p = <.001) perceptions of family cohesion. Therefore, the hypothesis that family cohesion has a higher factor loading on family functioning within the Hispanic group than the Caucasian group was not rejected. Despite this significant finding, the metric model was retained to further assess for other variations in the model given that the more stringent assessment of factor loadings confirmed that the model factor loadings were not significantly different.

To determine the intercept invariance, observed variable intercepts were constrained across groups and latent variable means were set to "0" in the Hispanic group. When compared to the metric model, CFI change (-.002) was less than .01, indicating the there were no significant differences between the models. See Table 7 for model fit statistics. Therefore, this model was retained to test latent variable means.

Latent mean invariance was assessed by retaining all previous constraints as well as constraining the latent means across groups. When compared to the intercept model, CFI change (.001) was less than .01, indicating the there were no significant differences between the models' latent means. See Table 7 for model fit statistics. Therefore, this model was retained to test the model paths. Figure 5 and Figure 6 display the standardized effects for the finalized model for Hispanic and Caucasian participants.

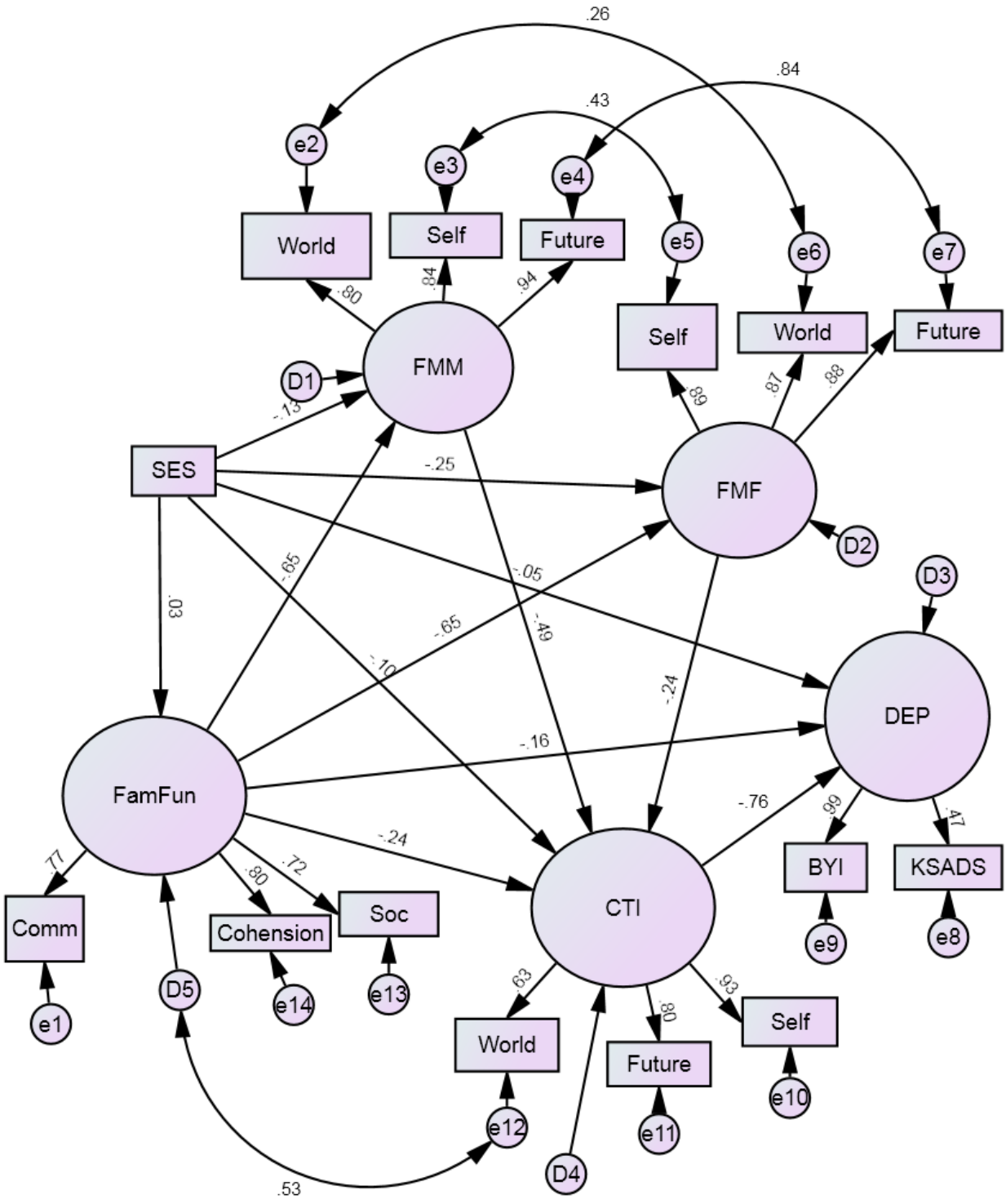

Figure 5. Finalized Model Standardized Estimates for Hispanic participants.

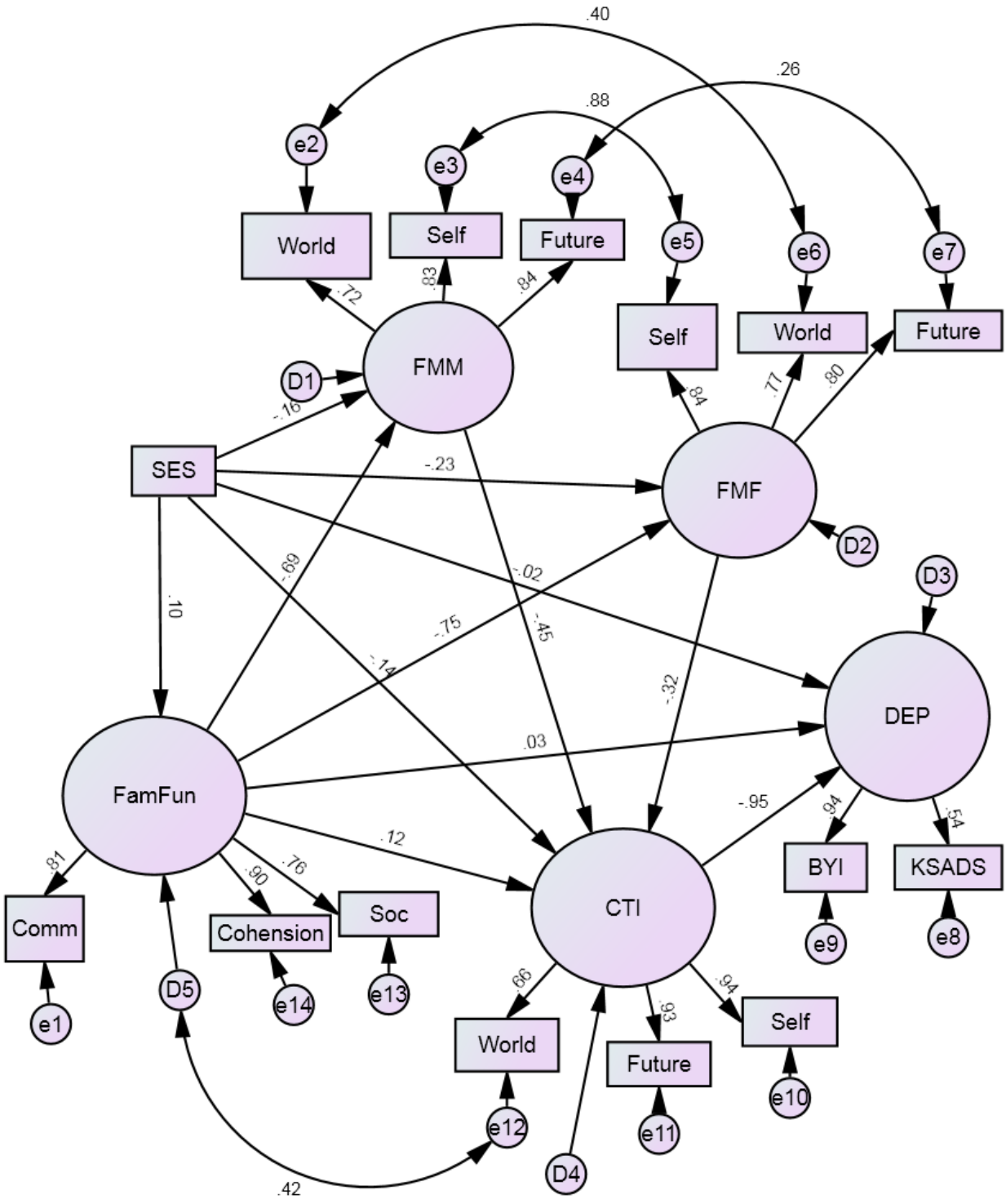

Figure 6. Finalized Model Standardized Estimates for Caucasian participants.

Table 7

Fit Statistics for Configural, Metric, and Intercept Invariance Models

Model	CFI	Δ CFI	RMSEA	TLI	AIC
Configural	.960		.072	.936	448.799
Metric	.950	- .010	.079	.925	454.475
Intercept	.948	- .002	.078	.926	448.405
Latent Means	.949	.001	.076	.929	442.395

*Change larger than .01, indicates to reject the Null Hypothesis that the models are the same.

Table 8

Fit Statistics for Cohesion Factor Loadings

Model	$\chi 2$ (DF)	Δ $\chi 2$ (DF)	P-Value	RMSEA	CFI	TLI	AIC
Metric Model	232.48 (159)			.079	.950	.925	454.475
Cohesion Freed	228.01 (158)	4.47 (1)	.035*	.078	.953	.928	452.010

* p = <.05

Table 9

Standardized and Unstandardized Direct Effects for Family Cohesion Factor Loading

Model	β	*b (*SE)	P-Value
Hispanic Model			
Cohesion Factor	.874	1.237 (.181)	<.001**
Caucasian Model			
Cohesion Factor	.878	.862 (.089)	<.001**

**p= <.01

Paths were assessed individually by constraining them to be equal across groups. Hypothesis two suggested that the association between perceived parent messages (FMM & FMF) and the cognitive triad (CTI) would differ across ethnic groups. In particular, it was hypothesized that maternal family messages (FMM) will have a stronger association with the cognitive triad (CTI) within the Hispanic group than the Caucasian group. To test this hypothesis, the path from FMM to CTI was constrained to be equal across groups. The change in chi-square was not significant (p = .65), indicating that the paths were the same across groups.

Additionally, the path from FMF to CTI was constrained to be equal across groups. The change in chi-square was not significant (p = .53), indicating that the paths were the same across groups. Therefore, hypothesis two was not supported. See Table 10 for fit statistics. For both groups, maternal family messages significantly affected CTI (p = <.01) while paternal family messages did not significantly affect CTI for either the Hispanic (p = .244) or the Caucasian (p = .086) group. See Table 11 for standardized and unstandardized direct effects.

Table 10

Fit Statistics for Model Paths

Model	$\chi 2$ (DF)	$\Delta \chi 2$ (DF)	P-Value	RMSEA	CFI	TLI	AIC
Latent Means	248.395 (173)			.076	.949	.929	442.395
FMM →CTI =	248.627 (174)	.232 (1)	p=.65	.076	.950	.930	440.627
FMF → CTI =	248.835 (174)	.440 (1)	p=.53	.076	.949	.930	440.835

Table 11

Standardized and Unstandardized Direct Effects for Paths

Model	β	*b* (SE)	P-Value
Hispanic Model			
Cohesion Factor	.874	1.237 (.181)	<.001**
FMM →CTI	-.484	-1.115 (.427)	.009**
FMF → CTI	-.231	-0.296 (.254)	.244
Caucasian Model			
Cohesion Factor	.878	.862 (.089)	<.001**
FMM →CTI	-.459	-1.411 (.461)	.002**
FMF → CTI	-.323	-0.579 (.338)	.086

** p = <.01

Supplemental Analyses

Exploring Difference in Cognitions Across Ethnicities

The role of cognitions in the development and maintenance of depression are well-documented (Haley, Fine, Marriage, Moretti, & Freeman, 1985; Kaslow, Stark, Printz,

Livingston, and Tsai, 1992; Kazdin, Rodgers, & Colbus, 1986; Kendall, Stark, & Adam, 1990; Stark, Schmidt, & Joiner, 1996; Zupan, Hammen, & Jaenicke, 1987); however, some studies have documented that Caucasians demonstrate a more negative cognitive style (Herman et al, 2007; Kennard et al., 2006; Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998; Waschbusch, Sellers, LeBlanc, & Kelley, 2003) and the association between cognitive style and depression may vary among ethnic groups (Cardemil, Reivich, & Seligman, 2002; Kistner et al., 2003; Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998; Waschbusch, Sellers, LeBlanc, & Kelley, 2003). Therefore, the role of CTI across Caucasian and Hispanic participants was examined. First, the CTI latent means were examined across groups to determine if Caucasians displayed an overall more negative cognitive style than Hispanic participants. To examine this hypothesis, the latent mean model was compared to a model which allowed the CTI mean to vary across groups. The change in chi-square (p = .79) was not significant, indicating there was no significant variance in the CTI latent means across groups. See Table 12 for fit statistics. Second, the effect of CTI on depressive symptoms was examined across groups. In particular, the path from CTI to depression was constrained across groups to determine if a significant difference was present. Change in chi-square was not significant (p = .50), indicating the path was the same across ethnicities. Paths in both models were significant (p = <.001), indicating that CTI is associated with depression across both Caucasian and Hispanic pre-adolescent females. See Table 12 for fit statistics. See Table 13 for standardized and unstandardized direct effects.

Table 12

Fit Statistics for Model Across Ethnicities

Model	$\chi 2$ (DF)	$\Delta \chi 2$ (DF)	P-Value	RMSEA	CFI	TLI	AIC
Latent Mean Model	248.395 (173)			.076	.949	.929	442.395
CTI Means Equal	247.920 (171)	.475 (2)	.79	.076	.949	.929	442.895
CTI → Dep.	248.857 (174)	.462 (1)	.50	.076	.949	.930	440.857

Note. CTI=Cognitive Triad Inventory; Dep.=Depression

Table 13

Standardized and Unstandardized Direct Effects for Pathways Across Ethnicities

Model	β	*b* (SE)	P-Value
Hispanic			
CTI →Depression	-.759	-0.990 (.202)	< .001**
Caucasian			
CTI →Depression	-.951	-1.105 (.205)	< .001**

***p* <.01

Effects of Age on CTI and Depression

Studies have shown that cognitive style becomes more trait-like from 7 to 15 years of age, particularly stabilizing after 11 years of age (Cole et al., 2008; Garber & Flynn, 2001; Nolen-Hoeksema, Girgus, & Seligman, 1992) and continuing to stabilize into middle adolescence (Abela and Hankin, 2008). A review of the literature noted that cognitive style displays moderate trait-like stability as early as sixth grade (Abela & Hankin, 2008). In particular, previous research has found various trajectory patterns, including normative, increasing and decreasing, emerge across early adolescence with baseline data collected at age 11 as cognitive style was predicted to continue to solidify after this age (Mezulis et al., 2011). Given the study's sample, which included girls ranging from 9 to 14 years of age, it is possible that the effects of the model may differ across the sample. In particular, given that cognitive style starts to solidify after age 11 or, as other literature notes, sixth grade, the effects of CTI on

Depression may vary across those girls 9 to 10 (4th to 5th grade) and 11 to 14 (6th to 8th grade), with girls aged 9 to 10 having a weaker association between CTI and Depression than girls aged 11 to 14.

To test potential differences between the 9 to 10 (n = 91) and 11 to 14 (n = 107) age groups, multi-group analyses were conducted. Socioeconomic Status (SES) was retained in the model as differences in SES were found between groups (t = 2.218, p= <.05). Retaining SES in the model allowed for any effects of SES to be controlled. The model fit was adequate (RMSEA = .067, CFI = .965, TLI = .944; See Table 14). Factor loadings were constrained to be equal across groups as this is required to ensure accurate testing of paths across groups (Keith, 2006). Change in CFI (.002) was less than .01, indicating that there were no differences in factor loadings between groups. See Table 14 for model fit statistics. This allowed the paths in the model to accurately be assessed across groups. The path between CTI and depressive symptoms was constrained to be equal across groups. The change in chi-square was not significant (p = .70), indicating that the paths were the same across groups. See Table 15 for standardized and unstandardized direct effects. Therefore, no significant differences were found regarding the effects of CTI on Depression across age groups.

Table 14

Fit Statistics for Model Across Age Groups.

Model	$\chi 2$ (DF)	$\Delta \chi 2$ (DF)	P-Value	RMSEA	CFI	TLI	AIC
Original Model	217.241 (150)			.067	.965	.944	457.241
Factor Loadings	231.257(159)			.068	.963	.944	453.257
CTI → Dep.	231.407 (152)	.150 (1)	.70	.068	.963	.945	451.407

Note. CTI=Cognitive Triad Inventory; Dep.=Depression

Table 15

Standardized and Unstandardized Direct Effects for Paths Across Age Groups

Model	β	*b* (SE)	P-Value
Age 9-10			
CTI →Depression	-.841	-1.117 (.212)	< .001**
Age 11-14			
CTI →Depression	-.815	-1.043 (.165)	< .001**

** $p < .001$

As previous research has also showed discrepancies in cognitive stability across grade levels (Abela & Hankin, 2008), multi-group analyses by grade was also explored. Although age and grade are highly correlated, these analyses were conducted to ensure there was not a social, academic achievement or cognitive component associated with grade (not age) that impacted CTI's association with depressive symptoms. To test potential differences between the 4th and 5th (n = 103) and 6th to 8th (n = 95) grade groups, multi-group analyses were conducted. Socioeconomic Status (SES) was retained in the model as differences in SES were found between groups (t = 2.13, p = <.05). Retaining SES in the model allowed for any effects of SES to be controlled. The model fit was adequate (RMSEA = .076, CFI = .956, TLI = .930; See Table 16). Factor loadings were constrained to be equal across groups as this is required to ensure accurate testing of paths across groups (Keith, 2006). Change in CFI (.001) was less than .01, indicating that there were no differences in factor loadings between groups. See Table 16 for

model fit statistics. This allowed the paths in the model to accurately be assessed across groups. The path between CTI and depressive symptoms was constrained to be equal across groups. The change in chi-square was not significant (p = .81), indicating that the paths were the same across groups. See Table 17 for standardized and unstandardized direct effects. Therefore, no significant differences were found regarding the effects of CTI on Depression across grades.

Table 16

Fit Statistics for Model Across Grades

Model	$\chi 2$ (DF)	$\Delta \chi 2$ (DF)	P-Value	RMSEA	CFI	TLI	AIC
Original Model	235.511 (150)			.076	.956	.930	457.511
Factor Loadings	246.962 (159)			.075	.955	.932	468.962
CTI → Dep.	247.020 (160)	.058 (1)	p=.81	.075	.955	.933	467.020

Note. CTI=Cognitive Triad Inventory; Dep.=Depression

Table 17

Standardized and Unstandardized Direct Effects for Paths Across Grades

Model	β	*b* (SE)	P-Value
Grades 4-5			
CTI →Depression	-.848	-1.106 (.188)	< .001**
Grades 6-8			
CTI →Depression	-.821	-1.064 (.174)	< .001**

**p < .01

Depression as a Causal Variable

An alternative explanation for the significant paths in the original model is that depressive symptoms in the children may produce the relationships between perceived family functioning, perceived family messages and negative cognitive style. To test this competing hypothesis, the model was adjusted in order to assess the paths between family functioning, FMM, FMF, and CTI while controlling for depressive symptoms. Paths were drawn from the depression latent variable to the family functioning, FMM, and FMF variables in order to control

for the impact of overly negative perceptions due to depression (See Figure 7). Paths were ***not*** drawn from the depression latent variable to the SES or CTI variables as SES was parent reported while CTI is a self-reported scale that is not based on perception of others' actions or functioning. When controlling for depressive symptoms, as measured via the depression latent variable, family functioning was significantly associated with FMM (p = <.001) and FMF (p = < .05) as well as FMM (p = <.001) and FMF (p = <.001) were significantly associated with CTI. See Table 18 for standardized and unstandardized direct effects. Therefore, even when controlling for depressive symptoms, as measured via parent and child report, perceptions of family functioning continued to have a significant direct effect on FMM and FMF, and, furthermore, FMM and FMF continue to have a significant direct effect on CTI. This allows for the assumption that the depressive symptoms are *not* producing the relationships between perceived family functioning, perceived family messages and negative cognitive style, and that the model is an accurate representation of the pathways to the development and maintenance of depression.

Table 18

Standardized and Unstandardized Direct Effects for Pathways Controlling for Depression

Model	β	*b* (SE)	P-Value
From Family Functioning			
→FMM	-.472	-0.152 (.027)	< .001**
→FMF	-.540	-0.278 (.042)	< .001**
From Family Messages (M)			
→CTI	-.499	-1.344 (.250)	< .001**
From Family Messages (F)			
→CTI	-.298	-0.505 (.160)	.002*

*p = <.05
** p = <.001

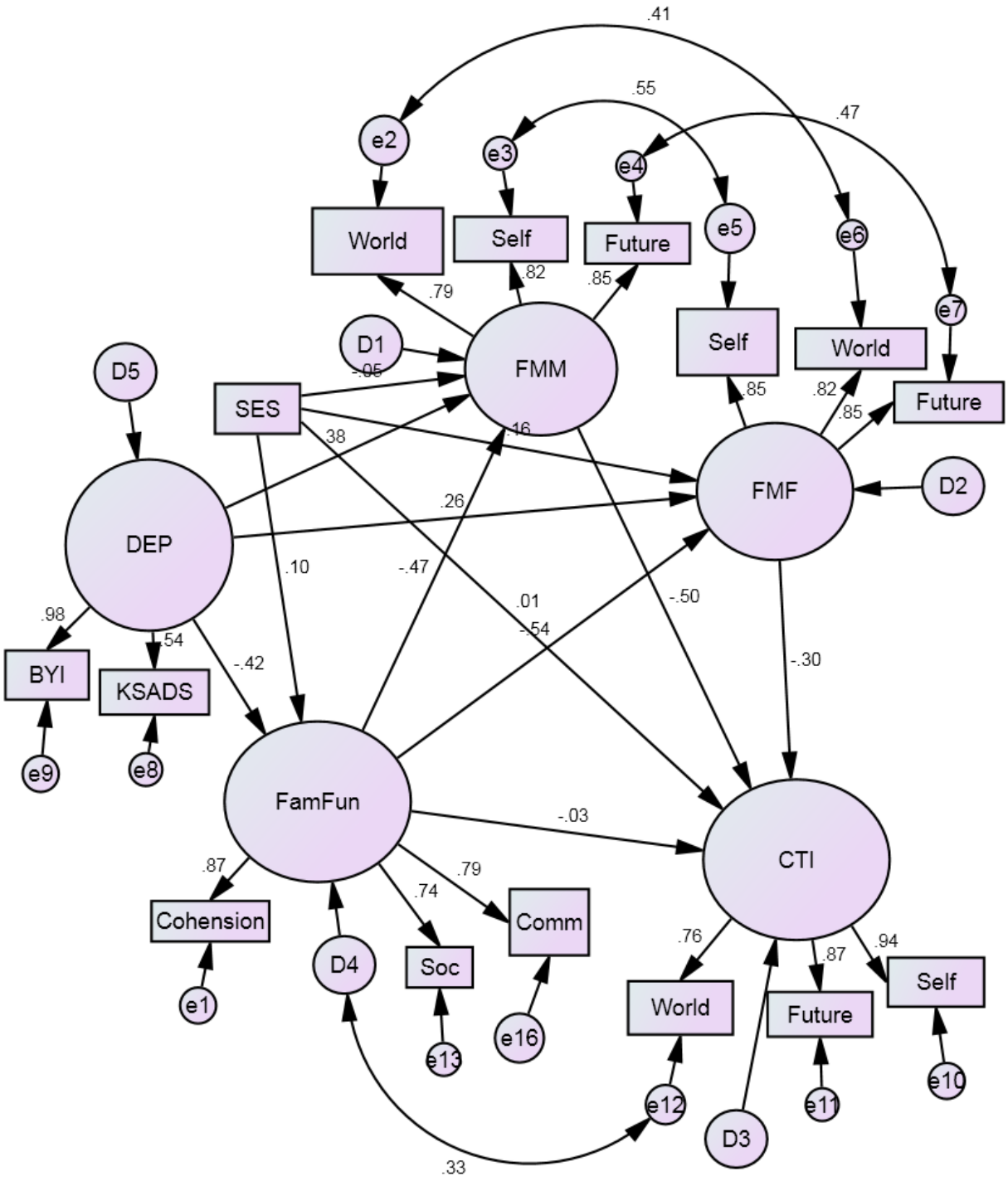

Figure 7. Model Controlling for Depressive Symptoms

CHAPTER 5

Discussion

This study investigated a proposed model for the development and maintenance of childhood depression, in which family functioning and perceived family messages affect the severity of girls' depressive symptoms both directly and indirectly via the girls' own cognitive triad. The study aimed to expand research on depression in early adolescent girls and provide a better understanding of how a negative cognitive triad may develop as well as factors that may contribute to the development and maintenance of depressive symptoms.

Summary of Results

There were four main questions: (1) Is family functioning associated with perceived family messages from maternal figures (Family Messages [M]) and perceived messages from paternal figures (Family Messages [F]), (2) Is family functioning associated with daughters' cognitive triad (girls' cognitions) and is this association mediated by family messages from the maternal figure and paternal figure, (3) Is family functioning associated with girls' depressive symptoms and is the association mediated by the girls' cognitive triad, FMM, and FMF, and (4) Is the proposed model different across ethnic groups when controlling for SES.

Results for the main analyses provided several significant findings. First, results demonstrated, as previous research suggested (Funk & Stark, 2013; Stark, 1996), that girls' cognitive triad was significantly associated with depressive symptoms and that family messages were directly associated with the girls' cognitive triad. Furthermore, the effects of maternal family messages indirectly affected depressive symptoms via girls' cognitive triad. This suggests that parental messages about the self, world and future may not directly affect depressive symptoms, but may aid in the development and maintenance of depressive symptoms via

providing messages that overtime are internalized by the girls (girls' cognitions). Additionally, although messages from both the girls' mothers and fathers appear to impact the girls' view of self, world, and future, messages from the girls' mothers may be a more significant factor as only maternal messages indirectly affect depressive symptoms. The tested model, which was found to be a good fit, also showed that family functioning was directly associated with both paternal and maternal family messages as well as indirectly affected girls' cognitive triad and depressive symptoms. This seemingly suggests that although family functioning does not directly impact depressive symptoms, that it contributes to the development and maintenance of depression by impacting perceived parental messages and girls internalized view of the self, world and future, which, in turn, affects the severity of her depressive symptoms. An examination of the model across ethnicities found no differences between Hispanic and Caucasian youth regarding the affects of the girls' cognitive triad on depressive symptoms as well as perceived family messages on girls' cognitive triad. However, Hispanic girls' perceptions of family cohesion were found to have a stronger association with family functioning than Caucasian girls' perceptions of family cohesion. This may indicate that although perceived family messages and girls' cognitions both play an important role in the development and maintenance of depression across ethnicities, family functioning attributes that contribute to negative parental messages and, thus, girls' cognitions and depressive symptoms may vary across ethnic groups.

Supplemental analyses were conducted to investigate potential differences in the effects of girls' cognitive triad on depressive symptoms across different age groups. Multi-group analyses found that no significant differences existed between 9-10 and 11-14 years old girls' or 4^{th}-5^{th} and 6^{th}-8^{th} grade girls' cognitive triad effects on depressive symptoms. Additionally, supplemental analyses found that while controlling for depressive symptoms, family functioning

continued to have significant direct effects on perceptions of family messages and perceptions of family messages continued to have significant direct effects on girls' cognitive triad; thus, indicating that the girls' depressive symptoms were not causing the significant effects in the model. Several key findings emerging from the study's results are discussed below.

Overview of Key Findings

The Central Importance of the CTI

This study's findings reinforce Beck's (1963, 1987) theory that a depressogenic schema may be of central importance in the development and maintenance of depression. When considering several variables, including a girls' cognitive triad, perceived messages from their parents, and perceived family functioning, girls' cognitive triad was the only direct significant predictor of depressive symptoms. Furthermore, girls' cognitive triad mediated the effects of perceived maternal messages as well as mediated the effects of family functioning. This may indicate that a negative view of the self, world, and future is an imperative feature, above and beyond family variables, in the development and maintenance of depression. Of specific importance, girls' cognitive triad was associated with depression across both Caucasian and Hispanic youth as well as across age groups (9 -10 and 11-14) and grades (4-5 and 6-8), which seemingly indicates that the findings are valid across both ethnic groups and age/grade ranges.

The importance of girls' cognitive style not only reinforces Beck's (1963, 1987) theory, but also provides suggestions for future treatment. The central importance of how adolescents think about the self, world, and future in the development and maintenance of depression suggest that these core beliefs should be considered when planning effective treatments that decrease depressive symptoms. In particular, the findings suggest that treatment for youth should include a cognitive component in order to restructure negative beliefs. Child and adolescent treatment of

depression should provide the adolescent with education about the cognitive component of depression and allow time within the session for the adolescent to work on restructuring negative thoughts.

It is important to consider that the measures used to capture paternal and maternal family messages as well as family functioning were administered to participants about their perceptions of family messages they receive from their parents about the self, world and future as well as perceptions of family functioning attributes, including communication, cohesion, and family sociability. Thus, it is possible that the participants own depressive cognitions, including their views about the self, world, and future, may have influenced how they perceived family messages as well as family functioning. For example, if an adolescent is already experiencing negative thoughts about herself or the world around her, it is possible that she may interpret a neutral message in a negative fashion. Additionally, many symptoms of depression, including withdrawal, may impact her perceptions of family communication, sociability and/or cohesion. However, previous research on the reverse hypothesis determined that the relationship between perceived family messages and children's cognitive triad was not due to their depressive symptoms (Stark, et al. 1996). Similarly, this current study found that when controlling for depressive symptoms, family functioning remained significantly associated with both maternal and paternal family messages and, furthermore, that maternal and paternal family messages remained significantly associated with girls' cognitive triads. This seemingly suggests that girls' cognitions are truly a central component in the development and maintenance of depression.

Further research is needed to clarify and extend the findings related to the important role of cognitive triad. To better understand the specific direct and mediating role of the cognitive triad, it may be helpful to explore the subscales of the CTI-C. A better understanding of how the

cognitions about the self, world and future mediate the relation between family functioning, family messages, and the severity of depressive symptoms would be beneficial to conceptualizing depression and planning effective treatments. This knowledge could provide clinicians with a sense of which messages, the self, world, or future, have the strongest association with depressive symptoms and, thus, are most important to target in child treatment. Furthermore longitudinal studies that include treatment components could provide insight into the types of treatments that are effective in decreasing negative cognitions and, thus, decreasing depressive symptoms.

Supporting Roles of Family Messages and Family Functioning

Although family functioning and family messages were not significantly directly associated with depressive symptoms, perceived family messages directly affected the girls' cognitive triads while family functioning directly affected family messages and indirectly affected the cognitive triad. This highlights the significant contributions of family functioning and family messages to the development and maintenance of the girls' cognitive triads. Given the findings of the current study, it appears that a girls' cognitive style, including her beliefs about the self, world, and future, is a significant contributor to the development and maintenance of depression. Although family functioning and family messages are not directly related to depressive symptoms, they may play an important role in the development and maintenance of depression through contributing to the development and maintenance of the girls' cognitive style. In particular, family dysfunction, including low cohesion, family sociability, and communication, contribute to negative family messages, which, in turn, appear to be internalized by the girls leading to the development of depression. For example, low cohesion in the family may influence perceived parental messages, such as providing the covert messages that the lack

of family support is due to a negative attribute of the girl, which, in turn may be internalized as low self-worth or lovability, and, thus, impact depressive symptoms. The potential role of family functioning and family messages in the development and maintenance of a negative cognitive style is important given the strong association between girls' cognitive triads and depressive symptoms, and suggests implications for treatment and further research.

To maximize treatment effects, it may be necessary to address parental and family issues within treatment (Kazdin & Weisz, 1998), specifically as they relate to altering cognitive constructs (Stark et al., 2000). Particularly, given this study's findings, parent and/or family components should focus on increasing the parents' awareness of their role in the adolescent's development and provide parents with skills training on how to model appropriate thoughts as well as reinforce the cognitive restructuring that is completed during treatment. Additionally, addressing family functioning concerns, such as a lack of communication, may decrease negative parent/child interactions that contribute to depressive symptoms via family messages and the development of a negative cognitive style. For example, by increasing family communication, parents may be better able to express the purpose of consequences (i.e. differentiate between the action being wrong and the child being bad) instead of the child internalizing the "bad action' to mean that they are a "bad child." This type of integrative intervention may help to decrease overall stress in the family environment and alter parental patterns of negative perceptions through modeling as well as help the parent(s) to support the adolescent in adhering to skills practice outside of treatment sessions.

Integration of Findings with Previous Research

The current study built upon previous literature and explored a new model of depression in pre- to early adolescent girls. Based upon the literature, the model explored the effects of girls'

cognitions, parent/children interactions, and family attributes on the development and maintenance of depression. Specifically, the model investigated the effects of overall family functioning, as measured via family cohesion, communication, and sociability, family messages about the self, world, and future, and girls' cognitions on depressive symptoms.

Consistent with the previous literature, the current study found girls' beliefs about the self, world, and future to be significantly associated with depressive symptoms. This finding provides support for Beck's diathesis-stress theory of depression that emphasizes cognitive structures as critical elements in the development, maintenance and recurrence of depression (Beck, 1967, 1983; Kovacs & Beck, 1978). In particular, the current study's findings support previous research that found a negative self-schema (Zupan, Hammen, & Jaenicke, 1987), a negative view of the world (Kaslow et al., 1992), and negative expectations for the future (e.g., Kazdin, Rodgers, & Colbus, 1986) to be associated with depressive symptoms. The study additionally highlights the central importance of the girls' beliefs given that the other environmental variables, including parental messages and family functioning, were not directly associated with girls' depressive symptoms.

As cognitive diathesis-stress models also place emphasis on stressful environmental factors that interact with a cognitive vulnerability in the development of depression, the current study's model additionally explored the roles of family messages and family functioning on the development and maintenance of depression in pre- and early adolescent girls. Consistent with previous literature (e.g., Alloy, et al. 2001; Bowlby, 1988; Garber & Flynn, 1998; Garber & Flynn, 2001; Hokoda, & Fincham, 1995; Rudolph, Hammen, & Burge, 1994; Stark et al., 1996), messages from the parents were found to significantly impact the girls' cognitive styles. Previous research has particularly found that maternal verbal and emotional feedback is associated with

girls' cognitive style over long durations of time (Mezulis et. al, 2011), which may indicate that parental messages aid in both the development and maintenance of cognitive style. In the current study, both perceived maternal and paternal messages were found to impact the girls' cognitive style; however, contradictory to previous research (Funk, 2010), only the perceived maternal messages had an indirect effect on depressive symptoms. Therefore, this may suggest that although both this study and previous research indicate that perceived maternal and paternal messages, including verbal feedback, modeling, and coaching, may contribute to the development and maintenance of a cognitive style, the current study highlights that the perceived maternal messages may be of particular importance given their indirect effects on depressive symptoms.

Previous research has additionally explored the role of the family environment in the development and maintenance of depression. There is overwhelming documentation in the literature that links dysfunctional family environment and depression (Allen, Hauser, & Eickholt, 1994; Aydin & Oztutuncu, 2001; Delaney 1996). In particular, high levels of conflict, low cohesion, difficulties with communication and reduced family sociability have been linked as common characteristics of families of depressed youth (Messer & Gross, 1995; Puig-Antich, Lukens, Davies, Goetz, Brennan-Quattrock, & Todak, 1985; Puig-Antich et al., 1993; Stark, Humphrey, Crook, & Lewis, 1990; Stark, Humphrey, Laurent, Livingston, & Christopher, 1993). Thus, the current study investigated the effects of family functioning on family messages, girls' cognitions, and girls' depressive symptoms. Previous research indicates that family functioning attributes, including family sociability, cohesion, and communication, are associated with depressive symptoms (Barrera & Garrison-Jones, 1992; Hops et al., 1990; Houltberg, Henry, Merten &. Robinson, 2011; Puig-Antich, 1985; Puig-Antich et al., 1993; Stark et al., 1993);

however, the current study highlighted that family functioning does *not* directly impact depressive symptoms, but rather contributes to perceived family messages and, thus, girls cognitive style, which, in turn, affects depressive symptoms. Therefore, the current study not only reinforced the importance of family attributes in the development and maintenance of depression, but additionally clarified potential pathways in which family functioning may contribute to both the development and maintenance of a cognitive style as well as depression.

Furthermore, previous research speculated that differences in factors that contribute to the development and maintenance of depression in youth may vary across ethnicities. In particular, previous research indicated that among Hispanic and African American youth relationships with their mothers as well as family cohesion are of particular importance in the development of depression (Carlton-Ford et. al, 1996; Garcia, et al., 2008; Sagrestano et al, 2003; Taylor et al, 2008). Furthermore, there was inconclusive evidence regarding mean levels of cognitive style as well as the impacts of cognitive style on depressive symptoms across ethnicities with some studies finding no ethnic differences (Kennard, Stewart, Hughes, Patel, & Emslie, 2006) while others indicate that Caucasians demonstrate a more negative cognitive style as well as a stronger relationship between cognitive style and depressive symptoms (Herman et al, 2007; Kennard et al., 2006; Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998; Waschbusch, Sellers, LeBlanc, & Kelley, 2003). Similar to previous research, the current study's findings suggest that family cohesion is of particular importance among Hispanic youth; however, no differences were found across ethnicities regarding maternal and paternal messages on girls' cognitions. Additionally, the current study found no differences in cognitive style means or the relationship between cognitive style and depressive symptoms among Caucasian and Hispanic girls.

The current study additionally investigated potential differences in the proposed model across age and grades. Previous research has documented that cognitive-related structures stabilize across early adolescents (Cole et al, 2008; Garber & Flynn, 2001; Nolen-Hoeksema, Girgus, & Seligman, 1992) with girls being more likely to develop a trait-like negative cognitive style (Mezulis et al, 2011); therefore, the current study investigated the role of girls' cognitions across both age and grade ranges. The current study found no differences in the effect of cognitive style on depressive symptoms across age (9-10, 11-14) or grade (4-5, 6-9) groups; however, if investigated longitudinally, difference may be detected given the malleable nature of younger children's cognitions.

General Limitations

There are several limitations to consider for the current study. One of the most obvious limitations stemmed from the sample itself. Only early adolescent females were included in the present study; therefore, findings from this study may not be generalizable to male youth. It is very possible that the proposed model of depression would have different results for male youth. In addition, the study has restrictive inclusion criteria that exclude those girls with other primary diagnoses and/or active suicidal ideation. Therefore, results may not be generalizable to female youth with depressive symptoms whom have other primary diagnoses (i.e. generalized anxiety) and/or female youth with severe, suicidal depressive symptoms.

The last research question utilized a multi-group analysis SEM model to determine the presence of significant differences among Caucasian and Hispanic female youth. When comparing the treatment conditions, the sample size for the Hispanic group was only 65 participants. The small sample size limits the power behind each analysis, and makes it more difficult to determine whether or not the lack of significant results is an accurate finding within

the sample population, or, rather, a result of having insufficient power to detect meaningful differences. Therefore, the limited sample size indicates that the multi-group results for the current study must be interpreted with caution. Additionally, due to limited sample size, differences in the model across other racial and ethnic groups, such as African Americans, Asian Americans, and Native Americans, were not explored. Therefore, it is possible that the model does have meaningful differences across ethnic groups that were not examined; this should be considered when applying the significant findings to female youth.

Using previously collected data also restricted how the variables in the study were operationalized using the available measures. Two major restrictions involved were the measures used for family functioning and family messages. Since the model was aiming to explore how family functioning and family messages influenced girls' cognitions and depressive symptoms, the Self-Report Measure of Family Functioning-Child Revised and Family Messages Measure seemed appropriate; however, it is important to consider that the measures were self-report and, thus, the girls' perceptions of family functioning and family messages. Therefore, the family functioning and family messages in the current study reflect the girls' perceptions, and not necessarily the reality of their family functioning or the messages they were receiving from their parents.

These limitations raise questions about the accuracy of the results of the current study. The significant and nonsignificant results may reflect an accurate model depiction of how family functioning, family messages and girls' cognitions affect depressive symptoms in early adolescent girls; however, the restriction of available data may also have affected the analyses' ability to discover accurate significant results.

Implications

Despite the noted limitations, the findings from this study contribute useful information to the understanding of the development and maintenance of depression in early adolescent females. Implications for clinical practice and future research are discussed in light of the limitations of this particular study.

Theoretical Implications

The current study adds to the theoretical underpinnings of the development and maintenance of child and adolescent depression. Several theories have focused on the role of cognitive components (Beck 1967, 1983) as well as considered environmental factors, such as family functioning and exposure to life stressors (Allen et al, 1994; Alloy, et al.., 2006; Aydin & Oztutuncu, 2001; Delaney 1996; Hooley, Orley, & Teasdale, 1986; Keitner et al., 1995Stark, Schmidt, & Joiner, 1996), in the development and maintenance of depression; however, no theoretical models have simultaneously investigated the effects of family functioning, family messages and cognitive style on the development and maintenance of depression. The current study's findings suggest that family functioning, family messages, and girls' cognitive style all contribute to the development and maintenance of depression. In particular, the findings highlight the central role of cognitive style in relation to depressive symptoms. This may indicate that although previous research has found direct links between family functioning and depressive symptoms (Allen et al, 1994; Aydin & Oztutuncu, 2001; Delaney 1996; Hooley, Orley, & Teasdale, 1986; Keitner et al., 1995; Sheeber et al, 2001) as well as parent/child relationships and depressive symptoms (Alloy et al., 2006; Abramson et al., 1999; Alloy et al, 2001), that family functioning and parent/child relationships are *not* actually directly related to depressive symptoms, but instead contribute to the development of depression via contributing to the

development of a negative cognitive style. This reinforces Beck's (1967, 1983) theory that cognitive style is not completely genetic, but rather a construct that develops over time in which a child's genetic vulnerabilities interact with the environment, particularly stressful situations, to determine the development of a negative cognitive style. The findings from the current study suggest that both family functioning and child/parent interactions play a strong role in the development of a negative cognitive style, and, thus, are environmental factors that should be considered within models of child and adolescent depression.

Preventative Interventions

The current study provides valuable information to consider for preventative interventions targeting depression in female youth. Previous literature has noted that poor family functioning and poor parent/child relationships are risk factors for the development of depression (Abramson et al., 1999; Allen et al, 1994; Abramson et al., 1999; Alloy et al, 2001 Aydin & Oztutuncu, 2001; Delaney 1996; Hooley, Orley, & Teasdale, 1986; Keitner et al., 1995) while the current study suggests that such family attributes and relationships contribute to the development of a negative cognitive style, which, in turn, leads to the development of depression. Given that cognitive style has been found to be malleable until early adolescence (Cole et al, 2008; Garber & Flynn, 2001; Nolen-Hoeksema, Girgus, & Seligman, 1992), providing early intervention, such as parenting and/or family classes that address negative family messages and family functioning, may prevent the development of a negative cognitive style and, thus, the development of depression. For example, parenting classes may provide insight into parents' roles in the development of their child's cognitive style as well as provide knowledge on ways to model and coach their child through stressful life situations that support positive views about the self, world, and future. Furthermore, as cognitive style has been found

to develop on various trajectory patterns, working within family and parent/child dyads may allow for family and parent/child interaction changes that reverse a negative cognitive style prior to its solidification.

Clinical Practice

The current study additionally provides insightful information to consider for future clinical practice with depressed female youth. As previously mentioned, findings reinforce the importance of a cognitive component in child treatment of depression. Treatment should provide the adolescent with education about the cognitive component of depression and allow time within session for the adolescent to practice restructuring negative thoughts. The results also highlight the importance of addressing family messages, in particular, how they relate to the adolescent's development of beliefs about the self, world, and future. The inclusion of a parent component that focuses on skills training on how to model appropriate thoughts and reinforce the skills the adolescent is learning in therapy may help to diminish the negative cognitions that girls develop. Family functioning may also be a factor to consider when conceptualizing the affects of parental messages of girls' cognitions. A family component may also be added if it appears the family stress factors are inhibiting or interfering with the parent(s) providing and modeling positive messages about the girls' self, world, and future. If a family component is included, it may be beneficial to determine which family attributes are most distressful for the youth given potential differences across cultures.

Future Research

There are several directions for future research to move towards better understanding the relation between family functioning, family messages, girls' cognitions, and the severity of their depressive symptoms. Perhaps the most obvious direction, as noted previously, is the inclusion

of more objective family functioning and family messages measures. The current study only examined the relationships between girls' perceptions of family functioning, perception of family messages, cognitions and depressive symptoms. Although the model was tested to ensure that depressive symptoms were not driving the significant relations, further understanding how actual, more objective levels of family functioning and family messages contribute to the development and maintenance of girls' cognitive triad and depressive symptoms would be beneficial. Having a more objective understanding of the messages received from family members and family functioning would allow researchers to have a better sense of the effect of family functioning and family messages on the development of girls' cognitive triad as well as the development and maintenance of depression. These types of extensions of the research may provide more clarification and support for the significant mediating role of the girls' cognitive triad in the relation of family functioning, family messages, and the girls' depressive symptoms.

Another direction for future research is exploring the impact of the individual subscales on family functioning, family messages and cognitive triad measures. The current study utilized latent variable SEM, which allowed for decreased error in measurement; however, by utilizing this approach, the individual effects of family functioning variables, family messages subscales, and cognitive triad subscales were not examined. Further understanding how particular family functioning variables, such as cohesion, as well as particular family messages subscales (i.e. self, world, and future) are related to girls' cognitive triads and depressive symptoms would contribute to further understanding of the development and maintenance of depression in early adolescent girls as well as help to guide treatment. In addition, it may be beneficial to examine the impact of these subscales across various ethnic groups. Given the finding that family cohesion factors onto family functioning differently across Hispanic and Caucasian adolescent

females, other subscales may be highly influenced by culture and, thus, impact their relations to both the development of a negative cognitive style as well as depressive symptoms.

Furthermore, examining the associations longitudinally between family functioning, family messages, and girls' cognitive triad, would provide further insight into the factors that contribute to the development and maintenance of a negative cognitive triad. As research has found unique trajectory patterns of cognitive styles with girls being much more likely to develop increasing negative cognitive styles (Mezulis et al., 2011), a longitudinal study would allow the investigation of factors, including family functioning attributes and family messages, that most significantly contribute to the development of a stabilized negative cognitive triad. Additionally, as cognitive style has been found to become more trait-like from 7 to 15 years of age (Cole et al, 2008; Garber & Flynn, 2001; Nolen-Hoeksema, Girgus, & Seligman, 1992), it would be beneficial to investigate a broader sample of girls (i.e. age 7 to 15), in order to determine if any differences exist in models across a wider age range.

The current study also did not control for family composition or the relationship between parents and daughters. It seems possible that the messages a daughter receives from a parent she is close to might have a stronger impact on the development of her own beliefs. Furthermore, given potential variations in household compositions, such as single parent, step, or multigenerational, parent messages may be more influential in certain household types. Future research is needed to explore the variables that may heighten or lessen the impact of perceived parental messages about the self, world, and future. This could inform future clinicians in regards to family members that are important to include when planning treatment or interventions.

It would be beneficial for future research to further investigate the relations between family functioning, family messages, girls' cognitive triads and girls' depressive symptoms across ethnic groups. The current study investigated differences in the proposed model between Caucasian and Hispanic female youth; however, other ethnic groups were unable to be explored due to inadequate sample sizes. Due to unique cultural components, particularly that obtain to family functioning and parent/child relationships, differences may exist in the model across various ethnic groups that were not explored. Future research is needed to determine if the proposed model is valid across various ethnic groups as well as to further understand ways that cultural components may directly or indirectly through family functioning and parent/child relations affect the development and maintenance of depression in female youth.

It may also be beneficial for future research to investigate the impacts of particular stressors, such as financial difficulties, absent parent figures, traumatic events, on the development and maintenance of depression. In the current study, SES was included as a control variable and showed significant findings that were not discussed within the scope of this paper. Findings suggested that SES significantly directly affected family functioning ($p<.05$) and family messages from the father ($p<.01$), as well as indirectly affected family messages from the mother ($p<.05$), and girls' cognitive triad ($p<.01$). This may be indicative of particular stressors, which may be cofounding with economic status, impacting family functioning, family messages, girls' cognitive triad, and, thus, girls' depressive symptoms. Further understanding the impact of these stressors on the development and maintenance of both a negative cognitive style and depression could help guide the planning and effectiveness of treatment.

Conclusions

The primary goal of this study was to investigate a proposed model of depression in early adolescent females. The study explored a model proposing a relation between family functioning, family messages, girls' cognitions and their depressive symptoms as well as compared the model across ethnicities (Caucasian, Hispanic), age groups (9-10, 11-14) and grades (4^{th}-5^{th}, 6^{th}-8^{th}). Analyses provided several significant findings, including significant direct effects of family functioning on family messages, family messages on girls' cognitions, and girls' cognitions on depressive symptoms as well as the girls' cognitions mediating the relation between family messages and girls depressive symptoms, and family functioning indirectly effecting depressive symptoms via both family messages and the girls' cognitions. In addition, cohesion contributed more to family functioning in Hispanic females more than Caucasian females. No other significant differences were found in the model across ethnicity. No significant differences were found in the model across age groups or grades. The findings of this study have implication for preventative interventions and clinical practice as well as continued research with depressed youth.

The current study is relevant to the theoretical underpinnings of the development and maintenance of depression in early adolescents as well as provides implications for preventative intervention and treatment with this subpopulation. Results provide further support cognitive models of depression while additionally highlighting the importance of the family and parent/child relationship as both risk and protective factors in the development and maintenance of a negative cognitive style and, thus, depression. These findings have important clinical implications, including the potential need for preventative interventions as well as important factors to consider in case conceptualization and treatment of depression in adolescent females.

The findings suggest that preventative interventions and/or current treatments of depression may benefit from including components to address negative cognitions as well as parent/child and/or family issues that may be contributing to the girls' negative cognitions and, thus, depressive symptoms. It is important for research to continue to identify key factors, such as individual aspects of family functioning or particular family messages, which predict and explain the development of a negative cognitive style as well as contribute to the development and maintenance of depression.

The importance of these components remained across both ethnicities (Caucasian, Hispanic) as well as across age and grade groups. These findings reinforce the importance of cognitive style in the development and maintenance of depression across both ethnicities as well as across age ranges, indicating that cognitive components should be incorporated into conceptualizations and treatment across all such groups. However, further research is needed to determine if the proposed model remains consistent across other ethnic groups (i.e. African American, Asian American, Native American) as these groups have their own distinct cultural values that influence family systems, family messages and, potentially, the importance of cognitions in relation to youth depression. Additionally, it would be interesting to examine this model longitudinally to determine the factors that contribute to the development of a negative cognitive style and if these factors are the same across ethnic groups. Furthermore, conducting a longitudinal study that investigates if the same treatments are equally effective across both ethnicities and age groups may be beneficial.

Overall, this study expanded the research base for youth depression by providing important information about the development and maintenance of depression in early adolescent females. The findings of this study provided additional support to the critical role of girls'

cognitions as a mediator to both family messages and family functioning and their depressive symptoms. Furthermore, results indicate that these critical components are consistent across both ethnicities (Caucasian, Hispanic) and age groups (9-10, 11-14). The findings of the current study support the need for additional research family functioning factors and particular family messages influences on the development of a negative cognitive style, and, thus, depressive symptoms as well as a need to explore potential discrepancies in the model across various ethnicities and broader age ranges.

It is hoped that the current study has added to the growing body of literature on the family environment, family messages, cognitive styles, and depression, while encouraging further research in aforementioned areas. Given the prevalence of depression, particularly in adolescent girls, it is important to continue to explore pathways to the development of depression in order to better prevent and treat depressive symptoms among female youth.

APPENDICES

Appendix A

DSM-IV TR Diagnostic Criteria for Depressive Disorders

DSM-IV TR Criteria for Major Depressive Disorder

A. Five (or more) of the following symptoms must be present during the same 2-week period and represent Presence of a one or more Major Depressive Episodes (to be considered separate episodes, there must be an interval of 2 consecutive months in which criteria are not met for a Major Depressive Episode).

B. Major Depressive Episode is not better accounted for by Schizoaffective Disorder and is not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.

C. There has never been a Manic Episode, Mixed Episode, or Hypomanic Episode.

DSM-IV Criteria for Major Depressive Episode

A. Five (or more) of the following symptoms must be present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood, or (2) loss of interest or pleasure.

    1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). **Note: in children and adolescents, can be irritable mood**.
    2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).
    3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. **Note: in children, consider failure to make expected weight gains**.
    4. Insomnia or hypersomnia nearly every day.
    5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
    6. Fatigue or loss of energy nearly every day.

7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

B. The symptoms do not meet criteria for a Mixed Episode.

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).

E. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation. .

DSM-IV TR Criteria for Dysthymic Disorder

A. Depressed mood for most of the day, for more days than not, as indicated either by subjective account of observation by others, for at least 2 years. **Note: In children and adolescents, mood can be irritable and duration must be at least 1 year.**

B. Presence, while depressed, of two (or more) of the following:

1. Poor appetite or overeating
2. Insomnia or hypersomnia
3. Low energy or fatigue
4. Low self-esteem
5. Poor concentration or difficulty making decisions
6. Feelings of hopelessness

C. During the 2-year period (1 year for children or adolescents) of the disturbance, the person has never been without the symptoms in Criteria A and B for more than 2 months at a time.

D. No Major Depressive Episode has been present during the first 2 years of the Disturbance

E. There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode, and criteria have never been met for Cyclothymic Disorder.

F. The disturbance does not occur exclusively during the course of a chronic Psychotic Disorder, such as Schizophrenia or Delusional Disorder.

G. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).

H. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

DSM-IV TR Criteria for Depressive Disorder Not Otherwise Specified

A. A mood disturbance, defined as follows:

1. At least two (but less than five) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (a) or (b):

    a. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). **Note: in children and adolescents, can be irritable mood**.

    b. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).

    c. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. **Note: in children, consider failure to make expected weight gains**.

    d. Insomnia or hypersomnia nearly every day.

    e. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).

f. Fatigue or loss of energy nearly every day.

g. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self reproach or guilt about being sick).

h. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).

i. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

2. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

3. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).

4. The symptoms are not better accounted for by Bereavement.

B. There has never been a Major Depressive Episode, and criteria is not met for Dysthymic Disorder.

C. There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode, and criteria are not met for Cyclothymic Disorder.

D. The mood disturbance does not occur exclusively during Schizophrenia, Schizophreniform Disorder, Schizoaffective Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.

Appendix B

Beck Depression Inventory for Youth

Name: _____

Here is a list of things that happen to people and that people think or feel. Read each sentence carefully, and circle the one word (Never, Sometimes, Often, or Always) that tells about you best, especially in the last two weeks. THERE ARE NO RIGHT OR WRONG ANSWERS.

	0	1	2	3
1. I think that my life is bad.	**Never**	**Sometimes**	**Often**	**Always**
2. I have trouble doing things.	**Never**	**Sometimes**	**Often**	**Always**
3. I feel that I am a bad person.	**Never**	**Sometimes**	**Often**	**Always**
4. I wish I were dead.	**Never**	**Sometimes**	**Often**	**Always**
5. I have trouble sleeping.	**Never**	**Sometimes**	**Often**	**Always**
6. I feel no one loves me.	**Never**	**Sometimes**	**Often**	**Always**
7. I think bad things happen because of me.	**Never**	**Sometimes**	**Often**	**Always**
8. I feel lonely.	**Never**	**Sometimes**	**Often**	**Always**
9. My stomach hurts.	**Never**	**Sometimes**	**Often**	**Always**
10. I feel like bad things happen to me.	**Never**	**Sometimes**	**Often**	**Always**
11. I feel like I am stupid.	**Never**	**Sometimes**	**Often**	**Always**
12. I feel sorry for myself.	**Never**	**Sometimes**	**Often**	**Always**
13. I think I do things badly.	**Never**	**Sometimes**	**Often**	**Always**
14. I feel bad about what I do.	**Never**	**Sometimes**	**Often**	**Always**
15. I hate myself.	**Never**	**Sometimes**	**Often**	**Always**
16. I want to be alone.	**Never**	**Sometimes**	**Often**	**Always**

17. I feel like crying.	**Never**	**Sometimes**	**Often**	**Always**
18. I feel sad.	**Never**	**Sometimes**	**Often**	**Always**
19. I feel empty inside.	**Never**	**Sometimes**	**Often**	**Always**
20. I think my life will be bad.	**Never**	**Sometimes**	**Often**	**Always**

Appendix C

Cognitive Triad Inventory for Children

Instructions: Circle the answer which best describes your opinion. Choose only one answer for each idea. Answer the items for what you are thinking RIGHT NOW. Remember fill this out for how you feel today.

1. I do well at many different things.	Yes	Maybe	No	
2. Schoolwork is no fun.	Yes	Maybe	No	
3. Most people are friendly and helpful.	Yes	Maybe	No	
4. Nothing is likely to work out for me.	Yes	Maybe	No	
5. I am a failure.	Yes	Maybe	No	
6. I like to think about the good things that will happen for me in the future.	Yes	Maybe	No	
7. I do my schoolwork okay.	Yes	Maybe	No	
8. The people I know help me when I need it.	Yes	Maybe	No	
9. I think that things will be going very well for me a few years from now.	Yes	Maybe	No	
10. I have messed up almost all the best friendships I have ever had.	Yes	Maybe	No	
11. Lots of fun things will happen for me in the future.	Yes	Maybe	No	
12. The things I do every day are fun.	Yes	Maybe	No	
13. I can't do anything right.	Yes	Maybe	No	
14. People like me.	Yes	Maybe	No	
15. There is nothing left in my life to look forward to.	Yes	Maybe	No	
16. My problems and worries will never go away.	Yes	Maybe	No	
17. I am as good as other people I know	Yes	Maybe	No	
18. The world is a very mean place.	Yes	Maybe	No	
19. There is *no* reason for me to think that things will get better for me.	Yes	Maybe	No	

20. The important people in my life are helpful and nice to me.	Yes	Maybe	No	
21. I hate myself.	Yes	Maybe	No	
22. I will solve my problems.	Yes	Maybe	No	
23. Bad things happen to me a lot.	Yes	Maybe	No	
24. I have a friend who is nice and helpful to me.	Yes	Maybe	No	
25. I can do a lot of things well.	Yes	Maybe	No	
26. My future is too bad to think about.	Yes	Maybe	No	
27. My family doesn't care what happens to me.	Yes	Maybe	No	
28. Things will work out okay for me in the future.	Yes	Maybe	No	
29. I feel guilty for a lot of things.	Yes	Maybe	No	
30. No matter what I do, other people make it hard for me to get what I need.	Yes	Maybe	No	
31. I am a good person.	Yes	Maybe	No	
32. There is nothing lo look forward to as I get older.	Yes	Maybe	No	
33. I like myself.	Yes	Maybe	No	
34. I am faced with many difficulties.	Yes	Maybe	No	
35. I have problems with my personality.	Yes	Maybe	No	
36. I think that I will be happy as I get older.	Yes	Maybe	No	

Appendix D

Family Messages Measure- Mother

Instructions: Carefully read each item below and indicate how often you hear these kinds of messages in your home.

1. My mother tells me that I'm good at different things.	Never	Sometimes	Always
2. My mother says that schoolwork is just something that must get done.	Never	Sometimes	Always
3. My mother believes that most people are friendly and helpful.	Never	Sometimes	Always
4. Nothing I do seems to satisfy my mother.	Never	Sometimes	Always
5. My mother tells me that I'm a failure.	Never	Sometimes	Always
6. When I talk with my mother about the future, it looks bright.	Never	Sometimes	Always
7. I hear my mother say that I do well at school.	Never	Sometimes	Always
8. My mother tells me that she will help me whenever I need it.	Never	Sometimes	Always
9. My mother tells me that I will do well in the future.	Never	Sometimes	Always
10. My mother wonders how anyone could be friends with me.	Never	Sometimes	Always
11. My mother tells me that being grown up is no fun.	Never	Sometimes	Always
12. My mother tells me that I can have an enjoyable future.	Never	Sometimes	Always
13. My mother tells me that I can't do anything right.	Never	Sometimes	Always
14. My mother wonders how anyone could like me.	Never	Sometimes	Always
15. My mother tells me that I have a limited future.	Never	Sometimes	Always
16. My mother tells me that my problems and worries will never go away.	Never	Sometimes	Always
17. My mother tells me that I'm as good as or better than my friends.	Never	Sometimes	Always
18. My mother tells me that the world is a mean place.	Never	Sometimes	Always
19. My mother tells me that things aren't going to get any better.	Never	Sometimes	Always
20. My mother is helpful and nice to me.	Never	Sometimes	Always
21. My mother tells me that you shouldn't	Never	Sometimes	Always

like people who aren't good at most things.			
22. My mother tells me that I am incapable of solving my own problems.	Never	Sometimes	Always
23. My mother wonders why so many bad things happen to me and nobody else.	Never	Sometimes	Always
24. My mother tells me that I have nice and helpful friends.	Never	Sometimes	Always
25. My mother tells me that I can do a lot of things well.	Never	Sometimes	Always
26. My mother tells me that unless I change, my future is bleak.	Never	Sometimes	Always
27. My mother tells me to do whatever I want because it doesn't matter to her.	Never	Sometimes	Always
28. My mother tells me that I can always work things out.	Never	Sometimes	Always
29. My mother tells me that I should be ashamed of myself for doing bad things.	Never	Sometimes	Always
30. My mother says that no matter what I do, other people will get in my way.	Never	Sometimes	Always
31. My mother tells me that I am a good person.	Never	Sometimes	Always
32. My mother tells me that it is no fun being an adult.	Never	Sometimes	Always
33. My mother tells me that I am a likeable person.	Never	Sometimes	Always
34. My mother says that if there wasn't something wrong with me, I would have more friends.	Never	Sometimes	Always
35. My mother tells me that I have some personality problems.	Never	Sometimes	Always
36. My mother tells me that I will continue to be happy as I get older.	Never	Sometimes	Always

Family Messages Measure- Father

Instructions: Carefully read each item below and indicate how often you hear these kinds of messages in your home.

1. My father tells me that I'm good at different things.	Never	Sometimes	Always
2. My father says that schoolwork is just something that must get done.	Never	Sometimes	Always
3. My father believes that most people are friendly and helpful.	Never	Sometimes	Always
4. Nothing I do seems to satisfy my father.	Never	Sometimes	Always
5. My father tells me that I'm a failure.	Never	Sometimes	Always
6. When I talk with my father about the future, it looks bright.	Never	Sometimes	Always
7. I hear my father say that I do well at school.	Never	Sometimes	Always
8. My father tells me that she will help me whenever I need it.	Never	Sometimes	Always
9. My father tells me that I will do well in the future.	Never	Sometimes	Always
10. My father wonders how anyone could be friends with me.	Never	Sometimes	Always
11. My father tells me that being grown up is no fun.	Never	Sometimes	Always
12. My father tells me that I can have an enjoyable future.	Never	Sometimes	Always
13. My father tells me that I can't do anything right.	Never	Sometimes	Always
14. My father wonders how anyone could like me.	Never	Sometimes	Always
15. My father tells me that I have a limited future.	Never	Sometimes	Always
16. My father tells me that my problems and worries will never go away.	Never	Sometimes	Always
17. My father tells me that I'm as good as or better than my friends.	Never	Sometimes	Always
18. My father tells me that the world is a mean place.	Never	Sometimes	Always
19. My father tells me that things aren't going to get any better.	Never	Sometimes	Always
20. My father is helpful and nice to me.	Never	Sometimes	Always
21. My father tells me that you shouldn't like people who aren't good at most	Never	Sometimes	Always

things.

22. My father tells me that I am incapable of solving my own problems.	Never	Sometimes	Always
23. My father wonders why so many bad things happen to me and nobody else.	Never	Sometimes	Always
24. My father tells me that I have nice and helpful friends.	Never	Sometimes	Always
25. My father tells me that I can do a lot of things well.	Never	Sometimes	Always
26. My father tells me that unless I change, my future is bleak.	Never	Sometimes	Always
27. My father tells me to do whatever I want because it doesn't matter to her.	Never	Sometimes	Always
28. My father tells me that I can always work things out.	Never	Sometimes	Always
29. My father tells me that I should be ashamed of myself for doing bad things.	Never	Sometimes	Always
30. My father says that no matter what I do, other people will get in my way.	Never	Sometimes	Always
31. My father tells me that I am a good person.	Never	Sometimes	Always
32. My father tells me that it is no fun being an adult.	Never	Sometimes	Always
33. My father tells me that I am a likeable person.	Never	Sometimes	Always
34. My father says that if there wasn't something wrong with me, I would have more friends.	Never	Sometimes	Always
35. My father tells me that I have some personality problems.	Never	Sometimes	Always
36. My father tells me that I will continue to be happy as I get older.	Never	Sometimes	Always

Appendix E

Self-Report Measure of Family Functioning- Child Revised/
Self-Report Measure of Family Functioning

Note: The following directions are for the SMRFF-CR. The items presented below are used for both the SMRFF and the SMRFF-CR.

Directions: Please read each sentence carefully. Indicate how true the sentence is of your family by circling one of the following:

Never True A Little True Sometimes True Mostly True Very True

If you do not think that the sentence ever describes your family, then circle Never True. If you think that the sentence is true of your family once-in-a-while, then circle the words A Little True. If you think that the sentence is true of your family sometimes, then circle the words Sometimes True. If you think that the sentence is true of your family lots of times, then circle the words Mostly True. If the sentence describes how your family is all of the time, then circle the words Very True.

Let's try an example together:

1. Everyone takes turns doing the dishes in our family.

Never True A Little True Sometimes True Mostly True Very True

Did you circle one of the responses above? Good job! Please circle only one (1) response for each statement. Answer every statement, even if you are not completely sure of your answer. If you have any questions while you are filling out this form, raise your hand and ask for help. Thank you for helping us learn more about families.

1. We discuss our problems.
Never True A Little True Sometimes True Mostly True Very True

2. Family members make the rules together.
Never True A Little True Sometimes True Mostly True Very True

3. Family members really help and support each other.
Never True A Little True Sometimes True Mostly True Very True

4. Family members criticize each other.
Never True A Little True Sometimes True Mostly True Very True

5. Our family gets together with friends.
Never True A Little True Sometimes True Mostly True Very True

6. It's hard to know what will happen when rules are broken in our family.
Never True A Little True Sometimes True Mostly True Very True

7. We go to movies, sporting events, camping, etc.
Never True A Little True Sometimes True Mostly True Very True

8. Family members discuss family problems and solutions together.
Never True A Little True Sometimes True Mostly True Very True

9. There is strict punishment for breaking rules in our family.
Never True A Little True Sometimes True Mostly True Very True

10. When I need a family member, I know where I can find them.
Never True A Little True Sometimes True Mostly True Very True

11. We fight in our family.
Never True A Little True Sometimes True Mostly True Very True

12. Members of our family can get away with almost anything.
Never True A Little True Sometimes True Mostly True Very True

13. Parents and children in our family discuss together the punishment for breaking the rules.
Never True A Little True Sometimes True Mostly True Very True

14. There is a feeling of togetherness in our family.
Never True A Little True Sometimes True Mostly True Very True

15. Friends come over for dinner or to visit.
Never True A Little True Sometimes True Mostly True Very True

16. Family members participate in a hobby.
Never True A Little True Sometimes True Mostly True Very True

17. Family members get so angry they throw things.
Never True A Little True Sometimes True Mostly True Very True

18. It is hard to know what the rules are in our family because they are always changing.
Never True A Little True Sometimes True Mostly True Very True

19. In our family, it is important for everyone to give their opinion.
Never True A Little True Sometimes True Mostly True Very True

20. Family members are severely punished for anything they do wrong.
Never True A Little True Sometimes True Mostly True Very True

21. Each family member has at least some say in major family decisions.
Never True A Little True Sometimes True Mostly True Very True

22. Our family does things together.
Never True A Little True Sometimes True Mostly True Very True

23. We keep each other informed of our activities in case we are needed.
Never True A Little True Sometimes True Mostly True Very True

24. As a family, we have a large number of friends.
Never True A Little True Sometimes True Mostly True Very True

25. Everyone knows who is in charge in our family.
Never True A Little True Sometimes True Mostly True Very True

26. Family members are involved in recreational activities outside of work or school.
Never True A Little True Sometimes True Mostly True Very True

27. Family members lose their tempers.
Never True A Little True Sometimes True Mostly True Very True

28. Each family member does as they wish without concern about the other members.
Never True A Little True Sometimes True Mostly True Very True

29. Children get punished unfairly.
Never True A Little True Sometimes True Mostly True Very True

30. In our family, parents talk with the children before making important decisions.
Never True A Little True Sometimes True Mostly True Very True

31. Family members avoid contact with each other when in the home.
Never True A Little True Sometimes True Mostly True Very True

32. Our family likes having parties.
Never True A Little True Sometimes True Mostly True Very True

33. Members of the family generally go their own way.
Never True A Little True Sometimes True Mostly True Very True

34. In our family, people get ordered around.
Never True A Little True Sometimes True Mostly True Very True

35. We do activities like playing games together.
Never True A Little True Sometimes True Mostly True Very True

36. Family members hit each other.
Never True A Little True Sometimes True Mostly True Very True

37. We have a daily routine.
Never True A Little True Sometimes True Mostly True Very True

38. Socializing with other people makes my family uncomfortable.
Never True A Little True Sometimes True Mostly True Very True

39. We get along well with each other.
Never True A Little True Sometimes True Mostly True Very True

40. We tell each other about our personal problems.
Never True A Little True Sometimes True Mostly True Very True

SMRFF-CR/SMRFF Items grouped according to subscales used in this study

Conflict:
We fight in our family.
Family members sometimes get so angry they throw things.
Family members lose their tempers.
Family members hit each other.
Family members criticize each other.

Cohesion:
Family members really help and support one another.
There is a feeling of togetherness in our family.
Our family does things together.
Family members avoid contact with each other when at home.
We get along well with each other.
Each family member does as they wish without concern about the other members.
When I need a family member, I know where I can find them.
We keep each other informed of our activities in case we are needed.
Members of the family generally go their own way.

Communication:
We discuss our problems.
Parents and children in our family discuss together the punishment for breaking the rules.
In our family, it is important for everyone to give their opinion.
We tell each other about our personal problems.
Family members make the rules together.
Family members discuss family problems and solutions together.
Each family member has at least some say in major family decisions.
In our family, parents talk with the children before making important decisions.

Family sociability:

Our family gets together with friends.
Friends come over for dinner or to visit.
Socializing with other people makes my family uncomfortable.
As a family, we have a large number of friends.
Our family likes having parties.
We go to movies, sporting events, camping, etc.
Family members participate in a hobby.
Family members are involved in recreational activities outside work or school.
We do activities like play games together.

Appendix F

Parent Consent Letter and Form for Screening

Dear Parent,

[insert name of school here]is teaming up with Kevin Stark, Ph.D. from the University of Texas to evaluate a coping skills training program for girls called ACTION. The ACTION program is designed to teach girls how to manage their emotions and stress, solve problems, and think more positively about themselves. While we believe that all students could benefit from this program, currently, only girls who are experiencing high levels of distress will be able to participate. We are asking for permission from all parents of girls in grades [insert grade numbers of school here] for their daughters to participate in a screening that will help identify girls who are experiencing distress. Girls who participate in the screening will fill out a questionnaire that takes approximately 10 minutes to complete. Doctoral psychology students with appropriate training will supervise the completion of the questionnaires. At this time we do not anticipate any discomfort in completing the ACTION questionnaire.

Girls who report having more than a typical number symptoms of distress will be interviewed about specific symptoms of depression to determine if they are experiencing high levels of distress. The brief symptom interview will be conducted by trained graduate students or project staff under the supervision of Dr. Stark. If a girl in the study is reporting distress on the questionnaire or brief symptom interview, the parents will be contacted by phone to ensure the girl's well-being. ACTION staff or the school counselor may discuss your child's further participation in this research project at that time. For all girls who complete the questionnaire or interview and do not show significant symptoms of distress, parents will receive a letter stating those findings.

The purpose of the project is to determine whether the ACTION coping skills program is more effective than no counseling, and whether parent participation makes the program more effective. In addition, we are trying to learn whether adding follow-up meetings prevents future distress. The benefits to participants include possible participation in the ACTION program and helping advance our understanding of how to best help young girls manage emotions and stress, solve problems and feel better about themselves.

Participation in the project will not cost you anything and there will not be any financial compensation for participation. There are not any risks of harm from completing the questionnaire. There are no anticipated risks from completing the brief symptom interview. In fact, the procedure is designed to quickly identify and assist children who are in distress. All materials and forms will be stored in locked file cabinets in a secure office at UT to protect confidentiality.

If a child reports that she is at risk of hurting herself or others, her parents would be immediately informed and she would immediately talk with her school counselor. In addition, she would be evaluated by one of the consulting psychiatrists at no cost to the family.

If you choose to participate, you or your daughter may stop participation at any time. Participation in the study is entirely voluntary. You are free to say that you do not want to participate by returning this form indicating on the back of this page that you do not want to participate. You can refuse to participate without penalty or loss of benefits to which you and your daughter are otherwise entitled. It will not affect your relationship with your child's school or the University of Texas.

Researchers are required by Texas state law and professional ethics codes to report to Child Protective Services (or other appropriate regulatory agency) all instances of alleged child abuse and neglect. Please note that if your child completes the screening questionnaire or interview and is believed to be at risk for emotional, psychological or possible physical harm or neglect, then the investigator will report this information to the attending physician, Child Protective Services, and any other necessary regulatory agencies. Please note when a child reports neglect or being harmed, participants cannot stop the referral of their child's case to the authorities and any subsequent actions taken.

If you have any questions about the study, you can call Kevin Stark, Ph.D. at (512) 471-0267, your school counselor, or principal.

If you have questions about your rights as a participant, please contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512) 471-8871.

Sincerely,

_____
Researcher's Signature

_____
Principal's Signature

_____
Date

PLEASE KEEP THIS LETTER FOR YOUR RECORDS

Please check the appropriate box indicating that **YES** you have read this letter and are giving permission for your daughter to participate in the ACTION project at your child's school by completing the screening questionnaire and brief symptom interview, or **NO**, you have read this letter and you do not want your daughter to complete the questionnaire or interview. Regardless of your decision, please sign this form and return it to your child's teacher.

PLEASE RETURN THIS FORM TO YOUR CHILD'S SCHOOL WITH YOUR PREFERENCE NOTED BELOW:

_____YES I **give my permission** for my daughter to participate by completing the screening questionnaire and brief symptom interview.

_____NO I **do not give my permission** for my daughter to participate by completing the screening questionnaire or brief symptom interview

_____ _____

Parent's Signature Date

Child's Name (please print) _____

We will provide feedback for all participants. Please provide information below if your child will be participating.

Parent/adult guardian name(s): _____

Mailing address: _____ City/ZIP:_____

Parent phone number(s) in case we need to reach you with a concern about your child:

Home_____cell_____work_____

Appendix G

Youth Assent Form for Screening

I agree to complete a questionnaire and possibly also an interview about my thoughts, feelings, and behaviors. This questionnaire has been explained to my parent or guardian and he or she has given permission for me to participate. I may decide at any time that I do not wish to participate and that it will be stopped if I say so. My specific responses will not be shared with anyone. However, general information about how I am doing and feeling may be shared with my parent.

When I sign my name to this page I am indicating that I read this page and that I am agreeing to participate.

_____
_____
Your Signature Date

Please Print your Name_____

Date of Birth_____
Month Day Year

School: _____

Ethnicity:
_____ Hispanic or Latino
_____ Not Hispanic or Latino

Race:
_____ Black/African American
_____ American Indian/Alaska Native
_____ Asian
_____ Native Hawaiian/other Pacific Islander
_____ White

_____ *I do not wish to disclose this information.*

Appendix H

Children's Depression Inventory

Kids sometimes have different feelings and ideas.

This form lists the feelings and ideas in groups. From each group of three sentences, pick one that describes you **best** for the past two weeks. After you pick a sentence from the first group, go on to the next group.

There is no right answer or wrong answer. Just pick the sentence that best describes the way you been recently. Put a mark like this X next to your answer. Put the mark in the box next to the sentence you pick.

1. I am sad once in a while.
   I am sad many times.
   I am sad all the time.

2. Nothing will ever work out for me.
   I am not sure if things will work out for me.
   Things will work out for me O.K.

3. I do most things O.K.
   I do many things wrong.
   I do everything wrong.

4. I have fun in many things.
   I have fun in some things.
   Nothing is fun at all.

5. I am bad all the time.
   I am bad many times.
   I am bad once in a while.

6. I think about bad things happening to me once in a while.
   I worry that bad things will happen to me.
   I am sure that terrible things will happen to me.

7. I hate myself.
   I do not like myself.
   I like myself.

8. All bad things are my fault.
   Many bad things are my fault.
   Bad things are not usually my fault.

9. I do not think about killing myself.

I think about killing myself but I would not do it.

10. I feel like crying every day.
    I feel like crying many days.
    I feel like crying once in a while.

11. Things bother me all the time.
    Things bother me many times.
    Things bother me once in a while.

12. I like being with people.
    I do not like being with people many times.
    I do not want to be with people at all.

13. I cannot make up my mind about things.
    It is hard to make up my mind about things.
    I make up my mind about things easily.

14. I look O.K.
    There are some bad things about my looks.
    I look ugly.

15. I have to push myself all the time to do my schoolwork.
    I have to push myself many times to do my schoolwork.
    Doing schoolwork is not a big problem.

16. I have trouble sleeping every night.
    I have trouble sleeping many nights.
    I sleep pretty well.

17. I am tired once in a while.
    I am tired many days.
    I am tired all the time.

18. Most days I do not feel like eating.
    Many days I do not feel like eating.
    I eat pretty well.

19. I do not worry about aches and pains.
    I worry about aches and pains many times.
    I worry about aches and pains all the time.

20. I do not feel alone.
    I feel alone many times.
    I feel alone all the time

21. I never have fun at school.
    I have fun at school only once in a while.

    I have fun at school many times.

22. I have plenty of friends.
    I have some friends but I wish I had more.
    I do not have any friends.

23. My schoolwork is alright.
    My schoolwork is not as good as before.
    I do very badly in subjects I used to be good in.

24. I can never be as good as other kids.
    I can be as good as other kids if I want to.
    I am just as good as other kids.

25. Nobody really loves me.
    I am not sure if anybody loves me.
    I am sure that somebody loves me.

26. I usually do what I am told.
    I do not do what I am told most of the times.
    I never do what I am told.

27. I get along with people.
    I get into fights many times.
    I get into fights all the time.

Appendix I

Diagnostic and Statistical Manual Brief Symptom Interview for Depression

Symptoms: Ask about symptoms being present most days for THE LAST TWO WEEKS, INCLUDING TODAY.	**Symptom IS present (√)**	**Symptom NOT present (√)**
1. Have you been feeling sad, unhappy, blue, or down in the dumps for a lot of the day?	□	□
2. Have you been feeling irritable, cranky, or easily annoyed for a lot of the day?	□	□
3. Have you been less interested in doing things like hobbies or sports?	□	□
4. Have you been enjoying hobbies or interests less that you did in the past?	□	□
5. Have you noticed a change in your appetite (eating more or less than usual)? Has your weight changed or do your clothes fit differently?	□	□
6. Have you had any trouble with your sleep, such as falling asleep, waking up at night, or waking too early?	□	□
7. Have you been having trouble with your sleep, in that you are sleeping a lot more than usual lately?	□	□
8. Do you feel like you still need sleep or rest, even if you got a full night's sleep?	□	□
9. Do you feel like you have no energy, or not as much energy as usual?	□	□
10. Do you feel restless or fidgety, that you have a hard time sitting still?	□	□
11. Have you felt slowed down, like you are moving in slow motion or your movements are not as quick as usual?	□	□
12. Have you had trouble concentrating or paying attention, like your mind is "in a fog?" Or trouble making decisions?	□	□
13. Have you felt guilty about things lately?	□	□
14. Have you felt hopeless, like things won't work out for you, or that you will always feel bad?	□	□

15. Have you felt worthless, inadequate, or like you are no good lately?	□	□
16. Have you had thoughts of death or dying?	□	□
17. Have you had thoughts of wanting to hurt yourself? (or someone else)	□	□
18. Have you done anything to hurt yourself, such as make a mark on your skin?	□	□

TOTAL "PRESENT" Items 1-18: _____

Appendix J

Parent Consent Letter and Form for K-SADS-P IVR

Dear Parent,

Per our contact with you regarding your daughter's responses to the screening questionnaire and brief symptom interview, we are requesting permission for you and your daughter to complete a more comprehensive interview that will help us determine more accurately whether she is experiencing serious emotional concerns or whether she was not feeling well on the days that she completed the questionnaire and brief interview. The interviews will be conducted by trained doctoral psychology students under the supervision of Kevin Stark, Ph.D., licensed psychologist.

The interview of your daughter will be completed in a room at school that will protect her privacy. It takes 45 to 90 minutes to complete and asks specific questions about how your daughter is feeling, thinking and behaving and a range of experiences she may have encountered. The interview with you will cover the same topics and can be conducted in person or over the phone if that is preferable, at a time that is convenient for you. Participation in the interview will not cost you anything and there will not be any financial compensation for participation.

Completed interviews will be stored in locked file cabinets in a secure office at UT to protect confidentiality. If she is, she may be eligible for participating in the ACTION program. If this wouldn't be the best program for her, we will provide you with possible resources from within the school and the community.

If a child reports that she is at risk of hurting herself or others, her parents would be immediately informed and she would immediately talk to her school counselor. In addition, she would be interviewed by Kevin Stark, Ph.D., a licensed psychologist, or one of the consulting psychiatrists at no cost to the family. If a child reports that she is being hurt, the school's standard procedures for reporting such instances to the relevant state agency would be followed.

The purpose of the project is to determine whether the ACTION coping skills program is helpful, and whether parent participation makes the program more effective. In addition, we are trying to learn whether adding follow-up meetings prevents future distress. If you have any questions about the study, you can call Kevin Stark, Ph.D. at (512) 471-0267 your school counselor, or principal.

If you choose to participate, you or your daughter may stop participation at any time. Participation in the study is entirely voluntary. You are free to say that you do not want to participate by returning this form indicating that you do not want to participate. You can refuse to participate and this decision will not affect your relationship with your child's school or the University of Texas.

Researchers are required by Texas state law and professional ethics codes to report to Child Protective Services (or other appropriate regulatory agency) all instances of alleged child abuse and neglect. Please note that if your child completes the screening questionnaire or interview and

is believed to be at risk for emotional, psychological or possible physical harm or neglect, then the investigator will report this information to the attending physician, Child Protective Services, and any other necessary regulatory agencies. Please note when a child reports neglect or being harmed, participants cannot stop the referral of their child's case to the authorities and any subsequent actions taken.

If you have questions about your rights as a participant, please contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512-471-8871). Let him know that you are enquiring about the study entitled "Helpfulness of the ACTION Coping Skills Program with and Without Parent Participation."

Please check the appropriate box indicating that **YES** you have read this letter and are giving permission for you and your daughter to participate by completing the interview, or **NO** you do not want to complete the interview nor do you want your daughter to complete the interview. Regardless of your decision, please sign this form and return it to your child's teacher. You will be given a copy of this permission letter to keep for your records.

□ **YES** I give my permission for my daughter and I to participate by completing the interview.

□ **NO** I do not give my permission for my daughter and I to participate by completing the interview.

_____ _____

Parent's Signature Date

_____ _____

Researcher's Signature Date

_____ _____

Principal's Signature Date

Appendix K

Youth Assent Form for K-SADS-P IVR

I agree to participate in an interview about my thoughts, feelings, and behaviors. It has been explained to me that this interview will help to determine whether the ACTIION counseling program may be helpful for me. This interview has been explained to my parent or guardian and he or she has given permission for me to participate. The interview will be stopped if I say so. Specific things that I say during the interview will not be shared with anyone. However, general information about how I am doing and feeling may be shared with my parent for the sake of talking about what to do to help me.

I will be asked to complete an interview about my current feelings, behaviors, and thoughts. By signing this form I am giving permission for the interview to be audio-taped for the purpose of being sure that the interview was conducted correctly. These tapes will be erased as soon as the ACTION program is completed.

It is okay if I decide to stop my participation in this interview at any time. When I sign my name to this page I am indicating that this page was read to me and that I am agreeing to participate.

_____ _____

Child/Adolescent Signature Date

_____ _____

Staff/Researcher Signature Date

Appendix L

Parent Consent and Youth Assent for Pre-treatment Assessment and Treatment

Dear Parent,

Based on results of the screening and interview that you and your daughter have participated in so far, we are requesting permission for you and your daughter to continue and participate in the evaluation of the ACTION coping skills program. If you give your permission for your daughter to participate, she will be randomly assigned to one of three groups: (1) ACTION coping skills program, (2) ACTION coping skills program plus parent participation, or (3) wait to receive the program in about 12 weeks.

If your daughter is randomly assigned to the ACTION coping skills program, she will meet 20 times over the next twelve to sixteen weeks with a group of girls to participate in a counseling program that is designed to teach her problem solving, coping skills for managing her emotions and stress, and strategies for thinking more positively about herself and things in general.
If your daughter is randomly assigned to the counseling plus parent participation, she will meet 20 times over the next twelve to sixteen weeks with a group of girls to participate in a counseling program that is designed to teach her problem solving, coping skills for managing her emotions and stress, and strategies for thinking more positively about herself and things in general. In addition, you would be asked to attend a total of 10 meetings over this period that will last about an hour and a half. The parent meetings will be held at school after hours and daycare and refreshments will be provided at no expense. During these meetings parents will have a chance to learn the skills that their daughter is learning, and parents will learn strategies for helping their daughter to use the skills.

The girls will meet in a small group during an elective class. Each meeting will last one class period. Steps have already been taken to ensure that she will receive any class materials that she misses. The group meetings will be led by a trained doctoral psychology student or Ph.D. level therapist and a counselor from your daughter's school. The group leaders will be supervised by Kevin Stark, Ph.D. It is not expected that your daughter will experience any discomfort or risks from participating in the ACTION coping skills program. In fact, past experience with the program indicates that the girls enjoy participating and benefit from it.

If your daughter is randomly assigned to wait to receive counseling in about 12 weeks, we will take the following steps to ensure that she is okay. A doctoral psychology student will meet with her each week to monitor how she is doing, she will be discreetly observed in school at lunch or recess for about fifteen minutes per week, and the staff member will check-in with her teacher each week. In addition, every other week, the staff member will check with you to see if you have any concerns. At the end of the waiting period, she will have the opportunity to participate in the coping skills program. If at any point during this waiting period she reports feeling worse or you would like to seek counseling elsewhere, we will provide you with information about community and school resources. You have the option at anytime to seek additional services including consultation with one of the project's consulting psychiatrists at no cost to you.
We will be monitoring each girl's progress and report this information to two psychiatrists who are being paid by us to oversee each child's welfare. If a participant is not improving as a result

of the program, then parents will be informed and we will meet with you to discuss other options for providing your daughter with help. If you would like information about medications that might be of assistance, the psychiatrists are available to meet with you and discuss these options at no cost to you.

To determine whether the ACTION coping skills program is helpful, we are asking you and your daughter to complete some questionnaires that help guide, and evaluate the effectiveness of the ACTION program. The questionnaires will take your daughter about one hour to complete. It will take you about 30 minutes to complete your questionnaires. We are asking you to complete the questionnaires so that we can determine whether participation in the ACTION program also benefits you and your family. The questionnaires have been completed by other children and adults without any discomfort. In order to assess the potential benefits of ACTION on school performance, our staff collects the following general education information: grades from reporting periods, attendance, and discipline information for participants.

For one year after completion of the ACTION program, your daughter will have the opportunity to meet with her group and apply the skills to the new problems and stresses that she faces as she grows up and navigates her way through the many difficulties of being a teenager. The groups will meet three times a semester over the rest of the course of the study. In addition, to determine if your daughter needs additional help, once a year, we will ask you and your daughter to complete the interview and the questionnaires to determine whether we have achieved the goal of preventing the difficulties from recurring. Each time in the future that you and your daughter are asked to complete the measures, you will be paid $25.00 and your daughter will be paid $20.00.

If a participant reports at any time that she is feeling like she would like to hurt herself or someone else, then, she would be immediately interviewed by a trained staff member and the school counselor. In addition, if there is concern about a child's safety, the staff member would immediately contact the parents and Kevin Stark, Ph.D. or one of the consulting psychiatrists. If at all possible, the psychiatrist on call would be available to meet with the girl and her parents to further evaluate the situation and to provide you with information about resources from within the community that could be of help. If it is not possible to immediately meet with one of the mental health professionals, then it would be recommended that the child and parents pursue the conventional procedure of driving to the emergency room of a local hospital. If a participant reports that she is being hurt, then the staff member and school counselor would follow the school's standard procedures for reporting such instances to the relevant state agency.

All of the services that we provide are available to you at no cost to your family.

The benefits to you and your daughter are that she may learn skills and strategies that will help her to be happy and healthy throughout adolescence. Similarly, you may learn strategies for helping her to successfully make it through adolescence. The benefit to society is that it will help us to determine whether teaching girls who are experiencing depression these skills helps to reduce the depression and whether it is even more helpful to involve parents. Furthermore, since girls are at very high risk for becoming depressed between the ages of 13 to 15, the results of this study will help us learn whether there is a procedure for preventing this from occurring.

The ACTION program meetings are audiotaped for quality assurance purposes. To ensure confidentiality, the following steps will be taken: (a) the cassettes will be coded so that no personal identifying information is visible on them; (b) they will be kept in a locked file cabinet in a secure office at UT; (c) they will be reviewed only for research purposes by the relevant research staff; and (d) they will be erased after they are checked and the study has been completed. Identifying information will be removed from all of the assessment materials completed during the study and the materials will be stored in a locked file cabinet in a locked research office at UT.

Participation in the ACTION coping skills program is entirely voluntary. You are free to refuse to be in the study, you are free to discontinue participation for any reason at any time, and your refusal or discontinuation will not influence current or future relationships with The University of Texas at Austin or your child's school district

Researchers are required by Texas state law and professional ethics codes to report to Child Protective Services (or other appropriate regulatory agency) all instances of alleged child abuse and neglect. Please note that if your child is believed to be at risk for emotional, psychological or possible physical harm or neglect, then the investigator will report this information to the attending physician, Child Protective Services, and any other necessary regulatory agencies. Please note when a child reports neglect or being harmed, participants cannot stop the referral of their child's case to the authorities and any subsequent actions taken.

If you have any questions about the study, you can call Kevin Stark, Ph.D. at (512) 471-4407, your school counselor, or principal. You may also contact the project coordinator, Jennifer L. Hargrave, Ph.D., with questions, concerns, or to withdraw from the study at any time at (512) 471-0218. If you have questions about your rights as a participant, please contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512) 471-8871. Let her know that you are enquiring about the study entitled "Helpfulness of the ACTION Coping Skills Program with and Without Parent Participation."

Please check the appropriate box indicating that **YES** you have read this letter and are giving permission for you and your daughter to participate in the ACTION coping skills program and to complete the questionnaires, or **NO** you do not want to participate in the ACTION coping skills program and you do not want to complete the questionnaires. Regardless of your decision, please sign this form and return it to your child's counselor. With this permission letter, you should have received a copy to keep for your records.

NOTE: TWO COPIES OF THIS LETTER ARE PROVIDED; ONE IS TO KEEP FOR YOUR RECORDS

PLEASE RETURN ONE COPY OF THIS PORTION TO THE SCHOOL COUNSELOR

☐ **YES** I give my permission for my daughter, _____, and me to participate in the ACTION coping skills program and to complete the questionnaires. **This includes permission for ACTION staff to access report card information, discipline referrals, and attendance records during participation.**

□ **NO** I do not give my permission for my daughter, _____, to continue any further with the ACTION project.

_____ _____

Parent's Signature Date

_____ _____

Kevin D. Stark, Ph.D. Date

*****PLEASE RETURN THIS FORM TO YOUR SCHOOL COUNSELOR*****

Child/Adolescent Assent Form

I agree to participate in a study that is interested in evaluating the relationship between thoughts, feelings, and interpersonal behaviors in children and adolescents. I understand that this study has been explained to my parent or guardian and that he or she has given permission for me to participate. I understand that I may decide at any time that I do not wish to continue this study and that it will be stopped if I say so. Information about what I say and do will not be given to anyone else unless I say so.

I understand that I will be asked to complete an interview about my current feelings, behaviors, and thoughts as well as a number of questionnaires about myself and my family. I understand that by signing this form I am giving permission for the interview to be audio-taped for research purposes and that these tapes will be erased as soon as the study is completed.

I understand that it is all right if I decide to stop my participation in this study at any time. When I sign my name to this page I am indicating that this page was read to me and that I am agreeing to participate in this study. I am indicating that I understand what will be required of me and that I may stop my participation at any time.

_____ _____

Child/Adolescent Signature Date

_____ _____

Staff/Researcher Signature Date

Appendix M

Parent Volunteer Consent & Assent

Dear Parent,

You and your child are invited to participate in a study about thoughts, feelings, relationships and psychological adjustment in children and adolescents. We are researchers at The University of Texas at Austin, Department of Educational Psychology. We are looking for children and adolescents to participate in the study. Your child was selected as a possible participant because she is in the relevant age range, and is a students enrolled in the [insert school district]. The purpose of this study is to learn more about the relationship between thoughts, behaviors, family characteristics and emotional adjustment. Approximately 25 students from [insert school district] will have an opportunity to participate. Selection for participation will be determined by achieving the closest match in terms of age, gender, ethnicity, and family composition to youngsters who previously participated in the study. This study will be conducted under the supervision of Kevin Stark, Ph.D., a Professor at the University of Texas at Austin and will be coordinated by staff as your child's school. If you and your student are chosen to participate, your family will receive an honorarium of $50.00 immediately following completion of the measures.

Should you decide to participate, a researcher from the University of Texas will ask you and your child to participate in a semi-structured interview regarding your child's feelings and behaviors. For each of you, the interview should take, at most, 45 minutes to complete. You and your child will also be asked to complete a number of questionnaires regarding your child, your family, and yourselves. Your child will be asked to complete a questionnaire that assesses his or her adjustment (Beck Youth Inventory), self-perceptions, things in general and the future (Cognitive Triad Inventory), a questionnaire that assesses your child's thoughts about what causes good and bad things to happen (Children's Cognitive Styles Questionnaire), a questionnaire about his or her perceptions of the way the family works (Self-Report Measure of Family Functioning), a questionnaire about his or her perceptions of messages that parents communicate (Family Messages Measure), and a questionnaire about stressful life experiences (Life Events Questionnaire). In addition, your child would be asked to complete a story telling task entitles the Thematic Apperception Test. The school counselor has copies of all the materials available for your review at this time as well as any time in the future. You would be asked to complete a questionnaire about your own emotional well-being (Symptom Checklist 90-R), a questionnaire about your self perceptions, things in general and the future (Cognitive Triad Inventory) and a questionnaire about your perceptions of the way your family functions (Self-Report Measure of Family Functioning). You and your child may complete the interviews and questionnaires in more than one meeting if you would like to do that. In sum, it would take you approximately an hour and a half to two hours to complete the interview and the measures and a total of 1.5 to 2.5 hours for your child to complete the interview and measures. The interview,

questionnaires, and story telling task are commonly used to evaluate emotional functioning of youths and adults. They have been completed by hundreds of individuals without any adverse effects. This study will be beneficial in that it should serve to identify psychosocial factors relevant to emotional disorders in children and adolescents, an area largely unexplored to date. Any information in connection with this study that can be identified with you will remain confidential and will be disclosed only with your permission. However, if your child reports an intent to harm herself or others, we would immediately notify the school counselor and you.

For research purposes, we would like your permission to audio-tape the interviews. The tapes are used to determine whether the interview was administered correctly. The tapes will be kept in a locked file cabinet without identifying information on them and they will be erased once the study has been completed.

Your decision whether or not to participate will not affect your present or future relations with the University of Texas of [insert school district]. If you decide to participate, you are free to discontinue participation at any time. Should you decide to allow your child or adolescent to participate, you are free to discontinue participation at any time. Should you decide to allow your child or adolescent to participate, he/she will also have a chance to decide whether or not to participate.

If you have any questions, feel free to contact Dr. Kevin Stark. Dr. Stark can be reached by telephone at 512-471-4407, or in writing: SZB 504, the University of Texas at Austin, Austin, TX 78712. If you have any questions or concerns about your treatment as a research participant in this study, call Professor Clarke Burnham, Chair of the University of Texas at Austin Institutional Review Board for the Protection of Human Research Participants, at (512) 475-7129.

Please keep this form for your records.

***** PLEASE RETURN THIS FORM TO YOUR SCHOOL COUNSELOR*****

You are making a decision whether or not to participate and to allow your child to participate. Your signature indicates that you have read the information provided and have decided to participate and to allow your child to participate should (s)he choose to. By signing this form you are agreeing to participate both by completing the questionnaire and the clinical interview; you are also giving permission for the interview to be audio-taped. You may withdraw at any time after signing this form, should you choose to discontinue participation in this study.

_____ _____

Signature of Parent or Legal Guardian Date

_____ _____

Signature of Staff/Researcher Date

_____ _____ _____

Phone Numbers

PLEASE RETURN THIS FORM TO YOUR SCHOOL COUNSELOR

Child/Adolescent Assent Form

I agree to participate in a study that is interested in evaluating the relationship between thoughts, feelings, and interpersonal behaviors in children and adolescents. I understand that this study has been explained to my parent or guardian and that he or she has given permission for me to participate. I understand that I may decide at any time that I do not wish to continue this study and that it will be stopped if I say so. Information about what I say and do will not be given to anyone else unless I say so.

I understand that I will be asked to complete an interview about my current feelings, behaviors, and thoughts as well as a number of questionnaires about myself and my family. I understand that by signing this form I am giving permission for the interview to be audio-taped for research purposes and that these tapes will be erased as soon as the study is completed.

I understand that it is all right if I decide to stop my participation in this study at any time. When I sign my name to this page I am indicating that this page was read to me and that I am agreeing to participate in this study. I am indicating that I understand what will be required of me and that I may stop my participation at any time.

_____ _____

Child/Adolescent Signature Date

_____ _____

Staff/Researcher Signature Date

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