AFRICAN AMERICAN PATERNAL FIGURES’ IMPACT ON THEIR DAUGHTERS’ PSYCHOLOGICAL ADJUSTMENT AND EDUCATIONAL OUTCOMES OVER TIME

by

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ABSTRACT

This longitudinal study inspects the impact that African American paternal figures have on their daughters’ psychological adjustment and educational outcomes over time. By analyzing the responses of African American adolescent girls ages 11 through 16 who participated in the longitudinal study (2000-2009), the purpose of this study is to: (a) determine whether quality paternal relationships relate to African American adolescent girls’ psychological adjustment over time, (b) determine whether quality paternal relationships relate to African American adolescent girls’ educational outcomes over time, and (c) determine whether the psychological adjustment of African American adolescent girls relate to their educational outcomes over time. This research has implications for families, educators, and clinicians for adolescent research and interventions. The outcomes of this study suggest that warm paternal figures are important to adolescent girls in various ways, particularly during early adolescence. Warm paternal figures were associated with increased girls’ psychological adjustment during early adolescence in this study. Paternal figures also made contributions to girls’ academics in the specific area of mathematics in this study. Additionally, this study suggests that enhanced psychological adjustment affects girls’ achievement in math and reading during early adolescence.
DEDICATION

“Kids have a hole in their hearts in the shape of their dads.”

–Ronald Warren, National Fatherhood Initiative Former President

This dissertation is dedicated to my double blessing, sister and best friend, Apollonia “Sade’” Allen. Sade’ has been an unwavering support throughout my doctoral program and journey in creating this manuscript. I feel truly blessed to have had my sister’s humor, strength, and unconditional love throughout this process. If I ever needed encouragement, she knew exactly the words to say, and if I ever needed someone to just listen, she has always been there. Honestly, she is probably the funniest person I have ever met! Sade’ epitomizes strength and courage, as she is a single-mother raising my two nephews, Ethan and Elijah. There are no words to express how grateful I am to have Sade’ as my sister. Thank you so much “Boo” for always being there for me. I love you.
LIST OF ABBREVIATIONS AND SYMBOLS

LS       Longitudinal Study
MLGM     Multilevel Growth Modeling

$Y_{ij}$ The outcome variable in level 1 of a growth model equation

$\pi_{0i}$ The level-1 intercept parameter of a growth model equation; in this study, the intercept is the average and baseline value for outcome measures at the first time point

$\pi_{1i}$ The level-1 slope parameter of a growth model equation that is the change in a response or dependent variable for every year increase in age in this study

$\varepsilon_{ij}$ The error parameter in level 1 of a growth model equation; variability or random error of the data

$\gamma_{00}$ The intercept parameter in level 2 of a growth model equation

$\gamma_{10}$ The slope parameter in level 2 of a growth model equation

$\gamma_{20}$ The slope parameter in level 2 of a growth model equation influenced by some other factor (e.g., paternal presence or absence); there may be multiple slope parameters in level 2 of a growth equation model

$\sigma^2$ A variance component denoting the overall random error or variability of an outcome variable; the amount of variability (or spread of data points) from the mean

$\sigma^2_e$ Residual variance; a variance component denoting the residual variability found in an outcome variable

$\sigma^2_0$ Intercept variance; a variance component denoting the amount of variance found within the intercept

$\sigma^2_1$ A variance component denoting the amount of variance found within the slope (e.g., age variance)

LL       Log likelihood; a ratio test used to compare models’ goodness of fit

$\chi^2$ Pearson’s chi-squared test; a statistical test used to compare models’ goodness of fit
$df$ Degrees of freedom; number of values free to vary after certain restrictions have been placed on the data

$p$ Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value

$SE$ Standard error; a measure of the statistical accuracy of an estimate
DEFINITION OF TERMS

Longitudinal Study

The longitudinal study (LS) is a community-based, multiple cohort longitudinal study that includes annual data collection relating to poverty and adolescent risk in the southeastern US city metropolitan statistical area (Bolland, 2004; Bolland et al., 2013). The survey was administered to over 12,000 youth ages 9-19 who lived in impoverished neighborhoods of the southeastern US city in 1998-2011. Further, the LS assessed risk and protective factors associated with substance abuse and use, violence and aggression, and sexual risk behavior. A partnership was established between principal investigators of the LS and the southeastern school system (SESS), whereby all school records for LS participants were made accessible to LS researchers in an auxiliary dataset. This dissertation study utilized datasets from the LS and SESS school records. However, the datasets used in this dissertation study were not created for this study and were not intended for this study’s purposes. The following terms are derived from the LS.

Paternal Figure

One who exercises protection and care like that of a father [a male parent]; one who shows paternal kindness; one to whom filial reverence and obedience are due (Oxford English Dictionary Online, 2015). In this dissertation, a paternal figure may be a biological or social male parent who is involved in his daughter’s life through interaction, accessibility, support, and responsibility. The term paternal figure is used throughout the study to denote that a father does not need to be a biological male parent.
Daughter

Expresses female relation to her parents; a female child or offspring ("Daughter," 2015). Daughters within this study are African American adolescent girls, ages 11-16 who participated in the longitudinal study (Bolland, 2007) during the years of 2000-2009.

Paternal Warmth

A measure that is indicative of adolescent girls’ assessment of being able to count on and receive moral support and help from their paternal figures (Lamborn, Mounts, Steinberg, & Dornbusch, 1991). Further, paternal figures who are perceived as providing high levels of paternal warmth are presumed to be highly reliable and supportive of their daughters (Lamborn, Mounts, Steinberg, & Dornbusch).

Paternal Presence

The condition in which a paternal figure is present in his daughter’s life through accessibility, accountability, responsibility, interaction, and support (Lamborn et al., 1991). Within the LS, paternal presence is a self-reported measure indicated by female survey participants.

Paternal Absence

The condition in which a paternal figure is not physically or emotionally present in his daughter’s life, as indicated by daughters’ responses on the longitudinal study (Bolland, 2007; Lamb, 1997; Marsiglio, Amato, Day, & Lamb, 2000; Wall & Arnold, 2007). In this study, paternal absence was indicated by participants’ responses on the longitudinal study when the response “I don’t have anyone who is like a father to me” was indicated.
Psychological Adjustment

A state of harmony (exists) between internal needs and external demands and the processes used in achieving this condition (Walker, 1997). Within this dissertation, psychological adjustment is an aggregated measure of adolescent girls’ (a) self-worth, (b) hopelessness, (c) caring, (d) callousness, and (e) worry. In this study, a single, standardized measure of psychological adjustment was created by standardizing each of these identified measures into z-scores. Then, a principle component analysis was run to determine the weights of each score. As expected, the adaptive psychological constructs of self-worth and caring were weighted positively, and the maladaptive constructs of hopelessness, callousness, and worry were weighted negatively. Lastly, psychological adjustment scores were computed by multiplying the z-score of each construct by the weight from the principle components, and then summing the weighted z-scores for each individual.

Self-worth. The overall evaluation of one’s worth or value as a person, adapted from the Harter (2003) self-worth scale.

Hopelessness. An expectation that highly desired outcomes will not occur or that negative ones will occur and that nothing is going to change things for the better, adapted from the Joiner and Wagner (1995) hopelessness scale.

Caring. Behavior enacted from a sense of duty and obligation when the natural inclination is lacking, adapted from the Noddings (1992) caring scale. Caring is also defined as the act of feeling concern (great or little), being concerned, or feeling interest according to Oxford English Dictionary (2011).
Callousness. A component of psychopathy, a personality syndrome that is comprised of affective, interpersonal, and behavioral characteristics associated with violent and aggressive behavior, adapted from the Lynam, Miller, Vachon, Loeber, and Stouthamer-Loeber (2009) and Skeem and Cooke (2010) callousness scales.

Worry. An anticipatory cognitive process involving repetitive, primarily verbal thoughts related to possible threatening outcomes and their potential consequences, adapted from the Vasey and Daleiden (1994) worry scale.

Educational Outcomes

The results of systematic instruction, schooling, or training given to the young in preparation for the work of life (Oxford English Dictionary, 2011). Within this dissertation, educational outcomes are measured by adolescents’ educational achievement in reading and math in addition to their school absence, with measures noted in the definitions below.

Educational achievement. A measure of educational outcomes within this study that is contingent upon students’ Stanford Achievement Test (SAT) percentile ranks in reading and math.

Stanford Achievement Test (SAT). A nationally normed, comparative assessment of achievement across reading comprehension, mathematics problem-solving, language, spelling, listening comprehension, science, and social science (Pearson Education, 2015). Only students’ outcomes in the areas of reading and mathematics are examined in this study.

School Absence. A measure of educational outcomes contingent upon students’ daily school attendance or lack thereof, as reflected in participants’ southeastern school system (SESS) records. Within the SESS records, school absence was not coded to differentiate between complete absence or tardiness nor whether the absence was excused or unexcused.
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CHAPTER 1 - INTRODUCTION

The relationships that children have with their parents are critical to their development and future aspirations (Krohn & Bogan, 2001; Li & Kerpelman, 2007; Nichols, Kotchick, Barry, & Haskins, 2010). These relationships help mold children’s self-concepts (Bulanda & Majumdar, 2009) and the ways they relate to their environments and society in general (Hakvoort, Bos, van Balen, & Hermanns, 2010). Further, the relationships children have with their parents are essentially their first social interactions. By providing security and guidance, parents contribute greatly to their children’s psychological and academic development. Bracey (2001) indicated that parental involvement provides an opportunity for parents to increase their children’s development and convey a value for education and the importance of putting forth effort towards academic achievement.

While both mothers and fathers play key roles in their children’s development, studies indicate that father-child relationships are different than mother-child relationships (Holmes & Huston, 2010; Stolz, Olsen, Barber, & Clifford, 2010). Many fathers are noted for providing income, protection, and discipline, whereas in many households, mothers are recognized for their expressive functions of caregiving and companionship (Finley & Schwartz, 2006; Marsiglio, Amato, Day, & Lamb, 2000). Because these functions are fundamental to the optimal outcomes of children’s educational and psychological development, attention must be given to the circumstances that arise when a father is absent from a child’s life. Currently there is a rising epidemic of paternal absence in the United States, suggesting that mothers are the only parents present in many households in America. The U.S. Census Bureau (2011) reported that 24 million
(i.e., 1 in 3 children) live in father absent homes in the United States. Further, nearly 2 out of 3 of children living in father absent homes are African-American according to the U.S. Census Bureau. These statistics along with efforts of organizations such as The National Fatherhood Initiative (NFI) are the impetus of this research study.

The National Fatherhood Initiative was founded in the United States in 1993 and has been making ongoing efforts with its mission “to improve the well-being of children by increasing the proportion of children with involved, responsible, and committed fathers in their lives” (National Fatherhood Initiative, 2014). While this initiative focuses on fathering without regard to ethnicity, it is evident in aforementioned census data that African-American paternal absence has become increasing prevalent. Of greater importance are the associations between paternal absence and overwhelming negative outcomes in children, including poverty, incarceration, teen pregnancy, drug and alcohol abuse, increased likelihood of antisocial behaviors, depression, and risky sexual behavior, according to NFI research.

Girls are particularly vulnerable when lacking a paternal figure, as they have a greater likelihood of teen pregnancy, early sexual activity, and high school dropout (Chhabra, Palaparthy, & Mishra, 2009; Ellis, Bates, Dodge, Fergusson, Horwood, Pettit, & Woodward 2003; Maestripieri, Roney, DeBias, Durante, & Spaepen, 2004). McBride and Rane (1997) indicated that lack of fathers’ involvement and responsible fathering behaviors (i.e., active involvement in their children’s education, providing for their children financially, being accessible, and providing emotional support to their children) are often a major reason for young children being classified as at-risk for later school failure. McBride and Rane suggested that fathers provide an essential component to home-school partnerships, and their nurturance and caretaking are pivotal to children’s development, especially academically. According to
Blankenhorn (1996), fatherlessness is identified as a harmful demographic trend that is a leading cause of declining child well-being in our society, as fatherlessness has been linked to social problems such as crime, domestic violence, and adolescent pregnancy.

Reynolds (1992) defined parental involvement as any interaction between a parent and a child that may contribute to the child’s development or direct parent participation with a child’s school in the interest of the child. Thus, father absence may impact the educational outcomes of children because quality father-child relationships have been associated with positive academic outcomes for all youth (Domagala-Zysk, 2006). However, the relationship between father absence and African American children’s educational and psychological outcomes has not been widely researched. Even less research has considered the relationship between African-American father-daughter relationships and African American girls’ psychological adjustment and educational outcomes (Coley, 2004; Cooper, 2009). Thus, this study examines African American father-daughter dyads and particularly considers the roles fathers play in their daughters’ psychological and academic development over time.

**Purpose of the Study**

The purpose of this longitudinal study is to investigate the influence of African American paternal relationships on adolescent girls’ psychological and academic outcomes. This study particularly examines the perceived impact of paternal warmth and presence on girls’ psychological and academic outcomes over time. The purpose of this study is achieved using a longitudinal dataset of the longitudinal study (LS) from years 2000-2009, although LS data collection was performed from 1998 through 2011. The dataset utilized in this study includes a limited sample of LS female participants, ages 11-16. Future discussion will address the use of targeted participants ages 11-16 in reviewed literature and in the forthcoming methods chapter.
The following research questions guide this study:

**Question 1.** Do quality paternal relationships (i.e., as indicated by paternal presence and warmth) affect African American adolescent girls’ psychological adjustment over time?

**Question 2.** Do quality paternal relationships (i.e., as indicated by paternal presence and warmth) affect African American adolescent girls’ educational outcomes over time?

**Question 3.** Does psychological adjustment affect African-American adolescent girls’ educational outcomes over time?

**Importance of the Study**

Quality father-daughter relationships have been associated with academic engagement and enhanced self-esteem among African American adolescent girls (Cooper, 2009). This study expands the body of research surrounding African American paternal involvement and its relationship to the educational and psychological adjustment of African American adolescent girls. Parents who are involved in their children’s academics affect their children’s ability to learn by instilling in them a lasting appreciation for learning (Pape, 1999). Brown (1989) reported that involved parents enhanced children’s self-esteem and their academic achievement in addition to enhancing their own relationships with their children. Brown further added that parents’ attitudes towards schools give them a better understanding about the entire schooling process.

Home and school collaborations are of particular interest in the field of school psychology. Therefore, in addition to examining the impact of paternal relationships on girls, this study contributes to professional fields that advocate for children and provides particular insight into the experiences of African American girls and the relational challenges that may inhibit their academic success. This study is important for strengthening home and school partnerships that
impact the lives of African American girls in order to enhance their educational and psychological outcomes. This study advocates for strengthening paternal partnerships in schools.

Poverty compounds the pressing challenges in father absent homes, as fathers are depended upon for economic stability within family units (Marsiglio et al., 2000; Wall & Arnold, 2007). These challenges impact the entire family; however, fatherless African American girls living in impoverished conditions are particularly susceptible to academic failure, the struggles of early pregnancy, negative peer influences, and problems with substance abuse (Bemak, Chi-Ying & Siroskey-Sabdo, 2005; Cousins & Mabrey, 1998; Rollock, 2007). According to Bemak, Chi-Ying, and Siroskey-Sabdo, youth who are at-risk for academic failure are oftentimes preoccupied with concerns outside of the school setting that impact their academic performance. This is especially evident when youth are faced with challenges from social problems, such as poverty, violence, and/or racism. Yet, few studies have examined the relationship between father absence and the educational outcomes of African American girls living within impoverished circumstances.

With the exception of the incesting father, there has been surprisingly little written about the particular impact of the father relationship on our lives. Outside of the critical investigations into the trauma of the abusive father, explorations of the daughter-father story are few (Reis, 1995, p. 21).

It is important for school professionals (i.e., teachers, principals, school psychologists, etc.) and parents to work together to provide children with optimal educational outcomes. The strength of our educational system lies in the collaborative partnership of educating our children, not in the separation of our homes, schools, and communities according to Morrison (1998). This is because diverse experiences and collaboration aid in providing children with diverse learning experiences and encourage parents to be a part of their children’s lives. In light of this, there is a need for strengthening minority parent involvement, as there are certain barriers that may inhibit
their involvement. Crozier (2001) indicated that some minority parents face barriers to their involvement in their children’s education that include lack of child care, transportation problems, work schedules, lack of income, discomfort in high class settings, shame of their own school failures, and fear that they are not smart enough to contribute to school activities. These and other issues may pose major barriers to minority parental involvement. Although Crozier specifically targeted the experiences of minority parents, her assertions could hold implications for all parents. Therefore, this research study is useful for encouraging the involvement and collaborative efforts of minority parents and school professionals for strengthening the diverse educational experiences of children.

**Rationale of the Study**

This research features the impact of paternal involvement and provides insight to individuals who support adolescent girls, particularly within African American communities. This research may be beneficial for efforts that support young women who are affected by the maladaptive outcomes that may arise from paternal figure absence (e.g., early pregnancy, school problems, delinquency, damaged self-concept, etc.), as fathers have been noted for impacting the psychological and educational outcomes of their children (Cooper, 2009; Cousins & Mabrey, 1998; Rollock, 2007). Thus, this research supports the need for mentorship programs and resources that foster girls’ self-worth and their educational processes. This research is relevant to all ethnic backgrounds for the sake of encouraging paternal involvement. This study is particularly relevant in African American communities, as aforementioned by the astounding statistics of father absence in African American communities.

Additionally, this longitudinal research supports the significance of paternal figures on their daughters’ development over time. Girls may be impacted well into their adult lives by
quality father relationships, according to Cooper (2009). Though African American fathers are not often portrayed favorably in current media, this research encourages a positive portrayal of African American fathers as men who contribute greatly to their daughters’ psychological and educational development. This research addresses the gap in current research regarding African American father-daughter relationships. Further, this study involves participants living in impoverished conditions and provides insight into the impact of paternal relationships in lieu of poverty.

**Limitations**

It is important to mention that the datasets used for this study were generated by another researcher and was not intended for this dissertation study. The researcher of this study used the available datasets out of expediency and convenience, as she did not have the ability to create the apposite datasets for this study. Therefore, the generalizability of this study’s results and findings is limited even within the LS sample since the full LS sample was not used. Prior to replication and publication of this study, full LS and school system data must be used.

The strengths of longitudinal data analysis include analyzing multiple waves of data in tandem, measuring outcomes which may have changing values over time, and employing practical metric values for measuring time (Singer & Willett, 2003). However, the analysis of secondary data for longitudinal analysis poses several limitations. For example, the use of secondary data limits the amount and types of questions that researchers can ask. Certain questions may only be posed for future research studies, as all questions may not be feasible for the available data or sample from which the data was derived. For instance, the majority of respondents to the LS in this study are African American. It is therefore not possible to investigate the outcomes of other minority populations with regard to the research purposes of
this study. This may be both a limitation and strength of this study since it allows the research to focus primarily on one minority population.

Another limitation of this study is the categorization of the construct, paternal figure. Within the LS, a paternal figure is categorized as a male parent (i.e., biological father, grandfather, uncle, etc.). This limited participants from identifying female parents as paternal figures, regardless of whether they normally identify a female parent as their paternal figure or not. Please note that participants were also able to identify a maternal figure and were able to indicate if they did not have a paternal figure. Within the given responses they were not able to indicate female parents as their paternal figures. Again, this may be viewed as both a limitation and strength, as it allows the researchers to isolate participants’ responses regarding the impact of paternal figures in their lives versus maternal figures, which are beyond the scope of this study. Also, since this study uses data that was already collected, variables could not be changed.

One other limitation of this study is that it was conducted primarily among African American adolescents living in impoverished neighborhoods of the southeastern US city. Therefore, this study is not generalizable to all adolescent populations living outside of this context. Nevertheless, the outcomes of this study may be useful in comparing adolescent populations living outside of the targeted context and may provide useful insights for understanding how poverty influences adolescent development. It may also be useful for comparing the impact of paternal figures from other ethnic minorities and majorities.

**Organization of the Study**

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1 Father figure within the LS is interchangeable with paternal figure for this study’s purposes.
2 Editions and enhancements to the LS do not impact the outcomes of data analysis, as original LS content was not reduced.
3 Within the multilevel growth modeling analysis used in this study, paternal figure type is embedded within the models as a random effect that is allowed to vary across time. Therefore,
This study is presented in five chapters. Chapter 1 has introduced the topic of the study and detailed the study’s purpose, importance, rationale, and limitations. Chapter 2 provides an in-depth review of literature relevant to quality paternal relationships; psychological adjustment and the impact of paternal relationships; links between father-daughter relationships and psychological adjustment; educational outcomes and the impact of paternal relationships; links between father-daughter relationships and educational outcomes; and the impact of psychological adjustment on educational outcomes. Chapter 3 provides methodological discussion relevant to the study’s sample, procedures, measures, and analysis. Chapter 4 presents the results of the study detailed in three major sections: the impact of paternal warmth and presence on psychological adjustment, the impact of paternal warmth and presence on educational outcomes, and the impact of psychological adjustment on educational outcomes. Lastly, Chapter 5 provides an overall discussion of the study including the background of the study, summary of results, and recommendations for future research related to the research topic.
CHAPTER 2 - LITERATURE REVIEW

Literature on father-daughter relationships is limited, with even less research that examines the effects of paternal figure presence and father-daughter relationship quality on adolescent girls’ psychological adjustment and educational outcomes over time. This study examines these effects over time and investigates a diverse set of variables that contribute to psychological adjustment and educational outcomes. This review of literature is divided into four major sections: (a) quality paternal relationships, (b) psychological adjustment and the influence of paternal relationships, (c) educational outcomes and the influence of paternal relationships, and (d) the influence of psychological adjustment on educational outcomes. Each of the following sections provides discussion for the concepts that lead to the proposed research questions of this study:

Question 1. Do quality paternal relationships (i.e., as indicated by paternal presence and warmth) affect African American adolescent girls’ psychological adjustment over time?

Question 2. Do quality paternal relationships (i.e., as indicated by paternal presence and warmth) affect African American adolescent girls’ educational outcomes over time?

Question 3. Does psychological adjustment affect African-American adolescent girls’ educational outcomes over time?

Quality Paternal Relationships

Within the past decade there has been limited longitudinal research that focuses on father-daughter dyads regarding the impact of quality paternal relationships on girls’
psychological and academic development. Extant topics covered in recent longitudinal have focuses on paternal influences on girls’ sexuality and sexual practice (Hutchinson & Montgomery, 2007; Ream & Savin-Williams, 2005; Scharf & Mayseless, 2008; Wyckoff, et al., 2008), yet very few focus on African-American paternal figures. Even less research investigates African-American father-daughter relationships when compared to the amount of research that addresses African-American father-son relationships (Eggebeen & Knoester, 2001; Farrington, Jolliffe, Loeber, Stouthamer-Loeber & Kalb, 2001; Franklin, 2010; Mickelson & Greene, 2006; Roderick, 2003; Roy, 2006; Saunders, Davis, Williams, & Williams, 2004). Father-daughter relationships profoundly impact women throughout their lives, especially in the areas of their education and psychosocial functioning in adolescence and into adulthood (Coley, 2003; Cooper, 2009; Perkins, 2001). For instance, Cooper and Coley indicated positive relationships between paternal involvement and academic engagement in studies of adolescent female academic engagement. In the investigation of father-daughter relationships and psychosocial functioning in early adulthood, Perkins indicated a positive link between paternal absence and diminished self-concept in a sample of young adult women in college. It is worthy to note the distinct verbiage of ‘psychosocial functioning’ within the aforementioned study, which is indicative of the relationship between psychological and social functioning in early adulthood. Future discussion in the present study will focus on the impact of psychological functioning and adjustment as it relates to female adolescent experiences of paternal relationships. A major focus within the present study is the impact of paternal relationship quality, as the quality of the father-daughter relationship may matter more than paternal presence (Amato, 1994; Pleck, & Masciadrelli, 2004; Videon, 2005).
Paternal involvement is largely conceptualized in studies by the engagement, accessibility, and responsibility fathers have for their children (Marsiglio et al., 2000; Lamb & Tamis-Lemonda, 2004; Pleck, & Masciadrelli, 2004). These studies draw upon earlier studies like Lamb, Pleck, Charnov, and Levine’s (1987) that proposed that paternal involvement for all aged children consists of interaction (i.e., parent-child play), accessibility (i.e., paternal proximity without interaction), and responsibility (i.e., paternal planning and/or activity for the child’s well-being). The present study expounds upon earlier conceptualization of paternal involvement by adding the concept of paternal warmth to former conceptualization.

**Paternal Presence And Warmth**

A paternal figure is generally any male parental figure that assumes the role of a father. Paternal figures often include biological fathers, stepfathers, a mother’s boyfriend, grandfathers, or other relatives (McAdoo, 2007; Sudarkasa, 2007). A paternal figure may be any male figure that a child identifies as most like a father regardless of his biological relationship to the child. Additionally, paternal presence encompasses the idea that the male parental figure the child identifies as a paternal figure is accessible, interactive, and responsible for the child (Day & Lamb, 2004; Lamb, 1997; Marsiglio et al., 2000). According to Lamb, present paternal figures are available to their children physically and psychologically and offer welfare and care to their children. Day and Lamb indicated that father involvement can directly and indirectly affect the economic, physical, and psychological well-being of children. Further, outcomes of fewer behavior problems for children (e.g., fewer school behavioral problems, less running away from home, and decreases in trouble with the police) were reported when fathers were engaged in their children’s lives. According to Cooksey and Fondell (1996), fathers who spent time with their children in activities such as shared meals, leisure activities, and reading or helping with
homework fostered positive academic outcomes in their children, as measured by grades in
school. Pleck and Masciadrelli’s (2004) definition of paternal involvement stresses the necessity
of fathers in providing necessary resources for their children need and making sure their children
are taken care of economically and psychologically.

Paternal presence extends beyond physical boundaries to the impact father relations have
on their children (Marino & McCowan, 1976; Marsiglio et al., 2000; Veneziano, 2003; Videon,
2005). Paternal warmth and support have been interchangeably conceptualized in psychological
literature as the level of acceptance that fathers express toward their children (Bean, Barber, &
Crane, 2006). Support and warmth are regarded as essential features in fostering positive
outcomes for childhood and adolescents (Bean, Bush, McKenry, & Wilson, 2003; Kim, Brody,
& Murry, 2003). Veneziano purported that paternal proximity alone is not a proxy for paternal
warmth, as “fathers’ capacity to ‘care about’ their children appears more important for children’s
development than how often fathers ‘care for’ their children in day-to-day care taking activities”
(p.268). Veneziano indicated that the importance of paternal warmth and affection offer
meaningful insight into fathers’ influence on their children’s outcomes insofar as paternal
proximity alone does not.

In a study which emphasized the impact of paternal figure childcare before children reach
age 11, Budig and Folbre (2004) indicated that childcare is not only a set of activities, but is also
a “state of mind” in that parents are often aware of their children’s needs; they know what their
children are doing and are available and willing to help their children when necessary, even if
they are not physically in their children’s presence. Lamborn, Mounts, Steinberg, and Dornbusch
(1991) have been widely cited for their research that focuses on the impact of parenting style
across childhood and adolescent change (Milevsky, Schlechter, Netter, & Keehn, 2007; Pittman
Lamborn et al.’s Parental Warmth/Involvement Parenting Scale is especially cited for its measures of paternal and maternal warmth. Similar to the present study, Bronte-Tinkew, Moore, and Carrano (2006) acknowledge measures of the paternal warmth to examine father-child relationships and their impact on adolescent risk behaviors (i.e., delinquency and substance use). Bronte-Tinkew, Moore, and Carrano reported that positive father-child relationships as measured by paternal warmth reduced risk of first delinquency and substance in a sample of over 5,000 Caucasian, African American, and Hispanic adolescent females and males (ages 15-18). This study used data from the National Longitudinal Study of Youth collected during 1997. Further, paternal relations generally yielded significant and unique influences on adolescent behavior when compared to maternal relations. Outcomes related to race and ethnic backgrounds were not reported in this study.

In a study of 202 African American adolescent youth, Bean, Barber, and Crane (2006) also investigated paternal support in children’s lives. Their study conceptualized support as the level of warmth and acceptance children receive from their fathers and indicated that paternal support (e.g., paternal warmth) was found to be significantly and negatively related to youth depression and delinquency in African American youth. These findings were regardless of the adolescents’ gender or family income, although 69% of the sample was from lower-income families and 54% were female adolescents, ages 11-16. Bean, Barber, and Crane further suggested that all parental support functions as a buffering agent insulating youth from environmental stressors, although paternal support (especially in African American families) may be more pivotal to youth’s socio-emotional well being than maternal support because African American support was less stable and consistent in their sample. However, when fathers’
support was stable and consistent as measured by youth’s responses on the Child Report of Parent Behavior Inventory (CRPBI) from ages 11-16, youth appeared to be impacted significantly more and had lower depression and more avoidance of antisocial and delinquent behaviors.

**Overview: Quality Paternal Relationships**

Attributes of quality father-daughter relationships include warm and supportive interaction in which the daughter feels that she is able to rely on her father for help, encouragement, and understanding (Lamb, 1997; Rose et al., 2005). Such relationships also include fathers who provide for their families financially and are able to assist them with obtaining the resources that are important to their growth and development (Finley & Schwartz, 2006). Paternal warmth extends beyond physical proximity as noted by Veneziano (2003), as paternal warmth encompasses availability, support, and the affectionate interaction fathers extend to their children. Of particular importance to the present study is the impact quality father-daughter relationships have on adolescent girls’ psychological and academic outcomes. Father relationships have been identified as having lasting effects on their daughters’ psychological and academic development and outcomes (Hazan & Shaver, 2004; Muha, 2008; Pong, Dronkers, & Hampden-Thompson, 2003). In addition to investigating the distinct effects paternal presence and warmth have on adolescent girls’ development, this research investigates the particular age of early adolescence to examine significant effects. The literature reviewed in this section generally focused on adolescent youth, and it appears that paternal warmth significantly impacted adolescent youth ages 11-18. Many studies have examined the positive influences fathers make at various stages of their children’s development (Budig & Folbre; 2004; Day & Lamb, 2004; Kim, Brody & Murry, 2003; Lamb, 1997; Marsiglio et al., 2000). This study
does not undermine or ignore the impact that fathers make on their children throughout their lives. This study particularly investigates the impact fathers make during adolescence for female youth considering the vulnerabilities that these youth face at this stage in their lives.

**Psychological Adjustment and the Importance of Paternal Relationships**

Walker (1994) defined psychological adjustment as a state of harmony between internal needs and external demands and the processes used in achieving this condition. That is, psychological adjustment is contingent upon one’s ability to manage internal feelings and cope with life’s challenges and demands (Hakvoort, Bos, Van Balen, & Hermanns, 2010; Seaton, 2009). Thus, psychological adjustment encompasses one’s ability to manage external stress through either adaptive or maladaptive means. For example, girls raised in households without warm paternal support (i.e., an external stressor) may contribute to maladaptive coping (i.e., depression, substance abuse, delinquency, and school failure). Within this study, psychological adjustment is an aggregated measure of self-worth, hopelessness, caring, callousness, and worry. These concepts represent a diverse set of factors that are reflective of differing self-conceptions that encompass psychological adjustment. Self-worth is related to personal identity (Harter, 2003); hopelessness is reflective of future-orientation (Joiner & Wagner, 1995); caring is an affective response that reflects positive adjustment (Noddings, 1992); and worry and callousness are affective responses that are indicative of maladjustment (Laugesen, Dugas, & Bukowski, 2003; Lynam, Miller, Vachon, Loeber, & Stouthamer-Loeber, 2009; Silverman, La Greca, & Wasserstein, 1995).

Within this study, adolescent girls with high psychological adjustment report high levels of the adaptive traits within the psychological adjustment aggregated scale (i.e., self-worth and caring). These girls report lower levels of the maladaptive traits of hopelessness, callousness, and...
worry than girl with low psychological adjustment. Girls with low psychological adjustment report lower levels of the adaptive traits of self-worth and caring than girls with high psychological adjustment. It is hypothesized that girls with high psychological adjustment have positive paternal relationships reflective of high levels of paternal presence and warmth, which in turn contributes to their enhanced psychological adjustment. The following sections expand on each of the measures of the psychological adjustment scale used in this study.

**Self-worth**

Self-worth is defined by Harter (2003) as “the overall evaluation of one’s worth or value as a person” (p. 613). Higher levels of self-worth are indicative of positive psychological adjustment (Brody, Murry, Kim, & Brown, 2002; Harter & Whitesell, 1996; McMahon & Watts, 2002). If a person considers himself or herself to be valuable, he/she may find that overcoming life’s challenges fosters confidence and resilience (Crocker & Wolfe, 2001; Davey, Eaker & Walters, 2003). Self-worth is particularly critical for girls, as they are vulnerable to negative social influence both through individual encounters and through the media (Dohnt & Tiggemann, 2006). Dohnt and Tiggeman investigated the contribution of peer and media influences on the development of body satisfaction and self-esteem in a sample of 97 preadolescent girls as young as five years old (i.e., ages 5-8). Their study indicated that 43% of the girls were affected by their peers’ desire for thinness and watching appearance-focused television, which preceded low self-esteem and body dissatisfaction. Through these findings, it is evident that efforts which foster girls’ self-worth are important, which is why the present research investigates the roles of paternal support as one viable effort. Thus, extant research suggests that paternal support fosters adolescent girls’ self-worth by contributing to their ability to cope with adversity, instilling
within them a sense of worth and competence, and fostering their development of self-regulation (Track-Tate, Cunningham, & Lang-Derange, 2010).

**Hopelessness**

Joiner and Wagner (1995) defined hopelessness as “an expectation that highly desired outcomes will not occur and that negative ones will occur…and that nothing is going to change things for the better...” (p. 778). By impeding one’s ability to expect good things to happen to him/her, the absence of hope negatively affects psychological adjustment and has been correlated with depression and depressive disorders (Abramson, Metalsky, & Alloy, 1989; Au, Watkins, Hattie, & Alexander, 2009). That is, depression is a by-product of hopelessness that infringes on one’s ability to adaptively cope with external circumstances. In addition to depression, hopelessness is also associated with increased suicide risk and attempt, severe anxiety, and substance abuse in adolescents (Russell & Joyner, 2001; Thompson, Mazza, Herting, Randell, & Eggert, 2005). In a study conducted by the primary researcher of the longitudinal study, Bolland (2003) identified predictors of risk behaviors associated with hopelessness, which included violence, substance use, sexuality, and accidental injury (i.e., accidental burns, cuts, and broken bones). This study suggested that adolescents with high levels of hopelessness react to their uncertain futures by engaging in high levels of the aforementioned risk behaviors. This study included over 2,400 adolescent youth (25% female) who disclosed having moderate or severe feelings of hopelessness. However, minimal research has explored connections between paternal support and hopelessness among adolescent girls. Nonetheless, paternal absence has been associated with adolescent hopelessness in connection to suicidal ideation, suicidal attempt, and alcoholism (Cauce, Cruz, Corona, & Conger, 2011; Jones & Benda, 2004; Wells & Heilbron, 2012). Jones and Benda indicated that fathers function as protective barriers for their children.
and play a vital role in providing the love and sense of security requisite to the development of resilience, which buffers maladaptive behaviors such as alcoholism and suicide. Such protection is achieved by fathers who are nurturing, active, and committed, according to Wells and Heilbron.

**Caring**

Caring is defined by Noddings (1992) as behavior enacted from a sense of duty and obligation when the natural inclination is lacking. Noddings and Slote (2003) indicated that caring is a function of how much one has been or is currently being cared for by others. In this sense, being cared for in the contexts of home and school fosters caring in adolescents (McNeely, Nonnemaker, & Blum, 2002). Thus, caring is reflective of one’s sense of connectedness to others and to their responsibilities (Bonny, Britto, Klostermann, Hornung & Slap, 2000; McNeely et al.). When specifically examining the impact of father caring in the lives of their adolescent daughters, several recent studies reported the role of father caring in diminishing risky sexual behavior and eating disorders among adolescent girls (Elliott, 2010; Ellis, Schlomer, Tilley, & Butler, 2012; Hooper & Dallas, 2012; Hutchinson & Cederbaum, 2011; Katz & Van Der Kloet, 2010). Fewer studies have examined the impact of father caring on educational achievement and outcomes in the lives of their adolescent daughters. In this study, adolescent caring encompasses adolescent girls’ sense of duty and obligation to their school and education as it relates to their relationships to their fathers (Bonny et al.; McNeely et al.; Wentzel, 1997).

**Callousness**

Lynam, Miller, Vachon, Loeber, and Stouthamer-Loeber (2009) and Skeem and Cooke (2010) indicated that callous and unemotional feelings are components of psychopathy, a
personality syndrome that is comprised of affective, interpersonal, and behavioral characteristics associated with violent and aggressive behavior. Callousness impacts adolescents’ psychological adjustment by inhibiting optimal social outcomes (Lynam et al.; Skeem & Cooke). In addition to violence and aggression (Crapanzano, Frick, & Terranova, 2010; Muñoz & Frick, 2012), callousness in adolescent girls is positively linked with substance abuse (Wymbs, McCarty, King, McCauley, Vander Stoep, Baer, & Waschbusch, 2012); conduct problems and antisocial behavior (Kroneman, Hipwell, Loeber, Koot & Pardini, 2011); and adjustment problems (Charles, Acheson, Mathias, Furr & Dougherty, 2012). Lack of paternal presence, positive parenting, and parental warmth has been associated with callousness in adolescent girls in addition to the aforementioned maladaptive outcomes (Charles et al., 2012; Waller, Gardner, Hyde, Shaw, Dishion, & Wilson, 2012; Waller, Gardner, & Hyde, 2013).

**Worry**

Vasey and Daleiden (1994) defined worry in childhood and adolescence as “primarily an anticipatory cognitive process involving repetitive, primarily verbal thoughts related to possible threatening outcomes and their potential consequences.” Thus, worry is a cognitive function that may be detrimental to a child’s psychological adjustment since children who worry often envision catastrophic possibilities happening to them (Laugensen, Dugas, & Bukowski, 2003). Further, Silverman, La Greca, and Wasserstein (1995) indicated that worried adolescents frequently display inferior social and academic functioning and are at a high risk for dropping out of school. In adolescent girls particularly, worry has been linked to distorted body image, eating disorders, anxiety, depression, and maladaptive externalizing behavior, such as early sexual onset (Botta, 1999; Slater & Tiggemann, 2010). According to Luo, Wang, and Gao (2012) who conducted a study on the impact of father absence among adolescent girls in China, father
absence played a significant role in adolescent girls’ heightened anxiety levels and decreased self-esteem. Luo, Wang and Gao indicated that the timing of father absence profoundly impacted girls overall self-esteem and anxiety during adolescence. They further reported that when fathers were absent prior to age 2, adolescent girls showed significantly higher anxiety and lessened self-esteem throughout middle school especially. Although this study was not conducted in the United States, it suggests that father-daughter relationships may have ramifications for adolescent girls globally.

**Overview: Psychological Adjustment and the Importance of Paternal Relationships**

Research reviewed in this section supports the conclusion that fathers play important roles in the overall psychological adjustment of their adolescent daughters. Within this study psychological adjustment is a composite measure encompassing self-worth, hopelessness, caring, callousness, and worry in adolescent girls. Therefore, adolescent girls with high psychological adjustment report high levels of the adaptive traits within the psychological adjustment composite scale while reporting low levels of the maladaptive traits. The reviewed research indicates that positive paternal relationships bolsters the adaptive traits of self-worth, hopelessness, and caring, and diminishes the maladaptive traits of callousness and worry during adolescence.

**Linking Paternal Relationships and Psychological Adjustment**

Much of the research that supports the link between father-adolescent relationships and positive youth psychological and behavioral outcomes has focused on European American adolescents, which may be related to the prevalence of African American father absent homes in America (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990; Hair, Moore, Garrett, Ling, & Cleveland, 2008; Kenny & Gallagher, 2002; Sheeber, Davis, Leve, Hops & Tildesley, 2007).
Sheeber et al. reported the impact of father-adolescent relationships on adolescent emotional health in comparison to mother-adolescent relationships. The study included 243 adolescents and their parents; however, only two of the families in the sample were African American. According to their research, fathers have been underrepresented in studies of child and adolescent depression, as the vast majority of studies on childhood and adolescent depression have focused on the mother-adolescent relationship. Thus, fathers’ reports of their relationships with their adolescent children rather than mothers’ reports only were reported in their study. Their research indicated that lower levels of support and higher levels of conflict distinguish father-adolescent relationships in families of adolescents with depressive symptoms, suggesting that levels of support and conflict are strong contributors to adolescent depression. Hair et al. (2008) analyzed longitudinal data collected from over 4,600 adolescents who participated in The National Longitudinal Survey of Youth. Twenty-five percent of the sample was African American adolescents ages 12-16. Hair et al. indicated that the parenting practices of monitoring, awareness, supportiveness, strictness, and family routines predicted reduced levels of depression, psychological disorders, externalizing behaviors, and behavior problems among adolescents ages 12-16.

In previous literature, Lamb (1997) and McLoyd (1998) indicated that father absence among adolescent girls attributed to maladaptive behaviors and increasing psychological distress associated with internalized experiences of being abandoned by a parent. Thus, increased rates of depression have been identified as maladaptive outcomes affecting adolescent girls who experience father absence (Hetherington, Cox, & Cox, 1985; Servaty & Hayslip, 2001). According to Kalter (2006), adolescent and adult females displayed signs of low self-esteem, precocious sexual activity, greater delinquent behavior, and difficulty establishing gratifying,
lasting adult heterosexual relationships after experiencing separation from their fathers due to divorce. Kalter suggested that when the father leaves the family and becomes less involved with his children, it appears that young girls experience emotional loss and rejection. Many young girls in this study attributed the rejection of their fathers to views of themselves as not being pretty, affectionate, athletic, or smart enough to make their fathers want to spend time with them. Kalter reported:

Girls whose parents divorce may grow up without the day to day experience of interacting with a man who is attentive, caring, and loving. The continuous sense of being valued and loved, as a female seems an especially key element in the development of the conviction that one is indeed femininely lovable. Without this regular source of nourishment, a girl’s sense of being valued as a female does not seem to thrive (p. 57).

On the contrary, Neilson (2001) and Daniels (2001) indicated that involved fathers instill greater self-worth and independence in their daughters. Neilson (2007) explored how positive father-daughter relationships have the ability to impact young adult women to avoid teen pregnancy, early marriage, and abusive relationships from data collected in 1990 until 2004 among 423 college women. She posited that positive father-daughter interactions contribute to more self-confident and self-reliant women in general. This increased self-confidence appears to continue on throughout adulthood, as Flouri and Buchanan (2002) indicated that positive relationships with fathers in late adolescence foster good relationship quality with partners as adults.

Associations between African American adolescent psychological outcomes among girls and father relationships are less frequently found in research literature (Coley, 2003; Cooper, 2009). However, aspects of father-adolescent relationships such as emotional closeness, nurturance, shared activities, and supportive parenting styles relate to adolescents’ emotional health (2003). While the present study seeks to build on extant research concerning African
American father-daughter relationships during adolescence, several studies that include African American father-adolescent relationships more frequently focus on adolescent boys rather than adolescent girls (Eggebeen & Knoester, 2001; Franklin, 2010; Mickelson & Greene, 2006; Roderick, 2003; Saunders, Davis, Williams, & Williams, 2004).

Overview: Linking Paternal Relationships and Psychological Adjustment

Research reviewed in this section highlights associations between father-daughter relationships and their impact on aspects of adolescent girls’ psychological outcomes, including depression, self-worth, and self-esteem. It appears that father absence contributes to feelings of abandonment, depression, and lowered self-esteem in adolescent girls in several of the studies mentioned in this section. Of note is the effects positive father-daughter relationships have on their daughters beyond adolescence, as also emphasized in this section. Yet, there is a major need for more research that focuses on the effects of father absence on African American adolescent girls’ psychological adjustment and outcomes. This study will add to extant research by providing insight into African American adolescent girls’ experiences of their fathers’ impact on their psychological adjustment over time. This study also speaks to the impact.

Educational Outcomes and the Importance of Paternal Relationships

Children’s educational attainment is critical to their later success in life, as education affects future relationships, career aspirations, and income, to name a few areas affected (Ashby & Schoon, 2010; Nichols, Kotchick, Barry, & Haskins, 2010). Parents, teachers, and other school personnel play essential roles in helping shape children’s educational outcomes through their support and the guidance they provide (Nichols et al., 2010). For adolescents, support and guidance are particularly important as they approach high school completion and begin to plan for their futures (Furrer & Skinner, 2003; Irvin, Meece, Byun, Farmer, & Hutchins, 2011). Thus,
adolescents’ perceptions of their future orientations and how their academic and behavioral engagement affects their outcomes are important to their success (Wang & Holcombe, 2010). Research consistently indicates that students who attend school regularly, are engaged in learning, adhere to the rules of the school, and avoid disruptive behaviors generally earn better grades and perform better on standardized tests (Caraway, Tucker, Reinke, & Hall, 2003; Finn & Rock, 1997; Wang & Eccles, 2012; Wang & Holcombe, 2010).

**Educational Achievement**

In schools throughout the United States, educational achievement is measured using standardized achievement tests. Such tests are used for screening students’ academic performance, determining students’ eligibility for special education services, program planning and evaluation, and progress monitoring (Cohen & Spenciner, 2003). According to Duckworth, Quinn, and Goldman (2010), achievement test scores and the grades students earn in school are indicative of competencies that are necessary throughout children’s development and into adulthood. Further, achievement test scores and high school grades have been useful in predicting students’ grade point averages in their first year of college (Kobrin, Patterson, Barbuti, Mattern & Shaw, 2008; Zwick & Himelfarb, 2011). The Stanford Achievement Test (SAT) is a nationally normed, comparative assessment of achievement across reading comprehension, mathematics problem-solving, language, spelling, listening comprehension, science, and social science (Pearson Education, 2015). The SAT series is typically administered from kindergarten through high school to track students’ progress toward content standards (2015). SAT scores in reading and mathematics will be used in this study as a predictor of educational outcomes.

**School Absence**

School absence is also indicative of educational outcomes and how engaged students are
in their education (Appleton, Christenson, & Furlong, 2008; Archambault, Janosz, Fallu & Pagani, 2009; Perry, Liu, & Pabian, 2010). In their study that examined high school dropout rates among 11,287 seventh through ninth grades, Archambault et al. reported that low student engagement (e.g., poor school attendance, skipping class, non-compliance with school rules, and oppositional behavior) predicted alienation from school and eventual school dropout. According to Johnston (2000), regular school attendance is positively correlated with better grades and enhanced school connectedness for children. School attendance is also correlated with parental involvement and monitoring (Fan & Williams, 2010; Perry, Liu, & Pabian, 2010). Some researchers have gone as far as deeming parental involvement the primary vehicle to improving children’s academic achievement and outcomes (Hara & Burke, 1998). According to Simons-Morton and Chen (2009), parents can influence children’s behavior throughout adolescence by establishing and confirming high expectations, monitoring behavior, and remaining highly involved and supportive, despite adolescents increasing independence and competition from peers and other influences. Further, when such parenting practices were not employed, school engagement (i.e., school attendance and motivation and effort at doing well in school) declined as substance use, conduct problems, and negative peer influence increased in a sample of 2,453 middle school students (Morton & Chen).

Of particular importance to this dissertation study is the role fathers play in promoting positive educational outcomes in the lives of their adolescent children. Extant research literature rarely focuses on paternal parenting practices in shaping adolescent school engagement. In a study which focused primarily on African American adolescents’ future educational orientation and their perceived parental involvement, Kerpelman, Eryigit, and Stephens (2008) indicated that adolescents in mother-headed households may receive paternal academic achievement support
through indirect means (i.e., financial support, engaging in tasks that support achievement, and working indirectly through mothers to support academic achievement). This suggests that in father-absent households, fathers still offered support through partnering with mothers. Kerpelman et al. thus indicated that fathers’ expectations were positively related to adolescents’ future education orientation and academic aspirations. According to Duchesne and Larose (2007), it is possible that adolescents' attachment with fathers is defined well when it is linked with a particular context (e.g., participation in recreational activities, discussions about future directions, or social and political discussions).

**Overview: Educational Outcomes and the Importance of Paternal Relationships**

In this section literature supporting adolescent educational outcomes (e.g. educational achievement and engagement) influenced by father involvement is reviewed. Although prior research supports the impact of positive parental involvement on the optimal academic outcomes of adolescents, there exists a lack of research that supports the impact of positive father-adolescent relationships in particular. This section highlights the indirect and direct roles fathers play in the lives of their adolescent children. It also acknowledges the need and importance of positive father-adolescent relationships in impacting aspects of educational outcomes (i.e., educational achievement and school attendance and behavior) despite a lack of research literature support.

**Linking Paternal Relationships and Educational Outcomes**

Research indicates that father absence is correlated with lower educational scores and attainment in children (Amato & Keith, 1991; DeBell, 2008; Dube & Orpinas, 2009; Pong, Dronkers, & Thompson, 2003). Pong, Dronkers, and Thompson (2003) indicated that children raised in single-parent homes in contrast to those reared in two-parent homes scored lower in
math and science subjects. Further, in comparison to other countries, the United States had the largest achievement gaps between children from single-parent families and two-parent families, according to Pong et al. In addition to educational achievement, research also indicates that father relationships affect children’s attitude towards education. In a more recent study that examined the association of absent-father status with 12,426 children’s well-being in grades K-12, DeBell (2008) reported that absent-father status was associated with reduced overall well-being, worse health, lower academic achievement, worse educational experiences, and overall less parental involvement in school activities. Further, DeBell indicated that several aspects of children’s well-being are also associated with parental income and education. Flouri, Buchanan, and Bream (2002) reported that father involvement increased children’s positive attitudes towards school and that having a supportive father protects children against academic failure. This supports aforementioned research in the previous section of this dissertation, which indicated that children’s attitude, academic engagement, and perceptions of their future academic orientation impacts their overall academic outcomes (Caraway, Tucker, Reinke, & Hall, 2003; Wang & Eccles, 2012; Wang & Fredricks, 2013; Wang & Holcombe, 2010). Flouri, Buchanan, and Bream (2002) corresponds with Nord and West (1998) who reported that children with involved fathers are more likely to perform well in school and participate in extracurricular activities while being less likely to be held back, suspended, or expelled. Fathers support their children’s educational goals by being active leaders of education at home and school, volunteering at their children’s school, and being liaisons between home and school (Berger, 1991).

Although some linkages in research have been made supporting positive contributions of fathers towards their children’s academic outcomes, the overall topic of father-daughter
relationships and daughters’ educational outcomes is well underdeveloped in research. A few studies have addressed such relationships and outcomes in African American adolescent girls. For instance, in a sample of African American adolescent girls and young adult women between the ages of 13 and 28, Hanson (2007) reported that increased perceived closeness with fathers was associated with higher grades and occupational aspirations. Among a sample of low-income African American families, Coley (2003) explored father-daughter relationships and reported that conflictive father-daughter relationships were associated with school behavior problems among girls who had little contact with their fathers. Bryant and Zimmerman (2003) reported that paternal male role models and having someone to look up to helped African American ninth-grade girls achieve positive school outcomes. Correspondingly, Cooper (2003) reported that father-daughter relationship quality, measured by fathers’ warmth and supportiveness towards their daughters, was positively related to African American adolescent girls’ academic engagement (i.e., effort and attention in classroom-related activities).

Overview: Linking Paternal Relationships and Educational Outcomes

This section further supports the positive contributions of quality father relationships on children and adolescents’ educational outcomes. It specifically highlights research that has examined such relationships in girls and indicates several educational outcomes resulting from father absence (e.g., lower academic achievement, worse educational experiences, school behavior problems, and diminished overall well-being) as opposed to father presence outcomes (e.g., positive attitudes towards school, higher grades, and increased academic engagement). Even still, this dissertation contributes to the limited body of research that has examined father-daughter relationships and the educational outcomes of adolescent girls.

The Importance of Psychological Adjustment on Educational Outcomes
The present study is unique in its conceptualization of psychological adjustment as an aggregate set of diverse factors (e.g., self-worth, hopelessness, caring, callousness, and worry). Extant research has linked adolescent psychological functioning to learning and academic achievement (Li & Lerner, 2011; Roeser, Eccles, & Sameroff, 2000; Roeser, Eccles, & Strobel, 1998; Wang & Fredricks, 2013). Psychological adjustment has not been conceptualized using aggregated measures of self-worth, hopelessness, caring, callousness, and worry as used in this dissertation. Seaton (2009) purported that psychological adjustment can be either an achievement or outcome or a process. As an achievement or outcome, psychological adjustment is a phrase used to denote positive mental health or overall well-being (2009). The conceptualization of psychological adjustment as a process reflects whether an individual is able to cope effectively with the demands of the environmental context as well as with the stress created by such demands according to Seaton. In psychological research, psychological adjustment is often an outcome measure of indicators of self-esteem or the absence of distress, anxiety or depression. Seaton indicated that researchers also measure an individuals’ level of adjustment or well-being in response to some stressful event (e.g., father absence within this study).

In Li and Lerner, psychological adjustment is an outcome measure of depression. According to Li and Lerner, significant associations between frequent involvement in delinquency, poor grades, increased school dropout, and substance abuse were linked with adolescents who indicated high levels of psychological distress (e.g. depression) among a sample of 1,977 adolescents, grades 5-8. Li and Lerner indicated that psychological distress was a predictor of students’ overall behavioral and emotional engagement in school, and youth who experienced more positive pathways of behavioral and emotional engagement tended to have
better grades, were less depressed, and were less likely to be involved in delinquency and drug abuse.

In an earlier study that concentrated on early adolescent development, Roeser, Eccles, and Sameroff (1998) reported psychological and emotional adjustment as an outcome measure of self-esteem, depressive symptoms, and anger. Their research noted that increased levels of psychological well-being are precursors to successful academic functioning and positive school motivation. Furthermore, adolescents who indicated positive adjustment found their curriculum more meaningful, perceived more opportunities for student involvement and participation in school, and found teachers more available for problems than adolescents with poor psychological adjustment. Roeser, Eccles, and Sameroff also reported that youth with positive psychological adjustment valued and were committed to their school experience. Thus, youth who value and are committed to school experience less psychological distress and are less likely to engage in problem behaviors (e.g. delinquent acts and substance abuse) compared to youth who show greater devaluing of school (Calear, Christensen, Mackinnon, & Griffiths, 2013; Kelly, O’Flaherty, Toumbourou, Homel, Patton, White, & Williams, 2012; Roeser, Eccles, & Sameroff, 2000).

**Overview: The Importance of Psychological Adjustment on Educational Outcomes**

This section highlights the unique conceptualization of psychological adjustment within the present study and explains the conceptualization of the term psychological adjustment within existing psychological research. This section also highlights various researches that have focused on adolescent psychological adjustment related to school performance, motivation, and maladaptive outcomes (e.g., delinquency, substance abuse, poor grades, and school dropout) in response to diminished psychological adjustment. Literature presented in this section reinforces
an overall goal of this study, which is to support positive psychological development in adolescents for nurturing their optimal academic success.

Conclusion

The review of literature defines the concepts entailed within this study’s hypotheses and provides scholarly research support for the proposed relationships within the hypotheses. The research reviewed in this chapter supported the relationships between father-daughter relationships, psychological adjustment, and educational outcomes. The research also provided support for the relationship between psychological adjustment and educational outcomes.

Quality father relationships were discussed and defined in terms of the extent in which fathers are present, warm, and supportive in the lives of their daughters. Such relationships impact both the father and daughter, as fathers are also validated emotionally when they are able to provide for and support their children. This is particularly so for African American fathers who are esteemed in African American communities based on their ability to provide for their families. However, the contributions mothers make in the lives of their children (especially their daughters) are not to be diminished by this research, as mothers equally contribute to their children’s overall well-being. A major goal of this research is to examine the exclusive contributions of fathers towards their daughters’ development.

Despite the evidence supporting links between supportive fathering roles and positive psychological and educational outcomes for adolescents, limited research addresses these links within African American families. However, the research review indicated compelling relationships between father absence and daughters’ psychological and educational outcomes. A myriad of maladaptive outcomes result from father absence including depression, delinquency, poor self-worth, risky sexual behavior, and academic underachievement. This study further
explores the outcomes of adolescent girls with regard to present paternal figures and the impact of paternal warmth.
CHAPTER 3 - METHODS

This study examined the effects of quality paternal figure relationships on the psychological adjustment and educational outcomes of African American adolescent girls who participated in the longitudinal study (LS) and were enrolled in the southeastern school system (SESS). This chapter will describe the LS more fully, discussing the geographical context of the LS, LS administration procedures and recruitment, study sample, and LS survey measures relevant to this study. This chapter will also discuss rationale for the data analysis and methodological approach used for this study.

Geographical Context

Before discussing the sample of youth that are involved in this study, it is first important to discuss the geographical and socioeconomic context in which they lived. A discussion of the study sample follows this section. The LS is a community-based, multiple cohort longitudinal study that includes annual data collection. The survey was administered to youth ages 9-19 who live in impoverished neighborhoods in the southeastern US city (Bolland, 2004; Bolland et al., 2013). The southeastern US city is the largest city in the Metropolitan Statistical Area (MSA) with a population of approximately 200,000. According to census data from 2000, 46.1% of the city’s residents identified as African American and 22.4% of those, living in poverty (U.S. Census, 2012). In 2000, the median household income in the southeastern US city was $31,445. Using housing authority data, in 1998 50% of households with adolescents ages 10-18 were randomly selected from 13 most impoverished neighborhoods for participation in the LS during
active recruitment. The targeted neighborhoods are predominantly African American (95%), over 98% of LS participants are African American, as racial and residential segregation is high.

**Study Sample**

The sample in the present study consists of SESS female youth who participated in the LS. These youth all lived in the aforementioned extremely impoverished neighborhoods. Two data sets were utilized and merged to create the final study sample, data from the LS and data from the SESS. The LS data analyzed in this longitudinal study was from the years 2000 through 2009. Although the full LS data set contains 14 years of data, this study used a dataset containing only 10 data waves from the aforementioned years. Although data were available for analysis for all waves of data, a pre-generated LS data set containing only 10 waves of data was used in the analysis for this study. Each youth had a unique identification number for the LS. The SESS data set used for this study was generated for use in another study. The SESS contained identification numbers from the SESS. Both of the LS and SESS datasets used in this study were not created for the sole purpose of this study.

To create the final data set, identification numbers needed to be matched between the LS and the SESS. Since the LS and SESS data files contained separate identification numbers, a matching file was created by the LS staff members to aid in matching. The matching file does not contain the complete records, but it made it possible to match a large percentage of the participants. As the LS was conducted during summer months, participants’ SESS data was matched with the data from their preceding year of LS participation. Correspondence of LS administration years with respective LS data waves and SESS years appears in Appendix D. After matching was completed, two further limitations were placed on the sample. First, an age restriction was placed on the data to only include observed data between the ages of 11 and 16.
Female adolescents ages 11-16 were targeted in this study considering reviewed literature that indicates this period in female adolescent development to be particularly vulnerable and when paternal involvement particularly supports optimal development (Bean, Barber, & Crane, 2006; Bronte-Tinkew, Moore, & Carrano, 2006; Cooper (2009); Coley (2003); Hair, Moore, Garrett, Ling, & Cleveland, 2008). Subjects were also required to have two years of data from both data sets between the ages of 11 and 16 in order to fit the longitudinal models with a linear trend.

This study’s sample includes 2,309 participants who fit the analysis criteria: (1) African American female who participated in the LS and (2) had a requirement of two years of data in both LS data and SESS records. Thus, participants who participated in the survey only one year or only had one year of school data were excluded. Inclusion criteria must have been met despite the participants’ ages at the time of their participation. Within the 10 waves of data analyzed, there was an overall frequency of 4,828 observations (see Table 8 in Appendix B that displays the frequency of observations by wave).

**Procedures**

According to Bolland (2012), the goals of the LS are two-fold:

“(a) to describe the characteristics, circumstances, and behaviors of its participants (disadvantaged urban adolescents, aged 10 through 18) and (b) to describe the etiology of these characteristics, circumstances, and behaviors” (p. 194).

The LS was conducted annually from 1998 through 2011 and there were attempts to follow each participant until he/she reaches age 19. Active recruitment included visiting homes and soliciting participation and parental consent. Passive recruitment methods were also conducted through the use of flyers and by word of mouth (Bolland, 2007). Participants consented to the study and were required to have informed consent from an adult caregiver.
Youth within three months of their 10th or 18th birthdays were allowed to participate, which yielded a sample of adolescents, aged 9.75 to 19.25. Each subsequent year, adolescents enrolled in the LS were contacted and asked to resurvey while new participants were recruited simultaneously. Therefore, new cohorts of participants were added each year of the survey administration.

The surveys were typically conducted during the summer months of May, June, and July when school was not in session. The surveys were administered in group settings (at various community locations) unless individual administration was necessary or requested. Typical group sizes ranged between 5 and 20 students. Research interviewers administered the surveys to the participants orally while the participants marked their individual answers confidentially at their seats. The participants were paid $10 each year for completing the survey between 1998 and 2005 and $15 each year for participation after 2005. The participants are contacted every year until they reach the age of 19.25 when they were no longer eligible to participate (Bolland, 2007).

The questionnaire consisted of 294 questions through 2005; in 2006, increased to 406; and in 2008, increased to 408 questions.\(^2\) The LS contained questions about risk behaviors and attitudes associated with violence, substance abuse, and sex; family structure and function; feelings about self, neighborhood, and peers; and experiences in school. In 2005, questions related to identity style, ego strengths, intimate relationships, and connectedness to school and friends were added. Also in 2005, questions were increased regarding the nature of participant’s

\(^2\) Editions and enhancements to the LS do not impact the outcomes of data analysis, as original LS content was not reduced.
relationships with their maternal and paternal figures. For consistency and convenience, this study only used instruments from the original LS.

Additionally, a partnership was established between principal investigators of the LS and the southeastern school system (SESS), whereby all school records for LS participants were made accessible to LS researchers in an auxiliary dataset. Relevant to this study, school attendance records and certain academic achievement outcomes were utilized from participants’ SESS school records in addition to LS data.

**Measures**

In this section, measures described are paternal figure type; paternal warmth; composing measures of psychological adjustment, including self-worth, hopelessness, caring, callousness and worry; and measures of educational outcomes, including Stanford Achievement Test math and reading scores and school attendance records. Finally, age is also described, as it is the unit by which time was measured in this study. All measures derived from LS instruments appear in Appendix C.

**Paternal Figure Type**

Adolescent girls were asked the question — What person is most like a father to you? There were nine possible responses: 1 – “I don't have anyone who is like a father to me”; 2 – “My father”; 3 – “My stepfather”; 4 – “My grandfather”; 5 – “My uncle”; 6 – “My foster father”; 7 – “My mother's boyfriend”; 8 – “My older brother”; or 9 – “Some other person. A variable for paternal figure type was created and defined within the LS dataset based on these responses. This variable classifies paternal figure type into four classifications: “no paternal figure” = 0; “biological father” = 1; “grandfather/uncle” = 2; and “other paternal figure” = 3. This classification was determined to differentiate paternal figure types by paternal presence versus
paternal absence and by the prevalence of biological father’s presence in comparison to other relatives. Of the participants (\(N = 2,309\)), 10\% (\(n = 229\)) reported having no paternal figure, 47\% (\(n = 1082\)) reported their biological father as their paternal figure, 15\% (\(n = 354\)) reported their grandfather/uncle as their paternal figure, and 28\% (\(n = 644\)) reported having another paternal figure\(^3\). Also see Table 10 in Appendix B for paternal figure type frequencies. See Table 10 in Appendix B for frequencies of paternal figure types observations by age.

**Paternal Warmth**

The paternal warmth scale within the LS was adapted from Lamborn, Mounts, Steinberg, and Dornbusch’s (1991) Parental Warmth/Involvement Scale, which measured both paternal and maternal warmth. The paternal warmth scale used in this study was comprised of 6 scale items administered in the original LS prior to the scale being expanded to 10 items in 2005. Of note, to remain consistent throughout all waves of data, the 6 item scale was used in the data from 2005 and beyond. Examples of items are: “I can usually count on [my father] to help me out if I have some kind of problem;” “He usually keeps pushing me to do my best in whatever I do;” “He usually helps me if there is something I don’t understand;” and “When he wants me to do something, he usually explains the reasons why.” The LS paternal warmth scale was created using modified responses to the items in the Lamborn et al. Paternal Warmth/Involvement Scale. These responses included “I don’t have anyone who is like a father to me” = 0, “agree” =1, and “disagree” = 2. The full items are listed in Appendix C. Prior to recoding and analysis, a score of 0 indicated lack of paternal figure presence and/or warmth. To account for this in the analysis,

\(^3\) Within the multilevel growth modeling analysis used in this study, paternal figure type is embedded within the models as a random effect that is allowed to vary across time. Therefore, the analysis accounts for participants who have changing paternal figure types throughout their participation in the study.
adolescents without a parental figure were recoded as having missing data. The model will account for this missing values as the paternal figure scale will only be in the model if a parental figure is reported. For those with paternal figures, the dichotomous items were recoded to 0 = “disagree” and 1 = “agree” to create a 6-point (range from 0-12) summative scale in which higher values indicate higher perceived paternal warmth. The Cronbach’s alpha coefficient for paternal warmth in this study is .93, indicating it to be a reliable measurement scale of paternal warmth. See Table 11 in Appendix B for complete descriptive statistics of the paternal warmth scale both overall ($M=4.330$, $SD=2.220$, Range=6) and by age.

**Psychological Adjustment**

Adolescents completed a number of measures in the LS that assessed their psychological adjustment. The items included measures of (a) self-worth, (b) hopelessness, (c) caring, (d) callousness, and (e) worry. These five measures will be discussed separately below. Preliminary analyses revealed similar relationships between the independent variable and all five measures of psychology adjustment. To create more cohesion within this study, self-worth, hopelessness, caring, callousness, and worry were statistically combined to create a single composite measure of psychological adjustment. To create the composite psychological adjustment score, several steps were taken. First, the scores from the measure of each construct were standardized into z-scores by subtracting the mean of each variable from its original value then dividing by the standard deviation. This was done to remove scale differences between the five measures. Second, a principle component analysis was run to determine the weights of each score. The

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4 $Z = (V - \text{mean of } V)/SD$, where V represents the value of the variable in the original data set and SD represents standard deviation.

5 Please note the use of component analysis versus factor analysis, since the objective was to create a summative scale of psychological adjustment using the available scales. The objective
principal component analysis yielded a first factor with an eigenvalue of 1.99, which accounted for 33% of the total variance in the five scales. All other eigenvalues were below one. This indicated that a single summative scale could be utilized in lieu of five separate outcome measures. As expected from the previous literature, the adaptive psychological constructs of self-worth and caring were weighted positively, and the maladaptive constructs of hopelessness, callousness, and worry were weighted negatively (see Table 13 in Appendix B for principle component weightings). Third, the psychological adjustment composite score was computed by multiplying the z-score of each construct by the weight from the principle components analysis, and then summing the weighted z-scores (i.e., composite psychological adjustment = weight*general self-worth z-score + weight*behavioral self-worth z-score + weight*callousness z-score + weight*caring z-score + weight*worry z-score + weight*general hopelessness z-score). See Tables 12 and 13 in Appendix B for principle component analysis weights for each psychological adjustment measure and for further description of participants’ composite psychological adjustment observations, overall (M=-0.067, SD=1.405, Range=8.178) and by age. Only standardized scores for the psychological adjustments measures were used in the analyses since they contributed to the weighted psychological adjustment composite. The Cronbach’s alpha coefficient for the composite psychological adjustment variable is .73. This value was calculated based on the raw item correlations of the combined psychological adjustment scales. See Table 24 in Appendix B for Cronbach’s alpha on each individual measure of psychological adjustment reported each year of LS administration.

was not to investigate the individual items or causal influence that create each of the scales as is accomplished through factor analysis.
**Self-worth.** Modified from Harter’s (1982) Perceived Competence Scale, this construct includes a scale of both general and behavioral self-worth created from nine items in the survey that assess the participants’ self-worth. This included statements such as, “I am usually happy with myself” or “I am usually unhappy with myself;” “I hardly ever do things I know I shouldn’t do” or “I sometimes do things I know I shouldn’t do;” “I usually like the way I behave” or “I usually don’t like the way I behave;” “I like the kind of person I am” or “I don’t like the kind of person I am;” “I usually get into trouble because of the things I do” or “I usually don’t do things that get me in trouble,” etc. The full scale is included in Appendix C. Possible item scores were 1 for positively answered items (e.g., I am usually happy with myself) and 0 for negatively answered items (e.g., I am usually unhappy with myself). Items were then summed to create a scale ranging from 0 to 9, with 0 indicating a low measure of a participant’s self-worth rating. The self-worth scales were then standardized using a mean of 3.25 and standard deviation of 1.017 for general self-worth and mean of 3.16 and standard deviation of 1.368 for behavioral self-worth. See Tables 14 and 15 in Appendix B for further description of participants’ standardized general self-worth observations, overall ($M=-0.027$, $SD=1.008$, Range=3.970) and by age and standardized behavioral self-worth observations, overall ($M=-0.027$, $SD=1.004$, Range=3.667) and by age. The Cronbach’s alpha coefficient for this scale is .56 indicating this to be a less than optimal scale for self-worth.6

**Hopelessness.** Modified from Kazdin, French, Unis, and colleagues’ (1983) Hopelessness Scale for Children, hopelessness was measured using six questions included in the survey. Five of the items were adapted from the Hopelessness Scale for Children and were

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6 A Cronbach’s alpha of 0.7 or higher is generally acceptable for a measurement scale (Santos, 1999). Additional scale items may have improved the Cronbach’s alpha coefficients on scales with low Cronbach’s alpha coefficients.
selected because of their high item-total correlations, and the sixth question was developed because of its relevance to the sample population (Bolland, 2011). Responses were collected from the items, “All I see ahead of me are bad things, not good things,” “There’s no use in really trying to get something I want because I probably won’t get it,” “I might as well give up because I can’t make things better for myself,” “I don’t have good luck now and there’s no reason to think I will when I get older,” “I never get what I want, so it’s dumb to want anything,” “I don’t expect to live a very long life.” The full items for the scale are reported in Appendix C. The LS hopelessness scale was created using modified responses to the items from the Kazdin et al. hopelessness scale. The response choices for each item in the LS scale were either “agree” or “disagree”, yielding scores of either 1 or 0, respectively. A summative scale was created for the 6 items, ranging from 0 to 6, with 0 indicating a low measure of participants’ hopelessness. The hopelessness scale was then standardized using a mean of 1.14 and standard deviation of 1.572. See Table 16 in Appendix B for further description of standardized hopelessness observations, overall ($M=0.024$, $SD=1.000$, Range=3.830) and by age. The Cronbach’s alpha coefficient for hopelessness is .76, indicating it to be a reliable scale of hopelessness.

**Caring.** The items used to measure caring were modified from Frick’s (1998) caring scale and included a scale created from three questions in the survey. The questions were: “I care about how well I do at school or work,” “I feel bad or guilty when I do something wrong,” and “I care about the feelings of others.” The full scale is reported in Appendix C. The LS caring scale was created using modified responses to the items from the Frick caring scale. The responses yielded in the LS scale were either “agree” or “disagree”, yielding scores of either 1 or 0, respectively. Responses were summed to create a summative scale with a range of 0 to 3 yielding a low to high measure of the participants’ caring. The caring scale was then standardized using a
mean of 2.45 and standard deviation of 0.835. See Table 17 in Appendix B for further
description of caring, overall \((M=0.002, SD=1.002, Range=3.617)\) and by age. The Cronbach’s
alpha coefficient for caring is \(0.54\) indicating this to be an unreliable scale of caring. This is not
surprising considering that this scale is comprised of only three dichotomous items.

**Callousness.** This variable was measured using modified items from Frick (1998)
Callousness-Unemotional Traits. This measure was created from five questions included in the
survey. The responses were collected from the questions, “I often blame others for my mistakes,”
“I am able to lie easily and skillfully,” “I sometimes act charming and nice to get things I want,”
“I usually hide my feelings or emotions from others,” and “I get angry when I am corrected or
punished.” The full scale is listed in Appendix C. The LS callousness scale was created using
modified responses to the items from the Frick Callousness-Unemotional Traits scale. The
responses yielded in the LS scale were “agree” or disagree”, yielding scores of either 1 or 0,
respectively. This created a summative scale yielding a low to high measure of the participants’
callousness with range of values \(0-5\). The callousness scale was then standardized using a mean
of 2.52 and standard deviation of 1.336. See Table 18 in Appendix B for further description of
standardized callousness observations, overall \((M=-0.008, SD=0.996, Range=3.723)\) and by age.
The Cronbach’s alpha coefficient for callousness is \(0.45\), indicating this to be a less than optimal
scale of callousness

**Worry.** This variable was measured from ten questions included in the survey modified
from Small and Rodgers’ (1995) worry scale. This included statements such as, “How much do
you worry about getting good grades,” “How much do you worry about being pressured into
doing something dangerous by your friends,” “How much do you worry about not fitting in with
other kids in the neighborhood or at school,” “How much do you worry that your family has
enough money to get by,” “How much do you worry that you might not get a good job when you get older,” “How much do you worry about getting along with people of other races,” etc. All scale items are listed in Appendix C. The LS worry scale was created using modified responses to the items from the Small and Rodgers worry scale. The response choices in the LS scale were “not at all”, “some” or “much”. These were coded as 0, 1, and 2, respectively. This created a summative scale yielding a low to high measure of the participants’ worry with range of values 0-20. The worry scale was then standardized using a mean of 6.86 and standard deviation of 4.153. Table 19 in Appendix B has further description of standardized worry observations, overall ($M=0.077$, $SD=1.023$, Range=4.436) and by age. The Cronbach’s alpha coefficient for worry is .73, indicating adequate reliability.

**Educational Outcomes**

Educational outcomes were measured by academic achievement in math and reading, as indicated by Stanford Achievement Test (SAT) math and reading subtest percentile ranks and school absences indicated by frequencies of absence from school days. Both measures of educational outcomes were provided from individual-level annual school records from the southeastern school system (SESS).

**SAT.** The SAT is a nationally administered norm-referenced standardized achievement test. Two editions of the SAT (i.e., SAT 9th edition and SAT 10th edition) were administered during students’ participation in the LS. From the 2002-2003 school year forward, students were administered the SAT 10th edition. Prior to the administration of the SAT 10th edition, students were administered the SAT 9th edition from grades 3rd through 11th. Currently, some school districts in the United States administer the SAT 10th edition in grades 3rd through 8th to measure student achievement and academic knowledge. However, since the No Child Left Behind Act of
2001 (Bush, 2001), many states have replaced the SAT-10 with state-wide standardized testing, such as the Alabama Reading and Mathematics Test (ARMT) (Alabama State Department of Education, 2014). SAT percentile ranks were available in the SESS dataset that was used in this study, and they provided an efficient and effective way of making statistical inferences about the vulnerable sample of students who participated in the LS and allowed the researchers to compare LS participants to same-aged peers nationally. SAT developers caution against comparing individual student outcomes between SAT-9 and SAT-10 administrations, which does not affect this study’s analysis, as individual comparisons and trajectories are not of significance to this study (Pearson Education, 2015). Percentile ranks allowed us to compare different versions of the SAT exam, as we are not using the raw score measure itself. SAT percentile ranks range from 0 – 100. See Tables 20 and 21 in Appendix B for further description of participants’ SAT reading observations, overall ($M=31.609$, $SD=21.944$, Range=98) and by age, and math percentile ranks observations, overall ($M=36.766$, $SD=23.362$, Range=98) and by age. The overall means indicate the participants’ percentile ranks fell within the 30th percentile in both math and reading, meaning that these participants scored better than only 30 percent of other students taking the SAT in the country.

**School absence.** School absence was also measured within the SESS dataset that was used in this study. School attendance records recorded the frequency in which students missed classroom instruction, including school absence and tardiness. However, the data did not differentiate the reason for or type of absence (i.e., tardiness, behavioral infraction, or complete absence). That is, both excused and unexcused absences were treated the same. Moreover, it does not distinguish between those who were merely late to school and those who missed an entire day of instruction. In that sense, school absence is a measure of the number of days in which
some amount of classroom instruction was not completely attended, for any various number of reasons. School absence was scored on a continuous scale according a number of absences, starting at zero. This created a floor effect, as there is a concrete lower cutoff point with many observations hovering near that zero mark. This makes the variable difficult to follow a normal distribution, considering that number of school absences are truncated or bounded on the left end of the distribution. However, in order to correct this non-normality, some type of manipulation should be done to the variable. In this data set, there were no incidences of 0 absence within the data; however 15 percent (n=744) of participants had between 1 and 5 absences throughout their participation. It appears that this follows more of a uniform distribution. However, no transformation was conducted to improve the normality of the variable. See Table 22 in Appendix B for further description of school absence observations, overall (M=20.934, SD=18.402, Range=134, Median=15) and by age, indicating that the students had an overall average of approximately 21 incidences of school absence during their participation in the study. This is a notably high amount of school absences and is further impetus for investigating the educational outcomes of these students. Frequencies of school absence appear in Table 23 of Appendix B.

Age

Within the LS, participants were asked—“How old are you now?” There were 11 possible responses indicating ages 9-19. Again, this study targeted participants ages 11-16. Actual age was reported as the reported age of the participant. This variable was centered at age 11 in the analysis for ease of interpretation. The intercept values at a centered age of 0 then translate into the values at age 11 without requiring any transformation.

Rationale for Data Analyses
Benefits of Longitudinal Data Analysis

Longitudinal data analysis has several benefits. One major advantage of longitudinal data is that it allows researchers to analyze change over time, whereas cross-sectional data allows analysis of isolated time points. Participants of the LS are surveyed from age 9.75 to 19.25, which provides a rich opportunity to measure change that occurs across 10 years. This opportunity makes it possible to develop research questions that assess growth or decline over time.

Longitudinal data analysis also allows researchers to measure how individuals and groups change over time when compared to other individuals or groups within a particular study. For instance, repeated measurements collected through the LS allow a comparison of adolescent girls with present paternal figures to girls who do not have paternal figures present. Within this study, repeated measurements of self-worth, hopelessness, caring, callousness, worry, achievement test scores, and school attendance allow for the investigation of paternal figure influence in the lives of adolescent girls over time.

Additionally, longitudinal research that involves age cohorts allows researchers to examine trajectories that transpire as participants’ age within a study. The present study assesses the psychological and educational development of adolescent girls within the study. As the girls age, their psychological adjustment and educational outcomes are assessed to determine whether there is growth or decline as time passes.

For these reasons, employing longitudinal data analysis through the use of multilevel growth modeling provides more results for drawing conclusions than applying a cross-sectional methodological approach would.

Multilevel Growth Modeling
Growth is a process not a static event. Therefore, it is important for researchers to utilize analytic methods that can depict growth as it happens over time. Multilevel growth modeling (MLGM) is an analytic approach that accomplishes this through the use of longitudinal data (i.e., multiple waves of data). According to Singer and Willett (2003), in order for longitudinal data to be analyzed using multilevel growth modeling three criteria must be met:

(1) There must be three or more waves of data.

(2) There must be an outcome that changes systematically over time. That is, outcome scores must be equitable and “a given value of the outcome on any occasion must represent the same ‘amount’ of the outcome on every occasion” (Chapter 1, Section 3.3, para. 6). Using the same instrument for measurement repeatedly over time ensures this.

(3) There must be a sensible metric for observing time, such as age, grade level, month, or year.

There are two stages involved in the analysis of change when analyzing longitudinal data. These two stages comprise the multilevel model for change. The first stage, known as level-1, allows the measurement of within-individual change over time. During this stage, individual growth trajectories are modeled to determine whether individual outcome values rise or fall over time (Willett & Singer, 2003). Level-2 or the second stage of an analysis of change allows the measurement of interindividual differences in change. This allows for the assessment of patterns and differences that emerge on an individual level. This stage of the analysis is ideal for comparing individual change among various individuals. Singer and Willett indicated “the goal of a level-2 analysis is to detect heterogeneity in change across individuals and to determine the relationship between predictors and the shape of each person’s individual growth trajectory”
Such analyses will help accomplish the focus of the present study to determine change across female participants of the LS. Another goal of the study is to determine the influence certain predictors (i.e., paternal presence and warmth) have on the growth trajectories of psychological adjustment and educational outcomes of LS female participants.

MLGM is an appropriate analytic approach for this study for several reasons. First, the LS dataset meets the aforementioned criteria for employing multilevel growth modeling. There are multiple waves of data within the LS dataset. Participants also responded to repeated measures over time creating multiple observations for participants over time. Lastly, participants’ age is a qualifying metric for observing time.

Model Goodness-of-Fit

MLGM allows researchers to mathematically represent a population to describe it and make inferences about it (Singer and Willett). In order to do this, the overarching question in MLGM (or any form of statistical modeling) is whether the proposed model (i.e., mathematical representation) ‘fits’ the data of a sampled population of interest. This is to question whether the proposed model is an appropriate representation of the population that is being investigated. In statistical modeling, populations are represented through population parameters that explain specific features of the population (i.e., the intercept, slope, and variance). Population parameters are then estimated within a model to determine the model’s goodness-of-fit. If a proposed model fits the data from which it was sampled, then the estimated parameter values can be used to draw conclusions, make inferences, and test hypotheses relevant to the sampled population.

Change Trajectories in MLGM
As MLGM allows for the measurement of change over time, it is important to mention that not all change trajectories are linear, continuous functions of time when using MLGM. Change can be observed as nonlinear and discontinuous and reflect real-life changes that occur among individuals. Therefore, it is sensible to consider the possibility of a present paternal figure becoming absent in his daughter’s life (or vice versa) during the course of her participation within the LS. Such changes may yield sudden or subtle growth or decline in participants’ psychological adjustment or educational outcomes. To account for such changes, the time-varying predictor, age at father presence or absence, can be added to level-1 of the unconditional growth model for analyzing its significance to the response variables. Considering the number of time predictors (or age points) required to describe changes that occur within individuals in a study, change trajectories can be linear, nonlinear, or curvilinear. In the present study, nonlinear change trajectories were explored by estimating nonlinear models. This was accomplished by adding both quadratic and cubic age terms to level-1 of the unconditional growth models. However, these models were found to be insignificant, indicating linear change trajectories to be the best fit to the data.

**Methods of Analysis**

Descriptive statistics, such as mean, standard deviation, and range for the observations of continuous variables, and frequency and percentage for the observations of categorical variables, appear in Appendix A. Multilevel linear growth models were the method used to answer the targeted research questions and hypotheses. All analyses were conducted using Full Information Maximum Likelihood (FIML) estimation in SAS Proc Mixed 9.3 software. FIML provides unbiased and efficient parameter estimates and can accommodate missing data (Allison, 2012). Significance for all parameter estimates (including variance parameters) was concluded if the $p$
value was less than $\alpha = .05$. Model comparison was indicated by (1) -2 log likelihood (i.e., -2LL) and (2) chi-square goodness-of-fit testing (i.e., $\chi^2$ at $p < .05$), in which smaller values indicate a better model fit for the data. Full factorial models were initially estimated for all analyses; non-significant variables were removed in a backward selection procedure. Backward selection ultimately yields statistically significant variables by removing non-significant variables after refitting reduced models derived from the full factorial model.

**Multilevel Growth Modeling**

As previously stated, multilevel growth modeling allows for longitudinal research that assesses change over time. Although sampling conditions did not significantly change throughout the LS administration, the data was collected over time yielding correlated observation and nested data and further solidifying the use of multilevel growth modeling for the data analysis. Unlike standard regression modeling, multilevel growth modeling can handle correlated observation data and nested data that was collected at different times and under different conditions (Raudenbush & Bryk, 2002; Osborne, 2002). A standard regression model assumes that a continuous outcome variable $Y$ can be explained by one or more predictor variables of $X$. See Equation 1 below.

$$Y = X\beta + e \text{ (Equation 1)}$$

where $Y$ is an outcome variable for a subject, $X$ is an independent variable for a subject, $\beta$ is a regression coefficient for independent variable $X$, and $e$ is an error for a subject (Campbell, Grimshaw, & Elbourne, 2004). The error term ($e$) is assumed to be independent and to vary randomly. This means the error term follows normal distribution and has a mean of 0. Therefore in regression modeling, $Y$ can be explained by its relationship with a value of independent variable $X$ through a linear function with fixed parameters $\beta$ and the non-explained variability of
Y contained in the value of independent errors (e) (Campbell, Grimshaw, & Elbourne). Longitudinal data violates the above-mentioned assumptions for error because observations within a subject are correlated over time so error is, therefore, not independent and does not vary randomly.

Multilevel growth modeling (MLGM) is better suited for analyzing longitudinal data since it is able to analyze shared variance in correlated outcomes variables over time (Woltman, Feldstain, MacKay, & Rocchi, 2012). MLGM also accounts for the shared variance in hierarchically structured or nested data. It accurately estimates lower-level slopes within the model (e.g., paternal warmth) and their implementation in estimating higher-level outcomes (e.g., psychological adjustment). MLGM is an advanced regression technique that investigates relationships within and between hierarchical levels of grouped data, thereby making it more efficient at accounting for variance among variables at the varying model levels than simple regression analysis or other analytic approaches (Woltman et al., 2012).

MLGM estimates the error term of the aforementioned regression equation (Equation 1) by modeling random and fixed effects. Thus Equation 1 becomes Equation 2 below:

\[ Y = X\beta + Z\gamma + e^* \] (Equation 2),

where \( X\beta \) remains the fixed components of the model and \( Z\gamma + e^* \) becomes the new random components of the model by which the equation is expanded through the addition of predictor variables in MLGM (Singer, 1998). Here, a \( Z \) covariate represents each subject, and an effect of a subject accounts for part of the variability of \( Y \). It is important to note that within the MLGM framework of the present study, subjects are a sample of all possible subjects, and each individual subject effect is not the research interest. Thus, subject effect is adjusted in MLGM.
The MLGM notation used by Singer and Willett (2003) is preferred for this study, as it expands Equation 2 into the multilevel model, notated in Model A as follows:

\[
\text{Level 1: } Y_{ij} = \pi_{0i} + \pi_{1i}(age) + \varepsilon_{ij}
\]

\[
\text{Level 2: } \pi_{0i} = \gamma_{00} + \zeta_{0i}
\]

\[
\pi_{1i} = \gamma_{10} + \xi_{1i} \text{ (Model A)}
\]

where \(Y_{ij}\) is the dependent (outcome) variable for a subject \((i)\) at time \((j)\), \(\pi_{0i}\) is the intercept parameter and the level-2 fixed component of the model, \(\pi_{1i}\) is the slope parameter and the level-2 random component of the model associated with age, and \(\varepsilon_{ij}\) is random error accounted for within the model. In the level-2 models, the level-1 parameters are used as outcome variables \((\pi_{0i} \text{ and } \pi_{1i})\) and are related to each of the level-2 predictors in subsequent models. Level-2 models describe the variability across groups when predictor variables are introduced into the model (Gill, 2003). Predictor variables will be introduced in a forthcoming model. In the context of this study, the model variables can be refined as follows:

\(Y_{ij} = \) the outcome variables of either *psychological adjustment* or *educational outcomes* for a subject \((i)\) at time \((j)\)

\(\pi_{0i} = \) the level-1 intercept parameter, average, and baseline value for *psychological adjustment* or *educational outcomes*

\(\pi_{1i}(age) = \) the level-1 slope parameter associated with age as a measure of time in this study, indicative of the lowest value of age of subjects (i.e., age 11)

\(\varepsilon_{ij} = \) the random error accounted for within the model associated with a subject \((i)\) at time \((j)\)

\(\gamma_{00} = \) the level-2 intercept parameter

\(\gamma_{10} = \) the level-2 intercept parameter
\[ \zeta_0 = \text{random effects for the level-2 intercept parameter} \]

\[ \zeta_{1l} = \text{random effects for the level-2 intercept parameter} \]

In MLGM, Model A, the unconditional means model, is the first model fitted and thus was the first model fitted in this study. The unconditional means model provided the grand mean for the outcome variables (i.e., psychological adjustment and educational outcomes) across all subjects and occasions. Model A also established a baseline for evaluating the model fit for subsequent models. Although slope parameters are embedded within Model A, it only yields the intercept of the outcome variables at age 11 because it does not have a parameter for modeling change over time. This is accomplished within the next model fitted and is notated in Model B below:

\[
\text{Level 1: } Y_{ij} = \pi_{0i} + \pi_{1i}(age) + \pi_{2i}(age_{11}) + \varepsilon_{ij}
\]

\[
\text{Level 2: } \pi_{0i} = \gamma_{00} + \zeta_{0i}
\]

\[
\pi_{1i} = \gamma_{10} + \zeta_{1i}
\]

\[
\pi_{2i} = \gamma_{20} + \zeta_{2i} \text{(Model B)}
\]

Model B is the unconditional growth model. In this model, the parameter, \( \pi_{2i}(age_{11}) \), was added and allowed the model to test whether the outcome variables changed over time using centered age\(^7\) as the unit for modeling change over time. Model B builds upon the unconditional means model, yields a single trajectory, and models the outcome variables from ages 11-16 for participants in this study. To account for the added parameter in the level-1 model, another level-2 outcome variables was added in the level-2 models, where \( \gamma_{20} \) is the level-2 slope parameter,

\(^7\) In this study age is the unit by which time is measured. Time is indicated by ‘age11’ in the analyses to denote that the age variable was centered. Centering is done by subtracting the lowest value of age in this study (i.e., 11) from each participants’ actual age. According to Singer and Willett, centering the temporal predictor in MLGM improves the interpretability of the intercept so that the origin of plotted intercepts reflects the actual ages of the participants.
and $\zeta_{2i}$ represents the random effects accounted for by adding the slope parameter. To build upon Model B, time-varying predictors were added to the model to yield Model C below:

$$ Level 1: Y_{ij} = \pi_{0i} + \pi_{1i}(age) + \pi_{2i}(age11) + \pi_{3i}(age11 \ast paternal\ presence \ast warmth) + \varepsilon_{ij} $$

$$ Level 2: \pi_{0i} = \gamma_{00} + \zeta_{0i} $$

$$ \pi_{1i} = \gamma_{10} + \zeta_{1i} $$

$$ \pi_{2i} = \gamma_{20} + \zeta_{2i} $$

$$ \pi_{3i} = \gamma_{30} + \zeta_{3i} \quad \text{(Model C)} $$

Model C is the conditional growth model that tested whether there is significant change over time when all predictor variables were added to the unconditional growth models. Therefore, the parameter, $\pi_{3i}(age11 \ast paternal\ presence \ast warmth)$, was added and represents change over time by the addition of paternal presence and warmth. This parameter is pivotal to this study’s analysis because it allows the analysis to ultimately answer the research questions of the study. Further, the conditional growth model also yields multiple trajectories that represent varying degrees of the paternal warmth received and reported by participants (i.e., no paternal warmth, low paternal warmth, or high paternal warmth). These trajectories will be presented and discussed further in the results of this study presented in Chapter 4.

In this phase of MLGM, non-significant parameters were removed from the full factorial conditional growth model in a backward selection procedure. The following additional parameters were also estimated to test significance for study hypotheses 1 and 2:

$Paternal\ presence$ = a predictor variable indicating change in the intercept at age 11 when a paternal figure is present without regard to paternal warmth.
Paternal presence*warmth = a predictor variable that indicates intercept difference, as it grows or declines with the addition of paternal warmth.

Age11*paternal presence = a predictor variable that indicates slope difference with regard to paternal presence alone.

For hypothesis 3, paternal presence and warmth were not estimated predictor variables. Therefore, the following parameters were estimated in Model C for hypothesis 3 to test significance:

Psychological adjustment = a predictor variable indicating change in the intercept at age 11 as an effect of psychological adjustment.

Age11*psychological adjustment = a predictor variable that indicates slope difference with regard to paternal presence alone.
CHAPTER 4 - RESULTS

The purpose of this study was three-fold: (a) to examine the effect of quality paternal relationships (i.e., indicated by paternal presence and warmth) on adolescent girls’ psychological adjustment over time, (b) to examine the effect of quality paternal relationships (i.e., indicated by paternal presence and warmth) on adolescent girls’ educational outcomes over time, and lastly (c) to examine the effect of psychological adjustment on adolescent girls’ educational outcomes over time. This study involved a sample of adolescent African American girls (N = 2,309), ages 11-16 that participated in the longitudinal study (LS). Also recall that among the participants, 10% (n = 229) reported having no paternal figure, 47% (n = 1082) reported their biological father as their paternal figure, 15% (n = 354) reported their grandfather/uncle as their paternal figure, and 28% (n = 644) reported having another paternal figure. Of the overall 4,828 participant observations, there were 540 observations for participants who reported having no paternal figure. See Appendix B for further observations for the paternal figures types reported. This chapter presents the results from all analyses of this dissertation study. Each hypothesis was tested using linear growth models, which were estimated in SAS using Proc Mixed. Model parameters are defined for each of the growth models, and parameter estimates are presented and explained.

Finally, growth trajectories are presented for each of the outcomes examined in this
study. In the subsequent growth trajectories, the value of 1 was inserted in the model to estimate the trajectories for those with low paternal warmth and a value of 4 was used to estimate the trajectories of those with high paternal warmth. Additionally, a value of -.5 was used to estimate the trajectory for those with low psychological adjustment; a value of 0 for average psychological adjustment, and a value of .5 was used to estimate high psychological adjustment.

The research questions and hypotheses for this study are stated as follows:

**Question 1.** Do quality paternal relationships (i.e., as indicated by paternal presence and warmth) affect African American adolescent girls’ psychological adjustment over time?

H1. Quality paternal relationships (i.e., as indicated by paternal presence and warmth) affect African American adolescent girls’ psychological adjustment over time

   H1a: Paternal presence affects psychological adjustment over time.

   H1b: Paternal warmth affects psychological adjustment over time.

**Question 2.** Do quality paternal relationships (i.e., as indicated by paternal presence and warmth) affect African American adolescent girls’ educational outcomes over time?

H2. Quality paternal relationships (i.e., as indicated by paternal presence and warmth) affect African American adolescent girls’ educational outcomes over time.

   H2a: Paternal presence affects educational outcomes over time.

   H2b: Paternal warmth affects educational outcomes over time

**Question 3.** Does psychological adjustment affect African-American adolescent girls’ educational outcomes over time?

---

8 All growth trajectories presented in this chapter are presented for example and as a pictorial representation of the estimated growth models discussed. The trajectories represent average outcomes for participants.
H3. Psychological adjustment affects African-American adolescent girls’ educational outcomes over time.

**The Impact of Paternal Presence and Warmth on Psychological Adjustment Model Estimates**

The estimates of the unconditional means model (i.e., Model A) indicate the grand mean of psychological adjustment \( \gamma = -0.044, SE = .026, p = .09 \), indicating it to be significantly different from 0. The estimates of the unconditional growth model (i.e., Model B) indicate the intercept of psychological adjustment at age 11 \( \gamma = -0.311, SE = .037, p < .001 \). Model B also indicates that there is a significant increase of 0.128 in African American adolescent girls’ psychological adjustment each year between the ages of 11 and 16 \( \gamma = 0.128, SE = .013, p < .001 \).

The final model estimated is the conditional growth model (i.e., Model C) and was estimated with paternal figure presence and paternal warmth as time-varying predictors for psychological adjustment. When paternal figure presence alone was estimated, there is significant change in the adolescent girls’ psychological adjustment \( \gamma = -0.30, SE = .15, p .04 \), indicating that paternal figure presence alone is related to decreased psychological adjustment at age 11. The estimates of paternal presence combined with warmth, however, indicated that psychological adjustment significantly increased at age 11 \( \gamma = 0.08, SE = .02, p < .00002 \). However, paternal figure presence combined with warmth is not significantly related to change in psychological adjustment over time \( \gamma = -0.01, SE = .01, p = .18 \).

The variance estimates indicate that there is significant variance found within each of the variance components for each of the models. However, there is less variance found within each
of the variance components in Model C. Model C is also better fit to the data compared to Models A and B, as indicated by the tests of goodness of fit ($\chi^2 (1) = 53.8 \ p < .001$). See Table 1.

Table 1 *Growth Model Estimates for Psychological Adjustment*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Model A</th>
<th>Model B</th>
<th>Model C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>$\gamma_{00}$</td>
<td>-0.044</td>
<td>-0.311**</td>
<td>-0.390**</td>
</tr>
<tr>
<td>Age11</td>
<td>$\gamma_{10}$</td>
<td>0.128**</td>
<td>0.090*</td>
<td></td>
</tr>
<tr>
<td>Paternal presence</td>
<td>$\gamma_{20}$</td>
<td></td>
<td>-0.304*</td>
<td></td>
</tr>
<tr>
<td>Paternal presence*warmth</td>
<td>$\gamma_{30}$</td>
<td></td>
<td>0.078*</td>
<td></td>
</tr>
<tr>
<td>Age11*paternal presence</td>
<td>$\gamma_{40}$</td>
<td></td>
<td>0.183</td>
<td></td>
</tr>
<tr>
<td>Age11<em>paternal presence</em>warmth</td>
<td>$\gamma_{50}$</td>
<td></td>
<td>-0.006</td>
<td></td>
</tr>
<tr>
<td>Variance Components</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual Variance</td>
<td>$\sigma^2_e$</td>
<td>1.053**</td>
<td>0.974**</td>
<td>0.961**</td>
</tr>
<tr>
<td>Intercept Variance</td>
<td>$\sigma^2_0$</td>
<td>0.920**</td>
<td>0.881**</td>
<td>0.773**</td>
</tr>
<tr>
<td>Age Variance</td>
<td>$\sigma^2_1$</td>
<td>0.017**</td>
<td>0.016*</td>
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</tr>
<tr>
<td>Paternal presence*Warmth</td>
<td>$\sigma^2_2$</td>
<td></td>
<td>0.005*</td>
<td></td>
</tr>
<tr>
<td>Goodness of Fit</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deviance (-2LL)</td>
<td></td>
<td>15728.4</td>
<td>15620.8</td>
<td>15567.0</td>
</tr>
<tr>
<td>$\chi^2$ (df, critical value)</td>
<td></td>
<td>107.6**</td>
<td>53.8**</td>
<td></td>
</tr>
</tbody>
</table>

Note: * $p < .05$, ** $p < .001$
Figure 1: Paternal Warmth Trajectories of Psychological Adjustment

The trajectories (see Figure 1) indicate that adolescent girls with high paternal warmth have higher psychological adjustment than girls with no and low warmth. However, all of the girls have below average psychological adjustment at age 11. Girls with low paternal warmth experience more growth in psychological adjustment over time compared to girls without fathers present, as evidenced by the steepness of the slope representing low paternal warmth. Girls without present fathers have higher psychological adjustment at age 11 than girls with low warmth. Further, girls with high paternal warmth start with approximately 0.4 standard deviations below average psychological adjustment at age 11 and increase to about 0.3 standard deviations above average at age 16. Girls with low paternal warmth have below average psychological adjustment at age 11 (i.e., approximately 0.6 standard deviations below average) and increase to above average psychological adjustment by age 16 (i.e., approximately 0.2
standard deviation above average). Girls with no paternal warmth start with below average psychological adjustment (approximately 0.5 standard deviations below average) and increase to average psychological adjustment by age 16.

The Impact of Paternal Presence and Warmth on Educational Outcomes

Model Estimates

SAT reading. The estimates of the unconditional means model (i.e., Model A) indicate the grand mean of SAT reading percentile ranks ($\gamma = 31.977, SE = 0.430, p < .001$). The estimates of the unconditional growth model (i.e., Model B) indicate the intercept of SAT reading percentile ranks at age 11 ($\gamma = 34.022, SE = 0.568, p < .001$). Model B also indicates that there is significant decrease of 0.972 in SAT reading percentile ranks each year between the ages of 11 and 16 ($\gamma = -0.972, SE = 0.179, p < .001$).

The conditional growth model was estimated with paternal presence and paternal warmth as time-varying predictors for SAT reading percentile ranks. The outcomes indicated that paternal presence and warmth did not have significant effects on the girls’ SAT reading percentile ranks ($\gamma = 0.218, SE = 0.288, p = .45$) at age 11, nor was there significant change over time when paternal figures were present and warm ($\gamma = 0.176, SE = 0.109, p = .11$).

The variance estimates indicate that there is significant variance found within the residual and intercept variance components for each of the models. The variance component paternal presence*warmth does not account for significant variance in Model C. Model B is a better fit to the data compared to Models A and C, as indicated by the tests of goodness of fit ($\chi^2(1) = 28.7, p < .001$). See Table 2.
Table 2 Growth Model Estimates for Educational Outcomes: SAT Reading

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Model A</th>
<th>Model B</th>
<th>Model C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>$\gamma_{00}$</td>
<td>31.977</td>
<td>34.022**</td>
<td>34.034**</td>
</tr>
<tr>
<td>Age11</td>
<td>$\gamma_{10}$</td>
<td>-0.972**</td>
<td>-1.035</td>
<td></td>
</tr>
<tr>
<td>Paternal presence</td>
<td>$\gamma_{20}$</td>
<td></td>
<td>-1.048</td>
<td></td>
</tr>
<tr>
<td>Paternal presence * warmth</td>
<td>$\gamma_{30}$</td>
<td></td>
<td>0.218</td>
<td></td>
</tr>
<tr>
<td>Age11 * paternal presence</td>
<td>$\gamma_{40}$</td>
<td></td>
<td>-0.792</td>
<td></td>
</tr>
<tr>
<td>Age11 * paternal presence * warmth</td>
<td>$\gamma_{50}$</td>
<td></td>
<td>0.176</td>
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</tr>
<tr>
<td>Variance Components</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual Variance</td>
<td>$\sigma_e^2$</td>
<td>165.78**</td>
<td>167.65**</td>
<td>165.41**</td>
</tr>
<tr>
<td>Intercept Variance</td>
<td>$\sigma_0^2$</td>
<td>324.42**</td>
<td>313.17**</td>
<td>295.78**</td>
</tr>
<tr>
<td>Paternal presence * warmth</td>
<td>$\sigma_1^2$</td>
<td></td>
<td></td>
<td>0.745</td>
</tr>
<tr>
<td>Goodness of Fit</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Deviance (-2LL)</td>
<td></td>
<td>40656.9</td>
<td>40628.2</td>
<td>40578.2</td>
</tr>
<tr>
<td>$\chi^2$ (df, critical value)</td>
<td></td>
<td>28.7**</td>
<td>50**</td>
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</tr>
</tbody>
</table>

Note: * $p < .05$, ** $p < .001$.

**SAT math.** The estimates of the unconditional means model (i.e., Model A) indicate the grand mean of SAT math percentile ranks ($\gamma = 37.242, SE = 0.467, p = < .001$). The estimates of the unconditional growth model (i.e., Model B) indicate the intercept of SAT math percentiles at age 11 ($\gamma = 40.913, SE = 0.603, p = < .001$). Model C also indicates that there is a significant decrease of 1.760 in SAT math percentiles per year between the ages of 11 and 16 ($\gamma = -1.760, SE = 0.186, p < .001$).

The conditional growth model (i.e., Model C), estimated with paternal presence and paternal warmth as time-varying predictors for SAT math percentile ranks, indicates that paternal presence alone with no paternal warmth is related to significantly declining SAT math percentiles over time ($\gamma = -2.794, SE = 0.815, p = .0006$). However, paternal presence combined with paternal warmth is related to significant increase in SAT math percentiles over time ($\gamma = 0.228, SE = 0.114, p = .046$). The variance estimates indicate that there is significant variance found within each of the variance components for each of the models. There is less variance found within each of the variance components in Model C. However, the chi-square test of
goodness of fit indicates Model B to be a better fit model to the data ($\chi^2(1) = 56.7 \ p < .001$). See Table 3.

### Table 3 Growth Model Estimates for Educational Outcomes: SAT Math

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Model A</th>
<th>Model B</th>
<th>Model C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Effects</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>$\gamma_0$</td>
<td>37.242</td>
<td>40.913**</td>
<td>37.470**</td>
</tr>
<tr>
<td>Age11</td>
<td>$\gamma_{10}$</td>
<td>-1.760**</td>
<td>-0.267</td>
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</tr>
<tr>
<td>Paternal presence</td>
<td>$\gamma_{20}$</td>
<td>3.649</td>
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<tr>
<td>Paternal presence*warmth</td>
<td>$\gamma_{30}$</td>
<td>0.045</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age11*paternal presence</td>
<td>$\gamma_{40}$</td>
<td>-2.794*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age11<em>paternal presence</em>warmth</td>
<td>$\gamma_{50}$</td>
<td>0.228*</td>
<td></td>
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<tr>
<td>Variance Components</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual Variance</td>
<td>$\sigma^2_e$</td>
<td>173.67**</td>
<td>173.51**</td>
<td>165.03**</td>
</tr>
<tr>
<td>Intercept Variance</td>
<td>$\sigma^2_i$</td>
<td>386.96**</td>
<td>369.02**</td>
<td>363.64**</td>
</tr>
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<td>Age11</td>
<td>$\sigma^2_1$</td>
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<td></td>
<td>2.748*</td>
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<td>Goodness of Fit</td>
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<tr>
<td>Deviance (-2LL)</td>
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<td>40044.9</td>
<td>39958.4</td>
<td>39891.1</td>
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<tr>
<td>$\chi^2$ (df, critical value)</td>
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<td>56.5**</td>
<td>67.3**</td>
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</tr>
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</table>

Note: * $p < .05$, ** $p < .001$

**School Absence.** The estimates of Model A indicate the grand mean of school absence ($\gamma = 20.874$, $SE = 0.317$, $p = < .001$). The estimates of the Model B indicate the average school absence at age 11 ($\gamma = 15.802$, $SE = 0.469$, $p = < .001$). Model B also indicates that there is significant increase of 2.448 in school absences between the ages of 11 and 16 ($\gamma = 2.448$, $SE = 0.196$, $p < .001$).

The conditional growth model (i.e., Model C), estimated with paternal presence and paternal warmth as time-varying predictors for school absence, indicates that neither paternal presence alone ($\gamma = -0.165$, $SE = 0.842$, $p = .85$) nor paternal presence combined with paternal warmth ($\gamma = -0.000$, $SE = 0.118$, $p = 1.00$) is related to significant impact on school absence for the participants over time.

The variance estimates indicate that there is significant variance found within each of the variance components for each of the models. However, there is less variance found within each
of the variance components in Model C. Model C is better fit to the data, compared to Models A and B, as indicated by the tests of goodness of fit ($\chi^2 (1) = 37.6 \ p < .001$). See Table 4.

Table 4 Growth Model Estimates for Educational Outcomes: School Absence

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Model A</th>
<th>Model B</th>
<th>Model C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Effects</strong></td>
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</tr>
<tr>
<td>Intercept</td>
<td>$\gamma_{00}$</td>
<td>20.874</td>
<td>15.802**</td>
<td>16.756**</td>
</tr>
<tr>
<td>Age11</td>
<td>$\gamma_{10}$</td>
<td>2.448**</td>
<td>2.569**</td>
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</tr>
<tr>
<td>Paternal presence</td>
<td>$\gamma_{20}$</td>
<td></td>
<td>0.496</td>
<td></td>
</tr>
<tr>
<td>Paternal presence*warmth</td>
<td>$\gamma_{30}$</td>
<td></td>
<td>-0.313</td>
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</tr>
<tr>
<td>Age11*paternal presence</td>
<td>$\gamma_{40}$</td>
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<tr>
<td>Age11<em>paternal presence</em>warmth</td>
<td>$\gamma_{50}$</td>
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<tr>
<td><strong>Variance Components</strong></td>
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<tr>
<td>Residual Variance</td>
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<td>262.65**</td>
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<td>230.83**</td>
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<td>Intercept Variance</td>
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<td>76.176**</td>
<td>48.046**</td>
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<td>Age11</td>
<td>$\sigma^2_2$</td>
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<td>7.645*</td>
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<td><strong>Goodness of Fit</strong></td>
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<td>Deviance (-2LL)</td>
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<td>$\chi^2 (df, critical value)$</td>
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<td>229**</td>
<td>37.6**</td>
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</table>

Note: * $p < .05$, ** $p < .001$
Figure 2: Paternal Warmth Trajectories of SAT Reading Percentile Ranks

The trajectories indicate that paternal warmth does not significantly impact girls’ SAT reading scores from ages 11 to 16. The trajectories also indicate that girls with no paternal warmth actually have higher SAT reading percentiles than those with high and low paternal warmth. Girls with high and no paternal warmth have SAT reading percentiles in approximately the 34th percentile rank at age 11 that decline to approximately the 29th and 30th percentile ranks, respectively. Girls with low paternal warmth have SAT reading percentile ranks in the 33rd percentile at age 11 that decline to approximately the 26th percentile ranks by age 16.
Figure 3: Paternal Warmth Trajectories of SAT Math Percentile Ranks

Girls with high paternal warmth have higher SAT Math percentile ranks than girls with low and no paternal warmth. However, even with the presence of high paternal warmth, girls’ SAT math percentile ranks decline from age 11 to age 16. Girls with low paternal warmth have declining SAT Math percentile ranks, although their percentiles are initially higher at age 11 than girls with no paternal warmth. Girls without paternal warmth experienced minimal growth or decline in SAT math percentiles over time. Further, girls with high paternal warmth start with SAT math percentiles in the 41st percentile rank at age 11 that decline to approximately the 31st percentile rank at age 16. Girls with low paternal warmth have SAT math percentile ranks in the 41st percentile at age 11 that drastically decline to approximately below the 29th percentile ranks by age 16. Girls with no paternal warmth start with percentiles in approximately the 37.5th percentile rank that remain in approximately the same percentile by age 16.
Figure 4: Paternal Warmth Trajectories of School Absence

The trajectories indicate that school absence increases for all of girls in the sample, regardless of whether they have paternal warmth or not. However, girls with high paternal warmth have less school absence than girls with low and no paternal warmth. Additionally, girls with no paternal warmth actually have more school absence than girls with low and high paternal warmth. Girls with high paternal warmth start with approximately 15 incidences of school absence at age 11 and increase to about 26 incidences by age 16. Girls with low paternal warmth have approximately 16 incidences of school absence at age 11 and increase to approximately 28

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9 School absence is notably high within this sample of adolescents. See Tables 22 and 23 in Appendix B for further description and frequencies of school absence. Outlying values indicating excessive school absence were not truncated during analysis as these provide true insight into maladaptive behavior found within this sample of adolescents and providing further impetus for this study.
incidences by age 16. Girls with no paternal warmth have approximately 16 incidences of school absence at age 11 and increase to approximately 29 incidences by age 16.

The Impact of Psychological Adjustment on Educational Outcomes Model Estimates

**Model Estimates**

**SAT reading.** The estimates of the unconditional means model for SAT reading scores (i.e., Model A) indicate the grand mean of SAT reading percentile ranks ($\gamma = 31.977, SE = 0.430, p < .001$). The estimates of Model B indicate the intercept at age 11 ($\gamma = 34.022, SE = 0.568, p = < .001$). Model B also indicates that there is significant decrease of 0.972 in SAT reading percentile ranks each year between the ages of 11 and 16 ($\gamma = -0.972, SE = 0.179, p < .001$).

Model C estimated with psychological adjustment as a time-varying predictor for SAT reading percentile ranks. Model C estimates indicate that psychological adjustment is related to significant decline in SAT reading scores when estimated over time ($\gamma = -0.388, SE = 0.131, p < .003$).

The variance estimates indicate that there is significant variance found within the residual and intercept variance components in Models A and B. There is significant variance found within the intercept and psychological adjustment components in Model C. Model B is a better fit to the data compared to Models A and C, as indicated by the tests of goodness of fit ($\chi^2 (1) = 28.7 p < .001$). See Table 5.
Table 5 *Growth Model Estimates for Psychological Adjustment on SAT Reading*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Model A</th>
<th>Model B</th>
<th>Model C</th>
</tr>
</thead>
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<td>Fixed Effects</td>
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<td></td>
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</tr>
<tr>
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<td>34.022**</td>
<td>34.934**</td>
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<td>Age11</td>
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<td></td>
</tr>
<tr>
<td>Psychological adj</td>
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<td>3.113**</td>
<td></td>
</tr>
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<td>Age11*psychological adj</td>
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<td>-0.388*</td>
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</tr>
<tr>
<td>Variance Components</td>
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<td></td>
<td></td>
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<td>Residual Variance</td>
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<td>167.65**</td>
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<tr>
<td>Intercept Variance</td>
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<td>0.072</td>
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<tr>
<td>Psychological adj Variance</td>
<td>$\sigma_2^2$</td>
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<td>Goodness of Fit</td>
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<tr>
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<td>28.7**</td>
<td>129.5**</td>
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Note: * $p < .05$, ** $p < .001$

**SAT math.** The estimates of Model A indicate the grand mean of SAT math percentile ranks ($\gamma = 37.242$, $SE = 0.467$, $p = < .001$). The estimates of Model B indicate the intercept of SAT math percentile ranks at age 11 ($\gamma = 40.913$, $SE = 0.603$, $p = < .001$). Model B also indicates that there is significant decrease of 1.760 in SAT math percentile ranks each year between the ages of 11 and 16 ($\gamma = -1.760$, $SE = 0.186$, $p < .001$).

Model C estimated with psychological adjustment as a time-varying predictor for SAT math percentile ranks, indicates that SAT math percentile ranks significantly decline over time ($\gamma = 2.069$, $SE = 0.362$, $p < .001$). There is also no significant effect of psychological adjustment on SAT math percentile ranks over time ($\gamma = -0.043$, $SE = 0.138$, $p = .75$).

The variance estimates indicate that there is significant variance found within each of the variance components for each of the models. However, there is less variance found within each of the variance components in Model C. Model C is better fit to the data, compared to Models A and B, as indicated by both tests of goodness of fit ($\chi^2 (I) = 85.7$ $p < .001$). See Table 6.
Table 6 *Growth Model Estimates for Psychological Adjustment on SAT Math*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Model A</th>
<th>Model B</th>
<th>Model C</th>
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<tr>
<td>Intercept</td>
<td>$\gamma_{00}$</td>
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<td>40.913**</td>
<td>41.668**</td>
</tr>
<tr>
<td>Age11</td>
<td>$\gamma_{10}$</td>
<td>-1.760**</td>
<td>-2.084**</td>
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<td>Psychological adj</td>
<td>$\gamma_{20}$</td>
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<td>2.069**</td>
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</tr>
<tr>
<td>Age11*psychological adj</td>
<td>$\gamma_{30}$</td>
<td></td>
<td>-0.043</td>
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<td><strong>Variance Components</strong></td>
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<td>Residual Variance</td>
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<td>173.51**</td>
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<td>Intercept Variance</td>
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<td><strong>Goodness of Fit</strong></td>
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<tr>
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<td>86.5**</td>
<td>85.7**</td>
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Note: * $p < .05$, ** $p < .001$

**School absence.** Model A indicates the grand mean of school absence ($\gamma = 20.874$, $SE = 0.317$, $p = < .001$). Model B indicates the intercept for school absence at age 11 ($\gamma = 15.802$, $SE = 0.469$, $p = < .001$) and that there is significant increase of 2.448 in school absence each year between the ages 11 and 16 ($\gamma = 2.448$, $SE = 0.196$, $p < .001$).

Model C estimated with psychological adjustment as a time-varying predictor for school absence, indicates that there is significant increase in school absence over time ($\gamma = 2.583$, $SE = 0.061$, $p = < .001$). However, psychological adjustment is related to significantly decreased school absence over time ($\gamma = -0.597$, $SE = 0.141$, $p < .001$).

The variance estimates indicate that there is significant variance found within each of the variance components for each of the models. However, there is less variance found within each of the variance components in Model C. Model C is better fit to the data, compared to Models A and B, as indicated by both tests of goodness of fit ($\chi^2 (1) = 67.8 p < .001$). See Table 7.
Table 7 *Growth Model Estimates for Psychological Adjustment on School Absence*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
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<th>Model B</th>
<th>Model C</th>
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</tr>
<tr>
<td>Intercept</td>
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<td>15.553**</td>
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<td>Age11</td>
<td>$\gamma_{10}$</td>
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<td>2.583**</td>
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<tr>
<td>Psychological adj</td>
<td>$\gamma_{20}$</td>
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<td>-0.100</td>
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<tr>
<td>Age11*psychological adj</td>
<td>$\gamma_{30}$</td>
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<td>-0.597**</td>
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<tr>
<td>Variance Components</td>
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<td></td>
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<tr>
<td>Residual Variance</td>
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<td>221.67**</td>
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<tr>
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<td>37182.8</td>
<td>37115.0</td>
</tr>
<tr>
<td>$\chi^2$ (df, critical value)</td>
<td>229**</td>
<td>67.8**</td>
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<td></td>
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</tbody>
</table>

Note: * $p < .05$, ** $p < .001$
Figure 5: Psychological Adjustment Trajectories of SAT Reading Percentile Ranks

The trajectories indicate that SAT reading percentile ranks decline over time for all girls in this sample, regardless of their level of psychological adjustment. Girls with high psychological adjustment initially have higher SAT reading percentile ranks than girls with low and average psychological adjustment, although they experience greater decline over time. Girls with low psychological adjustment have the lowest SAT reading percentile ranks at age 11 and the highest at age 16. Further, girls with high psychological adjustment have SAT reading percentiles in the approximately 38th percentile rank at age 11 that decline to approximately the 28th percentile by age 16. Girls with average psychological adjustment have SAT reading percentile ranks in approximately the 35th percentile at age 11 that decline to approximately the 29th percentile ranks by age 16. Girls with low psychological adjustment start with percentiles in the 33th percentile rank that decline to approximately the 30th percentile ranks by age 16.
Figure 6: Psychological Adjustment Trajectories of SAT Math Percentile Ranks

Similar to SAT reading percentile ranks, the trajectories indicate that SAT math percentile ranks also decline for all of the girls in the sample, regardless of their level of psychological adjustment. However, girls with high psychological adjustment have the highest SAT math percentile ranks over time compared to other girls. Girls with low psychological adjustment have the lowest SAT math percentile ranks over time compared to other girls. Further, girls with high psychological adjustment have SAT math percentiles in the approximately 43rd percentile rank at age 11 that decline to approximately the 33rd percentile by age 16. Girls with average psychological adjustment have SAT reading percentile ranks in approximately the 42nd percentile at age 11 that decline to approximately the 32nd percentile ranks by age 16. Girls with low psychological adjustment start with percentiles in the 41st percentile rank that decline to approximately the 31st percentile ranks by age 16.
Figure 7: Psychological Adjustment Trajectories of School Absence

The trajectories indicate that school absence increases over time for all of the girls in the sample. Girls with high psychological adjustment have the lowest school absence over time compared to other girls. Contrastingly, girls with low psychological adjustment have the highest school absence over time compared to other girls. Girls with high psychological adjustment start with approximately 12 incidences of school absence at age 11 and increase to about 26 incidences by age 16. Girls with average psychological adjustment have approximately 12 incidences of school absence at age 11 and increase to approximately 28 incidences by age 16. Girls have approximately 12 incidences of school absence at age 11 and increase to approximately 30 incidences by age 16.
CHAPTER 5 - DISCUSSION

This study focuses on trajectories of adolescent psychological and academic well-being as influenced by paternal figures. The results of the study indicate that youth outcomes were significantly impacted by paternal figures across 10 years of observation. This final chapter will explore these results more fully by presenting a summary of the results discussing each outcome relevant to the study’s overall purposes. This chapter will also discuss implications drawn from the outcomes, discuss the study’s strengths and limitations, and provide recommendations for future research.

The outcomes of this study suggest that warm paternal figures are important. First, they significantly influenced girls’ psychological adjustment during early adolescence. Secondly, they influenced girls’ academic achievement in the specific area of mathematics. Additionally, this study suggests that girls who were more psychologically adjusted had higher math and reading achievement in early adolescence. Lastly, the results suggest that psychological adjustment influences school attendance, as high psychological adjustment was related to fewer absences.

The findings of this study are particularly relevant for families, educators, and mental health professionals in educational and clinical settings who are responsible for developing resources, programs, and treatment plans that support girls’ psychological and academic development. Such programs might target positive psychological adjustment and foster adolescent academic achievement.
Background of the Study

This study employed a longitudinal analytic approach from longitudinal data derived from the longitudinal study (LS). The study’s sample includes multiple cohorts of African American female adolescents who participated in the LS from 2000 through 2009. Repeated measures of self-worth, hopelessness, caring, callousness, worry, achievement test percentile ranks, and school absence were extracted from the LS and the participants’ school records to assess psychological and academic growth trajectories. These measures combined with repeated measures of paternal presence and warmth yielded the overall outcomes of this study. This study consists of over 2,000 adolescent female youth ages 11-16 from extremely impoverished neighborhoods in a large southeastern US city.

Summary of Results

The analysis from this study assisted in answering the research questions as follows:

RQ1. Do quality paternal relationships, as measured by paternal presence and warmth, affect African-American adolescent girls’ psychological adjustment over time?

The results indicate that psychological adjustment was not significantly impacted by paternal presence and warmth over time within this adolescent sample. However, during early adolescence, particularly at age 11, quality father-daughter relationships as measured by paternal presence and warmth was significantly related to increased psychological adjustment in this sample of African-American girls.

RQ2. Do quality paternal relationships, as measured by paternal presence and warmth, affect African-American adolescent girls’ educational outcomes over time?

Educational outcomes were measured by SAT reading and math percentile ranks and missed school instruction. The results indicate that quality paternal relationships significantly
impacted SAT math percentile ranks; as such relationships were related to increased SAT math percentile ranks especially during early adolescence. However, according to the model estimates, SAT reading and school absence were not significantly impacted over time by paternal presence and warmth.

RQ3. Does psychological adjustment affect African-American adolescent girls’ educational outcomes over time?

Psychological adjustment was measured on each of the educational outcomes to determine effects. The results indicate that school absence was the only measure of educational outcomes impacted by psychological adjustment over time, as it significantly decreased. Psychological adjustment was significantly related to increased SAT reading scores at age 11 considering the observed decline in reading for participants over time. Psychological adjustment also significantly increased SAT math percentile ranks at age 11. There was also no significant effect of psychological adjustment found on SAT math percentile ranks over time.

Discussion

According to U.S. census data, more than 24 million children live in homes without the physical presence of a father (U.S. Census Bureau, 2011). Approximately 67% of father absent homes in America are African American; approximately 31% are Hispanic American; and approximately 20% are Caucasian. This does not account for fathers who are physically present but emotionally absent from their children’s lives; however, fathers may also be physically absent and emotionally present, which this study does not address. Within the present study’s sample, 53% of the participants disclosed living in homes without their biological fathers; however, 43% of the participants identified paternal figures that were not their biological father
as their “father figure.” A meaningful aspect of this study is that it advocates for paternal involvement regardless of the biological relation to the female youth in this study. Ultimately, this study advocates for paternal figures that are not only physically present but also emotionally present and invested in their daughters’ lives.

**Paternal Warmth Versus Paternal Presence Alone**

A major finding of this study is the significance of paternal warmth. Paternal warmth was significantly related to better adolescent outcomes in most areas of this study and was a stronger predictor of girls’ psychological adjustment and academic outcomes than paternal presence alone. There is a distinction in the reviewed literature between the impacts of paternal warmth versus paternal presence alone (Bean, Bush, McKenry, & Wilson, 2003; Kim, Brody, & Murry, 2003). As reflected in this study’s results, paternal presence alone did not impact psychological adjustment and academic outcomes as much as paternal presence in conjunction with paternal warmth. These results indicate that paternal figures with higher levels of paternal warmth are expressing a higher level of acceptance towards their children (Bean, Barber, and Crane, 2006). Major areas impacted within the sample were found in overall adolescent psychological adjustment and academic achievement in math. Additionally, girls who reported having high paternal warmth had higher psychological adjustment math scores, and lower school absence than girls who reported having low and no paternal warmth. Paternal warmth appears to be related to academic engagement and contributing to motivation for attaining higher grades and occupational aspirations for adolescent girls (Bryant and Zimmerman, 2003; Coley, 2003; Cooper, 2003; Hanson, 2007).

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10 See Tables 9 and 10 in Appendix B.
It is clear that negative outcomes can occur when there is a lack of a paternal figure (Kalter, 2006; Neilson, 2007), but paternal warmth extends beyond paternal presence. Paternal warmth relates to the level of support, awareness, and physical and emotional availability fathers have for their children (Bean, Barber, & Crane, 2006; Budig & Folbre, 2004). In this study, paternal warmth was shown to consistently reduce maladaptive behaviors and increase positive outcomes, similar to previous research in this area (Hair, Moore, Garrett, Ling, & Cleveland, 2008; Sheeber, Davis, Leve, Hops, & Tildesley, 2007).

**Adolescent psychological adjustment.** Psychological adjustment was defined in the literature review of this study as being contingent upon one’s ability to manage internal feelings and cope with life’s challenges and demands (Hakvoort, Bos, Van Balen, and Hermanns, 2010; Seaton, 2009; Walker, 1997). This study’s results suggest that paternal warmth was related to significantly increased psychological adjustment in early adolescence and was a stronger predictor of increased psychological adjustment than paternal presence alone. Additionally, adolescent girls who reported having high paternal warmth experienced higher psychological adjustment over time than girls with no and low paternal warmth. Recall the adaptive qualities of psychological adjustment in this study, self-worth and caring, as opposed to the maladaptive qualities, hopelessness, worry, and callousness. Fostering adaptive qualities such as self-worth and caring during early adolescence and prior may have lasting effects into adulthood as supported by the findings of Neilson’s (2007) research (e.g., lower incidences of teen pregnancy, early marriage, and abusive relationships). This dissertation study advocates for the impact of paternal warmth being a powerful attribute for shielding adolescent girls from such negative outcomes and for fostering positive coping despite susceptibility to such outcomes considering this sample’s ecological context.
Adolescent educational outcomes. This study’s results suggest that paternal warmth was related to significantly higher mathematics achievement than participants with low paternal warmth. This is consistent with reviewed literature that indicated fathers’ impact on their adolescent children in the specific areas of school math and science (DeBell, 2008; Pong, Dronkers, & Hampden-Thompson, 2003). It is postulated in extant research literature that this is due to how spatial skills are developed in male youth, fostering such skills to transfer to mathematics and science achievement in school (Niederle & Vesterlund, 2010). It is noteworthy that paternal figures made significant impacts in the specific area of math, as this supports existing bodies of literature regarding males’ stronger achievement in mathematics when compared to females (Halpern, 2005; Scheiber, Reynolds, Hajovsky, & Kaufman, 2015; Spelke, 2005). Such literature is noteworthy in supporting paternal figures’ efforts to help strengthen achievement outcomes in girls. This study encourages the particular contributions that paternal figures can make in girls’ academic achievement.

Accordingly, this study’s results indicate that girls who reported having high paternal warmth had higher math and reading achievement scores than girls who reported having low paternal warmth. Although paternal warmth was not significantly related to increases in reading and math achievement, it was nonetheless impactful in comparing girls within this sample since girls with low paternal warmth generally had lower reading and math achievement than girls with high paternal warmth. This further advocates for the effects of paternal involvement in girls’ lives. It is worth noting that this adolescent sample’s SAT math and reading percentiles were lower than average national norms. This further warrants academic interventions that support these students, as poverty may be an overwhelming contributing factor to their academic outcomes. Poverty is related to academic disengagement in youth and is recognized as an
indicator of increased school absenteeism, high school dropouts, and developmental delays (Jensen, 2013). Further, academic disengagement is a precursor to excessive absenteeism is related to missed instruction that contributes to academic decline. It is important to note that academic achievement (i.e., SAT reading and math percentiles) generally declined as the participants in this study aged. This suggests that the girls may have become more disengaged as they aged, which potentially preceded high school dropout.

Paternal warmth did not significantly affect girls’ school absences over time. School absence generally increased over time for all girls within the sample regardless of whether a paternal figure was present or not. This requires attention to warrant against academic failure and school dropout. These students appear to be increasingly disengaging from school, which is alarming. It is necessary that other protective factors be explored. However, reviewed literature suggested that fathers greatly influenced their children’s attitudes towards school and provided protection from academic failure (Flouri, Buchanan, & Bream 2002). Cooper (2003) reported increased effort and engagement related to paternal warmth and support in adolescent female youth. Conversely, linkages between conflictive father-daughter relationships and school behavioral problems were also found in reviewed literature (Coley, 2003). It is possible that adolescents in this study experienced conflictive relationships with their paternal figures that contributed to school absenteeism. Such relationships were not widely explored, but this study’s results further warrant support for fostering school attendance within this sample of adolescents. It appears that these adolescents needed support from other avenues (e.g., positive school-wide behavior supports that target school attendance).

This study’s outcomes provide a meaningful assessment of paternal warmth. The findings of this study support the overall purpose of this study, which was to advocate for paternal
involvement that is warm and supportive. Additionally, this study is particularly meaningful considering the ecological context in which the adolescent sample was derived. Within this sample, paternal warmth appears to function as a protective barrier fostering the affected academic and psychological outcomes despite the pressing challenge of poverty. It is important to mention that paternal warmth does not discount personal resilience or any other protective traits participants may have possessed. Paternal warmth is researched in this study to advocate for the impact of paternal involvement, especially in the lives of adolescent female youth. Overall, higher measures of paternal warmth were related to higher psychological adjustment, higher SAT percentiles than participants with low paternal warmth, and less school absence within the adolescent sample. It was related to significantly increased psychological adjustment over time. It was also related to significantly increased SAT math percentiles in early adolescence within the sample.

Considering the positive effects paternal warmth had on the adolescent female youth in this study, examining similar effects on adolescent male youth may yield meaningful results. It is possible that adolescent males may experience even greater effects. Perhaps, boys may yield stronger effects in their educational outcomes and particularly in math achievement considering the aforementioned research studies that suggest that boys outperform girls in mathematics achievement testing (Halpern, 2005; Scheiber, Reynolds, Hajovsky, & Kaufman, 2015; Spelke, 2005). Thus, paternal warmth may further bolster male youth outcomes in mathematics by building on skills they develop from activities that support spatial skills development, which is linked to mathematics and science achievement. It is also possible that paternal warmth could also be related to increased psychological adjustment in male adolescents. This is to take into consideration extant studies that have linked African American paternal warmth and involvement.
with positive psychological outcomes in African American adolescent male youth (Morrison Gutman, McLoyd, & Tokoyawa, 2005; Videon, 2005; Williams & Kelly, 2005).

**Psychological Adjustment and Educational Outcomes**

Within the present study, adolescent girls who had high psychological adjustment had higher reading and math achievement scores than those with average and low psychological adjustment. Further, psychological adjustment was related to increased reading and math achievement in early adolescence. Interestingly, math achievement trajectories looked almost identical (i.e., with declining percentiles from the 40th percentile rank to the 30th percentile rank) for adolescents who reported having low psychological adjustment and low paternal warmth. Although there was not a strong difference between math achievements in adolescents who reported having low paternal warmth versus no paternal presence, math achievement was nonetheless higher for adolescents with low paternal warmth. These outcomes suggest that effective interventions and supports are crucial where both psychological adjustment and paternal warmth are either low or altogether lacking in this adolescent sample, as these outcomes were especially relevant in the area of math achievement).

Although reviewed literature examined various conceptualizing of psychological adjustment (Seaton, 2009), psychological adjustment in this study is indicated by both adaptive and maladaptive factors but statistically weighted as a positive construct. Psychological adjustment in this study positively contributed to adolescent academic outcomes indicating that adaptive adjustment, particularly self-worth, hope, and caring, may be essential factors in influencing positive academic outcomes during girls’ adolescence. This finding supports Roeser, Eccles, and Sameroff’s (1998) conclusion that psychological adjustment (i.e., positive self-
esteem and emotional adjustment), was found to foster student engagement and overall motivation for academics in adolescence.

Regarding maladaptive adjustment, Li and Lerner (2011) reported that psychological adjustment as indicated by depression in adolescents was linked to decreased behavioral and emotional engagement along with delinquency and substance abuse. Within the population studied, particular attention should be given to girls’ psychological adjustment and academic achievement during early adolescence, as girls were generally impacted greater during this time opposed to late adolescence. It appeared that as the participants aged, they were less impacted by psychological adjustment in terms of their educational achievement. It is possible that psychological adjustment was simply not a strong enough factor in protecting these adolescents from academic decline during late adolescence. This suggests that early intervention is necessary for protecting these adolescents from possible negative outcomes such as those reported by Li and Lerner.

Academic decline within this sample of youth may be related to the overwhelming impoverished conditions in which the participants of this study lived in. Poverty exacerbates academic failure and may inhibit positive psychological adjustment (Bemak, Chung, & Siroskey-Sabdo, 2005; Grant, Compas, Thurm, McMahon, Gipson, Campbell, & Westerholm, 2006; Luthar & Ansary, 2005). It is critical that further efforts be made to investigate fostering adolescent psychological adjustment that bolsters positive outcomes, especially in impoverished adolescent samples. In this study, psychological adjustment was related to significantly decreased school absence over time. Thus, psychological adjustment appeared to foster school attendance although it did not significantly impact the students’ actual academic achievement on the SAT.
Implications

This study has implications relevant to adolescent female youth within the study and beyond. It also has implications for paternal figures, researchers, and professionals who work with adolescent females. The outcomes of this study suggest several areas of intervention for adolescent female youth. Although it is not possible to provide warm fathers to youth who do not have them, it is possible to provide interventions that expose female youth to positive and caring male role models. Such interventions should also support adolescent girls’ psychological well-being, as decreased psychological adjustment has been linked with various negative effects in research literature (i.e., depression, delinquency, increased school dropout, and substance abuse) (Li & Lerner, 2011; Seaton, 2009; Wang & Fredricks, 2013). A major finding of this study is the impact paternal figures made during their daughters’ early adolescence in terms of reading and math achievement. Thus, it is necessary that early interventions that support girls’ psychological well-being be implemented since psychological adjustment was related to increased academic achievement in math and reading during early adolescence within the sample. This finding further supports efforts that target girls’ psychological adjustment, as such interventions may contribute to critical areas of their academic achievement. It appears that both psychological adjustment and paternal warmth were related to stronger effects at the same time points in these adolescents’ lives.

Warm paternal relationships positively impacted the trajectories of girls’ achievement, especially in math during early adolescence. Interventions that support academic achievement are important for all children; however supportive male figures may make important impacts in girls’ achievement in mathematics throughout their educational matriculation. Interventions that provide guidance to paternal figures on mentoring their daughters in math may provide
insurmountable benefits to female youth. Although psychological adjustment was related to decreased school absence in this study, school absence generally increased across all participants. This should be investigated further both within this sample of female adolescents and in future research to determine how best to intervene for ensuring that vulnerable and at-risk adolescents are encouraged and motivated to attend school.

Besides the implications this study has for advocating for interventions that support adolescent female youth, it also has implications for current policies related to paternal absence. Paternal absence is considered a growing epidemic that plagues children in America (National Fatherhood Initiative, 2014). It is particularly prevalent in African American homes of incarcerated fathers considering the disproportionate amount of African American men in U.S. prisons to date (Foster & Hagan, 2009; Swisher & Waller, 2008; Wildeman, 2009). Children are further impacted academically and psychologically when their fathers return home and are unable to acquire employment and needed resources for rearing their families (Swisher & Waller). Reform is needed to support fathers returning from prison to encourage their efforts to provide for their families.

Reform within U.S. education systems may prove beneficial in impacting paternal absence also. Mandated education programs that inform adolescents about the effects of paternal absence could be invaluable preventative tools for adolescent youth. Youth should be informed about direct and indirect correlates of paternal absence (i.e., poverty, incarceration, substance abuse, and economic cost) to foster their knowledge of the effects of paternal absence. Implications for future research will be discussed in a forthcoming section.
Strengths and Limitations

This study has several strengths. One major strength is that it adds to the limited available research on the effects of African American paternal figures in the lives of their daughters. Another strength of this study is its longitudinal nature, which allows for the assessment of effects over time. Next, this study includes a large sample of African American female youth, which provides a significant representation of the population of female youth involved in this study. The findings of this study may be powerful for investigating female youth living in similar circumstances. Additionally, considering that adaptive and maladaptive scales were incorporated into the composite psychological adjustment measure, this study utilized a diverse set of characteristics for creating its composite psychological adjustment measure. Yet another strength, the measures of educational outcomes used in this study do not contain self-reported measures but actual school records obtained from the SESS. A final strength is that the sample was drawn from geographically confined and socioeconomically homogenous neighborhoods, which increases internal validity since it is less likely to be threatened by external influences (e.g., cross-cultural or socioeconomic) outside of the well-confined context from which this sample was derived.

In noting the strengths of this study, several limitations may be noted also. First, the data set itself is limitation to the results of the study. Both the LS and SESS data sets utilized in this study were not created for the sole purpose of this analysis. Prior to further publishing and exploration of the results, a complete data set must be created for the purposes of this research study. The limited number of waves and observations used in this study may alter the results and may therefore influence our conclusions. Second, this study utilizes secondary data and therefore employs a quantitative analytic approach that does not allow for qualitative information, which
may yield more insight into the participants’ perceptions. Thus, the measures of paternal presence and warmth and psychological adjustment are completely self-reported measures with limited responses that may or may not depict participants’ true sentiments. It is also possible that participants accidently indicated responses that were not intended or were dishonest altogether. Also, several of the individual scales of psychological adjustment have low reliability values that create a further limitation within the study methods. Nonetheless, the scales were available through the LS dataset used in this study, and they yielded a diverse set of characteristics for measuring psychological adjustment. These reasons provided a strong impetus for their use in this study. It is worthy to note that these were abbreviated scales within the LS. Increasing items within the scales may have yielded stronger reliability values.

The generalizability of this study’s findings may also be raised as a limitation to this study. The target population was comprised of African-American female adolescents living in extremely impoverished urban neighborhoods. The severity of poverty in which this sample was derived from makes it a particularly vulnerable population, which may impinge upon the transferability of this study’s findings to other studies. Yet, research at large supports the positive effects of paternal involvement regardless of socioeconomic status. This study is unique in that it offers insight into an underrepresented population in current research, impoverished African American female youth. Further, the contextual factor of poverty increases the vulnerability of this adolescent sample, making it challenging to research since poverty compounds the effects of poor academic and psychological outcomes. However, extant studies investigate the complexities of researching such vulnerable and under-sampled populations (Hatchett, Holmes, Duran, & Davis, 2000; Kerkorian, Traub, & McKay, 2007; Pottick & Lerman, 1991). This study’s findings may not generalize to all adolescent populations living outside of the geographical and
socioeconomical contexts of the targeted sample, but they may generalize to other vulnerable and hard to reach minority populations (e.g., impoverished Hispanic American female youth). Yet, considering the resounding evidence of paternal involvement in research literature, it is possible that the overall findings of this study may extend to adolescent female youth in general. Lastly, this study used a limited dataset containing 10 waves of LS data and SESS school records, although the LS was conducted for a total of 14 years. This poses a limitation to the study since the dataset used in this study does not capture all LS participation across all 14 years of the survey administration.

**Recommendations for Future Research**

There are several ways in which this study can be expanded. First, it would be beneficial to expand the conceptualization of outcome variables in the study (i.e., quality father-daughter relationship, psychological adjustment, and educational outcomes) by gaining qualitative information on the variables (e.g., targeted discussion of adolescent father-daughter relationships and social and educational experiences). Further, it would also be beneficial for this study to be expanded to provide insight into various parenting styles employed by fathers based on their daughters’ ages. This study may also be expanded to include a greater age range of participants to assess effects beyond adolescence and into adulthood. Another recommendation for qualitative research is to provide opportunities for fathers to share their experiences of parenting daughters. Fathers should particularly be encouraged to share about barriers to parenting their daughters, especially during adolescence, because adolescence is a critical time in female youths’ lives.

Additionally, because fathers’ experiences with their own parents often impact their roles as fathers (Connor and White, 2006), it would be beneficial to expand this study by incorporating
fathers’ experience of being fathered. According to Connor and White and Franklin (2010), men’s experiences of being fathering has the potential to significantly influence their own fathering styles. Lastly, future research should investigate the parenting style differences of different paternal figure types (i.e., biological fathers, stepfathers, grandfathers, uncles, brothers, etc.), as this may enhance the knowledge of parenting research that focuses on paternal figure types and parenting practices. Distinguishing paternal figure types was not a major focus in this study; however, it may be a strong area of research for future studies.
REFERENCES


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June 20, 2012

Crystal Holder
Department of ESPRMC
College of Education
Box 870231

Re: IRB # 12-OR-224: “African American Fathers’ Impact on their Daughters’ Psychological Adjustment and Educational Outcomes over Time”

Dear Ms. Holder,

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. You have also been granted the requested waiver of informed consent. Approval has been given under expedited review categories 5 and 7 as outlined below:

(5) Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your application will expire on June 19, 2013. If the study continues beyond that date, you must complete the IRB Renewal Application. If you modify the application, please complete the Modification of an Approved Protocol form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the Request for Study Closure (Investigator) form.

Should you need to submit any further correspondence regarding this application, please include the assigned IRB application number.

Good luck with your research.

Sincerely,

Carpenter T. Myles, MSM, CIM
Director & Research Compliance Officer
Office for Research Compliance
The University of Alabama
APPENDIX B – ADDITIONAL RESULTS

Table 8 Frequency of Observations by Wave

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Table 9 Frequency of Paternal Figure Types

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Table 10 Frequency of Paternal Figure Types Observations by Age

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Table 11 Descriptive Statistics for Paternal Warmth Observations, Overall and by Age

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Table 12 *Component Analysis Weights for Psychological Adjustment Measures*

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Table 13 *Descriptive Statistics for Composite Psychological Adjustment Observations, Overall and by Age*

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Table 14 *Descriptive Statistics for General Self-Worth Observations, Overall and by Age*

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<td>M</td>
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Table 15 *Descriptive Statistics for Behavioral Self-Worth Observations, Overall and by Age*

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Table 16 Descriptive Statistics for Hopelessness Observations, Overall and by Age

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Table 17 Descriptive Statistics for Caring Observations, Overall and by Age

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Table 18 Descriptive Statistics for Callousness Observations, Overall and by Age

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Table 19 Descriptive Statistics for Worry Observations, Overall and by Age

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Table 21 Descriptive Statistics for SAT Math Percentile Ranks Observations, Overall and by Age

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Table 22 Descriptive Statistics for School Absences Observations, Overall and by Age

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<th>14</th>
<th>15</th>
<th>16</th>
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<tbody>
<tr>
<td>Observations</td>
<td>4828</td>
<td>869</td>
<td>957</td>
<td>1103</td>
<td>1003</td>
<td>649</td>
<td>247</td>
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<tr>
<td>Median</td>
<td>15</td>
<td>11</td>
<td>14</td>
<td>16</td>
<td>19</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Range</td>
<td>134</td>
<td>117</td>
<td>134</td>
<td>119</td>
<td>104</td>
<td>110</td>
<td>111</td>
</tr>
</tbody>
</table>

\textsuperscript{11} The ages listed include years the SAT was administered to students until they reached the 11\textsuperscript{th} grade. Generally students above age 14 should not be administered the SAT, as administration was changed in 2002 within the SESS to only include students until they reached the 8\textsuperscript{th} grade. It is also possible that participants who are above age 14 were retained in school during their participation in the LS.
Table 23 *Grouped Frequency of School Absences*

<table>
<thead>
<tr>
<th>School Absence</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>744</td>
<td>15</td>
</tr>
<tr>
<td>6-10</td>
<td>807</td>
<td>17</td>
</tr>
<tr>
<td>11-20</td>
<td>1210</td>
<td>25</td>
</tr>
<tr>
<td>21-30</td>
<td>720</td>
<td>15</td>
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<tr>
<td>31+</td>
<td>1001</td>
<td>21</td>
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</table>
Table 24 Cronbach’s Alpha Coefficients on Psychological Adjustment Measures for Female LS Longitudinal Participation (Waves 2 through 11)

<table>
<thead>
<tr>
<th>Wave</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Self-worth</td>
<td>0.692</td>
<td>0.713</td>
<td>0.694</td>
<td>0.694</td>
<td>0.671</td>
<td>0.659</td>
<td>0.702</td>
<td>0.711</td>
<td>0.649</td>
<td>0.638</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>0.723</td>
<td>0.739</td>
<td>0.667</td>
<td>0.679</td>
<td>0.709</td>
<td>0.772</td>
<td>0.726</td>
<td>0.818</td>
<td>0.794</td>
<td>0.824</td>
</tr>
<tr>
<td>Caring</td>
<td>0.581</td>
<td>0.511</td>
<td>0.499</td>
<td>0.537</td>
<td>0.57</td>
<td>0.628</td>
<td>0.511</td>
<td>0.493</td>
<td>0.468</td>
<td>0.512</td>
</tr>
<tr>
<td>Callousness</td>
<td>0.456</td>
<td>0.405</td>
<td>0.397</td>
<td>0.408</td>
<td>0.481</td>
<td>0.459</td>
<td>0.42</td>
<td>0.513</td>
<td>0.478</td>
<td>0.47</td>
</tr>
<tr>
<td>Worry</td>
<td>0.678</td>
<td>0.719</td>
<td>0.719</td>
<td>0.716</td>
<td>0.714</td>
<td>0.723</td>
<td>0.735</td>
<td>0.749</td>
<td>0.751</td>
<td>0.678</td>
</tr>
</tbody>
</table>
APPENDIX C - QUESTIONNAIRE

Paternal Figure Scale

1. What person is most like a father to you?
   a. I don’t have anyone who is like a father to me
   b. My father
   c. My stepfather
   d. My grandfather
   e. My uncle
   f. My foster father
   g. My mother’s boyfriend
   h. My older brother
   i. Some other person

Paternal Warmth Scale

1. I can usually count on him to help me out if I have some kind of problem.
   a. I don’t have anyone who is like a father to me
   b. Agree
   c. Disagree
2. He usually keeps pushing me to do my best in whatever I do.
   a. I don’t have anyone who is like a father to me
   b. Agree
   c. Disagree
3. We do fun things together.
   a. I don’t have anyone who is like a father to me
   b. Agree
   c. Disagree
4. He usually helps me if there is something I don’t understand.
   a. I don’t have anyone who is like a father to me
   b. Agree
   c. Disagree
5. When he wants me to do something, he usually explains the reasons why.
   a. I don’t have anyone who is like a father to me
   b. Agree
   c. Disagree
6. He spends time just talking with me.
   a. I don’t have anyone who is like a father to me
   b. Agree
   c. Disagree

Self-worth Scale

1. I am usually unhappy with myself.
   I am usually happy with myself.
2. I sometimes do things I know I shouldn’t do.  
I hardly ever do things I know I shouldn’t do.
3. I usually don’t like the way I behave.  
I usually like the way I behave.
4. I like the kind of person I am.  
I don’t like the kind of person I am.
5. I usually get in trouble because of the things I do.  
I usually don’t do things that get me into trouble.
6. I usually make good decisions.  
I usually don’t make good decisions.
7. I usually behave myself very well.  
I often find it hard to behave myself.
8. I am not happy with the way I do a lot of things.  
The way I do things is fine.
9. I don’t like the way I am leading my life.  
I like the way I am leading my life.

**Hopelessness Scale**

1. All I see ahead of me are bad things, not good things.  
a. Agree  
b. Disagree
2. There’s no use in really trying to get something I want because I probably won’t get it.  
a. Agree  
b. Disagree
3. I might as well give up because I can’t make things better for myself.  
a. Agree  
b. Disagree
4. I don’t have good luck now and there’s no reason to think I will when I get older.  
a. Agree  
b. Disagree
5. I never get what I want, so it’s dumb to want anything.  
a. Agree  
b. Disagree
6. I don’t expect to live a very long life.  
a. Agree  
b. Disagree

**Caring Scale**

1. I care about how well I do at school or work.  
a. Agree  
b. Disagree
2. I feel bad or guilty when I do something wrong.  
a. Agree  
b. Disagree
3. I care about the feelings of others.
   a. Agree
   b. Disagree

**Callowess Scale**

1. I often blame others for my mistakes.
   a. Agree
   b. Disagree
2. I am able to lie easily and skillfully.
   a. Agree
   b. Disagree
3. I sometimes act charming and nice to get things I want.
   a. Agree
   b. Disagree
4. I usually hide my feelings or emotions from others.
   a. Agree
   b. Disagree
5. I get angry when I am corrected or punished.
   a. Agree
   b. Disagree

**Worry Scale**

1. How much do you worry about getting good grades?
   a. I am not in school
   b. Not at all
   c. Some
   d. Very much
2. I worry that bad things might happen to a family member or friend.
   a. Almost never
   b. Sometimes
   c. Very often
3. How much do you worry about being pressured into doing something dangerous by your friends?
   a. Not at all
   b. Some
   c. Very much
4. How much for you worry about not fitting in with other kids in the neighborhood or at school?
   a. Not at all
   b. Some
   c. Very much
5. How much for you worry that your family has enough money to get by?
   a. Not at all
   b. Some
6. How much do you worry that you might not get a good job when you get older?
   a. Not at all
   b. Some
   c. Very much

7. How much do you worry about getting along with people of other races?
   a. Not at all
   b. Some
   c. Very much

8. How much do you worry about gangs in your neighborhood?
   a. Not at all
   b. Some
   c. Very much

9. How much do you worry about whether you are ‘straight’ or ‘gay’?
   a. Not at all
   b. Some
   c. Very much

10. How much do you worry that you might get AIDS?
    a. Not at all
    b. Some
    c. Very much

**Age Scale**

How old are you now?

a. 9
b. 10
c. 11
d. 12
e. 13
f. 14
g. 15
h. 16
i. 17
j. 18
k. 19
APPENDIX D – CORRESPONDENCE

Correspondence of LS Administration Years with Respective Data Waves and SESS Years

<table>
<thead>
<tr>
<th>LS Year</th>
<th>LS Wave</th>
<th>SESS Year</th>
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<tbody>
<tr>
<td>2000</td>
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<td>1999-2000</td>
</tr>
<tr>
<td>2001</td>
<td>3</td>
<td>2000-2001</td>
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