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**A CROSS-SECTIONAL STUDY OF THE RELATIONS BETWEEN PARENTAL
FACTORS AND ACADEMIC ACHIEVEMENT IN HIGH SCHOOL ADOLESCENTS**

by

PATRICIA M. LANZON

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2014

MAJOR: EDUCATIONAL PSYCHOLOGY

Approved by:

Advisor

Date

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DEDICATION

To my lovely daughter, Colette.

Eleven years of your childhood have been spent at W.S.U.

And now, we graduate together – my PhD and your high school diploma.

Thank you for being so loving and understanding.

You complete my life.

To the para/quadruplegics who have “walked” before me

as well as those who will “walk” after me.

Never forget, “slow and steady wins the race.”

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CHAPTER 1

INTRODUCTION

Theoretical Framework

Academic achievement can be influenced by a multitude of individual characteristics as well as environmental factors. The current challenge for researchers is to develop potential explanations for the discrepancies in the research findings across diverse families and communities. One explanation is that these discrepancies reflect the presence of an extraneous contextual parental variable or variables that researchers have not yet examined. The question then becomes, what are the contextual parental variables that influence adolescent academic achievement?

One way to understand these parental indicators is to use a developmental systems model. For the purpose of this study, the theoretical framework used to help explore the relations between parenting factors was Bronfenbrenner's (1979) ecological model. Academic achievement can be influenced by a bi-directional relationship between individual characteristics and environmental factors. The developmental process is a transactional one; reciprocal influences interact and continue to alter the direction and course of development. Some bi-directional influences can be protective and foster development, leading to better developmental outcomes. Other bi-directional influences can act as vulnerability factors; consequently, development may proceed further away from a normative course of development. One key influence is parental involvement, and it is important to place it within the contexts and spheres of influence, thereby providing an overarching framework that can improve knowledge of the complexities that exist in understanding the predictive nature of parental involvement in

adolescents' academic achievement. Mesosystem models are needed to analyze the interactive effects of the multi-contextual perception of student achievement outcomes.

Bronfenbrenner's (1979) model explains how academic achievement is determined through a bi-directional interaction between personal, environmental, and social factors. Bronfenbrenner's (1979) model is depicted as a series of concentric circles with the child's distinctive characteristics that define the individual such as personality/temperament, intelligence, self-esteem and genetic structure at its core. Many predictors are related to a child's potential for academic achievement. Of the most proximal are the parental and family factors, which were the focus in this study. The predictors in this study included family structure, maternal and paternal parenting styles (demandingness and responsiveness), parental school involvement, and parental attitude toward achievement. In the current study, data was collected from both adolescents' and parents' perspectives in a cross-sectional sample of high school adolescents. Amount of agreement was examined at each age level, as was variations in patterns of agreement between ninth and twelfth grade.

These proximal factors were chosen for study due to the suspected strong correlation with resilient behaviors and due to the highly proximal nature of parents to their adolescent's academic achievement. Although there are multiple predictors of student achievement at the various levels of Bronfenbrenner's (1979) ecological model, the parental predictors listed above were selected for analysis due to the proximal relationship with and influence of the parent on their child's academic achievement (Leidy et al, 2011; Friedel, Cortina, Turner & Midgley, 2010; Benner, Graham & Mistry, 2008; Hughes & Kwok, 2007; Yang, 1999). It was hypothesized in this study that parental school involvement, family structure, parenting styles (demandingness and responsiveness), and parent and student attitudes toward achievement

would have the strongest correlations with achievement outcomes. These predictors of academic achievement are discussed in detail in the literature review.

A positive parental relationship to their child's academic achievement is a resiliency factor for all children, but is especially important for the academic achievement of low-income, at-risk students. According to Luthar and Cicchetti (2000), "Resilience is a dynamic process wherein individuals display positive adaptation despite experiences of significant adversity or trauma" (p. 2). Research on resilience contributes to additional understanding that resilience is not a personal trait of an unconquerable child; rather it is determined by multiple, bi-directional processes within several systems. Luthar and Cicchetti (2000) further contend that resilience is a two-dimensional construct that infers exposure to adversity and the creation of positive outcomes despite this exposure. Adversity is further delineated by being referred to as risk that is related to negative life events that are statistically related with adjustment difficulty. An example of adversity would be a child growing up in a violent community. A child's positive adaptation is defined in terms of behaviorally exhibited social aptitude, or success at mastering stage-salient developmental tasks (Luthar & Zigler, 1991; Masten, Best & Garmezy, 1990; Waters & Sroufe, 1983).

It is important to study economically disadvantaged youth for many reasons. According to Luthar, Cicchetti, and Becker (2000) it is more judicious to promote the development of resilient functioning early on in a person's life than it is to implement interventions for high-risk individuals who have already developed malfunctioning behaviors. Researching economically disadvantaged youth provides families and school communities the opportunity to develop interventions and social policies designed to reduce the effects of poverty on academic achievement by decreasing vulnerability factors and increasing protective factors (Luthar &

Cicchetti, 2000). In light of the increase in the number of children coming to school from ethnically diverse and/or impoverished homes in the United States, poverty is a vulnerability factor that influences the academic achievement of children necessitating further research (Burnett & Farkas, 2008).

Adverse resiliency factors can negatively affect the student's academic achievement, as well as their social and emotional relationships (Borman & Overman, 2004; Frieman, 2001). However, many studies have indicated that the probability of predicting academic, social and emotional failure is not so easy to determine (Condly, 2006; Waxman, Gray, & Padron, 2003; Franklin, 2000). Based on these prior findings, the targeted sample for this study was high school students from ninth to twelfth grades and their parents from a primarily minority, at-risk school district. The relationship between parent and adolescent perspectives of parental achievement variables was measured through the lens of Bronfenbrenner's developmental systems ecological model.

Parental Factors that Predict Academic Adjustment

Family Structure. The family structure is one system that contributes to academic resilience. Research on the family structure has been found to contribute to increased student achievement. In a study on family disruption and academic functioning in urban, Black youth conducted by Somers et al. (2011), it was found that marital status is important as it relates to parental involvement. When parents are married, it increases parental involvement with their child's school experience. Their study also found that there is a relationship between teen academic achievement and caregiver marital status fully mediated by father involvement. For the purpose of this study, family structure was defined as "traditional" (e.g., two-parent family home or "non-traditional" (e.g., single-parent led house-hold, a blended family, step-family,

same-sex parent home, or any family configuration that is different from a two-parent family structure). A number of research studies examined the association between family structure and student outcomes; however, results of these studies have been inconsistent. Some studies reveal that children living in single parent homes are more likely to drop out of school, engage in deviant behaviors, get into trouble with the law, and have lower academic achievement (Schlee, 2009). Research has indicated that adolescents from single-family homes are more likely to enter low-social status occupations. However, other researchers suggest that it is not the family structure such as living in single parent home that negatively influences academic achievement, it is the low SES associated with being a single parent that explains children's low academic achievement in that family structure (Schlee, 2009). This research has demonstrated that the effect of a single parent upbringing on the child's academic achievement (whether achievement is measured by standardized tests or by grades) is minute. Correspondingly, Dronkers (1994) indicated that children from two-parent families have greater academic success than children from one-parent families, but the difference was not a very significant one.

Studies on family structure have contributed to an increased understanding of the importance of the relationship between a student's cultural capital derived from their family structure and their exosystem and macrosystem. These studies have also demonstrated that student resiliency can be increased through the implementation of community programs that address different family structures. Understanding which sub-components of the family structure as well as the family involvement within the school structure between the high school grades transition will contribute to increased understanding and better program development addressing adolescent student academic achievement. Analyzing sub-components of the family structure across time will provide a greater understanding of the influence of the possible

changes in family structure on achievement and parental community and school involvement from ninth through twelfth grade.

Parenting Styles. Different parenting practices can result in different academic and social outcomes for children. Baumrind (1966, 1967) originally developed three parenting styles - authoritative, authoritarian and permissive - which were based on two parenting dimensions of demandingness and responsiveness. Maccoby and Martin (1983) added neglectful parenting style later on. Control and warmth are the terms used to further define the demandingness and responsiveness of parents toward their children (Baumrind, 1967, 1967). Research has consistently shown authoritative parenting to be the most predictive of academic achievement. As a recent example, Blondal and Adalbjarnardottir (2011) conducted a study on school dropout among Icelandic youth at age 14 found that parents who were authoritative (able to demonstrate acceptance as well as provide guidance and supervision) were more likely to have adolescents who completed upper secondary school by age 22. Parenting style was also found to moderate the relationship between parental involvement and dropout in authoritative families. Other studies have demonstrated the same research findings (Suldo, Mihalas, Powell, & French, 2008; Serbin & Stack, 1998; Rosenau, 1998).

Due to the psychological adjustment in developmental processes taking place between ninth and twelfth grades, it is important to understand the influence of changes in parenting practices taking place between these developmental stages as well as their influence on a student's academic achievement. Paulson, Marchant, and Rothlisberg (1998) found that students who perceived contrasting parenting styles between their parents and teachers (neglecting parenting style with authoritarian teaching style) complemented by a low parental involvement and a negative school atmosphere had the lowest achievement results. Parenting styles change

during the course of a child's development (Wang, Dishion, Stormshak, & Willett, 2011; Sturge-apple, Cicchetti, & Cummings, 2009). Due to these parenting style changes over time, a greater understanding of parenting practices and their relationship to academic achievement needed to be further explored. This exploration contributed to a deeper understanding of how schools could address these parental and adolescent changes over time, thus increasing academic achievement. Furthermore, parents' and children's perceptions are not in agreement. Paulson and Sputa (1996) found that mothers and fathers both ranked themselves higher on all aspects of parenting than adolescents perceived them to be during both ninth and twelfth grades. Thus, it was important to examine these variables from multiple informants' perspectives.

Parental Attitudes Toward Achievement. Many studies have been conducted on parental attitudes toward their students' achievement and how much those attitudes contribute to successful academic achievement. These studies have demonstrated that a family's value for education and attitude toward education was associated with the academic achievement of their children (Assor & Tal, 2012; Frome & Eccles, 1998). Those studies that have family management parental practices that include positive attitudes toward education (Jimerson, Egeland, Sroufe, & Carlson, 2000; Marjoribanks, 1987) also had greater student motivation and academic competence (Pomerantz & Dong, 2006). Similarly, parents' attitudes about academics were related to greater teacher engagement with their children (Hughes & Kwok, 2007). Other studies have examined parental communication, parental supervision and parental expectations and parenting style and found that parental expectations or attitude toward achievement and parenting styles are the most critical contribution to their child's achievement (Fan & Chen, 2001). Fan and Chen (2001) surmised that high expectations of parents and student perceptions of those expectations are correlated with increased achievement.

Parental attitudes toward achievement clearly play a role in the academic achievement of their children. Additionally, and importantly, parents' and children's attitudes are also correlated. For example, in a study conducted by Cooper, Lyndsay, Nye, and Greathouse (1998) students' attitudes toward homework were predicted by their parents' attitude toward homework, thus influencing their level of academic achievement as measured by the TCAP scores and class grades. Additionally, there are variations in the relations between parents' attitudes and students' outcomes over time. For example, Bleeker and Jacobs (2004) conducted a longitudinal study on mothers' attitudes toward their child's math and science achievement and found that adolescents' self-perceptions of math ability during the 10th grade mediated the relation between mothers' perceptions and adolescents' math-science occupation self-efficacy two years after high school.

Parental School Involvement. Parental school involvement has been found to be vital to the academic achievement of a young adolescent and yet normally declines during middle school (Epstein, 2005; Jackson & Andrews, 2004; Jackson & Davis, 2000; NMSA, 2003). Some researchers suggest that parent involvement may mediate the effects of poverty, parents' educational attainment, and race on achievement (Epstein, 2001; Paulson, 2000). The literature examining the association between parent involvement in school and academic achievement has revealed that there are several ways to conceptualize parent involvement. As a result, the magnitude of the relationship of the above two constructs differs from one study to another, depending on the definition of parent involvement. Epstein (2001) described the following different types of parental involvement: Basic parenting obligations for the child's welfare and for providing positive home conditions, school-home communication, volunteering or being an audience at school, involvement in home learning activities, decision-making, governance,

advocacy roles, and community collaboration.

Epstein (2001) further contends that parents' awareness and interest in their children's learning and school activities model for their children the importance of school, which may lead to positive behaviors. Importantly, Epstein's research shows that parental involvement can have a positive impact on student's academic work at all grade levels.

Epstein et al. (2002) have drawn the following conclusions regarding parental involvement: Parental involvement tends to decline across the grades unless schools make efforts to develop and implement partnerships with parents; non-two parent households as well as parents who live far from the school, on average, are less involved in the school unless the school attempts to address these parents' needs and circumstances. The degree and nature of the impact of parental involvement on student achievement is somewhat debated in the literature.

In a study conducted by Sheldon (2007), it was found that school, family and community partnerships were associated with improved school achievement. Sheldon's study demonstrated that elementary schools where teachers, parents, and administrators reached out to all families within the school, created action teams, and organized family and community-involvement activities that were linked to school goals reported a significant increase in the percentage of students who attended class. This parent outreach translated into an increase in achievement.

Sheldon and Epstein (2005) posit that in order to raise proficiency on standardized mathematical achievement tests, community partnerships need to be developed. In a meta-analytic assessment of strategies that promote achievement, parental community involvement across 50 studies was shown to be positively associated with achievement, except for parental help with homework (Hill & Tyson, 2009). Due to the inconclusive findings on the impact of parental school involvement on a student's academic achievement, it was necessary to conduct

further analysis on the dynamics of the parental school involvement changes occurring during high school transition from ninth to twelfth grade. The continued study of transitions over time contributes to understanding how parental involvement changes over time. This information may help parents understand how to modify their parental school involvement over time.

Why study developmental variations over time?

There is great value in developmental interventions at all stages of development, not just the early stages (Bronfenbrenner & Ceci, 1994). Many research studies have posited that drops in achievement occur during the contexts of school transition and increased age due to the exposure to a more bureaucratic system with many more peers, teachers, and curricular choices (Barber & Olsen, 2004; Eccles, 2004; Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Gutman & Midgley, 2000). Gottfried, Marcoulides, Gottfried, Oliver, and Guerin's (2007) research study indicated that motivation and academic achievement particularly in math declines from childhood through adolescence.

Transitional changes such as the transition from middle school to high school can tax a student's personal efficacy, which also has been shown to decrease over time (Caprara et al. 2008). This study supported other studies indicating a decline in perceived academic ability during the adolescent years (Britner & Pajares, 2006; Harter, 1996; Midgley, Feldlaufer, & Eccles, 1989). Gottfried, Gottfried, Phillip, and Cook (2005) found that motivation is more indicative of the likelihood of graduating high school than is intelligence. Drops in academic performance during academic transitions can be partially explained by different aspects of parenting, and studies of this nature demonstrate the need for more research focused on understanding how the proposed parenting variables correlate with academic achievement during the transitional stages experienced during high school. As described within each section above,

there have been many studies that show that there variations in the correlations between parents' attitudes and students' academic outcomes do occur.

Why study parent-adolescent pairs?

This study used a matched-paired parent-adolescent sample (also called dependent sample). Using a matched-paired sample helped to control for extraneous factors that may influence the differences in parents' and adolescents' perceptions of parenting and achievement variables. The literature reviewed in each section above indicates that there are differences in parents' and adolescents' perceptions about a variety of achievement variables, including parenting style, parents' attitudes toward achievement, and parental school involvement. These varying perceptions have been correlated in differing ways with adolescent outcomes.

In the achievement literature, in a study on adolescent perception of parental influence on academic achievement, Assor and Tal (2012) used a matched-paired sample to investigate adolescents' perceptions of their mother's use of parental conditional positive regard (PCPR) to encourage academic achievement and found that parental conditional regard was associated with maladaptive self-feelings and coping. The use of a matched-paired sample contributed to a holistic understanding of the experience of one's mother using conditional positive regard to promote achievement as a contributing factor to a non-optimal self-esteem dynamic, where people waver between feelings of grandiosity subsequent to success and self-derogation and shame following failure.

In another study using a matched-paired parent/adolescent sample, Frome and Eccles (1998) investigated the relationship between parents' perceptions of their children and their children's self- and task perceptions in math and English. The researchers found that parental perception had a greater influence on their child's perception of ability in math than in English

even when the child's grades indicated greater ability. This matched-paired sample study contributed to the understanding of how parental expectation directly influenced their child's academic achievement.

Wood, Kurtz-Costes, & Copping (2011) used a predominantly middle-class African American matched-paired adolescent and parent sample to test a path model connecting parental expectations for children's future educational attainment, youths' motivation during grade 11, and youths' resulting on-time postsecondary educational progress. The results indicated that parents' expectations were positively associated to adolescents' educational attainment aspirations, attainment expectations, utility values (i.e., attitude toward the worth of education), and perceptions of racial barriers to upward mobility. The relationships between parents' expectations and their child's ambitions and expectations were mediated by youths' perceptions of parents' expectations.

In the research studies discussed above, the use of a matched-paired sample provided a greater understanding of the differences between parent-adolescent perceptions of parental contribution to the adolescent's academic achievement. Although these studies have used a matched-paired parent/adolescent sample to investigate parental and adolescent perceptions toward achievement in a few interrelated areas, studies have not used a parent/adolescent sample to analyze the shared relationships between family structure, parenting style, parental attitudes toward achievement, and parental involvement in school and community.

Although there are studies on parent-child perception differences in parallel bodies of literature, as reviewed here, there did not appear to be studies on the variables analyzed in the current study. Differences were expected, though, based on these prior empirical findings to

expand on the understanding of the transactional, reciprocal influences of parent-child perception on student achievement (Bronfenbrenner, 1979).

Limitation of Past Research and Purpose of This Study

Prior research has been conducted on parents' perception of parental involvement across age groups and has primarily focused on one age group at a time. For example, research on parents' perception of parental involvement has been done on either the high school age adolescent (such as between ninth and twelfth grade; e.g., Day & Padilla-Walker, 2009; Paulson & Sputa, 1996; Keith, Reimers, Fehrmann, Pottebaum, & Aubey, 1986) or middle school (such as between sixth and eighth grade; e.g., Hill & Tyson, 2009; Britner, & Pajares, 2006; Pomerantz & Dong, 2006; Marchant, Paulson, and Rothlisberg, 2001; Keith & Lichtman, 1994). Although research on a specific developmental stage is necessary to understand that specific developmental time period, it does not provide a greater understanding as to how multiple parental variables interact, change over developmental stages, and influence achievement over the course of several developmental periods.

The variables discussed thus far in the review--parenting styles (demandingness and responsiveness), parental school involvement, parental attitudes toward achievement, and family structure--had not been simultaneously analyzed across different high school grade levels at one time, despite the need to understand these interactions between parenting styles (demandingness and responsiveness), parental school involvement, parental attitudes toward achievement, and family structure so that the interaction between parent and adolescent achievement increases achievement between ninth and twelfth grades in high school instead of observing a decrease in achievement between these transitional time periods. Previous research has examined these variables from either the perspective of the parent or from the perspective of the adolescent.

Minimal published studies have been found that have compared matched-paired parents' and adolescents' perceptions of parent involvement, parenting styles, and academic achievement. The current study compared matched-paired parents' and adolescents' responses to these variables to determine if and at what developmental stage the responses diverge. This study provided a better understanding of the interactions between parenting styles (demandingness and responsiveness), parental school involvement, parental attitudes toward achievement, and family structure from the developmentally distinct adolescent trajectories from ninth through twelfth grades.

Researchers oftentimes generalize across adolescence when observing the effects of parenting on adolescent achievement outcomes. Further developmental research on parental achievement factors such as parenting styles (demandingness and responsiveness), parental school involvement, parental attitudes toward achievement, and family structure as well as other resilient factors is needed (Luthar & Cicchetti, 2000). It is probable that dissimilar levels and types of parental school involvement and types of parenting practices may be conducive to positive achievement outcomes at different ages and researchers should minimize making generalizations about parenting practices across adolescence. Analyzing the interrelationships between family structures, parental attitudes toward achievement, parenting styles and parental school involvement between high school grades contributes to the identification of specific links between parent and adolescent perspectives.

This study took an ecological, cross-sectional research approach to analyze the differences between ninth, tenth, eleventh, and twelfth grade high school students' perception of parental factors and their relationship with parental perception variables. Variables being analyzed in this study included parenting styles (demandingness and responsiveness), parental

school involvement, parental attitudes toward achievement, and family structure. This study contributed to a broader understanding of parental achievement variables across different adolescent developmental stages. Since current research has not been able to identify these factors between adolescent age groups, this study helped to bridge that gap in research.

Research Questions and Hypotheses

Based on the above literature review and perceived limitations of prior research, the following research questions were analyzed:

1. How correlated are parents' and adolescents' perceptions of parenting style, parent school involvement, attitude toward achievement, GPA, plans for high school completion, and plans for college completion?
2. To what extent do parenting styles, parental school involvement and attitudes toward achievement from the parents' and students' perspective predict a) GPA, b) plans for high school completion, and c) plans for college completion?
3. To what extent do parenting styles, parental attitudes toward achievement, and parental school involvement from the students' perspective predict across grade levels a) GPA, b) plans for high school completion, and c) plans for college completion?
4. What is the additive role of family structure and free/reduced lunch status in explaining variance in adolescent academic achievement?

In pursuit of answering the above research questions and to realize the objectives of this study, the following hypotheses were addressed and studied:

H₁: It is believed that parental perception and adolescent perception of parenting style, attitudes toward achievement, parent school involvement, GPA, plans for high school and college

completion will demonstrate correlational variability with some variables highly correlated while other variables demonstrate low correlation.

H₂: Parental perception and adolescent perception of parenting styles – a) demandingness and b) responsiveness, c) school involvement, and d) attitudes toward achievement will predict GPA, plans for high school completion and plans for college completion.

H_{3a}: Student perception of parenting styles, parental attitudes toward achievement, and parental school involvement will predict adolescent academic achievement and parental and adolescent plans for college completion across grade levels.

H_{3b}: There will be differences in the way parenting styles, parental attitudes toward achievement, and parental school involvement will predict academic achievement and plans for college completion in 9th grade versus 12th grade and between parent and adolescent perspectives.

H₄: Family structure combined with free/reduced lunch status will help to explain the variance in adolescent academic achievement.

CHAPTER 2

LITERATURE REVIEW

Theoretical Framework

Academic achievement can be influenced by a multitude of individual characteristics as well as environmental factors. For example, child development almost universally occurs within the context of a family. One way to understand these environmental factors is to use a developmental systems model. For the purpose of this study, the theoretical framework to help explore the relations between parenting factors was Bronfenbrenner's (1979) ecological model. Academic achievement can be influenced by a bi-directional relationship between individual characteristics and environmental factors. The developmental process is a transactional one; reciprocal influences interact and continue to alter the direction and course of development. Some bi-directional influences can be protective and foster development, leading to better developmental outcomes. Other bi-directional influences can act as vulnerability factors; consequently, development that includes vulnerability factors may proceed toward a more a normative course of development. One key influence is parental involvement, and it is important to place it within the contexts and spheres of influence, thereby providing an overarching framework that can improve knowledge of the complexities that exist in understanding the predictive nature of parental involvement in adolescents' academic achievement.

Bronfenbrenner's (1979) ecological model helps to explain how academic achievement is determined through a dynamic, bi-directional interaction between personal, environmental, and social factors. Bronfenbrenner's (1979) model is depicted as a series of concentric circles with the child's distinctive characteristics that define the individual such as personality/temperament, intelligence, self-esteem and genetic structure at its core. Many predictors are related to a child's

potential for academic achievement. Of the most proximal are parental and family factors, which were the focus of this study, including family structure, maternal and paternal parenting styles and parental involvement, parents' school and community involvement, and parental attitude toward achievement. According to Smith and Thelen (2003), "development is seen as the emergent product of many decentralized and local interactions that occur in real time . . . The first assumption of the dynamic approach is that developing organisms are complex systems composed of very many individual elements embedded within, and open to, a complex environment" (p. 343). In the current study, data was analyzed from both adolescents' and parents' perspectives in a cross-sectional sample of high school adolescents. The amount of congruence analyzed at each age/grade level, as with variations in patterns of congruence between the high school grades helped to explain the dynamic interchange between parental factors and their relationship to their adolescent's academic achievement.

These proximal factors were chosen due to the suspected strong correlation with resilient behaviors and due to the highly proximal nature of parents to their adolescent's academic achievement. Although there are multiple predictors of student achievement at the various levels of Bronfenbrenner's (1979) ecological model, the parental predictors listed above were chosen for analysis due to the proximal relationship with and influence of the parent on their child's academic achievement (Leidy et al, 2011; Friedel, Cortina, Turner & Midgley, 2010; Benner, Graham & Mistry, 2008; Hughes & Kwok, 2007; Yang, 1999). According to Lerner (2004), the bi-directional relation between the individual (adolescent and parent) and the complex ecology of human development consists of relative plasticity. The ecological system promotes change through the coaction of multiple levels of organization which can either result in a positive or negative interchange. Thus, parental school and community involvement, family structure,

parenting styles, and parent and student attitudes toward achievement exemplify the relative plasticity of the developmental systems influencing adolescent academic achievement.

In an ecological model of human development study, Reis, Barbera-Stein and Bennet (1986), evaluated the interrelationship between psychological predictors of parenting, parental age, and parenting skill for a sample of 210 mothers recruited from three agencies in the Midwest. Results of the study indicated parents' race to be significantly related to attitudes toward childrearing, knowledge of child development, and perceived social support. Their study identified harsh attitudes toward childrearing and parental race as significant determinants of the quality of parenting. The parents who viewed childrearing practices from a punitive perspective were found to have less understanding of children's developmental milestones as well as being unable to provide a nurturing home environment.

The parental relationship to their child's academic achievement is a resiliency factor for all children, but is especially important for the academic achievement of low-income, at-risk students. According to Luthar and Cicchetti (2000), "Resilience is a dynamic process wherein individuals display positive adaptation despite experiences of significant adversity or trauma" (p. 2). Research on resilience contributes to additional understanding that resilience is not a personal trait of an unconquerable child; rather it is determined by multiple, bi-directional processes within several systems. Luthar and Cicchetti (2000) further contend that resilience is a two-dimensional construct that infers exposure to adversity and the creation of positive outcomes despite this exposure. Adversity is further delineated by being referred to as risk that is related to negative life events that are statistically related with adjustment difficulty. An example of adversity would be a child growing up in a violent community. A child's positive adaptation is defined in terms of behaviorally exhibited social aptitude, or success at mastering stage-salient

developmental tasks (Luthar & Zigler, 1991; Masten, Best & Garmezy, 1990; Waters & Sroufe, 1983).

It is important to include economically disadvantaged youth in research studies for many reasons. According to Luthar, Cicchetti, and Becker (2000) it is more judicious to promote the development of resilient functioning early on in a person's life than it is to implement interventions for high-risk individuals who have already developed malfunctioning behaviors. Researching economically disadvantaged youth provides families and school communities the opportunity to develop interventions and social policies designed to reduce the effects of poverty on academic achievement by decreasing vulnerability factors and increasing protective factors (Luthar & Cicchetti, 2000). In light of the increase in the number of children coming to school from ethnically diverse and/or impoverished homes in the United States, poverty is a vulnerability factor that influences the academic achievement of children which necessitated further research (Burnett & Farkas, 2008).

Adverse resiliency factors can negatively affect the student's academic achievement, as well as their social and emotional relationships (Borman & Overman, 2004; Frieman, 2001). However, many studies have indicated that the probability of predicting academic, social and emotional failure is not so easy to determine (Waxman, Gray, & Padron, 2003; Franklin, 2000; Condly, 2006). Hoover-Dempsey and colleagues (2005) aptly illuminated the importance of parents as a protective factor for their child's achievement when stating, "Whether construed as home-based behaviors (e.g., helping with homework), school-based activities (e.g., attending school events), or parent-teacher communication (e.g., talking with the teacher about homework), parental involvement has been positively linked to indicators of student achievement, including teacher ratings of student competence, student grades, and achievement

test scores” (p. 105). Thus, a reminder to researchers of the need to further analyze parents’ involvement with their child’s academic achievement.

Parental Factors that Predict Academic Adjustment

Family Structure. According to, Benner, Graham, and Mistry (2008), “Proximal processes are increasingly complex interactions between the individual and the environment that occur throughout the numerous ecological systems in which individuals are embedded...Examination of the differential effects of structure and process may provide insights into how best to intervene to support adolescents’ academic success” (p. 840). The family structure is one proximal system that can contribute either to academic success or to academic failure. Research on the family structure has been found to be correlated with increased student achievement. However, there are still many more reasons why developmental research needs to continue analyzing minority children’s family structure. Inconclusive findings have continually been found regarding the family structure and its contribution to academic achievement.

There are multiple current family structure findings that attend to the need to analyze all children’s family structure and its contribution to their academic achievement. However, Black children’s family structure data suggest a greater need. According to the U.S. Census Bureau, less than 40% of all Black children live with two parents, compared to approximately 75% of White children (<http://www.census.gov/population/www/socdemo/hhfam/cps2009.htm>). Their studies also found that statistically, only 40% of Black children live with two parents, compared to about 75% of White children.

Another parental structure finding is 50% of Black children live with only their mother. These children are also almost three times as likely to live with their mother only as are White children. In addition, Black children are more than twice as likely as other children to live with

neither parent. Almost 5% of Black children are living with their grandparents and over 2% of these children are living with other relatives.

In addition to the above mentioned family structures, Black children are four times as likely as White children to be placed into foster care (U.S. Department of Health and Human Services, 2010). These children are seven times as likely as White children to have a parent in prison as well (U.S. Department of Justice, 2008). Economically, Black families with children have median incomes almost half those of White families. The median income in 2009 for Black families with children was \$33,915 as compared to \$61,775 for White families with children (U.S. Department of Commerce, 2008). Correspondingly, the median income for a single, Black female-headed household without a husband, with one or more children was \$22,158, scarcely above the poverty level for a family of three (U.S. Department of Commerce, 2008). Consequently, over half of Black female-headed households with children were poor (U.S. Department of Commerce, 2010).

In a study on family disruption and academic functioning in urban, Black youth conducted by Somers et al. (2011), it was found that marital status is important as it relates to parental involvement. When parents are married, it increases parental involvement with their child's school experience. Their study also found that there is a relationship between teen academic achievement and caregiver marital status fully mediated by father involvement. For the purpose of this study, family structure is defined as "traditional" (e.g., two-parent family home or "non-traditional" (e.g., single-parent led house-hold, a blended family, step-family, same-sex parent home, or any family configuration that is different from a two-parent family structure). A number of research studies examined the association between family structure and student outcomes; however, results of these studies have been inconsistent. Some studies reveal that

children living in single parent homes are more likely to drop out of school, engage in deviant behaviors, get into trouble with the law, and have lower academic achievement (Schlee, 2009).

Research has indicated that adolescents from single-family homes are more likely to enter low-social status occupations. Conversely, other researchers suggest that it is not the family structure such as living in single parent home that negatively influences academic achievement, it is the low SES associated with being a single parent that explains children's low academic achievement in that family structure (Schlee, 2009). Using the first, third, and fourth waves of the National Education Longitudinal Study (NELS), Battle (2002) found no significant difference between Hispanic students in one- or two-parent households for 12th grade educational outcomes. However, this study indicated that 2 years later Hispanic students in one parent households do less well than their counterparts in dual-parent households. Socioeconomic status was found to be positively related to educational outcomes in all 3 years. Lastly, for all 3 years tested, the interaction between family configuration and socioeconomic status was not found to be statistically significant. Generally speaking, as socioeconomic status increases, students in one- and two-parent households receive comparable returns in their educational outcomes.

This research has demonstrated that the effect of a single parent upbringing on the child's academic achievement (whether achievement is measured by standardized tests or by grades) is minute. Correspondingly, Dronkers (1994) indicated that children from two-parent families have greater academic success than children from one-parent families, but the difference was not a very significant one. Bacete and Ramirez (2001) studied relationships between family socioeconomic status, teachers' perceptions of family influences, Spanish children's intellectual ability, and their academic achievement in seventh grade. Their study helped to determine that,

"family characteristics may be influential in pupils' school attainments almost as much as their intellectual ability" (p. 545). Even though this exploration increased our understanding of family effects on children's academic performance, the assumptions may be constrained as the study adopted a global achievement measure and possible sex-group relationships were not analyzed.

International studies on family structure have been found to be related to parent involvement as well as college achievement. In an African study of 240 randomly chosen Nigerian college students conducted by Uwaifo (2008), academic achievement was found to be different between students coming from a single parent home versus a two-parent home. Uwaifo's hypotheses for this study were as follows: 1) there is no significant difference between the academic performance of students from single parent families and those from two parent families; 2) There is no significant difference between the academic performance of male students from single parent families and male students from two parent families; 3) There is no significant difference between the academic performance of female students from single-parent families and female students from two-parent families. Uwaifo's findings indicated that there was a significant difference between the academic performances of students from single-parent family homes compared to students from a two-parent family structure. Findings from this study indicated that there was a significant difference in the academic performance of male students from a single parent family compared to male students from two-parent families. This study concluded that there was a significant difference between the academic performance of female students from two parent family homes and female students from a single parent family. Consequently, students from a two-parent home had higher achievement at university than students from a single parent home.

The father's role in adolescent development has been shown to be correlated with positive adolescent adjustment outcomes (Amato & Rivera, 1999; Harris, Furstenberg, & Marmer, 1998; Lamb, 2004; Marsiglio, Amato, Day, & Lamb, 2000). Carlson (2006) conducted a study on whether or not the father's involvement with their child mediated the effect of family structure on adolescent behavior. The sample used was an adolescent sample and their father information derived from the National Longitudinal Survey of Youth 1996 and 2000 survey waves. This study found that father involvement had a direct relationship to adolescent internalizing and behavioral outcomes. In order to negate adolescents' negative feelings, only a high level of co-resident (father and child share same residence) father involvement was found to be beneficial. As would be expected, having no father involvement was found to be detrimental to adolescent development. Adolescents whose mothers married a stepfather after parental divorce were found to have worse behavioral scores for externalizing. Adolescents who were born outside of marriage but whose parents married later or were cohabitating were also found to have higher externalizing scores but otherwise did not differ from adolescents whose parents stayed married throughout their childhood. This study only found a slight difference between male and female adolescent scores regarding father involvement. Thus, father involvement is equally beneficial for the male and female adolescent. Although this study demonstrates the influence a father has on adolescent behavioral outcomes, it is lacking in demonstrating the relationship between fathers and their adolescent's academic achievement.

In a British study addressing restructured families (step-father in the home) and two-parent biological family structures and their role with adolescent parent-child involvement, Flouri (2004) analyzed data from both 225 fathers and mothers as well as their secondary school age children to determine the role of child characteristics (sex, age, self-esteem, and emotional

and behavioral well-being) in the mother's and father's child involvement in biological and restructured (stepfather) two-parent families. Parent involvement was assessed using the Inventory of Father Involvement. Both fathers and mothers filled out the scale. Emotional and behavioral problems were found to be negatively related to father reported paternal involvement. Step-fathers found parental involvement higher when their step-children were psychologically well balanced. This study found that parents were more involved with their same-sex child than with their opposite sex child. Child reporting indicated father's involvement was positively related to the child's self-esteem. Child reporting indicated mother's involvement was higher for girls. The interaction between family structure and father-reported child's emotional and behavioral difficulties was significant in forecasting father-reported involvement with their child. This study provides us an understanding of the different family dynamics contributing to parental involvement based on a restructured step-father family model.

Studies on family structure have contributed to an increased understanding of the importance of the relationship between a student's cultural capital derived from their family structure and their exosystem and macrosystem. Marjoribanks (2001) examined the relationships among 516 (m=250; f=266) 11-year-old Australian children and their parents' family social status, family learning environments, intellectual ability, and the mathematics and word achievement of boys and girls. This study found that family SES and intellectual ability had significant relationships with boys' and girls' word achievement. Parents' involvement was found to mediate the relationship between family SES and boys' word scores when family influences were added in Model 2. This study concluded that while parents' involvement and family cultural capital (SES and other familial means for academic achievement) were significantly related to girls' word scores, family social status continued to have an attenuated

but significant association with girls' word performance. In addition, the predictors were associated with more of the variance in the girls' word achievement than in the boys' word performance. Studies of this type have also demonstrated that student resiliency can be increased through the implementation of community programs that address different family structures.

Understanding which sub-components of the family structure as well as the family involvement within the school community between the 9th and 12th grades contributes to increased understanding and better program development addressing adolescent student academic achievement. Analyzing sub-components of the family structure across time will provide a greater understanding of the influence of the possible changes in family structure on achievement and parental school involvement between 9th and 12th grades in high school.

Parenting Styles. Different parenting practices can result in different academic and social outcomes for children. Baumrind (1966, 1967) originally developed three parenting styles, authoritative, authoritarian and permissive, which were based on two parenting dimensions of demandingness and responsiveness. Maccoby and Martin added neglectful parenting style later on (Maccoby & Martin, 1983). Control and warmth are the terms used to further define the demandingness and responsiveness of parents toward their children (Baumrind, 1967, 1967). Research has consistently shown authoritative parenting to be the most predictive of academic achievement. As a recent example, Blondal and Adalbjarnardottir (2011) conducted a study on school dropout among Icelandic youth at age 14 found that parents who were authoritative (able to demonstrate acceptance as well as provide guidance and supervision) were more likely to have adolescents who completed upper secondary school by age 22. Parenting style was also found to moderate the relationship between parental involvement and dropout in

authoritative families. Other studies have demonstrated the same research findings (Suldo, Mihalas, Powell, & French, 2008; Serbin & Stack, 1998; Rosenau, 1998).

Due to the psychological adjustment in developmental processes taking place between high school students in 9th through 12th grade, it is important to understand the influence of changes in parenting practices taking place between these developmental stages as well as their influence on student's academic achievement. Paulson, Marchant, and Rothlisberg (1998) found that students who perceived contrasting parenting styles between their parents and teachers (neglecting parenting style with authoritarian teaching style) complemented by a low parental involvement and a negative school atmosphere had the lowest achievement results. Parenting styles change during the course of a child's development (Wang, Dishion, Stormshak, & Willett, 2011; Sturge-apple, Cicchetti, & Cummings, 2009). Due to these parenting style changes over time, a greater understanding of parenting practices and their relationship to academic achievement needs to be further explored. A deeper understanding of the relationship between parenting style and adolescent achievement over time will contribute to understanding how schools can address these parental and adolescent changes over time, thus increasing academic achievement. Furthermore, parents and children perceptions are not in agreement. Paulson and Spota (1996) found that mothers and fathers both ranked themselves higher on all aspects of parenting than adolescents perceived them to be during both ninth and twelfth grades. Thus, it is important to examine these variables from multiple informants' perspectives.

In a parenting study conducted by Attaway and Bry (2004), Black mothers or female guardians of at least one adolescent, age 11 to 19 were interviewed regarding their parental responsiveness and control. The grade point averages of their adolescent were collected from final report card grades. The scores on belief in parental control extended from a low of 2.83 to

a high of 5.00. The mean of this sample of 4.07 indicated that the sample was quite high in the belief in parental control. The scores in this sample for belief in parental responsiveness extended from a low of 1.42 to a high of 4.75. The mean of the sample of 2.55 indicated that the sample was comparatively low in belief in parental responsiveness. This most significant finding of this study was a significant negative relationship between parents' beliefs concerning the amount of control they should have in their parent-adolescent relationships and their adolescents' achievement as measured by grade point average. The greater the amount of control that parents believed they should use, the lower were their adolescents' grades which signified authoritarian parenting may lead to lower grades in Black Americans just as it does in most other ethnic groups. However, this study was not able to come to a conclusion regarding the impact of parental responsiveness on achievement regarding Black American students. Other studies such as Paulson's (1994) study on parenting style, parental school involvement and their relationship to achievement have demonstrated significance between parental responsiveness and achievement. However, Paulson's study also indicated adolescents' perceptions of their parents' style, values, and involvement predicted adolescent achievement, while parents' perceptions of these same constructs did not predict adolescent achievement thus demonstrating an incongruence between parental and adolescent perception of parenting style and its influence on achievement.

In a study on the relationship between urban parenting strategies and achievement of elementary students over a two year period with data collected during third and fifth grade, Shumow, Vandell, and Posner (1998) found harsh, firm, and permissive parenting strategies to be stable over a two year period. Harsh parenting was found to be negatively associated with student achievement as measured by the Iowa Basic Skills Test administered during fifth grade.

Harsh parenting strategies were found to be related to teachers reporting poorer child adjustment at school as well as lower academic achievement. Lower family income and less parental education were related to greater reports of harsh parenting strategies in both third and fifth grade. Firm-responsive parenting strategies were found to be related to lower parent-reported behavior problems in the home. Parental firmness was found to be related to children displaying more responsible behavior at home and fewer behavior problems at schools. This study indicates that need for greater understanding of the relationship between urban parenting styles its relationship to the achievement of urban children.

Parsasirat, Monazeri, Yusooff, Subhi, and Nen (2013) conducted a study on parenting styles based on former studies observing the volatile environment where parenting behaviors are passed on generation to generation, hence, learned patterns of negative parenting was passed on and replicated by the child onto their children. Participants in their study consisted of 546 students (m=249 and f=297) between the ages of 15 and 17 from Educational Region 4 of Tehran. The purpose of their study was to research the relationship between Baumrind's three perceived paternal and maternal parenting styles (authoritative, authoritarian, and permissive) with academic achievement. A positive correlation between authoritative parents and academic achievement was found. Using multiple regression, it was determined that authoritative parents (both the mother and the father) were the best predictor of academic achievement. No difference was found between male and female students in the study. Even though parenting is perceived to be harsh in Tehran, this study supported the general consensus on parenting style research that authoritative parenting is related to increased academic achievement.

Leung and Shek (2014) conducted a study using a paired sample of 275 economically disadvantaged but intact Chinese families and their adolescents. The age of the adolescents in

their study ranged from 11-16. Families were recruited by social workers through a variety of agencies. Their results indicated that parent-child discrepancies in perceived parenting characteristics predicted the achievement motivation of economically disadvantaged adolescents. The results of their study identified the father-child discrepancy in paternal responsiveness and mother-child discrepancy in perceived maternal control to be negatively predicting adolescent achievement motivation. These differences in parental perceptions may be due to the cultural beliefs of the parents following traditional Chinese practices, whereas the adolescents may have taken on a more Western perspective of appropriate parenting due to their Western exposure. Paired sample cultural studies such as this study contributes greatly to identifying underlying issues contributing to parental and adolescent disconnect. This study in particular has contributed to the extensive amount of information and understanding of economically disadvantaged Chinese parents' and their adolescents' parenting demandingness and responsiveness perspectives.

Park and Bauer (2002) conducted a study on the relationship between parenting practices and adolescent achievement using the first (1990) and second (1992) follow-up of the National Educational Longitudinal Study (NELS). Statistical significance was found for parenting practices and achievement. Regression analysis revealed authoritative parenting practice was significantly related to achievement for European American parents and adolescents. However, this study indicated that while involving, supervising and accepting parenting practices for all four cultures (European American, Hispanic, Asian, and African American) researched are related to achievement, no relationship was found between strict parenting and achievement. Thus, a parent may display authoritative parenting practices when engaging with their adolescent regarding academics, but still remain an authoritarian parent otherwise.

In a study conducted by Kaufman et. al (2000) the relationship between authoritative and authoritarian parenting styles and socio-emotional adjustment in elementary school children as reported from the parents' perspective was analyzed. Participants in the study were 1230 mothers of first through fifth graders. Mothers provided information about their parenting style as well as their child's abilities and problem behaviors. Teachers also rated the children's adjustment for a subset of the participants. Consistent with previous research, results indicated that authoritative parenting was associated negatively with parent and teacher-rated maladaptive behavior, and positively with indicators of normative adjustment. Regression analysis demonstrated that authoritative parenting was more predictive of children's competence than maladaptation. This study did not indicate a difference between the degree of authoritative and authoritarian parenting styles. Of all ethnic groups, Hispanic parents scored the highest on authoritarian parenting style. Although this study provided much insight into the relationship between parenting style and child school adjustment, it did not include an achievement measure such as a grade point average or a child academic self-report measure. The addition of this measure would have increased the understanding of how parenting style relates to academic achievement. This study aimed to clarify such issues.

Parental Attitudes Toward Achievement. Many studies have been conducted on parental attitudes toward their students' achievement and how much those attitudes contribute to successful academic achievement. Specifically, studies have shown that a family's value for education and attitude toward education was associated with the academic achievement of their children (Assor & Tal, 2012; Frome & Eccles, 1998). Those studies that have family management parental practices that include positive attitudes toward education (Jimerson, Egeland, Sroufe, & Carlson, 2000; Marjoribanks, 1987) also had greater student motivation and

academic competence (Pomerantz & Dong, 2006). Similarly, parents' attitudes about academics were related to greater teacher engagement with their children (Hughes & Kwok, 2007). Other studies have examined parental communication, parental supervision and parental expectations and parenting style and found that parental expectations or attitude toward achievement and parenting styles are the most critical contribution to their child's achievement (Fan & Chen, 2001). Fan and Chen (2001) surmised that high expectations of parents and student perceptions of those expectations are correlated with increased achievement. Parental encouragement to attend college was found to be associated with a positive and significant effect on the son's earning (Zax & Rees, 2002).

Parental attitudes toward achievement clearly play a role in the academic achievement of their children. Additionally, and importantly, parents' and children's' attitudes are also correlated. For example, in a study conducted by Cooper, Lyndsay, Nye, and Greathouse (1998) students' attitudes toward homework were predicted by their parents' attitude toward homework, thus influencing their level of academic achievement as measured by the TCAP scores and class grades. Additionally, there are variations in the relations between parents' attitudes and kids' outcomes over time. For example, Bleeker and Jacobs (2004) conducted a longitudinal study on mothers' attitudes toward their child's math and science achievement and found that adolescents' self-perceptions of math ability during the 10th grade mediated the relation between mothers' perceptions and adolescents' math–science occupation self-efficacy two years after high school.

In a cross-cultural study of American and Swiss adolescents taken from longitudinal data, Neuenschwander, Vida, Garrett, and Eccles (2007) hypothesized that parental educational expectations would be predictive of adolescent achievement. As hypothesized, data from the Michigan Study of Adolescent Life Transition (MSALT) found students' standardized

achievement test scores to be predicted by parents' educational expectations ($\beta = .14/.14$) even after controlling for prior grades ($\beta = .43/.43$) in both math and English. For the Childhood and Beyond (CAB) data, both math and English standardized achievement test scores were predicted by parents' educational expectations ($\beta = .15/.33$). For the Swiss Parents–Teacher-Collaboration Study (SPTCS) data, parental expectations were related to prior grades ($\beta = .35/.40$) and family income ($\beta = .16/.17$).

Ricco, Sabet, and Clough (2009) hypothesized in their study that college mothers' attitudes toward their child's education would be a function of their own attitudes toward furthering their education. Their study established the importance of college mothers' motivational orientation and other student role attitudes toward education. The participants in the study were mothers ($n=89$) and their children between the ages of seven and fourteen ($n=61$). Participants completed measures of their academic motivation, self-regulation as a student, and academic self-efficacy along with measures of their parental styles used with their school-age child. Findings indicated mothers' reasons for attending college and their extrinsic motivation as a student contributed to prediction of their children's academic self-efficacy and mastery orientation above and beyond the influences made by the mothers' attitudes toward parenting. Mothers' attitudes toward helping with homework and the promotion of mastery goals for their child was found to mediate the effects of mothers' motives for attending college and their degree of self-regulation as a student. An unexpected outcome in this study was the positive relationship between extrinsic orientation as a college student and several parent-role attitudes that are assumed to support children's achievement. This finding demonstrated the parents' ability to model the student role, embrace the learning focus with respect to their child, and view helping with homework as having benefits for both the child and the parent.

In another study conducted by McGrath and Repetti (2000) mothers' and fathers' attitudes toward their children's academic performance and their children's perceptions of their academic competence was analyzed. Their study considered the role that parents' attitudes toward their children's academic performance may contribute in shaping children's perceptions of their academic ability. Two types of parental attitudes – parents' level of satisfaction with their children's school performance and the importance the parents placed on their children's academic achievement were the focus of this study. The sample for the study was children (n=248), mothers (n=219), and fathers (n=146). The data from this study was consistent with the belief that parents' attitudes toward achievement play a central role in developing children's self-perceptions. Findings indicated that mothers' satisfaction was positively associated with both daughters' and sons' perception of academic ability, independent of children's actual grades in school. Fathers' satisfaction related with sons' self-perceptions, but not when the mothers' satisfaction was included in analysis. Both mothers and fathers reported being more satisfied with their daughters' grades than with their sons' grades even though there was no difference between the two genders' grades. A final finding was that fathers' (but not the mothers') importance placed on achievement was positively related with girls' self-perception.

Rytönen, Aunola, and Nurmi (2005) conducted a longitudinal study analyzing parents' causal attributions regarding their child's school achievement. Causal attributions were measured by a questionnaire that consisted of four statements assessing parents' causal attributions for their child's success at school (e.g., "If my child does well at school, it is probably because..."). After each statement the parents were then asked to rank-order four alternatives according to importance (e.g., a = "The child has/lacks abilities" b = "The child has/lacks effort" c = "The child gets/does not get good teaching" and d = "The tasks are too easy/difficult for the child"). Findings

suggested that as children mature, parents believe more in their child's ability to succeed in school. Thus, parental attributions toward achievement influence on the likelihood of academic success.

Spera (2006) found the educational values and goals parents embrace for their children to be associated to the practices they enact to socialize their children. Results of analyses discovered that adolescents' perceptions of their parents' educational values and goals predicted all three parental practices (parental involvement in schoolwork, parental involvement in school functions, and parental monitoring) when taking into account student demographic factors (ethnicity, gender, and school). Analyses revealed that students' perceptions of their parents' educational goals and values were most predictive of their reports of parental involvement in schoolwork, accounting for approximately 47% of the variance in parental involvement.

In a study conducted by Raty and Kasanen (2013) on parental attitude and attributions made toward achievement which included 850 academically and vocationally educated parents that evaluated their child's academic competencies and motivation. Questionnaires including questions on their child's competency in a variety of academic areas were administered when the child was in preschool, then every 2 years until the end of the child's comprehensive school. Results indicated the initial increasing inclination in the parental attributions of competence become stable and even turned downwards and that the education- and gender-bound differences in the attributions, already noticeable at the preschool stage, were still confirmed with more varied types. Assessments conducted as early as preschool forecasted the respective assessments performed at the end of the child's 9-year-long schooling. It is suggested that parental perceptions of competencies are set in motion in a socially structured field of meanings and that

highly educated parents interpret their educational truth in terms of the social representation of inborn giftedness.

Research has continually identified a positive relationship between parental attitudes toward achievement and their child's academic success. However, in a study conducted by Lynch, Hurford, and Cole (2002) parental enabling attitudes toward achievement and behavior were found to interfere with a child's ability to take responsibility for their behavior. The participants in this study were 1,416 parents. In this experiment, parents of at-risk students and honor students responded to instruments developed to analyze direct and indirect parental attitudes and involvement with achievement and student behavior. Using the Lynch Enabling Survey for Parents (LESP) as their measure, the findings in this study indicate that parents of at-risk students are more likely to enable their child's low achievement and maladaptive behavior, whereas, parents of honor students are more likely to enable positive adaptive school behavior. This study indicates that whether parents have a high achiever or a low achiever, their attitudes toward their child's achievement and/or behavior is being internalized and acted upon. As a consequence of enabling and protecting their child from consequences, these at-risk children did not learn self-control, independence, or behavioral strategies to correct maladaptive behavior. Thus, parental attitudes can also have dire consequences for their children. Through their parents' attitudes, the child learns that actions have no consequences.

Parental School Involvement. Parental school involvement is vital to the academic achievement of a young adolescent and yet normally declines when a child enters middle school (Epstein, 2005; Jackson & Andrews, 2004; Jackson & Davis, 2000; NMSA, 2003). Irrespective of family background, education and income level, families have the ability to positively influence their child's learning and behavior (Henderson & Mapp, 2002). Parents' involvement

in school and community has been positively associated with children's academic achievement. Some researchers suggest that parent involvement may mediate the effects of poverty, parents' educational attainment, and race on achievement (Epstein, 2001; Paulson, 2000). Using hierarchical linear modeling, Ma and Klinger (2000) found correlations between individual SES and student achievement in schools that had strong parental school involvement.

The literature examining the association between parent involvement in school and academic achievement has revealed that there are actually several ways to measure or conceptualize parent involvement. As a result, the magnitude of the relationship of the above two constructs differs from one study to another, depending on the definition of parent involvement. Epstein (2001) described different types of such parental involvement. They include the following: Basic parenting obligations for the child's health, safety, and preparedness for school and for providing positive home conditions, school-home communication, volunteering or being an audience at school, involvement in home learning activities (discussion with the child about high school), decision-making, governance, advocacy roles (PTO involvement, PTO meeting attendance), and community collaboration.

Epstein (2001) further contends that parents who are informed and involved in their children's school can positively impact their child's attitude and performance. Parents' awareness and interest in their children's learning and school activities model for their children the importance of school, which may lead to positive behaviors. Importantly, Epstein's research shows that parental involvement can have a positive impact on student's academic work at all grade levels. Drawing a causal link between parental involvement and student achievement is challenging; much research on parent involvement and student performance is correlational.

Epstein et al. (2002) have drawn three key conclusions about parental involvement. Parental involvement tends to decline across the grades unless schools make conscious efforts to develop and implement partnerships with parents. Single parents, employed parents, fathers, and parents who live far from the school, on average, were identified as less involved in the school unless the school organizes opportunities that consider these parents' needs and circumstances. Although these patterns are generally observable among schools, they can be overcome if schools develop programs that include families that otherwise would not become involved on their own (Epstein, 2002). The degree and nature of the impact of parental involvement on student achievement is somewhat debated in the literature.

Green, Walker, Hoover-Dempsey, and Sandler (2007) examined the relative contributions of three major psychological constructs which consisted of parents' motivational beliefs, perceptions of invitations to involvement from others, and perceived life context. The researchers hypothesized these constructs would predict parental involvement decisions. The participants in the study consisted of 853 parents of first through sixth grade children attending an ethnically and socio-economically diverse public school in a mid-southern United States community. Parents were recruited at two time points. Their findings suggest that parental involvement is encouraged principally by features of the social context, especially parents' interpersonal relationships with children and teachers, rather than by SES. Furthermore, as with other studies, this study found that parental involvement decreased as children transitioned from elementary school to middle school.

Using a sample of 415 children in grades third through fifth, Lee and Bowen (2006) examined the level and impact of five types of parent involvement (discussing educational topics with the child, helping with homework, and managing the child's time, parent's management of

child's time spent on literacy and non-literacy activities, and parents' educational expectations for their child) on elementary school children's academic achievement by race/ethnicity, poverty, and parent educational attainment. Their findings suggest that the academic achievement gap can be partially explained by differences in the levels and effects of parent school involvement and the interaction between parent involvement and other demographic backgrounds. Irrespective of racial/ethnic, educational and economic backgrounds, parents were found to be involved with their child's academics. Less privileged parents reported feeling insecure about interacting with the school system. Their study found parent-child discussion occurred more frequently in the homes most similar to the school culturally. Results indicated educational expectations did not differ according to race/ethnicity. Homework help was found to take place in all homes regardless of ethnic affiliation.

Using the 2003 National Household Education Survey (NHES) administered by the National Center for Education Statistics, Terriquez (2013) analyzed two parent households consisting of both white and Hispanic intact families (step families included) with children in grades kindergarten through twelfth. This study analyzed the predictive nature of parental participation in four types of school activities that served as indicators of paternal school responsibility. The four school activities analyzed were as follows: (a) attending a general school meeting; (b) attending a school or class event; (c) participating in regularly scheduled parent – teacher conference; and (d) volunteering at the school or serving on a committee. The results of this study suggested Latino fathers were less likely than White fathers to participate in school activities, with the exception of attending a parent – teacher conference. After controlling for socio-economic status, results demonstrated racial/ethnic differences for attending school activities disappeared. However, without controlling for those variables, White fathers were

more likely to attend a school event. This study found that most Latino fathers were first-generation immigrants indicating a lack of knowledge about the school system. Results also suggested that nonimmigrant Latinos were just as likely to attend activities as nonimmigrant Whites and just as likely to participate in all four school activities. Consequently, it appears the Hispanic fathers who need the most help understanding the importance of participating in school events as well as how this school participation relates to achievement is the immigrant group.

Bartel (2010) analyzed home and school factors influencing parental school involvement in a Title I elementary school. Participants in this study were interviewed regarding their beliefs regarding parental school involvement, participated in parenting classes and participated in the Interactive Homework program established by Johns Hopkins University. Results from this study indicated a slight increase in parent perception that their parental role should include volunteering at their child's school. Post-test analysis identified a 10% increase in parents believing their school involvement increases their child's academic performance. Although parents reported having the necessary skills to help out at school, they reported not having the time or energy to carry out this function of school involvement. Consequently, these parents were less likely to be involved in volunteer and special event activities.

In a meta-analytic study conducted by Hill and Tyson (2009), strategies that promote parental involvement in middle school were assessed. Their main hypothesis was that although there is a growing body of literature focusing on parental involvement in education during the middle school years, the research that has been conducted has not been methodically examined to determine which types of involvement have the strongest correlation with academic achievement. Hill and Tyson found across 50 studies, parental involvement was positively related with achievement, with the exception of parental assistance with homework. Their meta-

analytic study identified academic socialization as having the strongest positive relation with achievement during middle school. Academic socialization included parents' communication of their expectations for achievement and their value for education, nurturing educational and occupational goals in their adolescents, discussion of learning strategies that work best, helping their children to prepare for their future, and connecting material discussed in school with their child's interests and aspirations. By building on the academic socialization skills, parents help their adolescent to become more autonomous with problem-solving and decision-making ability.

Hill and Tyson (2009) found school-based involvement to be positively related to achievement, but not as strong as academic socialization. School-based involvement included direct contact with the teacher in the classroom such as putting up a bulletin board or helping with fund-raising. This type of involvement helps the school to function, however, there isn't enough time spent in the classroom to develop relationships with all of the middle-school student's teachers to understand curriculum nor does this type of involvement inform parents of ways to facilitate involvement with their child's schoolwork.

The results for home-based involvement were diverse. Home-based involvement included intellectually stimulating resources in the home as well as monitoring and checking their child's homework. Providing a child with a stimulating home environment was consistently found to be positively related to achievement. However, a parent helping their child with homework could both accelerate and decelerate academic achievement. This negative relationship may be due to parental interference with student autonomy, too much parental pressure on achievement, or differences between how parents and schools present the material. On the other hand, it was found that if parents help a struggling middle school student with homework completion or understanding difficult concepts, then helping the child with homework is beneficial. This meta-

analytic overview of parental school involvement provides the framework for understanding the multiple conflicting factors contributing to understanding parental school involvement during adolescence.

In a study conducted by Sheldon (2007), it was found that school, family and community partnerships were associated with improved school achievement. Sheldon's study demonstrated that elementary schools where teachers, parents, and administrators reached out to all families within the school, created action teams, and organized family and community-involvement activities that were linked to school goals reported a significant increase in the percentage of students who attended class as well as a reported increase in achievement.

Sheldon and Epstein (2005) posit that in order to raise proficiency on standardized mathematical achievement tests, community partnerships need to be developed. In a meta-analytic assessment of strategies that promote achievement, parental community involvement across 50 studies was shown to be positively associated with achievement, with the exception of parental help with homework (Hill & Tyson, 2009). Due to the controversial nature of these findings on the impact of parental school involvement on a student's academic achievement, it is necessary to continue further analysis on the dynamics of the parental community involvement changes occurring between the transition years from 9th to 12th grade. The continued study of transitions over time contributes to understanding how parental involvement changes over time. This information may help parents understand the ways in which they should change their parental school involvement over time.

Importance of Developmental Variations over Time

There is great value in developmental interventions at all stages of development, not just the early stages (Bronfenbrenner & Ceci, 1994). Many research studies have posited that drops

in achievement occur during the contexts of school transition and increased age due to the exposure to a more bureaucratic system with many more peers, teachers, and curricular choices (Barber & Olsen, 2004; Eccles, 2004; Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Gutman & Midgley, 2000) Gottfried, Marcoulides, Gottfried, Oliver, and Guerin's (2007) research study indicated that motivation and academic achievement particularly in math declines from childhood through adolescence. The transition from ninth grade to twelfth grade in high school can tax a student's personal efficacy, which also has been shown to decrease over time (Caprara et al. 2008). This study supported other studies indicating a decline in perceived academic ability during the adolescent years (Britner & Pajares, 2006; Harter, 1996; Midgley, Feldlaufer, & Eccles, 1989).

Gottfried, Gottfried, Phillip, and Cook (2005) found that motivation is more indicative of the likelihood of graduating high school than is intelligence. Drops in academic performance during academic transitions can be partially explained by different aspects of parenting, and studies of this nature demonstrate the need for more research focused on understanding how the proposed parenting variables correlate with academic achievement during the transitional stage from 9th to 12th grade. As described within each section above, there have been many studies that show that there variations in the correlations between parents' attitudes and students' academic outcomes do occur.

Importance of Studying Parent-Adolescent Matched-Pairs

This study used a matched-paired parent-adolescent sample. The literature reviewed in each section above indicates that there are differences in parents' and adolescents' perceptions about a variety of achievement variables, including parenting style, parents' attitudes toward achievement, and parental school involvement. These varying perceptions have been correlated

in differing ways with adolescent outcomes. For example, in the achievement literature, in a study on adolescent perception of parental influence on academic achievement, Assor and Tal (2012) used a matched-paired sample to investigate adolescents' perceptions of their mother's use of parental conditional positive regard (PCPR) to encourage academic achievement and found that parental conditional regard was associated with maladaptive self-feelings and coping. The use of a matched-paired sample contributed to a holistic understanding of the experience of one's mother using conditional positive regard to promote achievement as a contributing factor to a non-optimal self-esteem dynamic, where people waver between feelings of grandiosity subsequent to success and self-derogation and shame following failure.

In another study using a matched-paired parent/adolescent sample, Frome and Eccles (1998) investigated the relationship between parents' perceptions of their children and their children's self- and task perceptions in math and English. The researchers found that parental perception had a greater influence on their child's perception of ability in math than in English even when the child's grades indicated greater ability.

Wood, Kurtz-Costes, & Copping (2011) used a predominantly middle-class African American matched-paired adolescent and parent sample to test a path model connecting parental expectations for children's future educational attainment, youths' motivation during grade 11, and youths' resulting on-time postsecondary educational progress. The results indicated that parents' expectations were positively associated to adolescents' educational attainment aspirations, attainment expectations, utility values (i.e., attitude toward the worth of education), and perceptions of racial barriers to upward mobility. The relationships between parents' expectations and their child's ambitions and expectations were mediated by youths' perceptions of parents' expectations.

In a study conducted by Leung and Shek (2014) a paired sample of 275 economically disadvantaged but intact Chinese families and their adolescents were analyzed. Mothers and fathers along with their paired adolescent both participated in this study. The results indicated that parent-child discrepancies in perceived parenting characteristics predicted the achievement motivation of economically disadvantaged adolescents. The father-child discrepancy in paternal responsiveness and mother-child discrepancy in perceived maternal control to be negatively predicting adolescent achievement motivation were identified as factors contributing to achievement. These differences in parental perceptions may be due to the cultural beliefs of the parents following traditional Chinese practices, whereas the adolescents may have taken on a more Western perspective of appropriate parenting due to their Western exposure. Paired sample cultural studies such as this study contributes greatly to identifying underlying issues contributing to parental and adolescent disconnect. In depth studies such as this study as well as the current study illuminates the need to support paired sampling research.

In the research studies discussed above, the use of a matched-paired sample provided a greater understanding of the differences between parent-adolescent perceptions of parental contribution to the adolescent's academic achievement. Although these studies have used a matched-paired parent/adolescent sample to investigate parental and adolescent perceptions toward achievement in a few interrelated areas, studies have not used a parent/adolescent sample to analyze the shared relationships between family structure, parenting style, parental attitudes toward achievement, and parental involvement in school and community.

However, although there are studies on parent-child perception differences in parallel bodies of literature, as reviewed here, there do not appear to be studies on the variables analyzed in the current study. Differences were expected, though, based on these prior empirical findings

to expand on the understanding of the transactional, reciprocal influences of parent-child perception on student achievement (Bronfenbrenner, 1979).

Limitation of Past Research

Prior research has been conducted on parents' perception of parental involvement across age groups and has primarily focused on one age group at a time. Research on parents' perception of parental involvement has been done on the high school age adolescent (such as between ninth and twelfth grade; e.g., Day & Padilla-Walker, 2009; Paulson & Sputa, 1996; Keith, Reimers, Fehrmann, Pottebaum, & Aubey, 1986) or middle school (such as between sixth and eighth grade; e.g., Hill & Tyson, 2009; Britner, & Pajares, 2006; Pomerantz & Dong, 2006; Marchant, Paulson, and Rothlisberg, 2001; Keith & Lichtman, 1994). However, very few of these studies have had a matched-paired sample focusing on the variables proposed for this study. Although research on a specific developmental stage is necessary to understand that specific developmental time period, it does not provide a greater understanding as to how multiple parental variables interact, change over developmental stages, and influence achievement over the course of several developmental periods between a matched-paired sample and the parental variables researched in this study.

The variables discussed thus far in the literature review-- family structure, parental attitudes toward achievement, parenting styles, and parental school involvement--have not been simultaneously analyzed across different high school grade levels at one time. There was a need to understand these interactions between family structure, parental attitudes toward achievement, parenting styles, and parental school involvement so that the interaction between parent and adolescent achievement increases achievement between ninth and twelfth grades instead of observing a decrease in achievement between these high school transitional time periods.

Previous research has examined these variables from either the perspective of the parent or from the perspective of the adolescent. Minimal published studies have been found that have compared matched-paired parents' and adolescents' perceptions of parent involvement, parenting styles, and academic achievement. Researchers oftentimes generalize across adolescence when observing the effects of parenting on adolescent achievement outcomes. Further developmental research on parental achievement factors such as family structure, parental attitudes toward achievement, parenting styles, and parental school involvement as well as other resilient factors is important (Luthar & Cicchetti, 2000). For example, it is usually accepted that authoritative parenting is positively related to achievement in children and adolescents. It is probable that dissimilar levels and types of parental school involvement and types of parenting practices may be conducive to positive achievement outcomes at different ages and researchers should minimize making generalizations about parenting practices across adolescence. Parents and educators should be aware that different parenting practices may be better suited for adolescents of different ages and that decreasing and/or increasing certain types of parental involvement with the student's academics may have a positive, and not negative, influence on outcome.

Analyzing the interrelationships between family structure, parental attitudes toward achievement, parenting styles (demandingness and responsiveness), and parental school involvement between the high school grades contributed to the identification of specific links with parental achievement indicators. The relationship of different parenting characteristics across different stages of adolescence with achievement outcomes needs more attention, and cross-sectional research conducted on high school students using an ecological model to study these bi-directional parental influences on achievement was an important contribution to this literature.

CHAPTER 3

METHOD

Research Design

A correlational, non-experimental research design was used for this research study. According to Gay, Mills, and Airasian (2008), correlational research design establishes the strength and direction of relations among two or more numerical variables. Correlation studies are used to examine the relations among multifaceted variables. The data collection instruments that were used in this research study were surveys. Threats to internal and external validity are not the same in correlational studies as in experimental studies. However, the researcher must be conscious of any uncontrolled extraneous variables that can possibly impact the outcomes of the study.

Participants

A power analysis using G*Power 3.1 (Faul, Erdfelder, Buchner & Lang, 2009) was used to determine the appropriate sample size for the study. An effect size of .15, alpha level of .05, power of .80 and ten predictor variables were used in this analysis. The outcomes indicated that a sample size of 118 was projected to yield a power of .80. However, to obtain a sample with a sufficient number of students with matched parents and parenting influence on academic outcomes, the minimum sample size was increased to 146.

The final sample consisted of a sample of high school students and their respective parent grades 9-12 from an at-risk school district in the Detroit Metropolitan region (n=146 parent-adolescent pairs). Student grade point average data was collected from the high school administration (student avg. GPA = 2.72). Descriptive statistics were used to establish demographic frequencies. Parental results identified 113 female parent participants and 33 male

parent participants. Parent age variable was as follows: under 30 n=4; 31-39 n=38; 40-49 n=74; over 50 n=30. Parent participant ethnicity/race consisted of the following: African-American n=20; Arabic n=13; Asian-Non Indian n=18; Asian n=7; Chaldean n= 21; Hispanic n=1; Multi-racial n=3; White Non-Hispanic n=55; Other n=8. Parent marital status was as follows: married n=111; divorced n=15; single n=11; widowed n=5; and cohabitating n=4. Parent reported family structure consisted of the following: married n=85; married step-family n=19; single mother family n=23; single father family n=5; biological parents cohabitating n=2; step parent family cohabitating n=1; other family structure n=11. Data are displayed in Table 1.

Table 1
Frequency Distributions - Summary of Parent Demographics

Sex (N=146)	Race	Marital Status	Family Structure
Males 33	African American	20	Married 85
Females 113	Arabic	13	Married Step 19
	Asian Non-Indian	18	Single Mother 23
	Asian Indian	7	Single Father 5
	Chaldean	21	Bio-parents Cohabit 2
	Hispanic	1	Step Family Cohabit 1
	Multi-racial	3	
	White	55	
	Other	8	

Parental education and occupational data were collected as well. Parental educational level ranged from no high school education to having a Master's Degree. Educational level data consisted of the following: no high school education n=27; GED or high school diploma n=33; some college education n=48; trade school training n=7; Bachelor's Degree n=23; Master's Degree n=8. Professional employment demographic data consisted of the following: stay-at-home-parent n=42; unemployed n=15; skilled, semi-skilled or manual employment n=35; professional employment n= 54. Data are displayed in Table 2.

Table 2
Frequency Distributions - Summary of Parent Demographics

Parental Education (N=146)		Occupation		Age	
Did not graduate					
H.S.	27	Professional	54	Under 30	4
GED/H.S. Diploma	33	Skilled	4	31-19	38
Some college	48	Semi-skilled	13	40-49	74
Trade School	7	Manual	17	50+	30
Bachelor's Degree	23	Unemployed	15		
Master's Degree	8	Stay at home	41		

Note: H.S.=high school

Descriptive statistics were used to establish student demographic frequencies. Results indicated 66 female student participants and 79 male student participants. Student grade distribution ranged from ninth grade to twelfth grade. Student grade distribution was as follows: ninth grade n= 44; tenth grade n=42; eleventh grade n=27; twelfth grade n=33. Student participant ethnicity/race was reported as the following: African-American n=20; Arabic n=11; Asian-Non Indian n=21; Asian Indian n=5; Chaldean n=22; Hispanic n=2; Multi Racial n=4; White Non-Hispanic n= 55; Other n=6. Student reported family structure consisted of the following: married n=84 married step-family n=22; single mother family n=19; single father family n=5; biological parents cohabitating n=4; step parent family cohabitating n=1; other family structure n=11. Data is displayed in Table 3.

Table 3
Frequency Distributions - Summary of Student Demographics

Sex (N=146)	Grade	Ethnicity/Race	Family Structure	Lunch Status		
Males	79	9 th	44 African American	20 Married	84 Free	80
Females	67	10 th	42 Arabic	11 Married Step	22 Reduced	6
		11 th	27 Asian Non-Indian	21 Single Mother	19 Paid	55
		12 th	33 Asian Indian	5 Single Father	5 No Data	5
			Chaldean	22 Bio-parents Cohabit	4	
			Hispanic	2 Step Family Cohabit	1	
			Multi-racial	4 Other	11	
			White	55		
			Other	6		

Student free and reduced lunch status was collected from the high school administration. Free and reduced lunch status data was collected as follows: paid n=55; free n=80; reduced n=6; no data n=5. Data displayed in Table 3.

Whether or not a student is deemed at-risk was determined by the students' free and reduced lunch status and/or whether or not they were attending a Title I school. Research and governmental agencies support using students' free and reduced lunch status as one of the major indicators for being an at-risk student (National Center for Education Statistics: <http://nces.ed.gov/>).

Title I schools are governmentally funded due to the vast majority of their student population being considered at-risk. At-risk status is also defined as having one or more of the following personal traits: high likelihood of school failure, gender, minority status, socioeconomic background, and family structure (<http://nces.ed.gov/pubs92/92042.pdf>). The high school participating in this study was located in a Title I school district.

Measures

A set of survey questions as detailed in the sections below were given to parents and children separately. Parents filled out one survey identifying themselves as either the mother or the father of the participating adolescent. Since the researcher did not know in all situations whether the mother or father would complete the survey, students completed two surveys - one regarding their perceptions of their mother's parenting and one regarding their father's parenting. The parent survey was matched to their adolescent's survey on their parenting. Although two surveys were collected on both the mother and father from the adolescent's parenting perspective, for the purposes of this study only the survey matching the participating parent in the study was used for analyses. Survey items for both the parent and the adolescent participant were concordant in nature (see Appendix). For example, on the parenting survey, parents were given the statement, "I would describe myself as a strict parent". This question on the student survey was stated as, "My mother (father) is a strict parent".

Grade Point Average. Students filled out a self-report measure assessing their GPA by answering the question, "What grades do you most often receive?" The following response options were as follows: Mostly As, Mostly As and Bs, Mostly Bs, Mostly Bs and Cs, Mostly Cs, Mostly Cs and Ds, Mostly Ds, Mostly Ds and Es, or Mostly Es. The letter grades were coded as 9 (mostly A's) through 1 (mostly E's). In addition, parents were asked to report their adolescent child's school grades. Actual grade point average data was provided to the researcher from the high school main office staff (N=139). Permission to obtain this data was granted by the school district's central office. The students' actual grade point average was used as the dependent variable in analyses for the research questions in this study. Students' grade point averages (GPA) were derived from their semester report card grades.

The letter grades were coded according to parent and student self-report measures (.44 distance between measures). For example, a 9 (3.56-4.0) was coded for As all the way through 1 (0-.47) for Es. A Pearson's product moment correlation was run to assess the relationship between the three measures of achievement used in this study—GPA, parent report of their child's grades, and student self-report of their own grades—to compare for consistency between measures. Preliminary analyses showed non normality for all three variables as assessed by Shapiro-Wilk test ($p > .05$). Even though this result violated the assumption of normality, there is much disagreement in the literature whether or not assumption of normality has to be met for Pearson's product moment correlation analyses. In addition, when there is a smaller sample size, non normal distribution may occur as well. Therefore, analyses was continued. Although there were outliers, they were not removed due to being within acceptable range of inclusion in the analyses. Results indicated a strong correlation between parent report of their child's grades with student self-report and raw GPA. There was a strong correlation between parent report of their child's grades and the child's self-report of their grades $r(146) = .676$, $p < .01$. There was a moderate correlation between parent report of their child's grades and their child's actual GPA $r(146) = .444$, $p < .01$. In addition, a moderate correlation was found between student self-report of grades and the student's actual GPA $r(146) = .479$, $p < .01$.

Likelihood of High School and College Completion. Using a Likert scale, students and parents were asked to identify the likelihood of the child completing high school as well as their likelihood of completing college. The likelihood of high school completion and likelihood of college completion were chosen as dependent variables due to their academic achievement cognitive framework. Items 53 and 54 were used as interpretive measures of parent and adolescent perception of the likelihood of academic success. These cognitive frameworks were

analyzed by asking parent and adolescent participants the perception of the child's likelihood to complete high school as well as their likelihood to complete college. Parent item 53 stated, "My child is going to graduate high school". Parent item 54 stated, "My child is going to obtain a Bachelor's Degree".

Students were asked to answer similar questions: 53) I am going to graduate from high school, and 54) I am going to obtain a Bachelor's Degree. Students and parents used the following Likert scale to respond to each question: 1) very unlike me, 2) more unlike than like me, 3) neither like or unlike me, 4) more like than unlike me, and 5) very like me.

Family Structure. Family structure was measured via the U.S. Census Bureau's definition of family structure. The U.S. Census Bureau identifies different family structures as follows: Two biological married family, two biological cohabitating family, married step family, cohabitating step family, single mother family, single father family, and no parent family. This study used the U.S. Census Bureau family structures and added "other" as a family structure in case none of the prescribed family structures described their family. Initially these family structures were numerically coded as 1 through 8 respectively. For analysis they were coded traditional and nontraditional family structure.

Parenting Styles. A sub-scale of the Paulson, Marchant, and Rothlisberg (1994) scale which was designed to study the bi-directional influences of parents, teachers, and schools on middle school children's achievement, measures of parenting, teaching, and school atmosphere were used to measure the parenting style constructs. For the purpose of this study, parenting styles was analyzed according to demandingness and responsiveness of parenting. Demandingness referred to parental control of adolescent choice in academic involvement, and responsiveness referred to the perceived level of family support. This measure consisted of two

15-item scales created to assess parental demandingness and responsiveness. Adolescents responded to the items on the scale as they described their mother, and then used the same method to describe their father, using a 5-point response scale ranging from “very like me” to “very unlike me”.

Survey items 1-15 measured parenting style – demandingness as perceived by both the parent and the adolescent. Survey items 16-30 measured parenting style – responsiveness as perceived by both the parent and the adolescent.

Parents' perceptions of their own demandingness and responsiveness were gathered by having both mothers and fathers respond to the same items, with items reworded to refer to their own parenting. For example, the item, “My mother has rules for me about watching TV” was restated as, “I have rules about the number of hours my child watches TV”. Another example is the statement, “I would describe my mother as a strict parent” being modified to address parental response to, “I would describe myself as a strict parent”. Alpha coefficients were .72 for the demandingness subscale and .71 for responsiveness subscale (Paulson, Marchant, & Rothlisberg, 1994). Cronbach’s alpha coefficient for parents in the current study for demandingness was .63 and for responsiveness .61. Cronbach’s alpha coefficient for students in the current study for demandingness was .60 and for responsiveness .70. These demandingness and responsiveness sub-scales were used to measure parenting style as perceived by the parent and the adolescent.

Parental and Student Attitudes Towards Achievement. Student and parental perception of parental attitude toward academic achievement was measured using a sub-scale (Factor 3) of the Paulson, Marchant, and Rothlisberg (1994) scale designed to study the bi-directional influences of parents, teachers, and schools on middle school children’s achievement. The scale consists of 22 items analyzing the student’s perception of their parent’s attitude toward

achievement. Parental and adolescent perception of attitude toward achievement was measured in items 31, 32, 34, 36, 39, 40, 44, 45, 47, 50 and 51. Sample survey items included the following statements: “My mother tries to get me to do my best on everything I do” and “My mother thinks that education is a very important part of adolescence”. The twenty-two items were originally written to address a student’s perception of their parent’s attitude toward school. Examples of the survey items that were re-written to address parental attitude toward achievement were as follows: “I have high hopes for my child’s academic future”, “I expect my child to do best on everything”, “I believe my child should go to college”, “I encourage my child to do well even when their grades are low”, “Succeeding in life is important”, “I believe my child is a good student”, and “I believe my child values hard work”. Alpha coefficients for the subscale were .75 (Paulson, Marchant, & Rothlisberg, 1994). Cronbach’s alpha coefficient for parents in the current sample was .85. Cronbach’s alpha coefficient for students in the current sample was .84.

Parental and Student Perception of School Involvement. Parental perception and adolescent perception of parental school involvement was measured using the subscale used for adolescents (Factors 2 and 4) developed by Paulson, Marchant, and Rothlisberg (1994). Parental and adolescent perception of school involvement was measured in items 33, 35, 37, 38, 41, 42, 43, 46, 48, 49, and 52. Examples of the survey items modified were as follows: “My parents think that they should not help me with my homework” would be changed to “I do not think I should help my child with their homework”. Another example of a modified question from adolescent perception to parental perception is “My parents take an interest in my activities” would be modified as follows: “I take an interest in my child’s school activities as well as their

out of school activities.” Alpha coefficients were .71 for factor 2 and .66 for factor 4 (Paulson, Marchant, and Rothlisberg, 1994).

In a similar study, Paulson and Sputa (1996) found that Cronbach’s alphas for adolescents' and parents' reports of parental involvement ranged from .67 to .86. Paulson and Sputa (1996) analyzed principal components factor analysis and identified two factors with items from the achievement values and interest in schoolwork subscales loading one factor. Subsequently, these subscales are highly correlated. They also found that the items from the school functions subscale loading on the other factor. Cronbach’s alpha for parents in the current study was .74. Cronbach’s alpha for students in the current study was .58.

Procedure

In order to obtain consent for participation, the researcher held meetings with central office administration as well as high school administration. A letter of permission to collect data at the high school was written by the central office administrators and was signed by them. Following this meeting, the researcher met with the high school principal to discuss the research study and the best way to approach the study at their respective school. Teachers who wished to be involved in the study were invited by the principal to discuss the study with the school principal and the researcher. Parents were informed of the research study by the building principal in a newsletter and during announcements at after school events. Letters to the parents as well as consent forms explaining the study were sent home with the interested students. Three surveys were sent home in the research packet. The surveys consisted of one survey for either the mother, father, or both parent to fill out as well as two surveys for the adolescent to fill out. One survey addressed their perception of their father’s parenting and an identical survey only reworded to address the adolescent’s perception of their mother’s parenting was distributed.

For the purpose of this study, only two surveys were used for this study – the parent who filled out the survey – and the survey from the adolescent matched to that parent.

The researcher's cellular phone number was made available for parents to contact if there were any questions. Three parents contacted the researcher regarding questions they had regarding the confidentiality of the study. All three parents decided to participate in the study following the discussion. Students and parents were recruited from after school activities including football and basketball games, as well as curriculum night.

In addition, students were recruited via physical education and health teachers' classrooms. Informed Consent forms were explained to students and parents at after school activities. Parents and adolescents filled out their respective surveys at that time. Informed Consent forms, Adolescent Behavioral Assent Forms, and surveys were explained to the students during physical education and health classes and sent home with them for signature for participation. This data was returned to their classroom teacher in a sealed envelope with only their study number on the outside in order to control for confidentiality.

Parent and student participation in the study was voluntary. Parents and adolescents filled out surveys both at the school and at home depending upon whether or not they were invited to participate in the study at an after school activity or during the physical education or health class. Parent and student participants were informed that they could opt out of the study at any time without any negative consequences.

As a token of appreciation for participating in the study, when students and parents who participated turned in their survey, their name was put into a drawing for the opportunity to win one of five \$25.00 gift cards. Study participation remained confidential through a coding system. Each parent and child participant was given a corresponding number that matched the

adolescent's name to the parent's name. All signed forms with names on them were located in the researcher's office in a locked file cabinet. All filled out surveys were located in the researcher's office in a locked file cabinet.

Analysis

Due to the dynamic relationship between predictor variables for this study, the correlation approach to research was used. This study will use the conventional criterion alpha level of .05 to determine whether or not significance between variables has occurred. A significance level of .05 leaves a 5% likelihood that the results of the study were generated randomly.

The data analysis that was used to test the hypotheses is presented in Table 4.

Table 4

Statistical Analyses

Hypothesis	Variables	Statistical Analysis
Research question 1: How correlated are parents' and adolescents' perceptions of parenting style, parent school involvement, attitudes toward achievement, GPA, plans for high school completion, and plans for college completion?		
H ₁ : Parental perception and adolescent perception of parenting style, attitudes toward achievement, parent school involvement, GPA, plans for high school and college completion will demonstrate correlational variability with some variables highly correlated while other variables demonstrate low correlation.	<u>Parent report of:</u> --Parental attitude toward achievement --Parental responsiveness --Parental demandingness --Parental involvement --plans for high school completion --plans for college completion <u>Will be correlated with:</u> -Child report of the same 6 variables -Student GPA	Bivariate Correlation Analysis

<p>Research question 2: To what extent do parenting styles, parental school involvement and attitudes toward achievement from the parents' and students' perspective predict a) GPA, b) plans for high school completion, and c) plans for college completion?</p>		
<p>H_{2a}: Parental perception and adolescent perception of parenting styles – a) demandingness and b) responsiveness, c) school involvement, and d) attitudes toward achievement will predict GPA, plans for high school completion and plans for college completion.</p>	<p><u>Criterion Variable</u> --GPA --Plans for high school completion --Plans for college completion</p> <p><u>Predictor Variables</u> --Parental attitude toward achievement --Parental responsiveness --Parental demandingness --Parental involvement</p>	<p>9 Multiple Linear Regression Analyses, one for each dependent/criterion variable, 3 with parent perspective, 3 with kids/mom perspective, 3 with kid/dad perspective.</p>
Hypothesis	Variables	Statistical Analysis
<p>Research question 3: To what extent do parenting styles, parental attitudes toward achievement, and parental school involvement from the students' perspective predict across grade levels a) GPA, b) plans for high school completion, and c) plans for college completion?</p>		
<p>H_{3a}: Student perception of parenting styles, parental attitudes toward achievement, and parental school involvement will predict adolescent academic achievement and parental and adolescent plans for college completion across grade levels. H_{3b}: There will be differences in the way parenting styles, parental attitudes toward achievement, and parental school involvement will predict academic achievement and plans for college completion in 9th grade versus 12th grade and between parent and adolescent perspectives</p>	<p><u>Criterion Variable</u> --GPA --HS Completion --College Completion</p> <p><u>Predictor Variables</u> -Parental attitude toward achievement -Parenting responsiveness -Parental demandingness -Parental school involvement</p>	<p>3 hierarchical multiple linear regressions for each grade level for each perspective. 24 total analyses.</p>
Hypothesis	Variables	Statistical Analysis
<p>Research question 4: What is the additive role of family structure and free/reduced lunch status in explaining variance in adolescent academic achievement?</p>		
<p>H_{4a}: Family structure combined with free/reduced lunch status will help to explain the variance in adolescent academic achievement.</p>	<p><u>Independent Variables</u> -Family structure (traditional versus nontraditional) -Free and reduced lunch status -Parental variables</p> <p><u>Criterion Variable</u> GPA</p>	<p>A) ANCOVA to examine differences in GPA by family structure and free/reduced lunch status controlling for parenting variables.</p>

Inferential statistical analyses were used to answer these research questions. Inferential statistics entails procedures for creating generalizations about a population by analyzing a sample from that population. With data from the sample, inferential statistics were used to depict conclusions about qualities of the population based on the analogous characteristics of the sample (Hinkle, Wiersma, & Jurs, 2003).

Bi-variate Correlation Analysis. Bivariate correlation analyzes the degree and direction of relationship between two quantitative variables without differentiating between independent and dependent variables (2003). Pearson correlation (r) is the most commonly used bivariate correlation test.

Regression Analysis. The main purpose of multiple linear regression analyses (Pearson, 1908) is to learn more about the relations between several independent or predictor variables and a dependent or criterion variable. Multiple linear regression analyses was used to investigate the relationship between the chosen achievement (predictor) variables for this study and grade point average, likelihood to complete high school and likelihood to complete college. Regression analysis was used to estimate the quantitative effect of the causal variables upon the variable that they are influencing. Multiple linear regression analyses were used to reflect the different parental and adolescent perspective of the predictor variables being analyzed in this study. The predictor variables in this study were family structure, parenting style, parental attitudes toward achievement, and parental school involvement. There were three criterion variables in this study: Student grade point average, their likelihood to graduate high school, and their likelihood to complete college.

Analysis of variance (ANOVA). ANOVA tests two or more categorical independent variables simultaneously in a single analysis (Hinkle, Wiersma, & Jurs, 2003). ANOVA tests

was used to check for statistically significant differences between means for parent perception of parenting variables and student perception of parenting variables. Differences by family structure (traditional versus nontraditional) for each of the study dependent measures (grade point average, high school completion, college completion, and the three parenting styles as dependent measures) were analyzed. Each of the demographic variables for the adolescent and their parent were tested as well using ANOVA.

Analysis of covariance (ANCOVA). ANCOVA is used primarily as a test procedure for the statistical control of an extraneous variable while combining regression analysis and analysis of variance resulting in controlling for the effects of the extraneous variable (Hinkle, Wiersma, & Jurs, 2003). ANCOVA was used to examine the effect of family structure and free/reduced lunch status on GPA as well as to compare variance explained by the full ANCOVA model to that of the model of only parental achievement variables.

CHAPTER 4

RESULTS

Introduction

The purpose of this study was to examine parents' and adolescents' perceptions of parenting style (demandingness and responsiveness), parental attitude toward achievement, parental school involvement, family structure, and their relation to adolescent academic achievement. Preliminary analyses are presented first, followed by analyses for each research question. Means and standard deviations for all variables are included in Table 5.

Table 5

Descriptive Statistics for all Variables

	N	Min.	Max.	Mean	SD
Parent Predictor Variables					
Parent Family Structure	144	1.00	2.00	1.38	0.49
P Demandingness	144	2.13	4.73	3.44	0.51
P Responsiveness	144	1.80	4.73	3.69	0.46
P Attitude	144	1.91	4.64	4.24	0.47
P School Involvement	144	1.82	5.00	3.74	0.71
P Perception of Ability	144	1.00	5.00	4.68	0.79
Student Predictor Variables					
Student Family Structure	144	1.00	2.00	1.42	0.50
S P Demandingness	144	1.80	4.33	3.16	0.49
S P Responsiveness	144	1.73	4.73	3.45	0.58
S P Attitude	144	2.27	5.00	4.44	0.62
S P School Involvement	144	1.73	5.00	3.49	0.74
S P Perception of Ability	144	1.00	5.00	4.75	0.64
Criterion Variables					
GPA	139	.22	4.55	2.72	0.98
P Perception of Likelihood to Graduate High School	144	1.00	5.00	4.81	0.75
P Perception of Likelihood to Graduate College	144	1.00	5.00	4.54	0.95
S Perception of Likelihood to Graduate High School	144	1.00	5.00	4.89	0.52
S Perception of Likelihood to Graduate College	144	1.00	5.00	4.61	0.90

Note: P=parent perception; S=student perception

Preliminary Analysis

Preliminary analysis of box plots and outlier statistics identified two participant and parent scores as outliers. Due to the data being skewed by these outliers, they were removed from all further analysis. Parental subscales were analyzed to determine skewness. Parent attitude toward achievement, parental perception of student ability, students' perception of parental attitude toward achievement, and student perception of parental perception of their ability were all negatively skewed. Parental attitude toward achievement was included without transformation to aid in interpretation. Problems were also identified for the high school completion and college completion variables, each of which is a single item. There was very little variation in the responses--only 10 parents and 10 students out of 144 endorsed less than a 5 on one of the high school completion question and only 34 parents and 32 students out of 144 endorsed less than a 5 on the college completion question. Even though there was a lack of variation with the high school completion and college completion variables, analyses were run to determine whether or not significance could be established. However, it must be noted that this is a limitation within the study.

Next, using ANOVA with Duncan and Tukey post hoc tests of mean differences, preliminary analyses were run to determine if there were significant differences in the primary study variables by parent age, parent sex, parent ethnicity/race, parent marital status, parent employment status, parent education level, parent report of student grade, and parent reported family structure. Also, the students' current grade in school, sex, ethnicity/race, student self-reported grade, and family structure were analyzed for differences in the primary study variables. Only the subgroups that are significantly different than each other are mentioned below.

A significant difference by age was found for parent demandingness. The over 50 age group ($M=3.16$, $SD=.53$) were less demanding of their children than the under 30 group ($M=3.32$, $SD=.29$), the 31-39 group ($M=3.52$, $SD=.56$), and the 40-49 group ($M=3.52$, $SD=.44$), $F(3, 143) = 4.45$, $p < .05$. Significance was not found for any other independent variables.

Significant differences in parental school involvement were found by sex. Female parents ($M=3.82$, $SD=.74$) perceived themselves as more involved in their adolescent's schooling than male parents ($M=3.44$, $SD=.50$), $F(1, 144) = 7.55$, $p < .05$.

Many race/ethnicity differences were found, with African American parents ($M=3.85$, $SD=.46$) highest in demandingness and the other ($M=3.03$, $SD=.57$) category lowest in demandingness followed by Arabic parents ($M=3.29$, $SD=.65$) $F(8, 144) = 3.96$, $p < .05$ as the middle scoring group. Significant differences were found for ethnicity/race with parental school involvement. Multi-racial parents ($M=4.67$, $SD=.43$) were highest in parental school involvement followed by White parents ($M=3.98$, $SD=.61$) $F(8, 144) = 3.96$, $p < .05$. No other subgroups were significantly different from each other. Parents lowest in school involvement with ethnicity/race were other ($M=3.29$, $SD=.74$) category and Chaldean ($M=3.36$, $SD=.73$).

Analyses were run to determine differences between parent marital status groups. No significant differences between parent marital status groups were established.

Significant difference was found for parental employment and parental school involvement. Professional parents ($M=3.94$, $SD=.61$) were higher in school involvement than manual labor parents ($M=3.33$, $SD=.88$), $F(5, 144) = 2.34$, $p < .05$.

In addition, significant difference between groups was identified for parent education and parental school involvement. Parents with a Bachelor's Degree ($M=3.95$, $SD=.61$) were highest in school involvement followed by parents who reported some college ($M=3.93$, $SD=.67$), $F(5,$

144)=3.71, $p<.05$. Parents who did not finish high school ($M=3.32$, $SD=.59$) were lowest in school involvement followed by parents who got a GED or had a high school diploma ($M=3.57$, $SD=.80$). Significant difference was not found for any other groups.

Significant difference was found for parental demandingness and parental attitude toward achievement with perception of child's grades. Parents who reported their child's grades as mostly Cs ($M=3.78$, $SD=.41$) were highest in demandingness and parents who reported their child's grades as mostly Bs were lowest in demandingness ($M=3.10$, $SD=.41$), $F(6, 144) = 2.92$, $p<.05$. Parents who reported their child's grades as mostly As ($M=4.40$, $SD=.25$) were highest in attitude toward achievement, whereas parents who reported their child's grades as mostly Ds and Es ($M=2.55$, $SD=1.41$), $F(6, 144)=5.20$, $p<.05$ were lowest in attitude toward achievement.

Family structure was divided into traditional family versus nontraditional family. Significance was found between family structure, parent demandingness, parental school involvement and parent perception of child's ability. The nontraditional family structure ($M=3.57$, $SD=.49$) were more demanding of their children than the traditional family structure parents ($M=3.37$, $SD=.51$), $F(1, 144) = 5.47$, $p=.021$. The nontraditional family structure parents ($M=3.92$, $SD=.67$) reported higher school involvement than the traditional family structure parents ($M=3.62$, $SD=.71$), $F(1, 144) = 6.31$, $p=.013$. The traditional family structure ($M=4.77$, $SD=.67$) reported perceiving higher child's ability the nontraditional family structure parents ($M=4.50$, $SD=.94$), $F(1, 144) = 4.08$, $p=.047$.

Student perception of parental demandingness, responsiveness, school involvement, and perception of their parent's perception of their ability were also analyzed for demographic differences using ANOVA. There were no significant differences found for these variables by student grade level.

There were differences by student sex, however. Females ($M=4.76$, $SD=.69$) reported slightly higher perception of their ability than did males ($M=4.47$, $SD=.47$) $F(2, 144) = 8.34$, $p<.001$.

Significant differences were found for ethnicity/race and school involvement. Hispanic students ($M=4.23$, $SD=.45$) perceived their parents highest for parental school involvement followed by White students ($M=3.77$, $SD=.69$) $F(8, 144) = 3.54$, $p<.001$. White students' data are included due to only 2 Hispanic students being in the study. Chaldean students ($M=3.07$, $SD=.87$) reported lowest parental school involvement followed by Asian Non-Indian students ($M=3.10$, $SD=.66$) $F(8, 144) = 3.54$, $p<.001$.

Significant differences were not demonstrated for student's perception of ability and student perception of parental achievement variables. As with the parent analysis, student family structure was divided into traditional family structure and non-traditional family structure. There was no significant difference found for student reported family structure and student perception of parenting variables.

Based on these preliminary analyses, parent variables age, sex, race/ethnicity, employment, education, perception of adolescent grades, and family structure as well as student variables sex were combined to help minimize Type I error. Detailed discussion of subsequent analyses follows.

Research question 1: How correlated are parents' and adolescents' perceptions of parenting style, parent school involvement, and attitudes toward achievement with GPA, plans for high school completion, and plans for college completion?

Tests of assumptions. Research question 1 was addressed using bivariate correlation analysis. Assumptions of normality yielded some variables not normally distributed, as assessed by Shapiro-Wilke's test ($p < .05$). Variables not normally distributed were parent attitude toward achievement, parental responsiveness, and student perception of their parent's attitude toward achievement, parent perception of likelihood of child completing high school, parent perception of likelihood of child completing college, student's perception of likelihood of completing high school, and student perception of likelihood of completing college. Scatterplots were run to check for linearity of the bivariate relationships. Linearity was established and thus analyses were run normally. This may be interpreted as a mild limitation and is included as such in the discussion section, but analyses can be run nonetheless. Consistent with prior research and goals of this study each parenting style was analyzed as a two separate variables (parental responsiveness and parental demandingness). To answer question 1, bivariate correlation analyses were conducted ($p < .01$). Descriptive statistics are presented in Table 6. A correlation matrix is included in Table 7.

Table 6

Research Question 1 - Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation	n
P Likelihood of Graduating H.S.*	1.00	5.00	4.81	0.75	144
P Likelihood of Graduating College**	1.00	5.00	4.54	0.95	144
P Demandingness	2.13	4.73	3.44	0.51	144
P Responsiveness	1.80	4.73	3.69	0.46	144
P Attitude	1.91	4.64	4.24	0.47	144
P School Involve	1.82	5.00	3.74	0.71	144
S Likelihood of Graduating H.S.***	1.00	5.00	4.89	0.52	144
S Likelihood of Graduating College****	1.00	5.00	4.61	0.90	144
S Demandingness	1.80	4.33	3.16	0.49	144
S Responsiveness	1.73	4.73	3.45	0.58	144
S Attitude	2.27	5.00	4.44	0.62	144
S School Involve	1.73	5.00	3.49	0.74	144
GPA	0.22	4.55	2.72	0.98	144

Note: P=parent perception; S=student perception

*Parent perception of likelihood of completing high school,

**Parent Perception of likelihood of graduating college,

***Student perception of likelihood of completing high school,

****Student perception of likelihood of graduating college

Correlational results. Many of the correlations were in the moderately strong range. Parental perception of their child's likelihood of completing high school and their child's perception of their likelihood to complete high school were moderately correlated ($r=.414$, $p<.01$). Parent perception of their responsiveness and student perception of parental responsiveness demonstrated a moderate correlation ($r=.379$, $p<.01$).

Parental and student perception of likelihood of college completion were moderately correlated, $r=.373$, $p<.01$. Parent and child perception of parental demandingness were

moderately correlated ($r=.485$, $p<.01$). Parental and student perception of parental school involvement had the highest correlation, ($r=.633$, $p<.01$). The two variables with the lowest agreement were parental perception of their attitude toward achievement with student perception of their parent's attitude toward achievement, though they were still statistically significantly associated ($r=.270$, $p<.01$). Parent attitude toward achievement and their child's grade point average had a low correlation ($r=.192$, $p<.010$). In addition, GPA and parental demandingness were negatively correlated, $r=-.231$, $p<.01$. See Table 7.

Table 7

*Research Question 1 - Relationship Between Parent Perception,
Student Perception Variables and GPA*

Pearson Product Moment Correlation Matrix

		<u>Variables</u>								
		1	2	3	4	5	6	7	8	9
1	1									
2	.15	1								
3	.26**	.39**	1							
4	.33**	.33**	.39**	1						
5	.49**	-.07	.08	-.03	1					
6	.04	.38**	.14	.20*	.07	1				
7	.28**	.16	.27**	.22**	.33**	.43**	1			
8	.23**	.23**	.19*	.63**	.22**	.41**	.46**	1		
9	-.23**	.04	.19*	-.1	-.1	.09	.15	<.001	1	

* $p < .05$; ** $p \leq .01$.

Variables: 1 parent demandingness; 2 parent responsiveness; 3 parent attitude; 4 parent school involvement; 5 student perception of parent demandingness; 6 student perception of parent responsiveness; 7 student perception of parent attitude; 8 student perception of parental school involvement; 9 GPA

Research Question 2: To what extent do parenting styles, parental school involvement and attitudes toward achievement from the parents' and students' perspective predict a) GPA, b) plans for high school completion, and c) plans for college completion?

Multiple linear regression analyses were chosen as the appropriate statistical procedure with which to answer this question.

Tests of assumptions. The first analyses focused on the outcome of grade point average (GPA). First, multiple regression assumptions were tested for the eight predictor variables (demandingness, responsiveness, attitude toward achievement, and parental school involvement each for parents and adolescents). Assumptions of normality, linearity, and homoscedasticity were assessed. A Durbin-Watson score of 2.008 indicated assumption of independence of errors was met. Variables were checked for linearity the relationship of predicted scores and residuals and no issues were indicated. Heteroscedasticity was checked by visual assessment of predicted scores and residual plots and no issue was identified. To check for multicollinearity VIF and tolerances were checked and all were close to 1.0 strongly suggesting that multicollinearity was not an issue. Outliers were identified using the Explore menu in SPSS to generate tables of extreme values and box plots with extreme values marked. One case was removed due to being an extreme outlier. Finally, histograms were visually examined to check the distribution of scores for both predictors indicating both were relatively normal.

Assumptions for multiple regression analysis for parent and student report of high school completion predicting parental demandingness, parental responsiveness, parental school involvement, and parental attitudes toward achievement were tested. Analyses for parent and student report of college completion predicting parental demandingness, parental responsiveness, parental school involvement, and parental attitudes toward achievement were also tested.

Violation of multiple regression assumptions occurred due to non-normal distributed outcome variables likelihood to complete high school and likelihood to complete college for both parent report and student report. Visual inspection of data plots and histograms for outliers was part of testing this assumption. Variation for parent report of likelihood to graduate high school is demonstrated in Table 8. Table 9 demonstrates variation for student report of likelihood to graduate high school.

Table 8

Parent Report - Likelihood of High School Completion

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.1	2.1
	2	3	2.1	4.1
	3	3	2.1	6.2
	4	2	1.4	7.6
	5	134	92.4	100
Total	145	100	100	

Table 9

Student Report - Likelihood of High School Completion

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.4	1.4
	2	1	0.7	2.1
	3	3	2.1	4.1
	4	3	2.1	6.2
	4.75	2	1.4	7.6
	5	134	92.4	100
Total	145	100	100	

Even though more variability was found for likelihood to complete college, the non-normal distribution issue was apparent. Variation for parent report of likelihood to graduate college is demonstrated in Table 10. Table 11 illustrates variation for student report for

likelihood to graduate college. Possible explanations for this non-normal distribution will be discussed later in the study.

Table 10
Parent Report - Likelihood of College Completion

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	4	2.8	2.8	2.8
2	2	1.4	1.4	4.1
3	16	11.0	11.0	15.2
4	13	9.0	9.0	24.1
5	110	75.9	75.9	100.0
Total	145	100.0	100.0	

Table 11
Student Report - Likelihood of College Completion

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	6	4.1	4.1	4.1
2	1	.7	.7	4.8
3	8	5.5	5.5	10.3
4	16	11.0	11.0	21.4
4.49	2	1.4	1.4	22.8
5	112	77.2	77.2	100.0
Total	145	100.0	100.0	

Although the assumption for normal distribution for likelihood to complete high school as well as likelihood to complete college was not met, these variables were retained for analyses due to their relation with achievement outcomes.

Due to the relatively large number of parenting predictor variables, variables were combined and hierarchical linear regression was used to minimize the likelihood of Type I error. Demographic variables were combined. Race/ethnicity was grouped into two categories – white

and non-white. Marital status was combined into two categories – married and unmarried. Parent job was combined into three categories – professional, stay at home, and other. Parent education was combined into three categories as well – high school diploma or less, trade and some college and other (college graduates). Perception of grades were combined into four categories – As, As and Bs, Bs and Cs, and C/D and below. ANOVAs were then run on these parenting variables. Based on significant differences and past research practices within the literature pertaining to parental influences on achievement, covariates entered into Step 1 analyses were as follows: sex, family structure, and marital status. There were 24 analyses conducted using hierarchical linear regression, each one using one of the dependent measures listed earlier. In all cases, sex, family structure, and marital status variables were entered at Step 1 as control variables, with the variables of interest in the research questions entered at Step 2.

GPA. With GPA as the criterion measure, significant change occurred from Step 1 to Step 2 of the regression analysis. Sex, family structure and marital status were entered at Step 1. These covariates explained 7% of the variance ($R^2=.07$, $F=3.43$, $df=3, 135$, $p=.019$). When parental perception of parenting variables (parent demandingness, parent responsiveness, parent attitude toward achievement and parent school involvement) were added at Step 2, 17% of the variance ($R^2=.17$, $F=3.70$, $df=4, 131$, $p=.007$) was explained. Beta weights revealed that parental perception of parental demandingness ($\beta=-.244$, $p=.005$) and parental perception of parental attitude toward achievement ($\beta=.250$, $p=.008$) were significant contributors to the model.

Likelihood of completing high school. With likelihood of completing high school as the criterion measure, significant change occurred from Step 1 to Step 2. Parent reported marital status, parent sex, and family structure were entered at Step 1 of the regression analysis. These covariates explained 3% of the variance ($R^2=.03$, $F=1.19$, $df=3, 140$, $p=.32$). However, when

parent perceived demandingness, responsiveness, attitude toward achievement and school involvement were added at Step 2, a total of 58% of the variance ($R^2=.58$, $F=44.21$, $df=4$, 135, $p<.001$) was explained. Beta weights revealed that parental perception of parental attitude toward achievement ($\beta=.77$, $p<.001$) was a significant contributor to the model.

Likelihood of completing college. With likelihood of completing college as the criterion measure, parent reported marital status, parent sex, and family structure were entered at Step 1 of the regression analysis. Significant change occurred from Step 1 to Step 2. Step 1 regression analysis explained 5% of the variance ($R^2=.05$, $F=2.41$ $df=3$, 140, $p=.070$). Beta weights revealed that family structure ($\beta=-.25$, $p=.027$) was a significant contributor to the model. When parent perceived demandingness, responsiveness, attitude toward achievement and school involvement were added at Step 2 of the regression analysis, 51% of the variance ($R^2=.51$, $F=32.25$, $df=4$, 135, $p<.001$) was explained. Beta weights revealed that family structure ($\beta=-.26$, $p=.003$) and parental perception of parental attitude toward achievement ($\beta=.73$, $p<.001$) were significant contributors to the model.

Student perception of parental variables. To determine whether or not student perception of parenting variables predicted GPA, likelihood of high school completion, or likelihood of completing college, data was analyzed first by parent gender. Part two of research question two addressed students' perceptions of their fathers' and mothers' parenting variables separately, whereas part one of the question analyzed parents' perspective of the parenting variables. Since there were nonsignificant results for student perception of parenting variables contributing to achievement when their parents were analyzed separately by sex, data was then analyzed with parents grouped as a whole. These results also indicated nonsignificance for

student perception of parenting variables contributing to achievement when parents were analyzed together.

Research Question 3: To what extent do parenting styles, parental attitudes toward achievement, and parental school involvement from the students' perspective predict across grade levels a) GPA, b) plans for high school completion, and c) plans for college completion across grade levels?

Tests of assumptions and preliminary analyses. No significant differences were seen in any of the outcome variables in preliminary ANOVAs with grade level as the factor. Therefore, analyses were not divided by grade level. Multiple linear regression analyses were chosen as the appropriate statistical procedure with which to answer this question. The first model analyzed pertained to the outcome of grade point average (GPA). Multiple linear regression assumptions were tested for parent perception predictor variables. Variables consisted of parental perspectives regarding parenting style (demandingness and responsiveness), attitude toward achievement, parental school involvement as well as the matched student variables. Each assumption was tested by grade level.

Assumptions for multiple regression were assessed. Durbin-Watson scores were as follows for each grade level: 9th grade score of 1.95, 10th grade score of 1.78, 11th grade score of 2.10, and 12th grade score of 1.98 which indicated assumption of independence of errors was met for each grade level. Assumption of homoscedasticity was observed by analyzing plot of predicted values and studentized residuals. This assumption was met for all four grade levels. Heteroscedasticity was checked by visual assessment of predicted scores and residual plots and no issues were identified. To check for multicollinearity, VIF and tolerances were checked for each grade level and all were close to 1.0 strongly suggesting that multicollinearity was not an

issue. Examination for outliers was identified using the Explore menu in SPSS to generate tables of extreme values and box plots with extreme values marked. Finally, histograms were examined to check the distribution of scores for predictors. Assumption of linearity was different for each grade level. Box plots were visually examined to identify outliers for each grade level to address errors of normality. No outliers were removed for this research question.

Parental achievement variables were checked for linearity. Assumption for linearity was met for 9th grade student perception of parental attitude toward achievement. None of the other variables met this assumption. Assumption for linearity for 10th grade indicated linearity for all variables. For 11th grade, only student perception of parent attitude toward achievement violated this assumption. Only student perception of parental demandingness violated linearity assumption for 12th grade.

Grade level descriptives. Based on the previous results identifying significant differences in predictor and criterion variables in research questions 2, hierarchical linear regression was used to analyze students' perspectives of their parents' parenting styles, attitudes toward achievement, and school involvement by grade level. Student sex was the only variable that needed to be controlled for in each of the following analyses. Descriptive statistics were run for 9th through 12th grade students with their perception of their parent's parenting variables and GPA. Parental attitude toward achievement for each grade level had the highest mean. Parental demandingness was found to have the lowest mean for each of the grade levels. See Table 12.

Table 12

Research Question 3 – GPA Descriptive Statistics

Student Grade in H.S.		Mean	Std. Deviation
9th Grade N=44	GPA	2.81	0.91
	S Sex	1.64	0.49
	S P Demandingness	3.13	0.52
	S P Responsiveness	3.46	0.41
	S P Attitude	4.51	0.50
	S P School Involve	3.54	0.66
10th Grade N=39	GPA	2.58	1.10
	S Sex	1.51	0.51
	S P Demandingness	3.20	0.49
	S P Responsiveness	3.40	0.53
	S P Attitude	4.56	0.47
	S P School Involve	3.59	0.75
11th Grade N=24	GPA	2.86	0.95
	S Sex	1.54	0.51
	S P Demandingness	3.15	0.63
	S P Responsiveness	3.49	0.78
	S P Attitude	4.39	0.64
	S P School Involve	3.33	0.73
12th Grade N=32	GPA	2.67	0.93
	S Sex	1.47	0.51
	S P Demandingness	3.18	0.36
	S P Responsiveness	3.51	0.67
	S P Attitude	4.37	0.69
	S P School Involve	3.42	0.84

Note: S P=student perception of parental variables

As discussed earlier in the preliminary analyses, likelihood of high school completion was found to be non-normally distributed. However, this variable was retained for analyses due to its relations with achievement outcomes. Descriptive statistics were run for 9th through 12th grade students with their perception of their parent's parenting variables and likelihood of high

school completion. As with the criterion variable GPA, parental attitude toward achievement for each grade level had the highest mean. Parental demandingness was found to have the lowest mean for each of the grade levels. See Table 13.

Table 13

Research Question 3 – H. S. Completion Descriptive Statistics

Student Grade in H.S.		Mean	Std. Deviation
9th Grade N=44	H.S. Completion	4.84	0.68
	S Sex	1.64	0.49
	S P Demandingness	3.13	0.52
	S P Responsiveness	3.46	0.41
	S P Attitude	4.51	0.50
	S P School Involve	3.54	0.66
10th Grade N=40	H.S. Completion	4.98	0.16
	S Sex	1.50	0.51
	S P Demandingness	3.21	0.48
	S P Responsiveness	3.41	0.52
	S P Attitude	4.56	0.46
	S P School Involve	3.61	0.75
11th Grade N=27	H.S. Completion	4.85	0.53
	S Sex	1.44	0.58
	S P Demandingness	3.12	0.61
	S P Responsiveness	3.46	0.77
	S P Attitude	4.29	0.78
	S P School Involve	3.31	0.72
12th Grade N=33	H.S. Completion	4.87	0.55
	S Sex	1.48	0.51
	S P Demandingness	3.20	0.37
	S P Responsiveness	3.50	0.66
	S P Attitude	4.31	0.75
	S P School Involve	3.40	0.84

Note: S P=student perception of parental variables; H.S.=high school

As discussed earlier in the preliminary analyses, likelihood of college completion was found to be non-normally distributed. However, this variable was retained for analyses due to furthering the research on achievement outcomes. Descriptive statistics were run for 9th through

12th grade students with their perception of their parent's parenting variables and likelihood of college completion. As with the criterion variable GPA, parental attitude toward achievement for each grade level had the highest mean. Parental demandingness was found to have the lowest mean for each of the grade levels. See Table 14.

Table 14
Research Question 3 – College Completion
Descriptive Statistics

Student Grade in H.S.		Mean	Std. Deviation
9th Grade N=44	Likelihood to graduate college	4.51	1.00
	S Sex	1.64	0.49
	S P Demandingness	3.13	0.52
	S P Responsiveness	3.46	0.41
	S P Attitude	4.51	0.50
	S P School Involve	3.54	0.66
10th Grade N=40	Likelihood to graduate college	4.63	0.87
	S Sex	1.50	0.51
	S P Demandingness	3.21	0.48
	S P Responsiveness	3.41	0.52
	S P Attitude	4.56	0.46
	S P School Involve	3.61	0.75
11th Grade N=27	Likelihood to graduate college	4.63	0.93
	S Sex	1.44	0.58
	S P Demandingness	3.12	0.61
	S P Responsiveness	3.46	0.77
	S P Attitude	4.29	0.78
	S P School Involve	3.31	0.72
12th Grade N=33	Likelihood to graduate college	4.71	0.80
	S Sex	1.48	0.51
	S P Demandingness	3.20	0.37
	S P Responsiveness	3.50	0.66
	S P Attitude	4.31	0.75
	S P School Involve	3.40	0.84

Note: S P=student perception of parental variables; H.S.=high school

GPA. While controlling for students' biological sex at Step 1, student perceptions of the parenting variables (parent responsiveness, parent demandingness, parent attitude toward

achievement and parent school involvement) were entered at Step 2. Results were not significant for any grade level.

Likelihood of completing high school. With likelihood of completing high school as the criterion variable, 9th grade students' biological sex was covaried at Step 1. Ninth grade student perceptions of the parenting variables (parent responsiveness, parent demandingness, parent attitude toward achievement and parent school involvement) were entered at Step 2. For 9th graders the covariate sex at Step 1 explained 6% of the variance ($R^2=.06$, $F=2.49$ $df=1, 42$, $p=.12$), though individual standardized beta weights were not significant for Step 1 ($\beta=.24$, $p=.12$). At Step 2, 9th grade student perception of parenting variables explained 29% of the variance ($R^2=.29$, $F=3.15$ $df=4, 38$, $p=.03$). Beta weights for Step 2 revealed that 9th grade student perception of parental attitude toward achievement in 9th grade ($\beta=.38$, $p<.02$) was a significant contributor to the model.

Analyses for 10th and 11th graders were not significant. However, with likelihood of completing high school as the criterion variable, significant change occurred from Step 1 to Step 2 regression analysis for 12th grade students. When student sex was controlled for in Step 1 regression analyses for 12th grade students, 1% of the variance ($R^2=.001$, $F=.35$, $df=1, 30$, $p=.88$) was explained. Beta weights for Step 1 regression analysis revealed that student sex with likelihood to complete high school for 12th graders ($\beta=-.11$, $p<.56$) was a significant contributor to the model. At Step 2, 12th grade student perception of parenting variables explained 43% of the variance ($R^2=.43$, $F=4.99$ $df=4, 27$, $p=.001$). Beta weights for Step 2 regression analysis revealed that student perception of parental demandingness for 12th graders ($\beta=-.11$, $p<.56$) and student perception of parental attitude toward achievement ($\beta=.66$, $p<.001$) with likelihood to complete high school were significant contributors to the model.

Likelihood of Completing College. With likelihood of completing college as the criterion measure, significant change occurred from Step 1 to Step 2 regression analysis for 9th grade students. When student sex was controlled for in Step 1 regression analyses for 9th grade students, 4% of the variance ($R^2=.04$, $F=1.76$, $df=1, 42$, $p=.19$) was explained. However, beta weights were not significant for Step 1 ($\beta=.20$, $p=.19$). When student perception of parenting variables (parental demandingness, parental responsiveness, parent attitude toward achievement and parent school involvement) were added at Step 2 regression analyses, 33% of the variance ($R^2=.23$, $F=2.29$ $df=4, 38$, $p=.08$) was explained. Beta weights for Step 2 regression analyses revealed that student perception of parental attitude toward achievement in 9th grade ($\beta=.33$, $p<.05$) was a significant contributor to the model.

Student sex was controlled for at Step 1 for 11th grade students. With likelihood of graduating college as the criterion variable, Step 1 regression analysis was found to be significant for 11th grade students. However, Step 2 regression analysis did not indicate significance when student perception of parenting variables (parental demandingness, parental responsiveness, parent attitude toward achievement, and parent school involvement) was added. Step 1 regression analyses on 11th grade students' perception of their parents' parenting variables with likelihood to graduate college as the criterion variable explained 29% of the variance ($R^2=.29$, $F=10.05$, $df=1, 25$, $p=.004$). Beta weights for Step 1 regression analysis revealed that student sex with likelihood to obtain a Bachelor's Degree for 11th graders ($\beta=-.11$, $p<.56$) was a significant contributor to the model.

Analyses on 10th and 12th grade students' perception of their parents' parenting variables with likelihood to complete college as the criterion measure indicated nonsignificance.

Research Question 4: What is the additive role of family structure and free/reduced lunch status in explaining variance in adolescent academic achievement?

Tests of assumptions. ANCOVA was used to address the main effects and interactions of family structure and free/reduced lunch status variables while controlling for the effects of parental achievement variables. Assumptions for ANCOVA were tested. The assumption of linearity was tested by viewing scatterplots. Linearity was met for all variables. However, it should be noted that parental attitude toward achievement for the nontraditional family group demonstrated weak linear relations with GPA. All other groups demonstrated a clear linear relationship. The homogeneity of regression assumption was assessed through interaction effects with the covariates, none of which were significant so this assumption was met. Assumption for normality was checked using the Shapiro-Wilk's test which indicated some minor deviation for non free/reduced lunch students ($p=.011$). Since ANCOVA is fairly robust, no transformations were used. All other groups met the assumption. No outliers were identified through a visual inspection of box plots. The assumption of homoscedasticity was tested and met after viewing a scatterplot of predicted values and residuals. Homogeneity of variance was tested using Levene's Test. No significance was found for groups and thus this assumption was met.

Family structure, socio-economic status, and GPA. A 2 (traditional and nontraditional family structure) x 2 (free/reduced lunch status and non-free lunch status) ANCOVA was run for Research Question 4. Covariates in the model were parental achievement variables (parental demandingness, parental responsiveness, parental attitude toward achievement and parent school involvement). The dependent variable was GPA. Strength of the relation between predictors and GPA in the overall corrected model was moderate (partial $\eta^2=.15$). The overall ANCOVA model demonstrated that when the parental achievement variables were controlled for (or covaried),

there was a statistically significant difference in GPA by family structure, $F(4, 129)=5.52, p<.001$. For GPA, descriptive statistics indicated a higher mean for traditional family structure and students who were non-free/reduced lunch status ($M=2.85, SD=.95$) than for nontraditional family structure and non-free/reduced lunch status students ($M=2.53; SD=.1.03$). In addition, for GPA, traditional family structure with free/reduced lunch status student mean ($M=2.98; SD=.83$) was higher than for nontraditional family structure with free/reduced lunch students ($M=2.19; SD=1.02$). Descriptive statistics are displayed in Table 15.

Table 15
Research Question 4 - Descriptive Statistics

Dependent Variable: GPA				
Family Structure		Mean	SD	n
Traditional	Paid	2.85	0.95	51
	Free/Reduced	2.98	0.83	32
	Total	2.90	0.90	83
Nontraditional	Paid	2.53	1.03	33
	Free/Reduced	2.19	1.02	18
	Total	2.41	1.03	51
Total	Paid	2.72	0.99	84
	Free/Reduced	2.70	0.97	50
	Total	2.71	0.98	134

ANCOVA interaction and main effects. The interaction between family structure and free/reduced lunch status was not significant. Since ANCOVA uses regression to partial out some of the effects of the covariates, analyses from Research Question 2, which only analyzed the parental achievement predictor variables, was included in the model. Thus, the R^2 from Research Question 2 was subtracted from the R^2 in Research Question 4 ($.15-.10=.05$) which indicated 5% of the variance was explained by adding in two categorical variables (family structure and free/reduced lunch statuses) even though one was not significant.

As demonstrated in Table 16, main effects were found for parental demandingness ($F(1, 133)=9.25$, $p<.001$, partial $\eta^2=.07$), parental attitude toward achievement ($F(1, 133)=7.10$, $p=.05$, partial $\eta^2=.05$) and family structure consisting of traditional and nontraditional family structure ($F(1, 133)=4.07$, $p=.05$, partial $\eta^2=.03$) on GPA. Lunch status consisting of free/reduced lunch status and non free/reduced lunch status reached significance ($F(1, 133)=.36$, $p=.55$, partial $\eta^2<.001$). Post hoc analysis was conducted with a Bonferroni adjustment. Planned pairwise comparisons revealed that the traditional family structure group had a higher GPA than nontraditional family structure group ($p<.05$). Pairwise comparisons were not run for free/reduced lunch status and non free/reduced lunch status groups because univariate analysis had already demonstrated nonsignificance. Tests of between subject effects data is demonstrated in Table 16.

Table 16
Research Question 4 - Tests of Between-Subjects Effects
 Dependent Variable: GPA

Source	Type III		Mean Square	F	Sig.	Partial η^2
	Sum of Squares	df				
Corrected Model	18.60 ^a	4	4.65	5.52	0.00	0.15
Intercept	5.06	1	5.06	6.01	0.02	0.05
PDemandingness	7.79	1	7.79	9.25	0.00	0.07
P Attitude	5.98	1	5.98	7.10	0.05	0.05
Lunch Status	0.30	1	0.30	0.36	0.55	<.001
Family Structure	3.42	1	3.42	4.07	0.05	0.03
Error	108.60	129	0.84			
Total	1114.04	134				
Corrected Total	127.20	133				

$R^2 = .146$ (Adjusted $R^2 = .120$)

Note: P=parent

CHAPTER 5

DISCUSSION

Using Bronfenbrenner's (1979) ecological systems model, the overarching purpose of this study was to examine the relations between parents' and adolescents' perceptions of parenting style (demandingness and responsiveness), parental attitude toward achievement, parental school involvement, family structure and adolescents' academic achievement variables – GPA, likelihood of completing high school and likelihood of completing college. Results of this study support previous research findings on academic achievement and the dynamic systems that influence achievement. The findings in this study demonstrated the importance of understanding the relationship between the adolescent's and their parent's perception of parenting variables within the family's microsystem. This study also demonstrated the need to understand the dynamic relationship between a parent's perception of their school involvement versus the adolescent's perception of their parent's school involvement within their school mesosystem.

One strength of the study was its inclusion of matched adolescent-parent pairs. Another strength of the study was its diversity in race/ethnicity. In addition, parent perceptions and adolescent perception of parental achievement variables were found to vary in agreement across grade levels and within groups. This was a consistent finding throughout the study. Although several variables ended up unusable due to lack of participant response variability, there were compelling findings in this study that contribute to the existing literature. In general, most hypotheses were partially or fully confirmed. One theme observed across research questions was that although somewhat predictive of achievement, parent demandingness was less predictive of achievement outcomes than parental attitude toward achievement. Parental attitude toward

achievement demonstrated a consistent role in the outcomes studied. Notable themes by research question are discussed next.

Research Question 1

Many of the parent/adolescent correlations were in the moderately strong range. For example, parental perception of their child's likelihood of completing high school and their child's perception of their likelihood to complete high school were moderately correlated. In addition, parent perception of their responsiveness and student perception of parental responsiveness demonstrated a moderate correlation. The finding of a consistent relation between parent and child perception of parents' parenting style, attitude toward achievement, and school involvement gives credence to the validity of the importance of a matched-pair sample versus random parent/adolescent analyses or analyses only considering either parents' or children's perspectives.

Though still significantly associated, noteworthy of discussion are the two variables with the lowest agreement--parental perception of their attitude toward achievement with student perception of their parent's attitude toward achievement. This finding may be due to adolescents viewing parent's as being too focused on academic outcomes, whereas, in previous research studies, adolescents have been identified as being more interested in social outcomes.

Parents and adolescents were in agreement in their perception of parental school involvement as well as parental demandingness. Conversely, parent and adolescent perspectives of attitude toward achievement did not agree, nor was parental attitude toward achievement correlated with a student's GPA. As parental demandingness increased, GPA was found to decrease. This finding indicated that too much parental demandingness may have the reverse

effect and in fact result in lower academic achievement for their child. Some adolescents do not work well under pressure.

Research Question 2

In the first regression analysis, the explained variance in GPA increased from 7% in Step 1, where sex, family structure and marital status were controlled for, to 17% in Step 2 when parental variables were included. This finding indicates the importance of parental demandingness, parental responsiveness, parental attitude toward achievement, and school involvement in contributing to a student's academic achievement, as measured here by GPA. For high school completion, parent attitude toward achievement was found to be predictive of whether or not the parent believed their adolescent would graduate high school. Parent attitude was found to be predictive of academic achievement for both the parents and their child throughout this study indicating a need to study this variable to a greater extent. Due to the nature of studying at risk populations to increase academic achievement, it would be beneficial to research which parental attitudes specifically contribute to achievement. The findings in this study indicate that it is the parents' perception of their attitude toward their child's achievement that is most important, not the child's perception of their parent's attitude toward achievement.

With the college completion variable as the criterion variable, family structure with parent attitude toward achievement explained a significant proportion of variance. As found in previous literature, this change in variance could be due to the family structure being related to college completion as well as the parent's attitude toward their college completion contributing to this success. The parent's attitude toward achievement may be viewed as a necessary emotional support system needed in order for their child to complete college. In addition, family

structure such as a traditional family structure may indicate the parent's ability to provide more resources needed for college completion.

According to the parents in this study, their involvement in their child's education does matter. However, data did not reveal the same type of results from the student perspective. Findings did not indicate significance for the student perspective of the parenting variables with the achievement variables. This finding indicates that the student's perception of their parent's attitude toward achievement, parenting style, or school involvement does not matter when it comes to GPA. However, parent reported contributions to school matter when predicting GPA.

Research Question 3

There was no significance found for GPA across grade levels for Part I of Research Question Three. This finding may be due to GPA being intrinsically motivating for high school students, whereas in younger samples GPA is more extrinsically motivating. It may be that as students mature, what parents think about their achievement becomes less important. Student perception of parent attitude toward achievement for 9th graders contributed to significance in Step 2 of Part I and Part II of Research Question Three. This finding may be due to 9th grade students being new to the high school and realizing that they have to perform academically to graduate high school. This result may be due to the parental bond being closer between the parents and pre-teen during middle school. It may also be due to student grades not "counting" during middle school and the possible realization that middle school grades can be inflated and subjective at times. Or, it could be that their parent's attitude toward their education contributes to whether or not the 9th grade student believes he or she will graduate high school because the academic stakes are now higher.

No significance was found for 10th and 11th grade for likelihood to graduate high school. This finding indicates that by 10th and 11th grade students may already feel or know whether or not they will be able to graduate high school. This finding may also be due to the adolescents already having an academic history, thus relying less on their parent's for their academic achievement.

For 12th grade students, parental demandingness and parental attitude toward achievement contributed to Step 2 significance. This finding indicates that students in 12th grade are transitioning from high school to either college or the work force and their parent's demandingness and attitude toward their ability to achieve is once again needed in order to graduate high school. This parental demandingness and attitude toward achievement sets them on course for the next stage of their life.

Likelihood for completing college was analyzed across grade levels. Once again, for 9th graders, parent attitude toward achievement contributed to the changes at Step 2 after controlling for covariates in Step 1. This finding indicates that incoming freshmen may be worried about their grades and whether or not they will be able to be successful enough in high school to complete college. Because they are under a new type of stress, their parent's attitude toward their schooling may help alleviate it. For example, parents may be telling them that they know they can do well in high school. Parents may be helping with homework or getting their child tutoring with a difficult class. These are powerful messages that the child's success in high school is important to the parent.

Student sex contributed to Step 1 for likelihood to graduate college with significantly more females reporting likelihood of graduating college. This finding is in accordance with other studies on sex and its relationship to achievement. Student sex may have been significant

due to the focus of education during 11th grade on standardized testing. Previous studies had indicated that males do better on standardized tests such as the ACT and SAT. However, females are found to perform better in college than males do. Although we don't know for sure, it is possible that the student's perception of their achievement was based on their gender.

The findings on 10th and 12th grade students and their perception of parenting variables and likelihood to complete college were non-significant. This finding is supported by other research. By and large, 10th graders are not as worried about college yet, and 12th graders, for the most part, already know which career path and school they will be attending.

Research Question 4

Group differences were found for traditional family structure and nontraditional family structure groups for parental demandingness and parental attitude toward achievement and GPA. The traditional family group had higher means than the nontraditional family group for the parental achievement variables analyzed in this study. Significant group differences in GPA were found for traditional and nontraditional family structure when parental demandingness, parental attitude toward achievement were controlled for. This finding indicates that the combined influences of the demands of a parent, the parental attitude toward schooling and their family structure together may offset any adverse effects that could be contributed by socio-economic status as measured by free/reduced and non free/reduced lunch status collected from the school district. As cited in previous research, the values of the family toward academic achievement contribute more to the academic achievement than their socio-economic status. This finding is indicative of the belief that students from either a traditional or a nontraditional family structure can overcome poverty and move out of poverty through increased parental involvement with the adolescent's academic achievement.

The findings in Research Question 4 indicate that these parental variables influence an adolescent's GPA. This influence on GPA may be due to parents understanding the academic expectations placed on high school students and therefore, were more likely to be demanding of their adolescent, consequently passing on their attitude toward achievement to their adolescent child. On the other hand, parent responsiveness and GPA was not found to be significant. This finding may be due to parents thinking their adolescent does not need the individual attention, help with self-regulation, or have special needs during high school due to them being older.

Demographic Variations

For the purposes of this study, demographic variables were controlled for because of significant group differences in most of the outcome variables. However, those demographic differences are highly interesting in and of themselves. For example, for the parental demographic variables age and gender, only two variables were found to be significant. Parental age for the over 50 age group demonstrated lower demandingness for their adolescent children than any other age group. This finding indicates that older parents are less demanding than younger parents. This difference in parental demandingness may be due to taking a more relaxed approach to parenting due to possibly having raised children previously. Or, it may be due to a type of wisdom that learning in and of itself is more important than the end result being a particular grade.

Gender was found to be significantly related only to parental school involvement. Mothers perceived their parental school involvement higher than fathers' perception of school involvement. This finding may be due to the majority of mothers in this study being stay at home mothers or unemployed mothers. In either case, the mother is at home and more available than the father to be involved in school events and volunteer opportunities. Another possible

reason for mothers perceiving themselves as more involved could be due to the social expectation of traditional gender roles within this unique population, whether the mother is working or stay at home.

Additionally, significance for ethnicity/gender demonstrated ethnic differences between groups. For example, African American parents were found to be highest in demandingness and the Other category lowest in demandingness followed by Arabic as the next lowest scoring group for parental demandingness. The difference between African American parents' scoring higher in parental demandingness than other category and Arabic parents' scores in parental demandingness, may be due to other category and Arabic parents' cultural differences from mainstream U.S. norms, or possible English language issues resulting in the lack of understanding the school system's academic expectations. African American parents may be better aware of the academic expectations for their children as well as the necessity for their children to do well in school in order to overcome possible social and academic barriers.

Another noteworthy demographic difference was that parental school involvement was highest for multi-racial parents followed by White parents. Parents lowest in school involvement with ethnicity/race were Other category parents and Chaldean parents. These racial/ethnic differences could be due to multi-racial parents and White parents understanding the importance of being involved in their child's education because they have been enculturated into American school system values versus the Other category parents and Chaldean parents either feeling uncomfortable due to language/cultural barriers or not understanding the importance of being visible at their child's school activities.

As with previous research professional parents were found to be highest in school involvement, whereas manual labor parents were lowest. These findings demonstrate as a

parent's affluence due to education and professional status increases so does their child's achievement.

Significance was also found for parental demandingness and parental attitude toward achievement with perception of child's grades. Parents who reported their child's grades as mostly Cs were highest in demandingness and parents who reported their child's grades as mostly Bs were lowest in demandingness. This change in demandingness and perception of achievement may be due to parents whose children are getting Cs know or expect their children can achieve more and know that increased achievement is necessary for college admittance, whereas parents whose children are getting mostly Bs may be satisfied that their children are able to achieve at this level, or these children may be working up to ability and parents understand this.

As expected, group differences were found for parents who reported their child's grades as mostly As were highest in attitude toward achievement, whereas parents who reported their child's grades as mostly D and Es were lowest in attitude toward achievement. As found in other studies on academic achievement, this finding may indicate that as children worsen in their achievement, parents' attitude toward achievement also wanes, or vice versa—directionality in relations cannot be determined. A lower parental attitude toward their child's grades may be due to having tried for a long period of time to get child to succeed, or possibly other factors such as managing family stressors being more important at the time than a child's grades.

The nontraditional family structure group was found to be more demanding of their children than the traditional family structure parents. This finding contradicts other studies that have found traditional family structure parents to be most demanding. It is possible that nontraditional families are more demanding due to believing their children need to be held to a

higher standard so that they do not make the same mistakes they did with possibly school, work, or personal choices. The nontraditional family structure parents reported higher school involvement than the traditional family structure parents. This may be due to nontraditional parents' adolescents having school issues that the traditional family structure parent who participated in the study does not have with their child. Or, it may simply be with this unique population, that nontraditional parents are more active in their child's school activities. As with other research study findings, the traditional family structure parents perceived their child having better grades than the nontraditional parents which suggests that the nontraditional parent may be more involved due to achievement issues.

Results also indicated that female students reported slightly higher perception of their ability than did males. This finding contradicts prior research. This may be due to the ethnic/racial composition of this study is different from previous studies. Maybe within these ethnic groups, females are more aware of their academic ability than their male counterparts. Or, it could be awareness that as a female in this country, they have academic opportunities not available in the country they or their parents may have come from.

Significant differences were found for student ethnicity/race and school involvement. Hispanic and White students perceived their parents highest for parental school involvement followed Chaldean students reported lowest parental school involvement followed by Asian Non-Indian students. The perceived lack of school involvement from Chaldean and Asian Non-Indian students' perspective of their parents' school involvement is possibly due to cultural differences from standard American school norms, but this would have to be explicitly explored in future research to be sure.

Limitations and Directions for Future Research

Although there were several important findings revealed in this research, several limitations must be discussed as well. One limitation of this study was the non-normal distribution for likelihood to complete college and likelihood to complete college criterion variables that occurred. However, due to their relation to achievement outcomes they were left in the analyses. The non-normal distribution of these variables may be due to several factors. One contributing factor may be that parents by and large know the importance of education on a global level, and therefore perceive their children as graduating high school and/or college occurring even when data such as the student's GPA may indicate otherwise. Another reason for the skewness of these two criterion variables in this study may have been because of the social pressure on parents to assure their children succeed academically. It may be difficult for parents to be fully honest with themselves if they have an academically failing child yet they know the social necessity of obtaining a high school diploma as well as a college degree. It would be very difficult to indicate a response that one's child probably will not graduate high school. That box being checked not only indicates the child is failing, it also indicates the parent has failed the child.

Another limitation of the study was the combination of parental variables influencing academic achievement could be analyzed individually using a similar sample. This type of analyses would provide a more precise explanation of each of the variables analyzed in this study. Another limitation of the study was that some of the variables had to be dropped during analyses. This limitation of the study might have mildly affected some of the results. A final limitation to the study was the sample size. Obtaining matched/paired samples to participate

within a study is difficult. Sometimes, the parent would want to be involved in the study, but the adolescent would not want to participate and vice versa.

One suggestion for future research is for the creation of a face-to-face interview addressing the same parental variables used in this study. Parent and the adolescent would be interviewed at separate times to help control for bias. Their answers would be coded to observe the relationship between the verbal responses between the parent and adolescent. This approach to understanding the relationship between parental and adolescent perception and agreement would give researchers, counselors, and educator's greater insight into the thought processes that are taking place between parent and adolescent.

Due to the myriad of racial/ethnic groups participating in the study, it would be prudent to continue researching these diverse groups. There were groups participating in this study from ethnic groups not formerly studied. Because of the increase of diverse ethnic and cultural groups migrating to the U.S., studies addressing the unique sub-ethnic categories such as Bangladeshi, Chaldean, and Indian groups need to occur in order to help children from these under researched nationalities achieve within the American school system.

Summary and Conclusions

Despite these limitations, this study has expanded the understanding of parents' and adolescents' perception of parental achievement variables across age groups. Previous research has primarily focused on one age group at a time. In addition, no studies were found to have analyzed a matched-paired sample focusing on the parenting variables analyzed in this study. This study has contributed to a deeper understanding of specific developmental stage parental differences – 9th through 12th grade – providing a necessary understanding of that specific

developmental time period. For example, parental attitude toward achievement was found to be important when analyzing all three criterion variables.

This study has directly contributed to identifying the need for schools – whether primary or secondary – to be provided the resources needed to help acclimate the distinct ethnic groups in this study to the U.S. school system. Through parenting skills opportunities provided directly at the school location where their child attends, parents would be able to learn positive parenting skills that are directly related to academic achievement. This study has indicated that some parents from different ethnic groups may not be aware of how to positively affect their child's achievement. With government support through grant funded parenting programs, this problem could be addressed.

Finally, previous research has examined these variables from either the perspective of the parent or from the perspective of the adolescent. This study has contributed to the under-researched area of matched-paired parents' and adolescents' perceptions of parent involvement, parenting styles, and academic achievement. This study has provided teachers, counselors, parents and other interested stakeholders an in depth understanding of the interactions and between family structure, parenting styles, parental attitudes toward achievement and parental school involvement from the developmentally distinct adolescent trajectory of high school students.

APPENDIX A

STUDENT MOTHER ACHIEVEMENT SURVEY

Please circle your current grade.

9th Grade 10th Grade 11th Grade 12th Grade

Please circle your gender.

Male Female

Please circle the ethnicity that best describes you.

African American Arabic Asian – non-Indian Asian – Indian Chaldean
 Hispanic Multi-racial Native American Indian White Non-Hispanic Other

Please circle the grades you most often receive in math, science, history/social studies and English:

mostly A's mostly A's and B's mostly B's mostly B's and C's
 mostly C's mostly C's and D's mostly D's mostly D's and E's mostly E's

Please circle the family structure that best describes the type of family you live in:

married with two biological parents two biological parents not married living together
 married step family living together step family
 single mother family single father family
 no parent family other _____

Using the scale below, write in the number next to the line that best describes your **MOTHER**. Number 1 would mean your mother is not like the statement, whereas number 5 would mean your mother is very much like the statement.

Very unlike me	More unlike than like me	Neither like nor unlike me	More like than unlike me	Very like me
1	2	3	4	5

- _____ 1. My mother has rules for me about watching TV or being on the computer.
- _____ 2. I would describe my mother as a strict parent.
- _____ 3. It is okay with my mother if I do not follow certain rules.
- _____ 4. When I do something that is wrong, my mother usually does not punish me.
- _____ 5. I think my mother disciplines me a lot.
- _____ 6. My mother usually wants to know where I am going.
- _____ 7. My mother gives me a lot of freedom.
- _____ 8. My mother makes most of the decisions about what I am allowed to do.
- _____ 9. My mother gives me chores to do around the house routinely.
- _____ 10. My mother lets me do pretty much what I want without questioning my decisions.

Very More unlike Neither like More like Very

<u>Unlike me</u>	<u>than like me</u>	<u>nor unlike me</u>	<u>than unlike me</u>	<u>like me</u>
1	2	3	4	5

- ___ 11. My mother rarely gives me orders.
- ___ 12. My mother has few rules for me to follow.
- ___ 13. My mother expects me to be home at a certain time after school or in the evening.
- ___ 14. It does not really matter to my mother whether or not I do assigned chores.
- ___ 15. My mother sometimes tells me that her decisions should not be questioned.
- ___ 16. My mother sometimes criticizes me for what I do.
- ___ 17. My mother expects me to tell her when I think a rule is unfair.
- ___ 18. My mother encourages me to look at both sides of an issue.
- ___ 19. It is hard for my mother to admit that sometimes I know more than she does.
- ___ 20. My mother does not think that I should help with decisions in our family.
- ___ 21. My mother encourages me to talk with her about things.
- ___ 22. My mother does not believe that she should have her own way all the time anymore than she believes I should have mine.
- ___ 23. My mother would rather I not tell her my troubles.
- ___ 24. My mother expects me to do what she says without having to tell me why.
- ___ 25. My mother seldom praises me for doing well.
- ___ 26. My mother believes I have a right to my own point of view.
- ___ 27. My mother takes an interest in my activities.
- ___ 28. My mother encourages me to talk to her honestly.
- ___ 29. My mother usually tells me the reasons for rules.
- ___ 30. My mother does not believe I should have a say in making rules.
- ___ 31. My mother tries to get me to do my best on everything I do.
- ___ 32. My mother thinks that education is a very important part of adolescence.
- ___ 33. My mother usually goes to parent-teacher conferences.
- ___ 34. My mother usually sets high standards for me to meet.
- ___ 35. My mother seldom looks at my tests and papers from school.
- ___ 36. It does not really matter to my mother what grades I get.
- ___ 37. My mother is not involved in school programs for parents.
- ___ 38. My mother sometimes does volunteer work at my school.
- ___ 39. My mother thinks homework is a very important part of school.
- ___ 40. When I get poor grades, my mother encourages me to try harder.
- ___ 41. My mother usually does not go to school functions.
- ___ 42. My mother makes sure that I have done my homework.
- ___ 43. My mother usually knows the grades I get.
- ___ 44. My mother thinks I should go to college.
- ___ 45. Hard work is very important to my mother.
- ___ 46. My mother does not think that she should help me with my homework.
- ___ 47. My mother has high aspirations for my future.
- ___ 48. When I get poor grades, my mother offers help.
- ___ 49. When I ask for help with homework, my mother usually gives it to me.

- ____ 50. My mother thinks that getting ahead in life is very important.
- ____ 51. My mother does not think I should be concerned about what kind of career I may have.
- ____ 52. My mother usually goes to activities in which I am involved at school.
- ____ 53. I am going to graduate from high school.
- ____ 54. I am going to obtain a Bachelor's Degree.

APPENDIX B

STUDENT FATHER ACHIEVEMENT SURVEY

Using the scale below, write in the number next to the line that best describes your **FATHER**. Number 1 would mean your mother is not like the statement, whereas number 5 would mean your mother is very much like the statement.

Very unlike me	More unlike than like me	Neither like nor unlike me	More like than unlike me	Very like me
1	2	3	4	5
_____	1	My father has rules for me about watching TV or being on the computer.		
_____	2.	I would describe my father as a strict parent.		
_____	3.	It is okay with my father if I do not follow certain rules.		
_____	4.	When I do something that is wrong, my father usually does not punish me.		
_____	5.	I think my father disciplines me a lot.		
_____	6.	My father usually wants to know where I am going.		
_____	7.	My father gives me a lot of freedom.		
_____	8.	My father makes most of the decisions about what I am allowed to do.		
_____	9.	My father gives me chores to do around the house routinely.		
_____	10.	My father lets me do pretty much what I want without questioning my decisions.		
_____	11.	My father rarely gives me orders.		
_____	12.	My father has few rules for me to follow.		
_____	13.	My father expects me to be home at a certain time after school or in the evening.		
_____	14.	It does not really matter to my father whether or not I do assigned chores.		
_____	15.	My father sometimes tells me that his decisions should not be questioned.		
_____	16.	My father sometimes criticizes me for what I do.		
_____	17.	My father expects me to tell her when I think a rule is unfair.		
_____	18.	My father encourages me to look at both sides of an issue.		
_____	19.	It is hard for my father to admit that sometimes I know more than he does.		
_____	20.	My father does not think that I should help with decisions in our family.		
_____	21.	My father encourages me to talk with him about things.		
_____	22.	My father does not believe that he should have his own way all the time anymore than he believes I should have mine.		
_____	23.	My father would rather I not tell him my troubles.		
_____	24.	My father expects me to do what he says without having to tell me why.		
_____	25.	My father seldom praises me for doing well.		
_____	26.	My father believes I have a right to my own point of view.		
_____	27.	My father takes an interest in my activities.		
_____	28.	My father encourages me to talk to him honestly.		
_____	29.	My father usually tells me the reasons for rules.		
_____	30.	My father does not believe I should have a say in making rules.		

- _____31. My father tries to get me to do my best on everything I do.
- _____32. My father thinks that education is a very important part of adolescence.
- _____33. My father usually goes to parent-teacher conferences.
- _____34. My father usually sets high standards for me to meet.
- _____35. My father seldom looks at my tests and papers from school.
- _____36. It does not really matter to my father what grades I get.
- _____37. My father is not involved in school programs for parents.
- _____38. My father sometimes does volunteer work at my school.
- _____39. My father thinks homework is a very important part of school.
- _____40. When I get poor grades, my father encourages me to try harder.
- _____41. My father usually does not go to school functions.
- _____42. My father makes sure that I have done my homework.
- _____43. My father usually knows the grades I get.
- _____44. My father thinks I should go to college.
- _____45. Hard work is very important to my father.
- _____46. My father does not think that he should help me with my homework.
- _____47. My father has high aspirations for my future.
- _____48. When I get poor grades, my father offers help.
- _____49. When I ask for help with homework, my father usually gives it to me.
- _____50. My father thinks that getting ahead in life is very important.
- _____51. My father does not think I should be concerned about what kind of career I may have.
- _____52. My father usually goes to activities in which I am involved at school.
- _____53. I am going to graduate from high school.
- _____54. I am going to obtain a Bachelor's Degree.

APPENDIX C

PARENT ACHIEVEMENT SURVEY

Please circle the age group that best describes you.

Under 30 years old 31-39 years old 40-49 years old over 50 years old

Please circle your gender.

Male Female

Please circle the ethnicity that best describes you.

African American Arabic Asian – non-Indian Asian – Indian Chaldean
Hispanic Multi-racial Native American Indian White Non-Hispanic Other

Please circle the marital status that best describes you.

Divorced Living with partner Married Single, never married Widowed

Please circle the type of job that best describes your current employment.

Professional Employment Skilled Trades Semi-skilled Trades Manual Labor
Unemployed at this time Stay-at-home Parent

Please circle the educational level that best describes you.

PhD Master's Degree Bachelor's Degree Some
college
Trade school High School Diploma or GED Did not finish high school

Please circle the grades your child most often receives in math, science, history/social studies and English:

mostly A's mostly A's and B's mostly B's mostly B's and C's
mostly C's mostly C's and D's mostly D's mostly D's and E's mostly E's

Please circle the family structure that best describes the type of family you live in:

married with two biological parents two biological parents not married living together
married step family living together step family
single mother family single father family
no parent family other _____

Please circle whether or not you are the **MOTHER** or **FATHER** of the high school student participating in the study. Using the scale below, write in the number next to the line that best describes your parenting. Number 1 would mean you are not like the statement, whereas number 5 would mean you are like the statement.

Very More Unlike Neither Like More Like Very
Unlike Me Than Like Me nor Unlike Me than Unlike Me Like Me

1	2	3	4	5
_____ 1				
_____ 2.				
_____ 3.				

I have rules for my child regarding watching TV or surfing the Internet.
I would describe myself as a strict parent.
It is okay if my child does not follow certain rules.

- _____ 4. I don't always punish my child when they do something wrong.
- _____ 5. I think I discipline my child a lot.
- _____ 6. I usually want to know where my child is going.
- _____ 7. I give my child a lot of freedom.
- _____ 8. I make most of the decisions about what my child is allowed to do.
- _____ 9. My child does chores around the house routinely.
- _____ 10. I don't question my child regarding their decisions.
- _____ 11. I rarely give my child orders.
- _____ 12. I have few rules for my child to follow.
- _____ 13. I expect my child to be home at a certain time after school or in the evening.
- _____ 14. It does not really matter to me whether or not my child does assigned chores.
- _____ 15. I believe my decisions regarding my child should not be questioned.
- _____ 16. I sometimes criticize my child for what they do.
- _____ 17. I expect my child to tell me when they think a rule is unfair.
- _____ 18. I encourage my child to look at both sides of an issue.
- _____ 19. It is hard for me to admit that sometimes my child knows more than I do.
- _____ 20. I do not think my child should help with decisions in our family.
- _____ 21. I encourage my child to talk with me about things.
- _____ 22. I don't believe my child should have his own way all the time anymore than he believes I should have mine.
- _____ 23. I would rather my child not tell me their troubles.
- _____ 24. I expect my child to do what I say without having to tell them why.
- _____ 25. I seldom praise my child for doing well.
- _____ 26. I believe my child has a right to their own point of view.
- _____ 27. I am interested in my child's activities.
- _____ 28. I encourage my child to talk to me honestly.
- _____ 29. I usually explain the reasons for my rules to my child.
- _____ 30. I don't believe my child should have a say in making rules.
- _____ 31. I try to encourage my child to do their best on everything they attempt.
- _____ 32. I believe that education is a very important part of childhood.
- _____ 33. I usually go to parent-teacher conferences.
- _____ 34. I usually set high standards for my child to meet.
- _____ 35. I seldom look at my child's tests and papers from school.
- _____ 36. It does not really matter to me what grades my child gets.
- _____ 37. I am not involved in school programs for parents.
- _____ 38. I sometimes do volunteer work at my child's school.
- _____ 39. I believe homework is a very important part of school.
- _____ 40. When my child gets low grades, I encourage them to try harder.
- _____ 41. I do not usually go to school functions.
- _____ 42. I make sure that my child has done their homework.
- _____ 43. I usually know what grades my child gets.
- _____ 44. I think my child should go to college.
- _____ 45. Hard work is very important to me.
- _____ 46. I do not think I should help my child with homework.
- _____ 47. I have high aspirations for my child's future.
- _____ 48. When my child gets poor grades, I offer to help them.
- _____ 49. When my child asks for help with homework, I usually give it to them.
- _____ 50. I think getting ahead in life is very important.
- _____ 51. I am not concerned about what kind of career my child may have.
- _____ 52. I usually go to school activities my child is involved in.

- _____53. My child is going to graduate from high school.
- _____54. My child is going to obtain a Bachelor's Degree.

APPENDIX D**PERMISSION LETTER TO STUDY 9TH – 12TH GRADE STUDENTS AND PARENTS**

November 4, 2012

Dear Mr. Dignan,

I want to thank you very much for meeting with me regarding my dissertation research project. No PhD program is completed without the help and support of the people who help you with your research! I do understand how busy school administrators are and it is with sincere gratitude that I write this letter to you. It is my hope that we will be able to work together to conduct research on the relation between parenting variables and adolescent achievement. I am writing to request your written permission to present your high school students and their parents with a survey regarding perception of parental influences on achievement. As we discussed, I am in the final stages of my doctoral studies at Wayne State University in the Theoretical/Behavioral Foundations Department under the direction of Cheryl Somers, PhD. The WSU Institutional Research Board requests such a letter.

Due to the drop in academic achievement between middle school and high school, it is my goal to use a cross-sectional approach to analyze the differences and changes between parental and adolescent perception of parental influences on their academic achievement from middle to school to high school. By using matched-paired samples (adolescent and their parent/s), a deeper understanding of parental influences on achievement will be gained. Thus, increasing the opportunity for educators to create programs aimed at increasing middle school and high school academic achievement.

The proposed sample needed for this study is 250 middle school and 250 high school students and their matched-paired parents from Warren Consolidated Schools. Whether or not a student is deemed at risk will be determined by the student's free and reduced lunch status and/or whether or not they are attending a Title I school.

A survey adapted from Paulson, Marchant's and Rothlisberg's 1994 parenting, teaching, and school atmosphere study will be used to measure parent and adolescent perception achievement variables. Demographic information will be obtained from students regarding their current grade, age, gender, and ethnicity. Conjointly, both parents will be asked to report their age, gender, ethnicity, marital status, income, job description, and education level (see attached survey).

Students' grade point averages will be derived from their semester report card grades at the end of the semester in which the study is conducted. The students will self-report their own grades. The parents will also self-report their child's grades.

As appreciation for their time, parents and students who participate in the study will have their names put in for a \$25 gift card drawing. Five participating parents and five participating students will win a gift card. As appreciation for the school and administration's participation, \$100 will be donated to the school library. It is my hope to schedule a meeting at your convenience to discuss my study with you in greater detail and make a plan for collecting data.

I am proposing scheduling a meeting to be held after school to inform the parents and adolescents of the purpose of the study at various after school activities. Drinks and snacks will be provided at this meeting by the researcher. During the meeting, Informed Consent forms will be explained, distributed and collected from the potential study participants following the

meeting. The names of unsure participants will be collected for further contact and discussion if needed. However, this is only a proposed approach.

Surveys will be administered to students at their respective school. Parent and student participation in the study will be completely voluntary. Students and parents will be given snacks on the days of their participation in the study. Parents and adolescents will fill out surveys separately to control for adolescents feeling pressure from parents to answer in a particular manner. Parents may choose to either attend a meeting to fill out the survey face-to-face or students may take the surveys home with them after they are explained to them during their respective class. It should not take approximately over 45 minutes for the participants to fill out the survey. All participants in the study will be given my cell phone number to reach me if there are any questions.

Study participation will remain completely confidential through a coding system. No other persons besides the researcher will have access to the participant's signed forms. Data collected and analyzed will be reported out as group data, not individual data. The schools will also be confidentially coded.

Once again, I would like to sincerely thank you for your time and consideration with helping me collect the necessary data to complete my PhD. Your contribution to my educational process is needed. I am so excited that you have decided to participate in my study. Please contact me as soon as possible to discuss our collaboration. I can be reached at (734) 968-7884. My advisor, Dr. Cheryl Somers can be reached at (313) 577-1670.

APPENDIX E

RESEARCH SUMMARY SENT TO DISTRICTS FOR RECRUITMENT INTO STUDY

Purpose

The purpose of this study is to use a cross-sectional approach to analyze the differences and changes between parental and adolescent perception of parental influences on their academic achievement during adolescence. It is the researcher's goal to analyze these differences based on the following parental factors: family structure, parenting styles, parental attitude toward achievement, and parental school involvement. By utilizing matched-paired samples while conducting a cross-sectional study, a deeper understanding of parental influences on achievement will be gained.

Method

Participants

The proposed sample for this study will be adolescent students and their parents from Warren Consolidated Schools. Adolescents who are at risk of low school success due to poverty will be the targeted sample. Whether or not a student is deemed at risk will be determined by the students' free and reduced lunch status and/or whether or not they are attending a Title I school. Research and governmental agencies support using students' free and reduced lunch status as one of the major indicators for being an at-risk student (National Center for Education Statistics: <http://nces.ed.gov/>). Title I schools are governmentally funded due to the vast majority of their student population being considered at-risk due to low socioeconomic status.

Measures

A set of survey questions adapted from Paulson, Marchant's and Rothlisberg's 1994 parenting, teaching, and school atmosphere study will be used to analyze parent and adolescent perceptions of parenting styles, parental and adolescent attitude toward achievement, and parental school involvement. Demographic information will be obtained from students regarding their current grade, age, gender, and ethnicity. Conjointly, both parents will be asked to report their age, gender, ethnicity, marital status, income, job description, and education level.

Grade Point Average. Students' grade point averages will be derived from their semester report card grades at the end of the semester in which the study is conducted. The letter grades will be coded as 1 (3.5-4.0) through 5 (0-.9). In addition, students' will fill out a self-report measure assessing their GPA by answering the question, "What grades do you most often receive?" The following response options will be as follows: Mostly As, Mostly As and Bs, Mostly Bs, Mostly Bs and Cs, Mostly Cs, Mostly Cs and Ds, Mostly Ds, Mostly Ds and Es, or Mostly Es. The letter grades will be coded as 1 (mostly A's) through 9 (mostly E's). The two measures were compared for consistency. The GPA for overall academic performance will be used in analyses.

Likelihood of High School and College Completion. Using a Likert scale, students and parents will be asked to identify the likelihood of the child completing high school and college. Students will be asked to answer the following questions: 1) I am going to graduate from high school, and 2) I am going to obtain a Bachelor's Degree. Students will use the following Likert scale to respond to each question: a) definitely, b) most likely, c) not so sure, and d) probably not. Parents will be asked the following questions: 1) My child is going to graduate from high

school, and 2) My child is going to obtain a Bachelor's Degree. Parents will use the following Likert scale to respond: a) definitely, b) most likely, c) not so sure, and d) probably not.

Family Structure. Family structure will be measured via the U.S. Census Bureau's definition of family structure. The U.S. Census Bureau identifies different family structures as follows: Two biological married family, two biological cohabitating family, married step family, cohabitating step family, single mother family, single father family, and no parent family. These will be numerically coded as 1 through 7 respectively.

Parenting Styles. A sub-scale of the Paulson, Marchant, and Rothlisberg (1994) scale which was designed to study the bi-directional influences of parents, teachers, and schools on middle school children's achievement, measures of parenting, teaching, and school atmosphere will be used to measure the parenting style constructs. For the purpose of this study, parenting styles will be analyzed according to demandingness and responsiveness of parenting. Demandingness will refer to parental control of adolescent choice in academic involvement, and responsiveness will refer to the perceived level of family support. This measure consists of two 15-item scales created to assess parental demandingness and responsiveness. Adolescents will respond to the items on the scale as they describe their mother, and will then use the same method to describe their father, using a 5-point response scale ranging from "strongly disagree" to "strongly agree". Parents' perceptions of their own demandingness and responsiveness will be gathered by having both mothers and fathers respond to the same items, with items reworded to refer to their own parenting. For example, the item, "My mother has rules for me about watching TV" will be restated as, "I have rules about the number of hours my child watches TV". Another example is the statement, "I would describe my mother as a strict parent" being modified to

address parental response to, “I would describe myself as a strict parent”. Alpha coefficients were .72 for the demandingness subscale and .71 for responsiveness subscale. These demandingness and responsiveness sub-scales will be used to measure parenting style as perceived by the parent and the adolescent.

Parental and Student Attitudes Towards Achievement. Student and parental perception of parental attitude toward academic achievement will be measured using a sub-scale (Factor 3) of the Paulson, Marchant, and Rothlisberg (1994) scale designed to study the bi-directional influences of parents, teachers, and schools on middle school children’s achievement. The scale consists of 22 items analyzing the student’s perception of their parent’s attitude toward achievement. Sample survey items include the following statements: “My mother tries to get me to do my best on everything I do” and “My mother thinks that education is a very important part of adolescence”. The twenty-two items were originally written to address a student’s perception of their parent’s attitude toward school. Examples of the survey items to be re-written to address parental attitude toward achievement are as follows: “I have high hopes for my child’s academic future”, “I expect my child to do best on everything”, “I believe my child should go to college”, “I encourage my child to do well even when their grades are low”, “Succeeding in life is important”, “I believe my child is a good student”, and “I believe my child values hard work”. Alpha coefficients for the subscale were .75.

Parental School Involvement. Parental perception and adolescent perception of parental school involvement will be measured using the subscale used for adolescents (Factors 2 and 4) developed by Paulson, Marchant, and Rothlisberg (1994). Nine items from factors 2 and 4 will be modified for both parent and adolescent to answer the questions. Examples of the

survey items to be modified are as follows: “My parents think that they should not help me with my homework” would be changed to “I do not think I should help my child with their homework”. Another example of a modified question from adolescent perception to parental perception is “My parents take an interest in my activities” would be modified as follows: “I take an interest in my child’s school activities as well as their out of school activities.” Alpha coefficient for values=.71 for factor 2 and .66 for factor 4 respectively (Paulson, Marchant, and Rothlisberg, 1994). In a similar study, Paulson and Sputa (1996) found that cronbach alphas for adolescents' and parents' reports of parental involvement ranged from .67 to .86. Paulson and Sputa (1996) analyzed principal components factor analysis and identified two factors with items from the achievement values and interest in schoolwork subscales loading one factor . Subsequently, these subscales are highly correlated. They also found that the items from the school functions subscale loading on the other factor. Spera (2006) found parental involvement with school related activities in the home subscale, mean= 3.77, SD =0.56, and Cronbach’s α = .81. For parental involvement with school functions subscale Spera (2006) derived a mean= 3.0, SD = 0.94, and Cronbach’s α = .74.

Procedure

In order to obtain consent for participation, the researcher contacted the participating school district’s Assistant Superintendent for Instruction and met with her. Permission to participate in the study was granted and the researcher was given a letter on district letterhead to be given to the IRB. Following the district meeting, the researcher contacted the high school principal and met with him to discuss the study. The principal then contacted his physical education and health teachers to ask them to allow the researcher to present the study in their

classes as well as pass out and collect the surveys. The researcher was also granted permission to attend after school events and collect data from parents and adolescents attending the events. . The researcher will obtain written permission on each school district's letterhead through Administration to present to the Wayne State University Institutional Research Board. Approved Parental Permission Consent Forms will be provided to parents and returned to the researcher. Copies of parental approval for each participating student will be provided to school principals. If the Administration requests copies of permission slips, they will be provided to that office.

Following a meeting with each school district's administration, the names of the potential teachers or school advisors will be collected and an electronic letter will be sent to them explaining the study with the request for a meeting with them. A meeting will be scheduled to inform the parents and adolescents of the purpose of the study at after school activities. Students and parents will be recruited from this meeting as well as via contact from the school administrator. Informed Consent forms will be explained, distributed and collected from the potential study participants following the meeting. The names of unsure participants will be collected for further contact and discussion if needed. This process will repeat itself for the teachers who are allowing administration of the surveys and explanation of the study to occur within their classroom.

Explanation of the study and distribution of the surveys will be administered during one class time. Parent and student participation in the study will be voluntary. Parents and adolescents will fill out surveys separately to control for adolescents feeling pressure from parents to answer in a particular manner. Parent and student participants may opt out of the study at any time without any negative consequences. As a token of appreciation for participating in

the study, when students and parents who participated turn in their survey, their name will be put into a drawing for the opportunity to win one of five \$25.00 gift cards. Parents and students will have their own drawing day. There will be \$100 donated to the school library as appreciation for school participation. Study participation will remain confidential through a coding system. Each parent and child participant will be given a corresponding number that goes with their name and parental name. Schools participating in the study will be coded to maintain confidentiality. All signed forms with names on them will be located in the researcher's office in a locked file cabinet.

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ABSTRACT**A CROSS-SECTIONAL STUDY OF THE RELATIONS BETWEEN PARENTAL FACTORS AND ACADEMIC ACHIEVEMENT IN HIGH SCHOOL ADOLESCENTS**

by

PATRICIA M. LANZON**December 2014****Advisor:** Dr. Cheryl L. Somers**Major:** Educational Psychology**Degree:** Doctor of Philosophy

Bronfenbrenner's (1979) ecological model was used as the theoretical model for this study of parental achievement factors that influence adolescent academic achievement. Many predictors are related to a child's potential for academic achievement. Of the most proximal are parental and family factors, which were the focus in this study. The proximal parental and family factors for this study were as follows: family structure, maternal and paternal parenting styles and parental involvement, parents' school and community involvement, parental attitude toward achievement, and free and reduced lunch status. Achievement as determined by the student's actual grade point average was the dependent variable.

In the current study, data was collected from 146 matched parent-adolescent pairs in a cross-sectional sample of an at-risk, multi-ethnic Detroit Metropolitan high school. Paulson, Marchant's and Rothlisberg's 1994 parenting, teaching, and school atmosphere study were used to analyze parent and adolescent perceptions of parenting styles, parental and adolescent attitude toward achievement, and parental school involvement. Amount of congruence between parent and adolescent was examined between ninth and twelfth grade. It was hypothesized that parental

school and community involvement, family structure, parenting styles, and parent and student attitudes toward achievement will have the strongest correlations with achievement outcomes.

Statistical significant results were found for the relationship between parental perspective of achievement variables and adolescent perspective of achievement variables. This significance was obtained using bi-variate correlation analysis, regression analysis, ANOVA, and ANCOVA. Based on the findings of this study, parental and adolescent perspective of parental achievement variables differed between age groups, specifically for 9th and 12th grades. This study demonstrated parental achievement variables, such as parental demandingness and parental attitude toward achievement, do predict grade point average for different age and ethnic groups. Differences in agreement between adolescent and parent perception were found in this study. Additional research is needed to analyze the relations between socio-economic status, parental achievement variables, and achievement within specific ethnic groups not formerly studied.

AUTOBIOGRAPHICAL STATEMENT

PATRICIA MARIE LANZON

Education	2014	Doctor of Philosophy Wayne State University, Detroit, MI Major: Educational Psychology
	2002	Master of Education Wayne State University, Detroit, MI Major: Educational Psychology
	1995	Educational Specialist Florida State University, Tallahassee, FL Major: Educational Leadership
	1994	Master of Science Florida State University, Tallahassee, FL Major: Educational Foundations and Policy Studies
	1989	Bachelor of Science Eastern Michigan University, Ypsilanti, MI Major: Comm. and Theater Arts – Secondary Education
Professional	1999-2014	Henry Ford College Education and Psychology Instructor Pre-student Teacher Practicum Coordinator
	1998-1999	White Cloud Public Schools Middle School Principal
	1995-1998	Holland Public Schools Middle School Assistant Principal
	1993-1995	Florida Department of Health Epidemiology and Toxicology Community Liaison
	1989-1993	Willow Run Community Schools High School and Middle School Teacher