Adoptive Status, Social Capital, and Academic Achievement

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ABSTRACT

This dissertation examined the relationships among adoptive status, social capital, and academic achievement. Data from the National Longitudinal Study of Adolescent Health (Add Health) had 609 adopted and 11,940 non-adopted adolescents. I used OLS regression models to help explain why adopted adolescents have significantly lower grade point averages (GPA) than non-adopted adolescents. Potential mediators were family social capital, closeness to family, mother and father, mothers’ and fathers’ involvement in their children’s education, self-esteem, academic expectations, and in-school behavioral difficulties. Only closeness to fathers and in-school behavioral difficulties differed by adoptive status. Compared to non-adopted adolescents, adopted adolescents were closer to their fathers and had more in-school behavioral difficulties. Adopted adolescents also had lower GPA’s, even when all other predictors were in the model. However, were it not for greater closeness to their fathers, adopted adolescents’ would have had even more in-school behavioral difficulties and consequently, lower academic achievement. The results have implications for social capital theory and theory and research concerning adoptive families.
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# TABLE OF CONTENTS

Abstract ii

Acknowledgments iii

Table of Contents iv

Chapter One: Introduction 1

   Research Question 2

   Social Capital Theory and Academic Achievement 3

   Attachment Theory 6

   Description of Model 8

   Research Questions 9

   Sample 10

Chapter Two: Literature Review 13

Adoption and Society 14

   Adoption in the United States 14

   Adoption and Social Stigma 15

   Adoptive Status and Adolescence 19

Description of Model 21

   Adoptive Status and Family Social Characteristics 23

   Family Social Characteristics and Social Capital 24

   Adoptive Status and Family Closeness 26

   Family Social Characteristics, Social Capital, and Family Closeness 33

   Family Social Characteristics and Family Closeness 33

   Parental Involvement and Social Capital 36
Adoptive Status and Parental Involvement 38
Family Social Characteristics and Parental Involvement 39

Self-Esteem 44
Adoptive Status and Self-Esteem 44
Adoptive Status, Family Closeness, and Adolescents’ Self-Esteem 45
Family Social Characteristics and Adolescents’ Self-Esteem 46
Family Closeness and Adolescents’ Self-Esteem 48
Parental Involvement and Adolescents’ Self-Esteem 49

Academic Expectations 51
Adoptive Status and Academic Expectations 51
Family Social Characteristics and Academic Expectations 51
Family Closeness and Academic Expectations 53
Parental Involvement and Academic Expectations 53

In-School Behavioral Difficulties 54
Adoptive Status and In-School Behavioral Difficulties 54
Family Social Characteristics and Adolescents’
In-School Behavioral Difficulties 56
Family Closeness and Adolescents’ In-School Behavioral Difficulties 57
Parental Involvement and Adolescents’ In-School Behavioral Difficulties 58
Adolescents’ Self-Esteem and Adolescents’
In-School Behavioral Difficulties 58
Adolescents’ Academic Expectations and
Adolescents’ In-School Behavioral Difficulties
Academic Achievement
Adoptive Status and Academic Achievement
Family Social Characteristics and Academic Achievement
Family Closeness and Academic Achievement
Parental Involvement and Academic Achievement
Adolescents’ Self-Esteem and Academic Achievement
Adolescents’ Academic Expectations and Academic Achievement
Adolescents’ In-School Behavioral Difficulties and
Academic Achievement
Hypotheses
Chapter Three: Methods
Data and Sample
Measures
Dependent Variable
Independent Variables
Method of Analysis
Chapter Four: Results
Descriptive Statistics for Adoptive Status
Regression Results for Family Social Capital
Chapter Five: Results
Regression Results for Adolescents’ Self-Esteem,
Academic Expectations, In-School Behavioral Difficulties, and Grade Point Average 92

Chapter Six: Discussion and Conclusions 103

Implications for Social Capital Theory 105

Implications for Attachment Theory 119

Practical Implications 120

Limitations 120

Conclusions 121

Future Research on Adoptive Status and Academic Achievement 123

Appendix A: Figure 1 125

Appendix B: Hypotheses 126

Table 1. Hypotheses of Family Social Characteristics on Closeness to Family, Closeness to Mother, Closeness to Father and Mothers’ and Fathers’ Involvement in their Children’s Education 126

Table 2. Hypotheses of Family Social Characteristics on Adolescents’ Self-Esteem, Academic Expectations, In-school Behavioral Difficulties, and GPA 127

Table 3. Hypotheses of Social Capital on Adolescents’ Self-Esteem, Adolescents’ Academic Expectations, In-school Behavioral Difficulties, and GPA 128

Appendix C: Tables 129

Table 4. Means of the Variables Used in the Analysis, by Adoptive Status 129

Table 5. Correlations of Variables Presented in Figure 1 131

Table 6. OLS Regression of Closeness to Family, Closeness to Mother, and Closeness to Father on Social Characteristics 134
Table 7. OLS Regression of Mothers’ Involvement in Adolescent’s Education on Social Characteristics

Table 8. OLS Regression of Fathers’ Involvement in Adolescent’s Education on Social Characteristics

Table 9. OLS and step-wise regression of Adolescents’ Self-Esteem on Social Characteristics and Family Social Capital

Table 10. OLS and Step-Wise Regression of Adolescents’ Academic Expectations, Social Characteristics and Family Social Capital

Table 11. OLS and Step-wise Regression of Adolescents’ In-School Behavioral Difficulties on Family Social Characteristics, Family Social Capital, and Adolescents’ Self-Esteem, and Academic Expectations

Table 12. OLS and Step-wise Regression of Adolescents’ Grade Point Average’s (GPA’s) on Family Social Characteristics, Family Social Capital, Adolescents’ Self-Esteem, Academic Expectations, and In-School Behavioral Difficulties

References

Appendix D: IRB Approval
CHAPTER ONE
INTRODUCTION

Adoptees and non-adoptees have been compared on various outcomes, such as psychosocial well-being (Borders, Penny, and Portnoy 2000), family relations (Borders, Black, and Pasley 1998; Brodzinsky, Smith, Brodzinsky 1998; Feigelman 1997; Groze 1996; Lansford, Abbey, and Stewart 2001; Wierzbicki 1993), occupational attainment (Scarr and Weinberg 1994), and academic achievement (Burrow, Tubman and Finley 2004; Bensen, Sharma, and Roehlkepartain 1994; Van IJzendoorn, Juffer, and Klein Poelhuis 2005). On the one hand, a body of research suggests that adoptees may have poorer outcomes than people who were not adopted (Berry 1992; Brodzinsky et al. 1998; Silver 1989). The countervailing view is that adoptees are no more or even less likely to have problems than their non-adopted counterparts (Borders, Black, and Palsey 1998; Lansford, Abbey, and Stewart 2001). This study investigated one of these outcomes for adolescent adoptees, academic achievement or grade point average (GPA).

Numerous studies have compared the academic achievement of adoptees to that of their biological, step-parent, and single-parent non-adopted counterparts (e.g., Bensen et al. 1994; Burrow et al 2004; Lansford et al 2001; Maughan, Collishaw, and Pickles 1998; Van IJzendoorn et al. 2005; Whitten 2002). Adoption has been shown to have a positive impact on children’s academic achievement, in that adoptees’ academic achievement was higher than their non-adopted biological siblings or other children who remained in institutional care (Van IJzendoorn et al. 2005). Kriebel (2002) found that even some foster care children perceived as a “high risk” category for adoption were able to overcome pre-placement issues and demonstrated positive adjustment at home, school,
social skills, and academic achievement. While these conclusions are drawn from smaller samples, they suggest that adoption can improve children’s academic achievement.

Research Question

Why study academic achievement? Research has long established the importance of the relationship between academic achievement and future social and economic mobility (Blau and Duncan 1967; Riordan 2004). Academic achievement is theoretically human capital. Research has found a positive relationship between high school academic achievement and future earnings even after controlling for gender, race, ethnicity, religion, and having a high school degree (Jencks and Phillips 1998; Miller 1998). As noted above, while adoptees do have significantly lower academic achievement than non-adopted, there remains a small gap between adopted and non-adopted adolescents’ academic achievement (Van IJzendoorn et al. 2005). Given this lower level of academic achievement of adoptees, can we expect that adoptees will be less successful in the social mobility or future economic opportunities? The research on the long-term outcomes of adoption and academic achievement suggest that adult older adoptees do catch up academically to their non-adopted peers (Brodzinsky 1993; Maughan et al. 1998). I focused on examining the gap between adopted and non-adopted adolescents’ GPA’s.

In a meta-analysis of various measures of academic achievement, including grade point average, Van IJzendoorn et al. (2005) found that most adoptees were doing academically as well as their non-adopted counterparts. Yet, this same study found that some adoptees never completely catch up to their non-adopted peers (Van IJzendoorn et al. 2005). Additionally, Burrow et al. (2004) and Whitten (2002), using a data set from the National Study of Adolescent Health (Add Health), found that adopted adolescents
had a significantly lower grade point averages than non-adopted adolescents. The small, but significant gap in academic achievement between adoptees and non-adoptees should be addressed. One possible explanation for these mixed findings may be differences in capital between adoptive and non-adoptive families (Borders et al. 2004).

**Social Capital Theory and Academic Achievement**

Explanations for children’s academic achievement have been examined through various types of capital: financial, human, cultural¹, and social (Bourdieu 1993; Coleman 1988; Teachman, Paasch, and Carver 1997; and Wang 2002 to list a few). Financial capital is the amount of economic resources (wealth and income) of parents (Coleman 1988; Wang 2002). High financial capital creates increased opportunities for parents to invest (time and money) in their children’s education (Wang 2002:3). Financial capital has consistently been linked to children’s academic achievement (Riordan 2004). Human capital refers to the skills and knowledge of an individual (education) that may translate into more opportunities or social mobility (Coleman 1988; Miller 1998; Wang 2002). Additionally, parents’ educational attainment has been consistently shown to be a significant factor in promoting children’s academic achievement (see Riordan 2004 for a review). Thus, parents’ financial and human capital may influence their children’s academic achievement.

This study considered two aspects of social capital, family closeness and parental involvement in their children’s education. First, social capital exists in the social relations (or interactions) among persons, and it is the means through which parents’ financial and human capital is transmitted to their children (Coleman 1988; Wang 2002). Aspects of family social capital such as, positive parent-teen discussion and parental involvement
have been shown to be positively related to children’s educational attainment and academic achievement (see Dika and Singh 2002 for a review). Social capital does not operate equally across all family structures and may lead to differences in access to opportunities. Bourdieu (1984) defined social capital as the access to power or social advantages secured through family members or other social networks that help to maintain class distinctions. Coleman (1988) emphasized that social capital functioned as a social support system for individuals in social relationships. My study used measures that addressed adolescents’ perceptions of their closeness, degree of understanding, level of satisfaction with their relationships to parents, and communication with their families, mothers, and fathers. With relation to academic outcomes, social capital has been shown to be higher in families with relatively high degrees of parental trust and understanding (Bankston and Zhou 2002). As defined above, social capital has been found to be positively related to academic achievement (Bankston and Zhou 2002; Coleman 1988; Dika and Singh 2002; Israel, Beaulieu, and Hartless 2001; Pryor 1999; Teachman, Paasch, and Carver 1997; Wang 2002; Wright, Cullen, and Miller 2001). Thus, understanding how social capital operates among adoptive and non-adoptive families may help to address the gap between adopted and non-adopted adolescents’ academic achievement.

A second aspect of social capital is parental involvement in their children’s education McNeal (1999). First, McNeal’s conception of social capital as parental involvement draws on Bourdieu’s work of social capital as a sense of investment in their adolescent’s future class and status. Second, McNeal’s concept of social capital is similar to Coleman’s ideas of trust and closeness. Parental involvement has been found to be
positively related to children’s academic achievement (Dika and Singh 2002; Israel et. al 2001; Lopez 1996; Valenzuela and Dornbusch 1994). For the present study, aspects of social capital to be examined were family closeness (Coleman 1988; Dika and Singh 2002) and parental involvement in adolescents’ academic achievement (McNeal 1999).

How do adoptive and non-adoptive families compare on various forms of financial and human capital? Adoptive parents have both higher financial and human capita than non-adoptive parents. As reported above, financial and human capital is significantly related to social capital and children’s academic achievement. Adoptive families as a group are disproportionately first-married couples, white, older, and of higher socioeconomic status than non-adoptive families (education, income, and occupational prestige) (Bachrach 1983; Chandra, Abma, Maza, and Bachrach 1999). Again, children’s academic achievement is higher in households where two parents of high-socioeconomic status are present (Riordan 2004). Theoretically and empirically, then, it would seem that adoptive families’ structure and social characteristics, such as financial and human capital, would lead their children to be as academically successful as non-adopted children.

Families’ financial and human capital are important factors in predicting academic achievement, but how do adoptive and non-adoptive families differ on social capital? Drawing on the work of Coleman (1988) reported above, we can conceptualize closeness among family members as an aspect of social capital. My study proposes that closeness of family relationships or interactions of the family may help to explain the gap between adoptees and non-adoptees academic achievement versus simply identifying their parents’ social characteristics and/or their family structure. Several studies support
this view on the importance of family relationships to explain differences and similarities among families (Rosnati and Marta 1997; Stein and Hoopes 1985; Borders et al. 1998). Comparing single mothers to two- biological parent and step- parent family structures, Acock and Demo state that “the differences in children’s and adolescents’ adjustment within family types are greater than the differences between family types” (1994:214). In other words, family interactions, such as conflict or cohesion, are more reliable predictors for children’s opportunities than the family structure.

Attachment Theory

Attachment theory provides another possible explanation for differences in relationships among parents and children from various family structures. Attachment theory suggests that positive parent-child relationships promote security in the exploration of their environment and children’s own self worth and expectations for social support (Bowlby 1969; 1980; Brodzinsky et al. 1998). Research has found that the more secure the attachments children have to their parents the higher their level of academic achievement and GPA (grade point average) (Fass and Tubman 2002; Moss and St. Laurent 2001; Peng and Wright 1994). Equally important in contributing to adolescents’ education as families’ income and parent’s education is the closeness or conflict among families. Attachment theory would predict that regardless of adoptive status, the closer family members feel to one another, the more it will promote an environment that will be positively related to adolescents’ self-esteem, academic expectations, GPA, and negatively related to in-school behavioral difficulties.

Most research on adoptive family interactions compared two-parent adoptive families and two-biological parent family structures (Borders et al. 1998; Feigelman
Do adoptive and non adoptive families differ on parent-child closeness? In a smaller study comparing 103 adoptive and 150 non-adoptive families, Rosnati and Marta (1997) found adoptive families to be more supportive than their non-adopted counterparts. Research based on mean differences from the Add Health study found that non-adopted adolescents were significantly closer to their mother than adoptees (Burrow et al. 2004). However, adopted and non-adopted adolescents did not differ in overall closeness to their family and closeness to father (Burrow et al. 2004). These mean differences in reported closeness with their mother may impact adopted adolescents’ academic achievement.

Do adoptive and non adoptive families differ on parental involvement in their children’s education? Addressing genetic and environmental familial influences on children’s achievement in reading with relation to adoptive status, research has found that aspects of the family environment were associated with child reading-related outcomes.
The authors report that this finding that cannot be attributed to solely shared genes between biological parents and their children (Petrill et al. 2005). This is the only study to date that addresses parental involvement, adoptive status, and children’s academic achievement. Among the general population, a meta-analysis found a small-to-moderate relationship between parental involvement and academic achievement (Fan and Chen’s 2001). Although parental involvement has been shown to be an important contributor to adolescents’ academic achievement, the relationship between parental involvement and academic achievement may differ due to parents’ varying amounts of financial, human, and social capital. A review of the social capital literature led me to hypothesize a model as a possible explanation for the relationship between adoptive status and academic achievement.

**Description of Model**

The following theoretical model was used to explain how academic achievement may vary by adoptive status among adolescents (see Appendix A, Figure 1, pg. 125). Figure 1 displays that parental social characteristics included both financial capital (economic status) and human capital (education). This model included two aspects of social capital, family closeness and parents’ involvement in their adolescents’ education. This study compared adopted and non-adopted adolescents on several mediating variables related to academic achievement, as identified in the literature. These measures are adolescents’ academic expectations, self-esteem, and in-school behavioral difficulties. Parents’ financial and human capital will influence family closeness and parents’ involvement in their adolescent’s education. Parents’ financial and human capital, family closeness, and parents’ involvement in their children’s education will influence
adolescents’ academic expectations, self-esteem, and in-school behavioral difficulties. Finally, parents’ financial and human capital, family closeness, parents’ involvement in their children’s education, adolescents’ academic expectations, self-esteem, and in-school behavioral difficulties will influence adolescents’ academic achievement.

This study tested for interactions of adoptive status and aspects of social capital. Parents’ financial (income) and human capital (education) have been shown to be important factors in predicting children’s academic achievement. Yet, family income and educational benefits may be irrelevant for adolescents’ academic achievement if adolescents’ are less able to access their parents’ social capital that would benefit their education (Wang 2002). For example, McNeal (1999) finds that children from traditionally advantaged families, such as having both biological parents present, white, and of middle- to upper-middle class status are more able to access their parents’ social capital. Does access to social capital operate differently among adoptive and non-adoptive families? Are the effects of social capital on academic achievement moderated by adoptive status? If there are any significant interactions between adoptive status and social capital, this may provide an explanation for the differences in adopted and non-adopted adolescents’ academic achievement. Additionally, the model included interactions for adolescents’ academic expectations, self-esteem, and in-school behavioral difficulties by adoptive status.

Research Questions

More specifically, I explored the following research questions.

1. Does family social capital vary by adoptive status?
2. Does family closeness, parental involvement, self-esteem, academic expectations, and in-school behavioral difficulties vary by adoptive status?

3. How do differences in adopted and non-adopted adolescents’ family closeness, parental involvement, self-esteem, academic expectations, and in-school behavioral difficulties influence differences in their academic achievement?

4. Does family closeness, parental involvement, self-esteem, academic expectations, and in-school behavioral difficulties influence the academic achievement of adoptees and non-adoptees in different ways?

Sample

To investigate the above questions, I conducted a secondary analysis of Wave 1 data from the Add Health (National Longitudinal Study of Adolescent Health) study. The Add Health data set is a nationally representative sample of adolescents in grades 7-12 selected from 80 communities that began in 1994 to 1995. It has information on adolescents’ social characteristics, self-esteem, self-efficacy, drug use, sexual history, peer networks, health behaviors, school climate, school behavior, parental relations and academic achievement (www.cpc.unc.edu/addhealth).

The present study examined the relationship between adoptive status, types of capital, and academic achievement. The use of a national data set provides more reliable findings than studies of adoptees’ academic achievement based on smaller or clinical samples (Brodzinsky et al 1998; Burrow et al. 1998; Van IJzendoorn et al. 2005). This study also includes possible mediating variables such as adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties. These measures were used
as possible mediators between both family closeness and parental involvement and academic achievement. Finally, this study investigates how adoptive status may moderate the relationship between family social capital and adolescents’ individual characteristics with their academic achievement.

Theoretically, this study contributes to the literature on social capital, academic achievement, and adoptive status. Numerous studies to date have applied social capital theory to understand the relationship between various family forms and academic achievement (see Bankston and Zhou 2002; Coleman 1988; McNeal 1999; Teachman, Paasch, and Carver 1997; Wang 2002). No study to date has conceptually defined family relations as social capital and how social capital operates or is transferred among adoptive families. Burrow et al. (2004) used a measure for family closeness but it was not conceptualized as an aspect of social capital. This study contributes to the existing literature on social capital and adoption, specifically, how social capital may vary among adoptive and non-adoptive families.

This study contributes to theoretical literature on attachment theory. Specifically, how attachment among adoptive and non-adoptive families may be similar or different. Additionally, how does this attachment influence the relationship between adoptive status and adolescents’ self-esteem, academic expectations, in-school behavioral difficulties, and GPA’s?

This study contributes to literature on family relations and adolescents’ academic achievement. Most adoption studies are based solely on parents’ perceptions of their adopted children’s academic achievement and in-school behavioral difficulties (see Bergquist, Campbell, and Unrau 2003; Brodzinsky and Steiger 1991; Grotevant et al.
1999; Howe 1998). This study will be one of the first to address the relationship among adoptive status and closeness to family, parental involvement, and adolescents’ academic achievement. On contrast to past research that has used data from parents, this study relied on adolescents’ perceptions of their family. Thus, it provides and alternative view of how families operate and family processes influence academic achievement. Past research has relied on data from parents. Data on family interactions from adolescents’ perspectives may help guide adoptees but adolescents on a path to successful academic achievement.

The use of statistical interactions may help to explain how adoptive status may impact family closeness, parental involvement, self-esteem, academic expectations, and in-school behavioral difficulties. Depending on the results, the present study may help adoption professionals challenge the negative attitudes about adoptive families that many clients, educators, their students, and people outside the adoption field may express. Alternatively, if this study uncovers any disadvantages that adopted adolescents face, it may help adoption professionals select future adoptive parents and ameliorate possible risk factors associated with adopted children’s academic achievement.

¹Cultural capital was not considered in the present study of adoptive status and academic achievement due to a lack of adequate measures in the data.
CHAPTER TWO
LITERATURE REVIEW

This study addresses possible explanations for the gap between adopted and non-adopted adolescents’ academic achievement. The first section of this literature review describes societal attitudes about adoption. Adoption still carries a stigma and this stigma, although diminishing, is still present in the United States today. That is to say, some people may still perceive adoptees and their social or other outcomes as individual, pathological, or due to their adoptive status versus a more holistic view of how adoption outcomes are also tied to the family and community. The stigma about negative adoption outcomes (e.g. academic achievement and school behavior) have been shown to be a significant factor in whether parents will be willing to consider adoption or adopt children (Barth and Berry 1988; Waggenspack 1998).

Second, the literature review outlines the causal connections in my model that link family social capital, adoptive status, and academic achievement (see Appendix A). The third section reviews the various relationships among the adolescent, family social characteristics, and family social capital. Next, this literature review examines possible adolescent individual mediating factors, such as self-esteem, academic expectations, and in-school behavioral difficulties. Finally, I provide hypotheses among the relationships among the variables in the model in order to explain the gap between adopted and non-adopted adolescents’ academic achievement.
ADOPTION AND SOCIETY

Adoption in the United States

In 2000, for the first time, the U.S. Census collected data on adopted children and adolescents with households reporting 1.6 million children between the ages of 1-18 as adopted (www.uscensus.gov). It is estimated that 2-4% (5.2 to 10.4 million) of all American families includes at least one adopted person (Stolley 1993). Yet, the data on adoption has not always been accurate due to inconsistent reporting of parents who have adopted children, international reporting inconsistencies, and nationally different agencies in different states that report adoption statistics which may impact finding the actual number of adoptions in the United States.

Americans are increasingly coming into contact with people involved in the adoption triangle, consisting of the biological parent(s), the adoptive parent(s), and the adopted child or adolescent. In 2002, The Evan B. Donaldson Adoption Institute, sponsored by the Dave Thomas Foundation for Adoption, conducted the largest and most comprehensive survey of Americans’ attitudes towards adoption (www.adoptioninstitute.org). The Donaldson survey reported that in 2002, 64% of the respondents reported that they know an immediate friend or family member involved with adoption triangle versus 58% from 1997. Involvement can be defined as knowing people associated with adoption either personally or professionally. In 2002, 63% of respondents reported a favorable opinion of adoption, an increase from 56% in 1997. The evidence is clear; the adoptive family has entered mainstream America. The attitudes of the general public reflect that increasing numbers of people see no difference between adopted children’s likelihood of problems (47% of respondents) compared to other
children. The data suggest that the more favorably people view adoption and adoptees, the more likely they are to perceive or predict positive outcomes for adoption and adopted children (www.adoptioninstitute.org). Although this progress gives hope for the future perceptions of adoption, a stigma still surrounds adoption outcomes.

*Adoption and Social Stigma*

Despite the positive overall attitudes on adoption reported by the Evan B. Donaldson study, some research suggests that Americans still view the adoptive family form as somewhat deficient and/or at least different. Through socialization, adoptees, parents, and others learn that adoption is stigmatized. Goffman (1963) describes stigma as a social characteristic that may discredit a person or group. Whether these attitudes toward adoption reflect media portrayals or non-representative clinical studies, or society's general fear of adoption, they may potentially inhibit people from wanting to adopt (Barth and Berry 1988; Waggenspack 1998; Wegar 1997b; Wegar 2000).

From the clinical setting to popular culture, adoption has often been identified as deficient or not as good as the biological family. Adoptees can easily become identified and labeled as having problems or as having special needs solely based on the fact that they are adopted (Wegar 1995). Furthermore, the study of adoption has been done “in relatively individualistic terms, without taking into account the social factors and processes that affect adoption experiences” (Wegar 1997b:5).

Waggenspack (1998:59) states that the public is bombarded with negative images of adoption in the media. The media show two negative portrayals for every one positive portrayal and consequently people may not be able to put a positive face on adoption (Waggenspack 1998). That is to say that while people might seek adoption as a positive
means of forming a family, the negative portrayals in the media, insensitive remarks, and the continued societal beliefs that “blood is thicker than water” lead many to negative attitudes on adoption and adopted children.

Adoptive families are more likely to consider psychological or other counseling and other avenues of help with regard to their children than non-adoptive families (Hamilton et al. 2007; Wierzbicki 1993). Hence another aspect of the stigma associated with adoption stems for the fact that adoptees have been over-represented in mental-health settings and thus considered to have more psychological issues than their non-adopted peers (Brodzinsky and Schecter 1990). Weiss (1985) reports that even hypothetical clients that are identified as adopted are listed as having more psychological problems.

The name of a recent article and the findings support several of the author’s contentions that adopted children “Are not as good as your having your own” (Fisher 2003:1). In contrast to the general attitudes reported by the Evan B. Donaldson Foundation, Fisher (2003) reports that adoption issues in textbooks on the family are scarcely represented, academic research outside counselors and social workers is faltering, and that some Americans in general may still believe that the adoptive family is not as good as a biological family. Fisher (2003) suggests that the claim of a negative social stigma of adoption and adoptees is faulty, because no empirical research has shown that adoptees suffer negative consequences of their status such as in employment or housing discrimination. However, if one looks at the lengths that people go through to avoid adopting children, such as several costly fertility exams and procedures, it seems that adoption and adoptees have a significant level of social stigma (Fisher 2003). This
stigma led some parents in one study to not ask their child’s teacher to complete a survey on adopted children’s in-school behavior and academic proficiency for fear of having their children treated differently by their teacher based on being identified as an adoptee (Kriebel 2002).

Brodzinsky et al. (1998) find that attitudes about the academic problems of adoptees in comparison to their non-adopted peers have been well documented. Brodzinsky and Steiger (1991) found that adopted children were identified for educational purposes as being neurologically impaired, perceptually impaired, and emotionally disturbed. Deutsch et al. (1982), report that adopted children having high levels of attention deficit disorder. Silver (1989) also found increased rates of learning disabilities among adopted children. The various studies cited thus far report that adoptees are over-represented within clinical populations in comparison to the general adopted population. Due to their small sample sizes and over-representation, these studies cannot be generalized to the overall adoptive population (Brodzinsky 1993). The use of clinical studies and the over-representation of adoptees in these studies may promote negative attitudes about adoptive children’s academic achievement.

Yet, while some public attitudes are positively changing towards adoption, there remains a stigma surrounding adoption. This stigma carries over into general beliefs that adoptees have lower academic achievement. As reported in the Evan B. Donaldson National Adoption Institute survey of adoption attitudes, 47% of respondents reported that adopted children as likely as biological children to have problems at school. Although these numbers have increased from 21% in 1997, which seems hopeful, the data also reveals an increase from 35% (1997) to 41% (2002) in the perception that
adoptees were more likely to have problems in school than non-adoptees. Additionally, those who believed that adoptee would be less likely than non-adoptees at school decreased from 36% (1997) to 8% (2002) (www.adoptioninstitute.org). This data suggests that a growing number of Americans are coming into contact with adoption and view adoptees as equal or closing in abilities to other children. Yet, there remains a significant number of Americans that define adoptees as deficient with relation to problems at school and learning.

The United States Census Bureau gathered statistics on adopted children in 2000. Because of certain measurement restraints, it could not distinguish between people adopted by a relative or non-relative. Furthermore, while informal adoptions (adoptions not reported or handled by an adoption or other legitimate agency) are not reported, this report is still a useful national source of data on the adoption population. Adoptive parents from all family types were more likely to report problems with their children’s level of mental disability, measured as difficulty with learning, remembering, or concentrating, and to have more cases of children with multiple disabilities than their step-parent or biological parent counterpart reports (www.census.gov). Although the U.S. Census could not distinguish between non-relative and relative adoptions, adopted children in general were perceived to have more educational problems (www.census.gov).

Regardless of the difference in adoption measures, the evidence is clear that children who are adopted benefit from leaving the foster care system. Children who remain in foster care are at risk for more academic problems. The National Clearinghouse on Adoption (now Child Welfare Information Gateway) in 2005 reported an estimated
115,000 children remain in the foster care system awaiting placement in a home or adoption (www.childwelfare.gov). A recent Washington State study compared the academic achievement of over 12,000 out-of-home placed children and children who live within in-home care. With relation to academic achievement, their report finds that regardless of the amount of time children reside in out-of-home care; these children are more likely to have lower achievement test scores, lower graduation rates, and to repeat a grade (http://www.wsipp.wa.gov). Hence, enlisting children for adoption begins with challenging the social stigma that surrounds children in the foster care system and their possible outcomes.

In general, respondents and counselors reported that although society may view adoption as problematic, the family and counselors are beginning to counteract some of these negative stereotypes (Miall 1987; Pertman 2000). My study addresses the social stigma of the adoptive family by examining the relationships between adoptive and non-adoptive parents, their children and how this influences their academic achievement. This review of literature outlines a model of adoptive status, social capital and, academic achievement (see Figure 1). As noted above, adoption has now entered conventional society, however large or small the stigma that may surround adoption issues. The gap between public opinion and how adoptive status may impact academic outcomes should be and needs to be addressed.

Adoptive Status and Adolescence

Adolescence has long been identified as a time of significant social changes in children’s lives. The majority of studies on adoption focus on adopted children’s problems or concerns. With the recent completion of several national studies, adoption
and adolescence has become a newly-sought-after avenue of research (see for example Bensen et al. 1994; Borders et al. 1998; Burrow et al. 2004; Feigelman and Finley 2004; Neiss and Rowe 2000; Whitten 2002).

One avenue of research on adopted adolescents focuses on how adoptees struggle to establish or form a secure ego identity because of lack of information and ties to their birth parents (Bensen et al. 1994; Brodzinsky et al. 1998; Hoopes 1990; Rosenberg 1992). As some research suggests, it may be this lack of tie to the biological family that may hinder positive adoptees ego identity, self-esteem, academic achievement and other various outcomes (Brodzinsky et al. 1998; and Stein and Hoopes 1985).

Other findings suggest that some adoptees struggle with issues of romanticism of their biological family, sexual promiscuity, oedipal complexes, and feelings associated with a second abandonment (Rosenberg 1992). Second abandonment occurs when adopted adolescents pull away from their adoptive parents (or abandon) their adoptive parents after initially suffering abandonment from their biological mothers. This second abandonment creates additional problems for already “confused” adopted adolescents. It is suggested that while some adopted adolescents do struggle with the issues above, these struggles are not a factor for every adoptees’ identity (Rosenberg 1992).

Alternatively, it has been suggested that being adopted does not have the salience in adoptees’ lives that research may have assumed. In a nationally representative study of 715 families, only 27% of adopted adolescents reported that “adoption is a big part of how I think about myself” (Bensen et al. 1994:22). It appears that for the majority of adolescents, regardless of age, being adopted has no impact on knowing and defining the self (Bensen et al. 1994). Similarly, regardless of age, on average only 28% of adoptees
think about adoption once a week or more (Bensen et al. 1994). Gender does seem to have an effect; girls were more likely to think about being adopted as a sense of identity and also think about it more than adopted boys (Bensen et al. 1994). Finally, 68% of adoptees reported that “being adopted has always been easy for me” and 91% of boys and 68% of girls reported that adoption “made no difference” or had a “positive” influence on their lives (Bensen et al. 1994). Research has found that there is no one avenue to explain adoptive identity, it is a complex “process stemming from different sources, some related to early experiences, fitting into their families and the community, and other social attitudes towards adoption” (Grotevant 1997:385; Grotevant et al. 2000).

Again, adoption apparently has a more negative effect for girls than boys with relation to adoptive identity. One possible explanation for the lack of importance of adoption in the lives of adolescents may be that all of the subjects were adopted before the age of 15 months. Age at placement has been found to be a significant predictor on outcomes for adoptees (see Howe 1998 for a review). Due to limitations in the data, age at placement can’t be determined. Yet, the importance of this factor should not be diminished.

DESCRIPTION OF MODEL

Figure 1 presents a theoretical model of family adoptive status, social capital, and academic achievement. This model allowed me to assess how adoptive status interacts with an adolescent’s parents’ social characteristics, family closeness and parental involvement in their children’s education with relation to academic achievement. The model has four panels that link family social characteristics to adolescents’ academic
achievement though four sets of possible mediating variables: family social capital, adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties.

FIGURE 1 ABOUT HERE (see page 125)

Panel one contains both parents’ and adolescents’ social characteristics. Parents’ background social characteristics include adoptive status, mother or father, income, education, age, race, and marital status. Adolescent social characteristics include adoptive status, age, race, gender, and grade in high school.

Panel two presented two aspects of family social capital. The first aspect of family social capital is adolescents’ perceived closeness to their family, closeness to mother, and closeness to father. The second aspect of family social capital is adolescents’ reports of both their mother’s and father’s involvement in his/her education. Panel three presents the possible mediating variables, adolescent self-esteem and adolescent academic expectations. Panel four presents the final mediating factor, adolescent in-school behavioral difficulties. Panel five is the dependent variable of adolescents’ overall grade point average comprised of the average scores from adolescents’ course grades for math, reading, science, and social studies.

This model predicts several relationships. Two aspects of social capital, family closeness and parental involvement in their children’s education, mediate the relationship between an adolescent’s social characteristics and an adolescent’s self-esteem, academic expectations, in-school behavioral difficulties, and academic achievement. Second, the two aspects of social capital, family closeness and parental involvement in their children’s education mediate the relationship between parents’ social characteristics and adolescents’ academic expectations, in-school behavioral difficulties, and academic
achievement. Finally, the model predicts that adolescents’ academic expectations and in-school behavioral difficulties will mediate the relationship between parents’ social capital, adoptive status and adolescents’ academic achievement.

Adoptive Status and Family Social Characteristics

The research on the social characteristics of adoptive parents has been consistent. Panel one in figure 1 displays parents’ social characteristics. Adoptive mothers are more likely to be white, of higher socio-economic status, and to be married and to have fertility issues (Chandra et al. 1999). (Chandra et al. 1999) found women age 18-44 who had considered adoption, taken steps toward adoption, and actually adopted were more common among women who were older, had never had children, had some fertility impairment, and/or had ever used fertility services. This study further shows that the prevalence of completed adoptions increased with parents’ age, education, and income (Chandra et al. 1999). Unrelated adoptions were most common among childless white women, those with fertility problems, and higher levels of education and income (Mosher and Bachrach 1996).

While the majority of studies focus on mothers’ social characteristics, fathers were found to have parallel social characteristics as their spouses. Adoptive families’ higher income level and educational attainment should positively influence both aspects of social capital, family closeness and parental involvement in their children’s academic achievement. To avoid repetition, the following sections should consider adoptive parents to more likely be older and to have higher levels of income and education than parents who do not adopt.
Family Social Characteristics and Social Capital

As noted in the introduction, social capital is an important aspect in explaining differences between families and their children’s academic achievement. Panel two of Figure 1 displays the aspects of social capital measures used in this paper. Originally, social capital was conceptualized as a form of cultural capital. Cultural capital was defined as the cultural and linguistic knowledge obtained from your parents that positively influenced their children’s academic achievement (Bourdieu and Passeron 1977). Bourdieu (1984) defined social capital as access to power secured through family members or other networks. For Bourdieu, the advantages of social capital help to maintain class distinctions based on access to these networks via the family or other social networks. Focusing on academic achievement, Lareau (1989) applied Bourdieu’s theory of cultural capital, and found that parents’ knowledge of school culture, networking with and knowing your own and other teachers is an important aspect of children’s academic achievement. Coleman understood the influence of social capital outside familial social networks, but he also focused on the conditions in which social capital was transmitted within the family.

For Coleman (1988), the value of social capital is defined by its function for individuals in social relationships. Social capital is the mechanisms or processes through which parents’ financial and economic capital is transmitted to their children (Coleman 1988). “Social capital is seen as less tangible than both financial and economic capital in that it exists in the relations among persons” (Coleman 1988:S100). As stated earlier, with relation to academic outcomes, social capital has been shown to be higher in families with more industrious or ambitious norms, relatively high degrees of parental
trust and understanding (Bankston and Zhou 2002). The absence of social capital is seen in two forms. Functional deficiency is the absence of positive relations between children and parents, and a structural deficiency is the lack of a parents’ physical presence within the family (Coleman and Hoffer 1987; Wang 2002). It is the presence of the functional deficiency or lack of positive relations between the adolescent and their parents that will hinder their adolescent’s academic achievement. “A system (e.g. family) that has high social capital is one in which members are indebted or obligated to respond to the needs of the members to reach collective or individual objectives” (Furstenberg and Kaplan 2004:221).

Social capital within the family, such as parent-teen discussions (McNeal 1999; Pong 1998; Sun 1999) and parental involvement in children’s schoolwork (McNeal 1999; Parcel and Dufur 2001), have been found to be related to educational achievement, academic achievement, and educational aspirations (see Dika and Singh 2002 for a review; Muller and Ellison 2001). Adoptive families’ higher income and parent’s education versus non-adoptive families should promote similar or perhaps even more social capital (Bianchi and Robinson 1997). Research has found that some parents possessed advantages to advancing social capital on behalf of their children (Furstenberg et al. 1999). With both parents present, there will be more opportunities for parents to communicate and influence their children’s attitudes, behavior, and academic achievement. Two aspects of family social capital that are addressed in this paper are family closeness and parental involvement in their children’s education.
Adoptive Status and Family Closeness

Panel two of figure one displays the aspects of family closeness measures used in this paper. Research on adoption and family closeness has shown that adoptive families are as close as non-adoptive families. Borders et al. (1998) in agreement with several other authors (see Miall 1996; Wegar 1995; Wegar 1997a) state that deficiency models are inadequate for researching or working with adopted children and their families. This suggests that research on adoptive families needs to focus not only on the possible negative family interactions but the positive family interactions as well. In sum, “as a result of 50 years of adoption research, we now have a sense of what are the key factors that influencing adoption outcomes in particular, and children’s development in general. These issues resolve around “the quality of close relationships that children experience both before and after placement” (Howe: 126). Adopted adolescents’ closeness to their families will mediate the relationship between their adoptive status and academic achievement. Research on adoptive status and family closeness has primarily focused on the differences between two-adoptive parents and two-biological parent families (Borders, et al. 1998; Feigelman 2001; Lansford et al. 2001; Whitten 2002). I take the view that adoptive family is another family form and is neither better or inferior to biological families (March and Miall 2000). Can differences in educational outcomes and achievement between adopted and biological adolescents be explained by family processes such as parent adolescent closeness? Do family level processes have more influence for adoptees then for non-adoptees academic achievement?

Research suggests that a warm family environment and accepting attitudes towards the child and realistic parental expectations lead to more positive outcomes for
adoptees (Kadushin 1980). While several studies review aspects of perceived family
closeness and adoptive status, none to date have used social capital for their possible
theoretical explanation. Hence, while the following section is on family closeness, the
studies listed below used other theoretical perspectives, such as, stress and coping
(Brodzinsky et al. 1998), family systems (Rosnati and Marta 1997), and attachment
theory (Barth and Berry 1988; Grotevant and McRoy 1998).

Kirk (1964) was the first to suggest that adoption and adoption outcomes were
associated with the family system, in contrast to the psychopathological models of
individual adoptees that permeated the literature on adoption outcomes at that time. Miall
(1996) finds that a biological connection is not a pre-requisite for the successful
functioning of a family. Again, adoptive mothers are most likely to be from an older
couple, childless, unable or difficulty with child bearing, and have a high economic
status. This suggests that adoptive mothers and families may have adverse fertility issues
but seem to be older and more economically prepared to have children (Chandra et al.
1999). Since adoptive mothers, in general, may be more economically secure than their
non-adoptive counterparts and more mature, adoptive mothers may be more prepared to
be successful parents, than their younger and less-financially well-off counterparts.
Current research finds that the older the parents are the more readily available social
capital is made available to their children (Powell et al. 2006).

While one small study found that adoptive families were significantly more
supportive and closer than non-adoptive families (Rosnati and Marta 1997), several
studies report no differences in family closeness and adoptive status. Lansford et al.
(2001) using data from the National Survey of Families and Households find no
differences in closeness among families from five different family structures, including adoptive families. Burrows et al. (2004), using data from the Add Health study, asked whether adopted children and their parents were at a greater risk for negative outcomes. Based on adolescent self-reports, the findings suggested no significant differences between adolescents’ perceptions of the overall closeness with their family and father.

Yet, this same study found that non-adopted adolescents reported being significantly closer to their mothers than adopted adolescents (Burrow et al. 2004). Since mothers are more likely to be involved in their children’s lives, both in terms of education and support, this may provide a possible explanation for the gap between adopted and non-adopted adolescents’ academic achievement. I predict that regardless of adoptive status, the closer adolescents are to their mothers will positively impact adolescents’ self-esteem, academic expectations, and GPA and negatively related to adolescents’ in-school behavioral difficulties.

In a smaller but nationally matched sample of adoptive and non-adoptive families (n= 72), parents reported no significant differences in the closeness they felt with their children (Borders et al 1998). In another small, but non-nationally representative sample, Stein and Hoopes (1985:64) found that regardless of adoptive status, the most “well-adjusted adolescents” come from families in which the parental figures are able to provide a continuing source of intimacy and guidance. Howe (1997:137) echoes this finding, stating that adverse family environments in general upset children’s ability to develop social understanding and to cope with other people.

Perhaps age of the adolescent may play a role in adolescents’ perception of closeness to their family. Regardless of adoptive status, older adolescents are less close to
their mothers, fathers, or overall family closeness than younger adolescents (Burrow et al. 2004). As such, regardless of adoptive status, older adolescents will be less close to their families than younger adolescents.

Research suggests that adoption impacts family closeness. Family systems theory looks at how adoption changes the normative family system (Reitz and Watson 1992). This theory asserts that the resolution of adoption issues and a healthy family are linked to both the family structure and the interactions within a family. This is important for this study, in that parental and adolescent closeness is not solely an issue of the adoptee, but may be an aspect of the adoption process or beliefs about adoption outcomes and parent-child interactions.

Brodzinsky (1998:16-17) summarizes several key variables that pertain specifically to the adoption and the adoptive family:

1. the type of expectations that family members have about adoption is likely to influence family functioning
2. the way family members communicate about adoption issues
3. how family members cope with potentially sensitive issues related to family loyalty, family secrets, and family customs and rituals
4. the success with which the family is able to negotiate the potentially conflicting processes of family integration (i.e. building family connections) and differentiation (i.e. fostering appropriate separateness and individuation among family members).

Brodzinsky's model is helpful because it suggests that the adoptive family’s social relationships may have certain problems. Yet, these issues were not solely related to the adopted child attitudes or behaviors or the adoption process. Bronfrenbrenner (1979) states that knowing the family structure only provides the type of social environment in which a person resides but not about the dynamics of the family relationships,
communication patterns, and values. Acock and Demo (1994:214) support this position and find the differences in adolescent's adjustment within family types are greater than the differences between family types. That is to say that there are greater differences among two-biological parent families when compared to other two-biological parent families than the differences between single-parent families and two-biological parent families. Furthermore, over-all adolescent well-being is higher when adolescents experience enjoyable relationships and lower conflict with their parents (Acock and Demo 1994).

Another possible explanation for predicting closeness within families is attachment theory. Attachment theory is defined as an organized behavioral system whose purpose is to promote security among children by both the presence of caregivers and the security to promote the exploration of their environment (Bowlby 1969; 1973; 1980; Sroufe and Waters 1977). A “goal-corrected partnership” emerges between the child and caregiver(s) that influence their children’s security, especially in times of stress (Brodzinsky et al. 1998:13). Secure or positive attachments between children and their parents promote a sense of permanence in children’s belief in their own worthiness of self and expectations of whether others (e.g. parent’s) will be available as sources of support (Brodzinsky et al. 1998; Grotevant and McRoy 1998). The internal or individual explanation of either secure or avoidant attachment between adolescents and their parents may help to explain the varying levels of family closeness or parents involvement in their adolescents education. The more attached and secure adolescents feel towards their family and feel a sense of permanence, the more likely these adolescents will be able to maximize their families’ human and social capital to positively influence their academic
achievement. Research has found that children characterized by greater security in their attachment relationships display more positive patterns of adjustment across various outcomes than children with insecure attachments (Cicchetti, Toth, and Lynch 1995).

There are several studies that address why alternative family structures, such as divorced, single-parent families will not be as successful in attachment and closeness as family based on biological ties (Amato and Keith 1991; Hetherington, Bridges, and Insabella 1998). Likewise, there is research that suggests that adoptive families may not be as successful as two-parent biological family structures. Testing attachment theory, Barth and Berry (1988) suggest that as researchers, we want to be able to explain adoption outcomes solely through family interactions. In a study of adoption disruptions among older adopted children, research has found that "love is not enough" to make a successful placement, and therein family (Barth and Berry 1988:78). While the possible negative and positive associations for factors related to a successful adoption may be reported in studies on adoption outcomes, there is no scientifically supported check list for a successful family placement. While the family processes are an important factor, research also must understand the individual characteristics and interactions of the parents and adoptees that occupy these roles.

As cited in Barth and Berry (1988:71), several possible factors leading to adoption disruption are families with less flexible roles and rules (Cohen 1984), insufficient training of newly adoptive parents and information about their children (Nelson 1985; Pardeck 1983). Other factors that contribute to adoptive families disruption include, parents’ perception that the cannot live up to the demands of the adopted child (Smith and Sherwen 1983), families where children and parents are just too
different to promote family harmony (Unger, Dwarshuis, and Johnson 1977), and families with too many stressors and not a sufficient number of resources (Zwimpfer 1983). Despite these obstacles for adoptive families, even among the “most difficult” to adopt, older adoptees have a low level of disruption or break-up of the family (Barth and Berry 1988).

Barth and Berry (1988) find that only 10% of older (children that were 3 years old at time of placement or older) children adoptions are disrupted. Disrupted adoptions are defined as any adoption in which the family has either formally or informally broken up. Formal disruptions, would be seen as any disrupted that adoption that was reported to the adoption agency or processed through the legal system. Informal adoption disruptions include any in which communications, social or other support has broken down between the family and the adoptee. The best predictor of adoptive family disruptions was feelings of reciprocity of the adopted child towards the adoptive family (Barth and Berry 1988). This finding suggests the importance of explaining adoptive family closeness through the perceptions of the adopted child.

Triseliotis (1974) found that the adoptive family was not as amiable as the research would suggest, and that adoptive family conflict arose from adoptees’ need to search for their biological family. Perhaps general adolescent and parent closeness in adoptive families may be complicated the needs of adoptees to break away from their adoptive parents in search of their own “biological” identity. While this finding does address a possible factor in explaining family closeness, it does not identify other possible factors that may lead to a lack of closeness among adoptive families, such as general family closeness and communication. Furthermore, the data set does not include
any information on whether adoptees engaged in a “search” for their biological parents and the impact on the family. Despite the mixed research findings, this study suggests adopted adolescents’ will not differ in closeness to family, closeness to mother, and closeness to father, from non-adopted adolescents.

**Family Social Characteristics, Social Capital, and Family Closeness**

As stated in the introduction, other important contributions to social capital were parents’ financial and human capital. Financial capital is the economic or material resources, wealth and income, of a family (Coleman 1988; Wang 2002). Human capital or education is understood as an extension of financial capital. Parents’ educational level is an investment in their future economic opportunities and thus their children’s future educational and economic opportunities. While these factors are important, are the economic and educational level of the family related to closeness between adolescents and their parents? Is the family structure (single-, two-biological parent families) of the family related to closeness between adolescents and their parents? Furthermore, do the perceptions of family closeness vary by sons or daughters? Last, does family closeness vary by whether adolescents are interacting with their mother or father? These same questions are addressed with relation to parental involvement in their children’s education in the next section. First, let us address these questions with relation to family closeness.

**Family Social Characteristics and Family Closeness**

Research findings are mixed regarding the relationship between family social characteristics and perceived family closeness. Research on the family has found that mothers’ income and education is not related to having a close or warm family
environment with adolescent children across various family structures (Acock and Demo 1994). Several studies have examined differences among various family structures as another possible factor cited in explaining closeness among families.

Research on the relationship between family structure and family closeness has been mixed. Henry (1994) found that adolescents from two-biological parent families had a higher family life satisfaction than single-parent families. Acock and Demo (1994) found that adolescents in first-married families had fewer disagreements than divorced families, step-families, and continuously single families. Lansford, Abbey, and Stewart (2001), using data from the National Survey of Families and Households, find no differences in closeness among families from five various family structures. Bell and Avery (1985) also found no relationship between family structure and adolescents’ relationships with their parents. This finding is supported even when adolescents get older (Bell and Avery 1985; Lansford et al. 2001). Contrasting evidence finds that older adolescents are less close to their parents than their younger adolescent counterparts (Burrow et al. 2004; Seiffge-Krenke 1999).

Research has found no relationship between race of the family and family closeness (Acock and Demo 1994). Vega et al. (1986) found no differences between Latino families and white families on measures of family closeness. Pan (2004) found that regardless of ethnicity, among single-female headed families, parental support buffered the possible negative parent-child closeness and academic problems. Furthermore, there was no difference in closeness to family even among mixed race adoptive families (Burrows et al. 2004). There appears to be no relationship between race and family closeness.
Research on adolescents’ gender and perceived family closeness has been mixed. Most research has focused on the relationships between mother and child closeness, well-being, and communication (for examples see: Acock and Demo 1994; Buchanan 2003; Richards and Duckett 1994). One study finds that adolescent boys feel less close to their parents than adolescent girls (Seiffge-Krenke 1999), while another study has found adolescent boys feel closer to their parents than adolescent girls (Suitor and Pillemer 2006).

Acock and Demo (1994) found that mothers consistently report more frequent disagreements with their adolescent sons than daughters in first-married, divorced, step-, and continuously single families. Acock and Demo (1994) suggest that the significant differences in family disagreement is not large and is derived mostly from divorced families, with boys having more disagreements with their mothers than girls. This finding supports earlier studies that boys may be more difficult to control and have more behavioral problems than girls when the household is headed by a female (Guidubaldi, Clemenshaw, and Perry 1985; Hetherington, Cox, and Cox 1985).

Young et al. (1995) found that intrinsic support from mothers and fathers and closeness to parents was equally important in the life satisfaction of their adolescents. Intrinsic parental measures include parents’ general encouragement of their children, being pleased with a child, and general sense of trust and love (Young et al. 1995).

In general, the importance of positive father-child relationship leads to young adults’ increased level of happiness and life satisfaction (Amato 1994). Some research suggests fathers’ work may impact their relationship with their adolescent children. Fathers who have high stress at work have been found to engage in more conflict with their adolescent
children (Crouter, Bumpas, and Maguire 1999). Fathers’ combination of long hours and stress was associated with less positive relationships with both their older and younger adolescents (Crouter, Bumpas, Head 2001). Adolescents benefit from being close to either parent, and especially if the adolescent is close to both parents.

A review of the factors enlisted for this study and their relationships to family closeness suggests that despite the mixed research findings, there is no difference between adopted and non-adopted adolescents’ closeness to their family closeness. Furthermore, families’ economic or educational attainment is not related to family closeness, mother, and father. There is no difference in adolescents’ race and closeness to family, mother, and father. Finally, there is no difference between closeness to their family, mother, and father and the adolescents’ gender. Yet, fathers may have fewer interactions with their children because of time constraints from factors related to work. Regardless of the for-mentioned factors, children clearly benefit from being closer to their parents. This study will address another aspect of family social capital, parental involvement in their children’s education in the next section.

Parental Involvement and Social Capital

The second aspect of social capital used in this study is parental involvement in their adolescent’s education. This study will look at the relationship between adopted and non-adopted adolescents parental involvement in their education, and how these factors impact academic success. Panel two of Figure 1 displays the aspects of parental involvement measures used in this paper. McNeal (1999) clarifies three distinct factors that researchers have used when conceptualizing social capital as parental involvement. The last two items are used in this study. “Social capital is seen as the…norms of
obligation and reciprocity, and resources…Norms of obligation and reciprocity entail some sense of investment with the expectation of a return on that investment owing to a sense of trust, obligation, or norm of reciprocity” (McNeal 1999:119-120). The norm in American culture is for parents to care for and to invest resources in their children’s future opportunities, academic and otherwise.

McNeal states that the kinship (biological) basis of the family “makes it possible to more easily discuss the norms of obligation and reciprocity inherent in parent-child relations” (1999:120). This means that biological families’ involvement in their children’s education is viewed as “natural give and take” to benefit the parent, the parents’ expectations for their children’s academic future, and children themselves. The last aspect of social capital as parental involvement is the degree and existence of parents’ resources to invest in their children’s education (McNeal 1999). Parents’ resources vary by levels of physical, human, and cultural capital to invest in their children (McNeal 1999).

A review of research identifies several major components of parental involvement in children’s schooling (Fan and Chen 2001). Four items are pertinent to this study. The first item consists of parent-child communication about school, such as interest in homework, assistance with homework, and discussion about school progress. Second, home supervision items, such as the amount of time spent helping with homework and television supervision. Third, parental involvement included parents’ educational aspirations for their children, such as educational expectations and whether parents value academic achievement. The last type of parental involvement in children’s education is
general or “other” types of involvement in their children’s lives, such as time spent together or general communication patterns (Fan and Chen 2001).

**Adoptive Status and Parental Involvement**

Does parents’ involvement in their adolescent’s education vary by adoptive status? McNeal states that adoptive and foster care families may develop a sense of family or unity, which may also promote the norms of obligation and reciprocity found in biological families which promote similar levels of parental involvement in their children’s education (1999:138). This suggests that parents’ involvement in their children’s education is a choice for parents, regardless of adoptive status. Petrill et al. (2005) compared adopted children to biological children reading attainment in an effort to explain the environmental versus genetic differences influences. The authors found that the family environment, parents’ educational attitudes, parents’ book reading practices, parents’ levels of involvement in homework, and their children's interest in reading-related activities to be the strongest predictors of their children’s reading-related outcomes, such as bringing books home from the library and number of books read in a month (Petrill et al. 2005). Parents from adoptive families have both higher socio-economic status and educational attainment than the general population (Chandra et al. 1999; Hamilton, Chang, and Powell 2007; Mosher and Bachrach 1996). The social advantages of adoptive families should lead these parents to have similar if not more involvement in their children’s education.

A recent comparison of various family structures and parental investment (involvement) in children’s education finds that once socioeconomic differences are controlled, two-parent adoptive families invest similar levels of resources as two-
biological parent families (Hamilton et al. 2007). Additionally, adoptive families invest significantly more in their children than other alternative families (e.g. step-families and single parents) (Hamilton et al. 2007). The authors suggest that significantly higher socioeconomic status of adoptive families accounts for the high level of involvement in their children’s lives (Hamilton et al. 2007). General education research supports this position. Both parents’ social class and educational attainment are positively related to the level of parents’ involvement in their children’s education (Baker and Stevenson 1986; Hill and Taylor 2004; Riordan 2004). Based on the general social characteristics of adoptive families alone, this study predicts that adoptive families will have similar or higher levels of social capital as measured by parental involvement as biological families. I predict no differences in adopted and non-adopted adolescents’ mothers’ and fathers’ involvement in their education.

*Family Social Characteristics and Parental Involvement*

The most important variable in explaining parental involvement seems to be differences in family socioeconomic status (Riordan 2004). Two-parent, higher income families (households) are more likely to be involved with their children’s education than lower socioeconomic families (Hill and Taylor 2004). Parents from lower socioeconomic families are more likely to have non-flexible work schedules, often have fewer years of schooling, and may feel ineffective when dealing with the school (Hill and Taylor 2004; Lareau 1996). In sum, parents with higher socioeconomic status are more likely to be involved in their children’s education regardless of family structure.

The higher parents’ educational attainment, the more involved they are with their children’s education (Baker and Stevenson 1986). Specifically, higher educated parents
are more likely to intervene in school decisions and their children’s education. Higher levels of parental involvement in their children’s education leads teachers to perceive that these parents care more about their children more than families that are less involved (Baker and Stevenson 1986; Riordan 2004). This is important because teachers’ perceptions of parents’ involvement in their children’s education is positively related to their children being placed into higher educational tracks, which leads to more educational opportunities and courses (Riordan 2004). Parents’ belief in their own academic competence is the greatest predictor of their involvement in their children’s education. As noted above, parents who have higher educational attainment are better suited to help with coursework and handle situations that may arise with the school (Eccles and Harold 1996). Parents’ educational level will be positively related to parents’ involvement in their children’s academic achievement.

Does parental involvement in children’s education vary by family structure, that is, single versus two-biological parent families? A study from the High School and Beyond (HSB) data found that children from single-parent households receive less encouragement and attention with educational activities and report less monitoring of school work by fathers and mothers when compared with two-parent biological families (Astone and McLanahan 1991). This same study finds that children from single parent households spend significantly more time talking with their parent than children from two-parent households (Astone and McLanahan 1991). This may suggest that although single parents talk more with their children, this does not extend to academic or school related topics.
While single adoptive parents have higher than average income and education, biological single-parent families have lower socioeconomic status and educational attainment and thus do not feel they can adequately help their children with their schooling (Baker and Stevenson 1998; Lareau 1996). A comparison of one-parent versus two-parent household involvement in their children’s education finds that the possible negative net effects of the level of parental involvement of living in a one-parent household is mediated by income (Milne, Myers, and Rosenthal 1986). Consequently, family income may be the key component to explaining differences in various family structures and parents’ involvement in their children’s education. Family income and parent’s education will mediate the relationship of family structure and adolescent’s academic achievement. This suggests that once we control for family income and parent’s income will be no difference in various family structures and academic achievement. Now let us turn the focus to the relationship between parents’ race and parental involvement.

Race and parental involvement have long been explained from two basic perspectives, involvement in the home and school. Family background measures such as class and race were found to account for 10% of the variation with relation to home discussions about school and general home supervision (Ho and Willms 1996). Parental involvement does seem to vary by race, in that African American families are more likely than white families to be involved with school activities at home than direct involvement with the school (Eccles and Harold 1996). Additionally, white families are more involved in the school setting than African American families (Eccles and Harold 1996). This study will use measures of parental involvement that reflect in home participation and
communication about school versus direct participation with the school and/or teacher. Due to the at-home measures of parental involvement used, this study predicts that no differences between the race of the adolescents and their parents’ involvement in their education.

Does parents’ involvement in their children’s education vary by the gender of the child (Freese and Powell 1999; Hopecroft 2005; Muller 1998)? A longitudinal study of the impact of parental involvement on adolescents’ mathematics achievement in grades eight to twelve found that parental involvement and achievement in math was similar for both boys and girls across time (Muller 1998). In addition, parental involvement in their children’s education diminishes over-time for both boys and girls to the point there is essentially no relationship to academic achievement by the time they are seniors in high school (Muller 1998). Data taken from two nationally representative studies, Freese and Powell (1999) concludes there are no differences between parents involvement in their son’s or daughter’s education.

Baker and Stevenson (1986) found that parents with higher education are more likely to intervene in their sons’ placement into math courses than for girls. These authors also found that parents were more involved in school activities with boys and at-home school activities with girls (Stevenson and Baker 1987). Additionally, parental involvement with boys tended to diminish through high school, while remaining constant for girls (Stevenson and Baker 1987). Finally, on average, parents were more likely to discuss school matters with girls than boys (Sui-Ho and Willms 1996). A key factor in explaining why parental involvement in their son’s and their daughter’s academic achievement may differ is varying measures of parental involvement. Regardless of race
or gender, parents are less likely to be involved in older adolescents education than younger adolescents (Crosnoe 2001).

Parents’ involvement is higher within the home for girls, while parents’ involvement in their son’s education remains focused on interactions with the school. Noted above, this study will use in home items as a measure of parental involvement in their children’s education. Regardless of the variation on the level of parents’ involvement in their children’s education, a recent national 26 year follow-up study of parenting practices and academic achievement found that mothers’ interest in their children’s education remained a significant predictor of both boys’ and girls’ academic achievement (Flouri 2006). This finding may be important in explaining the differences between adoptive status, mother’s involvement in their children’s education, and adolescents’ subsequent academic achievement? As stated above from the Add Health data set, Burrow et al. (2004) found that adopted adolescents did not feel as close to their mothers as non-adopted adolescents. In light of this finding from Burrow et al. (2004), if the adoptive mother-child dyad does not feel a sense of closeness similar to non-adoptive families for each other, how might this impact mothers’ involvement in their children’s education and academic achievement? This study suggests that there will be no difference in parents’ involvement in their sons’ or daughters’ academic achievement.

A review of the literature between various factors and parental involvement in their children’s education suggests several conclusions. Adoptive parents will have similar if not more parental involvement in their adolescent’s education relative to other family structures. Parents with higher socioeconomic status are more likely to be involved in their children’s education regardless of family structure. Yet, after controlling
for family income, there should be no difference between family structure and academic achievement. Parents’ educational level will be positively related to parents’ involvement in their children’s academic achievement. Regardless of adoptive status, parents will be less involved in their older adolescents’ education and more involved in their younger adolescent children’s education. Due to the at-home measures of parental involvement used, this study suggests that there will be no difference between the race of parent(s) and their involvement in their children’s education. Next, there will be no differences between parents involvement in their son’s or daughter’s education. Last, parents’ will be more involved in younger adolescent’s education than older adolescent’s education.

SELF-ESTEEM

Adoptive Status and Self-Esteem

Research finds conflicting evidence as to whether adoptive status influences self-esteem. In a small but non-clinical study of adoptees versus non-adoptees, there were no indications that adolescent adoptees had lower self-esteem (Stein and Hoopes 1985). In a national comparison of adoptees versus non-adoptees, adoptees were found to have as high or higher self-esteem than their non-adopted counterparts (Bensen et al. 1994). A recent study from the Add Health data comparing adoptees and non-adoptees in one-parent families finds similar levels of self-esteem between the two groups (Feigelman and Finley 2004). Even adoptees in inter-racial families have similar levels of self-esteem to their racially homogenous families (McRoy and Zurcher 1983).

In contrast, a meta-analysis of the psychological adjustment of adoptees reports that adoptees were at a higher level of psychological risk than there non-adopted counterparts (Wierzbicki 1993). One measure of psychological risk for this study was
self-esteem. Wierzbicki (1993) suggests that this lower level of self-esteem among adoptees stems from the fact that a sizeable amount of the studies included in their research were taken from clinical populations and that the respondents were not blind to the adoptive status of the individual. Furthermore, Wierzbicki (1993) suggests that clinical studies were over-represented with adoptees and that a comparison of non-clinical populations reveals little if any significant differences in psychological outcomes based on adoptive status. Warren (1992) suggests that high rates of adoptees in clinical samples may reflect higher referral rates of adoptive families, rather than higher rates of psychopathology. A recent meta-analysis of adoptive status and adults’ self-esteem, found that there were no differences in self-esteem and adoptive status, including international, domestic, and transracial adoptees (Juffer and Van IJzendoorn 2007). This study suggests that there will be no difference in adopted and non-adopted adolescents’ self-esteem.

Adoptive Status, Family Closeness, and Adolescents’ Self-Esteem

Research suggests that the bond between the parent and child is more important in explaining self-esteem for children than adoptive status (Kelly et al. 1998; Levy-Shiff 2001; Passmore et al. 2005). A recent comparison of adult adoptees and non-adoptees found that successful parent-child bonding, such as higher care from parents and lower overprotection, is more important in explaining an adolescent’s self-esteem than adoptive status (Passmore et. al 2005). Thus, positive family relationships regardless of adoptive status should be positively related to an adolescents’ self-esteem.
Rosenberg and Pearlin (1976) suggested that the relationship between parents’ socioeconomic status and their children’s level of self-esteem is mediated by the age of the adolescent. Specifically, the relationship between social class and self-esteem and becomes stronger as the adolescent becomes older. Thus, younger adolescents’ self-esteem would have a weaker relationship to social class than older adolescents. Additionally, Demo and Savin-Williams (1983) found that older adolescents’ level of socioeconomic status was more salient (important) in their lives than younger adolescents and thus had a stronger influence on their level of self-esteem. A small study found that parents’ educational level was positively related to adolescent’s self-esteem (Blackmon and Durm 1997).

Yet, other research finds that adolescents’ level of self-esteem is related to their own accomplishments versus their parents' socio-economic status (Rosenberg and Pearlin 1976; Wiltfang and Scarbeze 1990). Younger adolescents reported lower self-esteem was due to fewer reflected appraisals from their parents, yet this finding was not found among older adolescents (Whitbeck, Simons, and Conger 1991). While parents’ socioeconomic status may be a factor in predicting adolescent’s self-esteem, a better explanation may come from parents’ economic hardships and adolescents’ success in various settings, which leads to their increased self-esteem. Research has found children’s perceptions of family conflict or cohesiveness is more relevant in explaining the differences in children’s self-esteem than knowing the family form or structure (Barber and Lyons 1994; Cooper, Holman, and Braithwaite 1983; Coontz 1997). Research has found no difference in perceptions of fathers’ interest in their children’s
lives and their adolescent’s self-esteem between always married and post-divorce families (Clark and Barber 1994).

Research suggests that socialization in the family operates differently for black versus white families with relation to adolescent’s self-esteem. Racial socialization messages are related to African American adolescent’s self-esteem (Constantine and Blackmon 2002). Racial socialization messages are about the positive reinforcement of knowledge and pride of African American culture. A recent meta-analysis of half-a-million subjects found that African American adolescents have higher self-esteem than their Caucasian counterparts (Gray-Little and Hafdahl 2000). Research suggests that Latin Americans have similar self-esteem to other racial groups (Martinez and Dukes 1997) and other studies finding lower self-esteem in comparison to other racial groups (Twenge and Crocker 2002). I predict there will be no difference in race of the adolescent and their self-esteem.

Past research using data from mostly white American samples concluded that boys have higher self-esteem than girls (Simmons, Rosenberg, and Rosenberg 1973; Josephs, Markus and Tafarodi 1992). Possible explanations for boys’ higher self-esteem relative to girls during adolescence include boys’ decreased value on their own body-image during this time (Attie and Brooks-Gunn 1989). Additionally, girls’ lack of belief in their abilities in academic areas, such as math may lead to lower self-esteem than boys (Brown and Gilligan 1992; Eccles, Barber, and Jozefowicz 1999). Yet, high self-esteem for boys and girls, while equal in their impact on self-confidence, may be derived from different sources (Josephs et al. 1992; Thorne and Michaelieu 1996). Boys’ self-esteem may be derived from individual accomplishments and successful attempts at being
assertive, in contrast to girls who derive their self-esteem from their personal relationships (Josephs et al. 1992). Regardless of the source, both boys and girls with high level of self-esteem are less concerned with peer social approval (Harter, Stocker, and Robinson 1992) and are perceived to be more positive (Block and Robbins 1993).

*Family Closeness and Adolescents’ Self-Esteem*

Research suggests that adolescents’ positive perceptions of supportive and harmonious households are related to higher self-esteem. Both national data (Parker and Bensen 2004) and international data (Scott, Scott, and McCabe 1991) report that higher levels of parental support, including family harmony, were positively related to higher levels of self-esteem among adolescents. Parents’ social support of eighth graders was found to have a significant positive relationship to their adolescent’s self-esteem (Ross and Beckett 2000). Wachs (as cited in Howe 1997:58), reviewing studies on effective parenting, found that parental sensitivity and responsibility promote secure attachments, high self-esteem and self-confidence and problem solving competence. Children’s level of self-esteem was not solely based on family support and/or harmony but also on the positive and negative interactions they have with their family and others.

Research has consistently shown that self-esteem is an outcome of reflected appraisals from contact with people such as, parents, family, friends, and teachers (Rosenberg 1979; Rosenberg 1989; Rosenberg, Schooler, and Schoenbach 1989). Because parents play the premiere role in their children’s socialization, it seems almost common sense that parents’ positive appraisals of their children would positively influence their self-esteem. In an examination of the reciprocal relationship between parents-child relationship and adolescents’ self-esteem, research found a significant
relationship between adolescent’s reported self-esteem and their perceptions of parental support, autonomy/control, and participation (Gecas and Schwalbe 1986).

A follow-up study found that self-esteem of adolescents is significantly related to their perception of positive parental communication and general participation in their lives (Demo, Small, and Savin-Williams 1987). Demo et al. (1987) found these adolescent reports of self-esteem are most similar to their mothers’ reports of communication and general participation. This finding is important because Burrow et al. (2004) find that adopted adolescents’ reported lower levels of closeness to their mothers, and this may impact an adopted adolescents’ self-esteem, especially with relation to academic achievement. Adolescents’ closeness to mother has been found to be a significant factor in predicting adolescents’ self-esteem (Burnett and Demnar 1994). Results indicate that adolescents' perceived closeness to their female resident parents (custodial or step-) has a positive effect on self-esteem. Closeness to resident female parents explains the largest relative proportion of the variance in adolescent self-esteem, compared to male resident parents or to nonresident parents of either sex (Berg 2003). The closer adolescents feel towards their families, their mother, and their fathers the higher their self-esteem.

*Parental Involvement and Adolescents’ Self-Esteem*

Research suggests that the relationship between parental involvement in their children’s education and an adolescent’s self-esteem may be mediated through an adolescent’s perceived locus of control. Due to limitations in the data and no measures of locus of control, this study will focus on adolescents’ self-esteem. Research has found that parental interest in their children’s education is linked to self-esteem (Battle 1981;
Deutsch, Servis, and Payne 2001; Ruiz, Roosa, and Gonzales 2002). Parents’ involvement in their children’s education in eighth grade is positively related to their adolescent’s self-esteem in the tenth grade, but not to subsequent academic achievement in 12th grade (Ross and Broh 2000).

A recent British national 16 year follow-up study of a 1970 cohort investigated the relationship between mothers’ and fathers’ interest in their children’s academic achievement and their children’s subsequent self-esteem (Flouri 2006). Parents’ interest in their children’s education was not related to their children’s self-esteem (Flouri 2006). While the research is mixed, this study suggests that there will be no relationship between parents’ involvement in their children’s education and their children’s self-esteem.

A summary of the factors related to adolescents’ self-esteem suggests several conclusions. First, my study predicts that there will be no relationship between self-esteem and adoptive status. Second, positive family relationships regardless of adoptive status should be positively related to an adolescents’ self-esteem. Third, there will be no difference in adolescents’ race and their self-esteem. Fourth, older adolescents will have similar self-esteem as younger adolescents. Fifth, adolescent girls will have lower self-esteem than adolescent boys. Last, this study suggests that there will be no relationship between parents’ involvement in their children’s education and their children’s self-esteem.
ACADEMIC EXPECTATIONS

Adoptive Status and Academic Expectations

Do academic expectations vary by adoptive status? Burrow et al. (2004) found no differences in adopted and non-adopted adolescents’ academic expectations. For my study, academic expectations were measured as how likely an adolescent will attend college and how much they want to attend college. As noted earlier, this may be associated with the fact that adoptive parents are more likely to be older, have higher socio-economic status and educational attainment, and to be married (Chandra et al. 1999; Mosher and Bachrach 1996). All of the listed parental social characteristics have been found to be related to adolescents’ academic expectations. Specifically, the higher parents’ social class, the higher parents’ educational attainment, and being married are related to higher academic expectations for children (Coleman 1966; Hill and Taylor 2004; Wilson and Wilson 1992). Due to the socio-economic background of adoptive families, this study suggests that adolescent adoptees will have similar, if not higher academic expectations than adolescent non-adoptees.

Family Social Characteristics and Academic Expectations

Coleman et al. (1966) discovered that the home environment is more important than the school in influencing adolescents’ academic expectations. Findings consistently show that the higher parents’ socioeconomic status and the higher their educational attainment, the higher are their expectations for their adolescents’ academic achievement (Hill and Taylor 2004) and the higher are their adolescents’ educational aspirations (Wilson and Wilson 1992). Alexander, Entwisle, and Bedinger (1994) found that parents from moderate-to-high income (middle to upper class) and middle-to-high educational
backgrounds expectations about their children’s educational performance more accurately predicted their adolescents’ academic performance than parents from lower income and lower educational backgrounds. Lower-class children’s educational performance did not meet up to their parents academic expectations for them (Alexander et al. 1994). This relationship holds for African American families as well (Halle et al. 1997). Parents’ social class and educational attainment is positively related to adolescents’ academic expectations.

Shim, Felner, and Shim (2000) compared two-biological parent, single-parent, and step-parent families’ academic expectations for their children and the impact on their subsequent academic achievement. Shim et al. (2000) found no difference in family structure and academic expectations. Regardless of family structure, the higher the level of parents’ academic expectations for their children, the higher is their children’s level of academic achievement (Shim et al. 2000). Using a nationally representative sample of various family structures, Acock and Demo (1994) found that first-married mothers (versus non-married mothers) had significantly higher educational expectations for their children than divorced, step-family, or continuously single-parent families. Yet, the authors concede that they do not want to exaggerate the difference and note that all four of these family structures have very similar expectations for their children (Acock and Demo 1994:117). This study suggests that there will be no relationship between family structure and adolescents’ academic expectations. Yet, this relationship may be mediated by parents’ income and education.
Family Closeness and Academic Expectations

The closer adolescents feel towards their parents, the higher their academic expectations. Specifically, the closer adolescents feel towards their mother, the higher their level of academic expectations (Bornholt and Goodnow 1999; Sanders, Field, and Diego 2001; Trusty 2001). This relationship is consistent across various family structures (e.g. single- and two-biological parent families) (Bornholt and Goodnow 1999; Silverberg, Marczak, and Gondoli 1996; Smith 1991; and Williams and Radin 1993). Parent-child beliefs in academic expectations were found to more closely parallel mother-child expectations than father-child expectations (Bornholt and Goodnow 1999). This may suggest that adolescents’ relationships with their mothers may be a more reliable predictor of adolescents’ academic expectations than their relationships with their fathers. In contrast, there were no differences between mothers’ and fathers’ expectations and adolescents’ expectations during their senior year (Trusty and Pirtle 1998). This may be because older adolescents feel less close to their parents than younger adolescents (Burrow et al. 2004). Closeness to family, closeness to mother, and closeness to father is positively related to adolescents’ academic expectations.

Parental Involvement and Academic Expectations

Research has shown that the more involved parents are in their adolescents’ education, the higher their adolescents’ academic expectations (Hill and Taylor 2004). Yet, while parental involvement is positively related to children’s future academic expectations, it is not related to the avenues that lead to future academic success, namely, in-school behavior and higher grades (Hill and Taylor 2004). Hill and Taylor (2004) concede that one of the limitations of their measure of parental involvement in their
children’s education is that it only includes items that measured parental involvement at school versus parental involvement at home. While research from the High School and Beyond (HSB) data set finds that the more parents were involved in their adolescents’ schooling, the higher adolescents’ academic aspirations (Wilson and Wilson 1992). Adolescents’ academic expectations may be more influenced more by mothers’ than by their fathers’ expectations. As stated earlier, Bornholt and Goodnow (1999) adolescents’ academic expectations more closely parallel their mother’s expectations than father’s expectations for them. Parents’ involvement in their adolescents’ education is positively related to adolescents’ academic expectations.

Due to the socio-economic background of adoptive families, this study suggests that adolescent adoptees will have similar, if not higher academic expectations than non-adoptees. In addition, there will be no relationship between family structure and adolescents’ academic expectations. Yet, this relationship may be moderated by parents’ social class and education. Family closeness is positively related to adolescents’ academic expectations. Parents’ involvement in their adolescents’ education is positively related to adolescents’ academic expectations.

IN-SCHOOL BEHAVIORAL DIFFICULTIES

Adoptive Status and In-school behavioral difficulties

In-school behavior has long been identified as a predictor of academic achievement (Riordan 2004). Students’ academic track reflects the classes they will attend (e.g. Basic math or algebra, Basic English or British Literature) and thus influences what classes these students will be able to enroll in their future. Poor behavior
in school, and more importantly, teachers’ perceptions of their students’ behavior, aids in determining students’ academic track (Riordan 2004).

Adoptees have equal to slightly higher rates of in-school behavioral problems than non-adoptees. Teachers reported that adopted boys had more behavioral issues than their non-adopted peers (Seglow 1970). Lambert and Streather (1980), following the same cohort studied by Seglow (1970) found that teachers perceived both adopted boys and girls to have more behavioral problems than their non-adopted peers and children reared outside biological or married families. Plomin and Defries (1993) also found that teachers rate adoptees as having more problems than non-adoptees with externalizing behavior, aggression and attention problems.

Using the Add Health data set, Whitten (2002) looked at the role of family, school, and the community with relation to the development of adopted adolescents, one outcome was in-school behavior troubles. Whitten found that adopted adolescents were significantly more likely to have “troubles” (e.g. school suspensions) while in school (2002:49). In comparison, other research found that adopted children’s in-school behavior fell within a normal range, although slightly higher than their non-adopted counterparts (Kriebel 2002). Yet, family structure may be related to in-school behavioral difficulties, adoptees residing in single-family households have higher levels of grade expulsions than non-adopted adolescents (Feigelman and Finley 2004). In summary, research suggests that adoptees have slightly higher or equal amount of in-school behavioral difficulties as non-adoptees. Adoptive status will be positively related to adolescents’ in-school behavioral difficulties.
Family Social Characteristics and Adolescents’ In-school behavioral difficulties

Parents’ social class and educational attainment is negatively related to adolescents’ in-school behavioral difficulties. Research has found that children who came from higher socioeconomic households and having two biological parents was positively related to children’s behavior such as grades and attendance, and negatively related to bad behavior, such as fighting and skipping classes. Research finds that having parents with higher economic resources and having two-parents continuously living together had a direct positive influence on their children’s in-school behavior (Nash 2002). Parents from higher socioeconomic families influence their children’s grades and attendance and may mediate possible negative behavior such as skipping class and fighting. Children from two-biological parent households had fewer absences, less tardiness, and fewer reported behavioral problems (Featherstone, Cundick, and Jensen 1992).

Solely looking at family structure, research found children from intact two-parent families have better in-school behavior than children from step-families, and single-parent families (Featherstone et al. 1992). This finding is similar to the studies listed above, that intact two-parent families promote more school discipline and better in-school behavior. Ricciuti (2004), using data from the National Longitudinal Study of Youth (NLSY), examined the impact of changing family structures and the influence on children’s social behavior. Research found that from ages six to thirteen, there was little systematic evidence of adverse effects of living with a single parent on the subsequent social behavior of these children (Ricciuti 2004:203). This finding was consistent, whether the author examined the role of the current family, number of years in single-versus two-parent families during the intervening period, or the continuity or
discontinuity of children’s experiences in these households at earlier ages (Ricciuti 2004:203). Ricciuti (2004) found that the presence of positive maternal attitudes toward their children is related to their children’s positive in-school behavior.

Adolescents’ age may be the determinant factor of in-school behavioral difficulties rather than the family structure. Research has found that adolescents’ age is negatively related to closeness to the school and the family (Burrow et. al 2004). The age of the adolescents may be more important in understanding adolescent’s in-school behavior than adolescents’ family structure. Younger adolescents will have better in-school behavior than older adolescents. The relationship between family structure and adolescents’ in-school behavioral difficulties will be mediated by the age of the adolescent. This suggests that regardless of adoptive status, or family structure, older adolescents will have more in-school behavioral difficulties than younger adolescents.

**Family Closeness and Adolescents’ In-school behavioral difficulties**

The closer adolescents feel to their family, the better their in-school behavior. Adolescents’ perceptions of family integration and family satisfaction are linked to fewer in-school problems for adolescents (Woolley and Kaylor 2006). The higher levels of parental support lead to lower levels of risky behavior among their adolescent children (Parker and Bensen 2004). These family interactions include adolescents’ feeling of satisfaction in a time of distress, feeling loved and cared for, and adolescents who were given plenty of parental time and attention (Woolley and Kaylor 2006). The closer adolescents feel towards their family, their mothers and their fathers, the fewer in-school behavioral difficulties the will exhibit.
Parental Involvement and Adolescents’ In-school behavioral difficulties

The more parents are involved in their adolescents’ education, the less likely children are to have disruptive behavior. Longitudinal data has found that regardless of previous rates of in-school discipline (e.g. getting into trouble once, twice, or more), the more parental involvement in their children’s education reduces the amount of in-school discipline, such as given detention or in-school suspension (Sheldon and Epstein 2002). Data from this same study found that increased levels of parental involvement in their children’s education increased their students’ daily attendance and a decreased their chronic absenteeism (Sheldon and Epstein 2002). Yet, this parental involvement may not influence adolescents’ in-school behavior equally across all levels of parents’ educational attainment. Among parents with higher levels of education, parents’ involvement in their adolescent’s education was related to positive school behavior, but this relationship was not among parents with lower levels of education (Hill and Taylor 2004). Parents’ involvement in their children’s education is negatively related to adolescents’ in-school behavioral difficulties.

Adolescents’ Self-Esteem and Adolescents’ In-school behavioral difficulties

Higher self-esteem may lead to better in-school behavior, but this relationship may vary by socioeconomic status. A study of college freshmen found that self-esteem was one of the strongest predictors of students’ school problems, such as academic suspension (Thombs 1995). Students who are involved with extra-curricula activities at school are less likely to have in-school behavioral difficulties. Although not directly related, self-esteem has also been found to have a positive relationship with participation in school extra-curricular activities (Riordan 1997).
Research finds an interesting relationship between self-esteem and delinquency. Specifically that higher self-esteem leads to delinquency for males from higher socio-economic classes and lower self-esteem for lower socio-economic status (SES) males leads to delinquency. Yet, unlike their higher SES comparison group, the lower SES group transforms this delinquency into a higher level of self-esteem and therein reinforces there propensity to delinquency (Rosenberg, Schooler, and Shoenbach 1989). Hence we may find that self-esteem may operate differently for adolescents from different socioeconomic families.

Adolescents from higher socioeconomic families may use their initially higher self-esteem to promote or continue in-school behavioral difficulties. In contrast, adolescents from lower socioeconomic families may promote their own self-esteem by participating in delinquent attitudes or behaviors in school. Adolescents’ self-esteem is positively related to adolescents’ in-school behavior, yet this relationship may vary by socioeconomic status.

Adolescents’ Academic Expectations and Adolescents’ In-school behavioral difficulties

The higher adolescents’ academic expectations the more positive their in-school behavior will be. For example, those students who are committed to their educational success are less likely to commit delinquent acts (Hirschi 1969:178). Current research echoes this finding. Students with higher academic expectations have lower levels of deviant behavior than students who have lower academic expectations (Chen and Dornbusch 1998). Higher adolescent academic expectations are positively related their in-school behavior.
I predict that adoptive status will be negatively related to adolescents’ in-school behavior. Regardless of family structure, older adolescents will have worse in-school behavior than younger adolescents. The closer adolescents feel towards their families, the fewer their in-school behavioral difficulties. The more parents are involved in their children’s education, the lower their adolescents’ in-school behavioral difficulties. Adolescents’ self-esteem is negatively related to adolescents’ in-school behavioral difficulties, yet this relationship may vary by socioeconomic status. Last, higher adolescent academic expectations are negatively related their in-school behavioral difficulties.

ACADEMIC ACHIEVEMENT

Adoptive Status and Academic Achievement

The following section reports previous findings on the relationship between adoptive status and academic achievement. A review of the research comparing adoptees to non-adoptees academic achievement suggests there is no difference between the groups. The reported initial advantages and disadvantages in academic achievement of adoptees that manifest in childhood and early adolescence become insignificant by early adulthood. Both adoptees and non-adoptees have similar levels of academic achievement by the age of thirty-three (Maughan et al. 1998). While a significant amount of research has been done on adoptive status and IQ, this study focuses on academic achievement (Scarr and Weinberg 1977; 1978; 1983).

A review of the previous studies following a 1958 cohort suggests that adoptees have the same if not slightly higher levels of academic achievement from birth into adulthood. Several studies have followed a sample of people born in week one from a
1958 cohort in Great Britain (Lambert and Streather 1980; Maughan et al. 1998; Seglow, Pringle, and Wedge 1972). These three studies reviewed the 1958 cohort to understand what factors may influence the academic achievement of adopted children longitudinally. Seglow et al. (1972) compared teacher ratings for 180 adopted children with children born within a marriage and reared by their parents and children born outside of a legally classified marriage and raised by their birth mother. Seglow et al. (1970) found that seven year old adoptees had higher reading levels than the other comparison groups. After controlling for social class, gender, and family size, these higher scores were reduced but still slightly higher for adoptees.

Lambert and Streather (1980) following this same cohort, now 11 years old, report that adoptees have reduced their reading advantage to non-significant. This could suggest two things. First, the economic and social advantages that adoptees received from their initial placement might be diminishing. Second, perhaps this reflects teachers’ perceptions of their students as adopted and how this may in turn impact how these teachers assess students’ current and future academic performance. Maughan et al. (1998) following the same cohort, reviewed their academic achievements at age 33. Maughan et al. (1998:675) found that adoptees' academic achievement was similar to children in other family structures. At age 33 adoptees maintained an equal if not a slightly higher level of academic achievement (Maughan et al. 1998).

Several Swedish studies followed a cohort from the 1950’s to explain the relationship between family structure, adoptive status and academic achievement. The initial selection of these subjects was based on those who were originally identified by the state as children to be placed for adoption. These studies compared 164 adopted
children with 213 children whose mothers originally consented to adoption and then decided against adoption placement. The last comparison group consisted of 124 children who were not adopted and remained in foster care (Bohman 1970; Bohman 1990; Bohman and Sigvardsson 1979). These studies reviewed the academic achievement of this cohort at age 11, age 15, age 18 and finally at age 23. Within this Swedish cohort, adoptees had lower academic achievement at age 11 than their non-adoptees, but these disadvantages diminished by early adulthood.

The Colorado Adoption Project, a longitudinal study, compared the adjustment of adopted children to that of non-adopted children on several measures, one of them being academic achievement (Plomin and Defries 1985; Thompson and Plomin 1988; Coon et al. 1992; Coon et al. 1993; Braungart-Rieker et al. 1995; and Wadsworth, DeFries, and Fulker 1993). At age seven, adoptees had lower levels of reading and math scores (Plomin and Defries 1985). Furthermore, Wadsworth et al. (1993) reported that adoptees have lower IQ scores than their non-adopted peers at age seven and eleven, but this relationship is small.

The Delaware Family Study was a longitudinal study sought to reveal the developmental patterns in adopted children’s adjustment based on parents’ self-reports (Hoopes 1982; Stein and Hoopes 1985). These children were assessed at age five and again when they were between the ages of 15 to 18 years old. Stein and Hoopes (1985) discovered no significant differences between adoptees’ level of academic mastery and adequacy and their non-adopted comparison group.

Wierzbicki (1993) conducted a meta-analysis of 66 published studies that compared the psychological adjustment and other outcomes of adoptees and non-
adooptees. Research has found reported significant differences between adoptees and non-adoptees on academic outcomes which contained items such as academic performance/achievement, learning disabilities, intelligence, and assignment to special education classes (Wierzbicki 1993:448). Specifically, adoptees had lower academic achievement, higher learning disabilities, lower intelligence, and a greater likelihood of being in special education classes (Wierzbicki 1993). The above-average socioeconomic status and educational attainment of adoptive parents provides them options to place their children into programs that may address academic issues as soon as they arise. Past research has suggested that the higher rates of adoptees among clinical samples may reflect higher parental referral rates versus higher rates among psychopathology adoptees as a population (Warren 1992). This may contribute to higher reporting of adopted children’s and adolescents’ academic problems by their parents versus their non-adopted counterparts.

In a meta-analysis of various measures of academic achievement such as grade point average, Van IJzendoorn et al. (2005) found that adoptees were doing as well or just a little behind their non-adopted counterparts. In contrast, Burrow et al. (2004) and Whitten (2002), using data set from the National Study of Adolescent Health (Add Health), found that adopted adolescents had a significantly lower grade point average than their two-biological parent comparison group. Another possible explanation for these mixed findings may be due to varying levels of familial support and parental involvement based on adoptive status (Burrow et al. 2004). Adoptive status is negatively related to adolescents’ academic achievement.
Family Social Characteristics and Academic Achievement

The relationship between parents’ social characteristics (e.g. socioeconomic status, race, and marital status) and academic achievement has been thoroughly studied (Blau and Duncan 1967; Riordan 2004). Consistently, the strongest family background variable to explain all aspects of children’s academic achievement is parents’ socioeconomic status (Riordan 2004:73). Family social class is positively related to adolescents’ academic achievement.

The positive relationship between higher academic achievement and higher socio-economic status has long been established (Riordan 2004). As noted earlier, parents with higher educational achievement, the more involved they are with children’s education (Baker and Stevenson 1987; Eccles and Harold 1996). As such, the higher parents’ educational attainment, the higher their children’s academic achievement.

How does the intersection of parents’ race and class influence children’s academic achievement? Race and class are inextricably linked, with whites more likely to have higher socio-economic status jobs. Race influences classroom outcomes, such as tracking and test scores, which may hinder children’s academic achievement (Riordan 2004). Yet, once class is controlled, one study found that African Americans are actually more likely to graduate from college than Caucasians (Alexander et al. 1994). Since being a minority is highly correlated with low socio-economic status, it is this lack of economic resources that leads to lower educational resources and thus lower academic achievement. “Thus, the effects of race on educational attainment are mostly indirect through academic resources such as test scores and track allocation” (Riordan: 75). The
relationship between adolescents’ race and adolescents’ academic achievement is mediated by the family’s economic class. These findings suggest that there will be no difference in the race of adolescents and their academic achievement.

**Family Closeness and Academic Achievement**

It seems almost common sense that positive family relations such as closeness and communication would play a key role in the academic success of adolescents. Some key components in understanding children’s academic achievement are general family interactions, family structure, and parenting style such as communication, openness, closeness, and understanding (Gecas 1981; Hickman, Bartholomae, and McKenry 2000; Marchant, Paulson, and Rothlisberg 2001). Acock and Demo (1994:216) found that academic performance was most strongly influenced by social background and family resources, rather than by family processes such as communication. This finding was significant regardless of family structure. Fincham and Hokodo (1995) report patterns of helplessness and mastery with relation to academic competence, may originate within the family. Hence the closeness of the family can either promote or hinder children’s academic achievement.

The family guides how children see themselves, and this in turn relates to how they compare themselves within the structure of school. According to Gecas, “The goal of most parents is to develop children into competent, moral, and self-sufficient adults. This is typically undertaken with two objectives or frames of reference in mind: socializing the child for membership in the family group, (but more importantly) and socializing the child for membership in the larger society” (1981:170). Thus, children’s
first actions and how parents react to either discourage or encourage those actions shape their children’s behavior in their future.

“It is in this context in which the child’s initial sense of self-develops and basic identities, motivations (italics added), values, and beliefs are formed” (Gecas 1981:172). The consequences of low motivation, lack of identity, and/or lesser educational values and beliefs could undermine a student’s initial acceptance and confidence in their ability to achieve in school. A positive home environment that promotes general family well-being and closeness should be related to academic achievement. Research has found that parents who positively support and reward different types of activities for their children instill in them an ability to deal with various challenges in the academic sphere and society (Bandura 1997). The family contributes to and reinforces the academic success of their children.

Utilizing a makeup of general family processes or closeness and conflict, Adams et al. (2000) study identified three different family atmospheres in relation to parental support: they are family closeness, control, and conflict. Closeness was conceptualized as the feeling of togetherness in the family. Family fighting was represented by conflict and control instilled values and rules that were considered a form of control. Adams et al. found that general family processes “all have their effective associations with the outcomes mediated by both school-focused parent-child interactions and the child’s personal characteristics” (2000:247). This suggests while closeness to family is important with relation to academic achievement, the parents’ school interactions and children’s own characteristics also contribute to adolescents’ subsequent academic achievement. Meece (1997) found that supportive homes that encourage exploration and curiosity help
a child’s educational development. Family closeness is positively related to adolescents’ academic achievement.

*Parental Involvement and Academic Achievement*

On face value alone, it would seem that the more involved parents were in their children’s education, the higher children’s level of academic achievement. Research demonstrates that there is a positive relationship between parental involvement and academic achievement. Parental involvement has been found to be positively related to academic achievement (Blau 1967; Coleman 1988; Epstein 1991; Fan and Chen 2001; McNeal 1999; Singh et al. 1995). In contrast, Ford (1989) found no significant effect of parental involvement on children’s academic achievement. Yet, there remain several factors that differentiate not only the level of parents’ involvement but the amount of influence and adolescent’s willingness to accept this help.

A possible explanation for varying levels of parents’ involvement in their children’s education may not be due to differences between general help with school (e.g. monitoring school work) and course specific help (e.g. helping with Math homework) with school. In a review of large scale studies on parental involvement, there seems to be a positive relationship with a general monitoring of a student and academic achievement, while no relationship of parents’ helping with homework and academic achievement (Ho and Willms 1996). This finding may be due to the fact that while parents still care about their adolescent’s education, they may not believe they can help with their coursework (Eccles and Harold 1996). A meta-analysis of parental involvement and academic achievement supports these findings, as the amount of time parents spent doing homework with their children had a weak relationship to academic achievement (Fan and
Chen 2001). Parental involvement is positively related to adolescents’ academic achievement.

*Adolescents’ Self-Esteem and Academic Achievement*

Research finds there is no relationship between self-esteem and future academic achievement. One avenue of research suggests that building self-esteem will enhance academic achievement (Battle 1981; Liu, Kaplan, and Risser 1992). Furthermore, it might be successful academic achievement that promotes higher self-esteem. Academic achievement in eighth grade influences self-esteem for tenth graders, but this self-esteem does not relate to twelfth grade academic achievement (Ross and Broh 2000: 279). Ross and Broh (2000) found that an adolescent’s personal locus of control is a more reliable factor in predicting future academic achievement.

Yet, global self-esteem may vary within various contexts, thus leading to context specific self-esteem, such as educational self-esteem. Rosenberg et al. (1995) report evidence that self-esteem has specific dimensions in which people feel good about themselves. Such is the case with someone who may feel confident in math who may not necessarily feel that same level of confidence in other academic areas, such as English or science. Ultimately, Rosenberg et al. (1995) find that valuing academic performance is related to the level of academic self-esteem and therein level of global level self-esteem. Adolescent’s self-esteem is not significantly related to adolescent’s academic achievement.

*Adolescents’ Academic Expectations and Academic Achievement*

Is there a relationship between adolescents’ academic expectations and their academic achievement? The higher adolescents’ academic expectations, the higher is
their academic achievement (Gottfredson 1981; House 1995; Majoribanks 1984; Muijs 1997). A smaller study found that adolescents’ academic expectations were significantly related to future academic achievement (Sanders, Field, and Diego 2001). Another study found that academic expectations were positively related to the respondents’ grades in college-level calculus (House 1995). The higher adolescents’ academic expectations, the higher adolescents’ level of academic achievement.

**Adolescents’ In-school behavioral difficulties and Academic Achievement**

Adolescents who have better in-school behavior will have a higher level of academic achievement. A longitudinal study of 576 adolescents found that higher levels of attention problems, disruptive behavior, and aggressive behavior were linked to lower grades (Fleming et al. 2005). Two different national studies found that the misbehavior of high school sophomore’s was negatively related to high school senior’s level of grades (Myers et al. 1987; Wiatrowski et al. 1982).

Unfortunately, a child’s in-school behavior plays a significant role in which academic track a student may be assigned. Tracking is the level of schooling that people are placed into based on their past academic ability. Oakes (1985) reports that schools fail to distinguish between students who may have a hard time behaving and students who may have difficulties in learning. Consequently, lower tracks focus on positive school behavior, such as punctuality and conformity. In contrast, upper-level tracks in school focus on critical thinking and creativity, which are linked to higher levels of academic success (Oakes 1985).

Moreover, it may not be just good behavior, but disciplined behavior, that predicts positive academic achievement. That is to say, not only do students need to have good
behavior, but this behavior has to be disciplined enough to maintain a high-level of self-regulation. Thus, children’s initial school behavior may have serious implications for the future access to educational opportunities and subsequent level of academic achievement via placement in an academic track. Adolescent’s in-school behavior is positively related to adolescent’s academic achievement.

As previously noted, research has found that adoptees have lower academic achievement than their non-adopted peers (Burrow et al. 2004; Van IJzendoorn et al. 2005; Whitten 2002). This academic gap persists in spite of the fact that adoptive families have been shown to have higher income and educational attainment than biological families (Bachrach 1983; Mosher and Bachrach 1996; Chandra, et al. 1999). Family income and parents’ educational attainment has consistently been related to children’s academic achievement and social mobility (Blau and Duncan 1967; Riordan 2004). The two aspects of social capital used in this study, family closeness and parental involvement have been shown to be related to families with higher financial and human capital (Coleman 1988; McNeal 1999; Wang 2002).

Family closeness and parental involvement have been shown to be positively related to children’s academic achievement (Fan and Chen 2001; Ford 1989; Gecas 1981; Hickman et al. 2000; Marchant et al. 2001; McNeal 1999; Singh et al. 1995; Wachs 1997). Recent evidence suggests that adolescent adoptees do not feel as close to their adoptive mothers as adolescents in biological families (Burrow 2004). One possible explanation for how social capital may be manifesting differently in adoptive and biological families to influence adolescents’ academic achievement may be different types of attachment.
As suggested earlier, attachment theory are secure or positive attachments between children and their parents that promote children’s belief in their own worthiness of self and expectations of whether others will be available as sources of support (Bowlby 1969; 1973; 1980; Brodzinsky et al. 1998). The presence of either secure or avoidant attachment between adolescents and their parents may help to explain the varying levels of social capital, family closeness or parents’ involvement in their adolescents education. The more attached and secure adolescents feel towards their family the more likely these adolescents will be able to maximize their families’ social capital to positively influence their academic achievement.

Several questions arise from these conclusions. Why does parents’ income and educational attainment not equate to similar academic achievement among adoptees as for non-adoptees? Do adolescents’ perceived family closeness and parental involvement in their adolescents’ education vary by adoptive status? Do adolescents’ academic expectations and in-school behavior vary by adoptive status? Specifically, what significant interactions are occurring among the factors listed above with adoptive status to account for the educational gap between adoptees and non-adoptees?

**Hypotheses**

Based on the research above, this study hypothesizes the following relationships in the model in Figure 1. I present hypotheses in table form. A plus sign indicates a positive relationship between the independent and dependent variables. A negative sign indicates an inverse relationship between independent and dependent variables. A question mark indicates an uncertain relationship between the independent and dependent variables.
First, the background characteristics influence family social capital; closeness to family, closeness to mothers, closeness to fathers, mothers’ involvement in their children’s education, and fathers’ involvement in their children’s education.

TABLE 1 ABOUT HERE (see page 126)

Second, the background characteristics influence adolescents’ self-esteem, academic expectations, in-school behavioral difficulties, and GPA.

TABLE 2 ABOUT HERE (see page 127)

Third, family social capital variables influence adolescents’ self-esteem, academic expectations, in-school behavioral difficulties, and GPA.

TABLE 3 ABOUT HERE (see page 128)

Several other relationships are hypothesized.

1. Family social characteristics will mediate the relationships between adoptive status and perceived family closeness, parental involvement in their children’s education and their academic achievement (GPA).

2. Family social characteristics will mediate the relationships between adoptive status and adolescents’ self-esteem, adolescents’ academic expectations and adolescents’ in-school behavioral difficulties.

3. Family closeness will be positively related to perceived family closeness, and parental involvement in their children’s education, and adolescents’ academic achievement.
4. Parental involvement will be positively related to perceived family closeness, and parental involvement in their children’s education, and academic achievement.

5. Adolescents’ self-esteem is negatively related to in-school adolescents’ in-school behavioral difficulties.

6. Adolescents’ academic expectations is positively related to adolescent’s academic achievement.

7. Adolescents’ in-school behavioral difficulties will be negatively related to their academic achievement.

8. Adoptive status will interact with parents’ income and parents’ education to influence adolescent’s academic achievement.

10. Adoptive status will be positively related to family closeness to influence their academic achievement.

11. Adoptive status will be positively related to parental involvement to influence their academic achievement.

12. Adoptive status will be positively related to adolescents’ academic expectations to influence academic achievement.

13. Adoptive status will be positively related to adolescents’ in-school behavior to influence academic achievement.
Several mediating relationships are hypothesized.

1. Adolescents’ perceived family closeness and parental involvement in their education mediate the relationships of adoptive status and family social characteristics to academic achievement.

2. Adolescents’ academic expectations mediate the relationship of adoptive status and family social characteristics to academic achievement.

3. Adolescents’ in-school behavior mediates the relationship of adoptive status and family social characteristics to academic achievement.

4. Adolescents’ perceived family closeness and parental involvement in their education mediate the relationships of adoptive status and family social characteristics to adolescents’ in-school behavior.

5. Adolescents’ self-esteem mediates the relationships of adoptive status and family social characteristics to adolescents’ in-school behavior.

6. Adolescents’ academic expectations mediate the relationships of adoptive status and family social characteristics and to adolescents’ in-school behavior.

7. Adolescents’ self-esteem mediates the relationships of perceived family closeness and parental involvement to adolescents’ in-school behavior.

8. Adolescents’ academic expectations mediate the relationships of perceived family closeness and parental involvement to adolescents’ in-school behavior.

9. Adolescents’ perceived family closeness and parental involvement in adolescents’ educations mediate the relationship of adoptive status and family social characteristics to adolescents’ self-esteem.
10. Adolescents’ perceived family closeness and parental involvement in adolescents’
educations mediate the relationship of adoptive status and family social
characteristics to adolescents’ academic expectations.

11. Adolescents’ perceived family closeness and parental involvement in adolescents’
educations mediate the relationship of adoptive status and family social
characteristics to adolescents’ self-esteem.

12. Adolescents’ perceived family closeness and parental involvement in adolescents’
education mediate the relationship of adoptive status and family social
characteristics to adolescents’ academic expectations.
CHAPTER THREE

METHODS

Data and Sample

This study used data from Wave I of the National Longitudinal Study of Adolescent Health (Add Health). The Add Health data set is a nationally representative sample of adolescents in grades 7-12 selected from 80 communities in 1994 and 1995. The data included measurements of adolescents’ perceptions and attitudes of their family, peer group, school, and community. Information was collected on adolescents’ various attitudes and behaviors, self-esteem, self-efficacy, drug use, sexual history, peer networks, health behaviors, school climate, school behavior, parental relations and academic achievement (www.cpc.unc.edu/addhealth/).

Wave I data were obtained from 145 schools, from these schools, 90,118 adolescents completed in-school questionnaires. From these in-school interviews, 21,000 adolescents were selected for in-home interviews. The in-home interview data were collected on laptops and took one to two hours to complete. For the less sensitive questions, researchers asked the questions and recorded responses into the laptop. The more sensitive questions were played on a tape recorder through headphones and respondents’ entered their responses directly into the laptop. Because of inconsistencies in reporting with the adolescent in-school questionnaires (see Fan et al. 2001) this study only used the in-home adolescent interviews. Of the 20,745 participants who responded to the in-home questionnaire, (n = 609) were identified as adopted (see Fan et al. 2001). The study compared 609 adopted adolescents to 11,940 non-adopted adolescents from the core sample “C”. Core sample “C” reflects those respondents’ who answered all of the
questions to adoptive status from Wave 1 of the Add Health study. The use of adoptees perceptions and attitudes about their lives gives them a “voice” in helping to explain the outcomes of future adopted children (Brodzinsky 1993).

In addition to adolescent responses, there were a total of 18,000 in-home parent questionnaires. The parents’ in-home questionnaire obtained data on parental demographic characteristics, such as race, gender, education, and income, and attitudes on perceptions of schools, perceptions of teachers, and relationships with their adolescent(s) who participated in this study. First, these parental responses were one of three measures used to identify adolescents’ adoptive status (see Miller et. al 2001 and below). Second three items were used for parents’ social characteristics; family income, parent’s educational attainment, and parent’s marital status.

Secondary analysis of the Add Health data was employed for this study. The theoretical model of adoptive status, social capital, and academic achievement had several major components. These were, overall family closeness, mother- and father-closeness, mother- and father- involvement in their adolescent’s education, and adolescents’ self-esteem, academic expectations, and in-school problems. All variables and measures were constructed and coded or re-coded in SPSS. These variables and measures were transferred from SPSS into STATA using the STAT Transfer program. This study used STATA for the programs ability to account for clustering and weighting of data.

This study applied sampling weights to the data. Once sampling weights were applied the Add Health survey becomes nationally representative sample of adolescents (Chantala and Tabor 1999). Significance tests and standard errors were adjusted for the
cluster sampling design using the STATA statistical program. Furthermore, this study tested all independent variables and measures for colinearity. Using the STATA statistical program, none of the variables or measures had issues of colinearity. I constructed new measures to account for the missing cases in closeness to mother, father and mothers’ and fathers’ involvement in their children’s education in the data. These standardized scores were only used in models in which closeness to mother, father and mothers’ and fathers’ involvement in their children’s education, were the independent variables.

MEASURES

**Dependent Variable**

This study assigned a respondent a global indicator of academic achievement, their High School grad point average (GPA). The respondents’ grade point averages are based upon adolescents’ self-reported grades in math, reading, science, and social studies. The four grades were averaged, and an “A” grade was re-coded as (4 versus 1) and a “D” or lower re-coded as (1 versus 4) so that a higher score reflected a higher GPA (alpha = .76), with a range of 1 to 4.

**Independent Variables**

*Social characteristics.* The first independent variable used in this study is adoptive status, non-adopted (0) and adopted (1). Adoptees are defined as adolescents that were adopted and residing with any non-biological related family and with no biological parents in the family or household. Non-adoptees are defined as adolescents’ living with either two biological parents, one biological parent, or one or more biological
relatives. Both single parent families and two-parent families who have no biological relation to the adolescent were coded as adoptive parent (s). Therein, adolescents adopted by one biological parent and one step-parent were coded as non-adoptive families. Fan et al. (2001) created an intricate syntax code to handle the complexity of dealing with three opportunities for adolescents’ to be identified as adopted. The authors’ triangulated and verified the adoptive status from (1) the adolescents’ in-school questionnaire responses, (2) the adolescents’ in-home responses, and (3) the parents’ in-home survey (Fan et al. 2001).

Based on past literature on academic achievement, three other social characteristics of adolescents were also included in this model. Gender was coded as male (0) and female (1). Race was coded as a dummy variable, white (0) and non-white (1). Last, ages ranged from 12 to 19 years old.

*Family social characteristics and background variables.* The following parental characteristics were included as variables that may influence adolescents’ academic achievement. These variables are based on the parent’s self-reported responses and reflect their demographic profile. Family income was originally coded in thousand’s of dollars. I recoded family income due to the high percentage of missing responses. The recoded family income variable was based on the mean of family income variable being re-coded to zero (0) and all missing cases coded as zero (0). Additionally, the models also included a dummy variable for whether family income was reported by the parent. This dummy variable was coded as income reported for the family (0) and no income was reported (1). The responding parent’s academic achievement was coded as never/Eighth grade or less (0), greater than Eighth grade, but did not graduate (1), trade school/high school diploma
(2), trade school after high school/some college (3), 4 year college degree (4), and greater than a 4 year college degree (5). Marital status was coded as a dummy variable, married (0) and not married (1).

**Overall closeness to family.** Adolescents were asked how close they felt towards their family. The overall closeness to family scale was constructed by computing the mean for the three items (alpha = .79). The three items are, “How much do you feel that people in your family understand you?”, “How much do you feel that people in your family have fun together?”, and “How much do you feel that your family pays attention to you?”. These three items are re-coded as strongly disagree (0) to strongly agree (4), with a range of 0 to 4. A higher score reflects adolescents’ who are closer to their family.

**Closeness to mother.** Adolescents were asked to report how close they felt towards their residential mother. A scale was constructed by computing the mean for four items (alpha = .86). The first item was, “How close do you feel to your mother?” and.

This one item was coded as not at all (0) not at all to very much (4). The last three items, “Most of the time, your mother is warm and loving towards you?”, “You are satisfied with the way your mother and you communicate with each other?”, and “Overall, you are satisfied with the relationship with your mother?”. These three items were coded as strongly disagree (0) to strongly agree (4) with a range to 4. A higher score reflects adolescents’ who are closer to their mother. When using closeness to mother as a mediating variable, a new variable was constructed to control for whether or not an adolescents’ had a “mother”.

**Closeness to father.** Adolescents were asked to report how close they felt towards their residential father. A scale was constructed by computing the mean of four items
(alpha = .90). The first item, “How close do you feel to your father?” This item was coded as not at all (0) to very much (4). The last three items, “Most of the time your father is warm and loving toward you?”, “You are satisfied with the way your father and you communicate with each other?”, and “Overall, you are satisfied with the relationship with your father?”. These last three items were coded as strongly disagree (0) to strongly agree (4) with a range of 0 to 4. A higher score reflects adolescents’ who are closer to their father. When using closeness to father as a mediating variable, a new variable was constructed to control for whether or not an adolescents’ had a “father”.

Mother involvement. Mother’s involvement in adolescents’ education was constructed by computing the mean of two items (alpha = .65). Each item began with the phrase, “Which of the following things have you done in the past four weeks”, “Talked about your school work or grades with your mom?” and “Talked about other things you’re doing in school with your mom?”. These two items were coded as no (0) and yes (1), with a range of 0 to 2. A higher score reflects adolescents’ who have mothers’ that are more involved in their education. When using mother involvement as a mediating variable, a new variable was constructed to control for whether or not adolescents’ had a “mother”.

Father involvement. Father’s involvement in their adolescents’ education was constructed by computing the mean of two items (alpha = .67). Each item began with the phrase, “Which of the following things have you done in the past four weeks”, “Talked about your school work or grades with your father?” and “Worked on a school project with your father?” “Talked about other things you’re doing in school with your father?”. These two items were coded as no (0) no and yes (1), with a range of 0 to 2. A higher
score reflects adolescents’ who have fathers’ that are more involved in their education. When using father involvement as a mediating variable, a new variable was constructed to control for whether or not adolescents’ had a “father”.

**Self-esteem.** A scale of adolescents’ self-esteem scale was constructed by computing the mean of four items (alpha = .79). The four-items are, “I have a lot to be proud of?”, “I like myself the way I am?”, “I feel like I am doing everything just right?”, and “I have a lot of good qualities?”. The four items are re-coded as strongly disagree (0) to strongly agree (4), with a range of 0 to 4. A higher score reflects adolescents’ elevated self-esteem.

**Academic expectations.** A scale of adolescents’ academic expectations was constructed by computing the mean of two items (alpha = .82). The two items are, “How much do you want to go to college?” and “How likely is it that you will go to college?”. These items are re-coded as low (0) to high (4). A higher score reflects adolescents’ belief that they are more likely to want to go to college and the likelihood that they will go to college.

**In-school behavioral difficulties.** A scale of adolescents’ in-school behavioral difficulties was constructed by computing the mean of three items (alpha = .69). The three items are, “In the past or current school year, have you had trouble paying attention in schools?”, coded as never (0) to everyday (4). In the past or current school year “Have you had trouble getting your homework done?”, and “Have you had trouble getting along with teachers?”, coded as never (0) to every day (4). A higher score reflects adolescents’ with more in-school behavioral difficulties.
Method of Analysis

The secondary data analysis included descriptive statistics and regression analysis. First, family social capital variables were regressed on parents’ and adolescents’ social characteristics. As described above, family social capital measures were closeness to family, closeness to mother, closeness to father, and mothers’ and fathers’ involvement in their adolescents’ education.

Second, adolescents’ self-esteem was regressed on parents’ and adolescents’ social characteristics. The second regression model of adolescents’ self-esteem added family social capital measures. Third, the first model of adolescents’ academic expectations was regressed on parents’ and adolescents’ social characteristics. The second regression model of adolescents’ academic expectations added family social capital.

Fourth, adolescents’ in-school behavioral difficulties were regressed on parents’ and adolescents’ social characteristics. The second regression model of adolescents’ in-school behavioral difficulties added family social capital measures. The third regression model of adolescents’ in-school behavioral difficulties added adolescents’ self-esteem and academic expectations.

Last, adolescents’ grade point average (GPA) was regressed on parents’ and adolescents’ social characteristics. The second regression model of adolescents’ GPA added family social capital measures. The third regression model of adolescents’ GPA added adolescents’ self-esteem and academic expectations. The fourth regression model of adolescents’ GPA added adolescents’ in-school behavioral difficulties.
This study utilized interactions to study the impact of adoptive status on parents’ and adolescents’ social characteristics, aspects of family social capital, adolescents’ self-esteem and academic expectations, adolescents’ in-school behavioral problems, and GPA. The use of interactions with variables included in the model displayed which factors listed above may be moderated by adoptive status. “An interaction effect can be said to exist when the effect of an independent variable on a dependent variable differs depending on the value of the third variable, commonly called a moderator variable” (Jaccard 1998:3). Or specifically for this study, do the interactions of parents’ and adolescents’ social characteristics, aspects of family social capital, adolescents’ self-esteem and academic expectations, adolescents’ in-school behavioral problems, and GPA differ as a function of adoptive status?
CHAPTER FOUR

RESULTS

This chapter first presents the descriptive characteristics of the sample based on adoptive status. Next, this chapter reports the results of Ordinary Least Squared (OLS) regressions for family social background characteristics, adolescent social background characteristics, and their relationship to five aspects of family social capital. The aspects of family social capital used for this study were adolescents’ overall closeness to family, closeness to mother, and closeness to father. In addition, two other aspects of family social capital were used, both mothers’ and fathers’ involvement in their adolescents’ education.

Descriptive Statistics for Adoptive Status

Table 4 presents the descriptive statistics for all the variables in the model. All frequencies displayed were based on unweighted numbers (N’s). These frequencies are based on 609 adopted adolescents and 11,940 non-adopted adolescents. The descriptive statistics compare means based on adoptive status. Reported means, significance levels, and standard errors are based on weighted samples using STATA.

As predicted, two family background characteristics differed by adoptive status. On average, adoptive parents had higher incomes ($58,029) than non-adoptive families ($45,353; \( p < .001 \)). Second, adoptive families (2.81) had a higher average level of parental education than non-adoptive families (2.58; \( p < .001 \)). Last, there were no differences between parents’ marital status by adoptive status.
As previous descriptive research has found, adoptive and non-adoptive families vary on several aspects of social capital (Burrow et al. 2004). First, as predicted, non-adopted adolescents (2.76) were closer to their families than adopted adolescents (2.71; \( p < .01 \)). Second, non-adopted adolescents (3.33) were closer to their mothers than adopted adolescents (3.23; \( p < .001 \)). In contrast to past research, adopted adolescents (3.28) were closer to their fathers than non-adopted adolescents (3.13; \( p < .01 \)) (Burrow et al. 2004).

Three significant differences between adolescent social characteristics and adoptive status emerged from the data. As predicted from the literature, non-adoptive adolescents (2.80) had higher grade point averages (GPA) than adopted adolescents (2.65; \( p < .001 \)). Second, as predicted, adopted adolescents (1.25) had more in-school behavioral problems than non-adopted adolescents (1.10; \( p < .001 \)). Not expected, adopted adolescents (.17) were more likely to be non-white than non-adopted adolescents (.13; \( p < .001 \)). Table 5 displays the significant and non-significant correlations among all of the variables in Figure 1.

**TABLE 5 ABOUT HERE** (see page 131)

The remainder of this chapter presents OLS regression results of parents’ social characteristics, adolescents’ social characteristics, and their relationship to aspects of family social capital. As described earlier, family social capital measures were adolescents’ overall closeness to family, closeness to mother, and closeness to father, and mothers’ and fathers’ involvement in their adolescents’ education. Additionally, I tested for interactions of parents’ social characteristics, adolescents’ social characteristics, and aspects of family social capital by adoptive status and found only one. As discussed below, I found a significant interaction between parents’ income by adoptive status and
mothers’ involvement in children’s education. The relationship between family income
and mothers’ involvement in children’s education was moderated by adoptive status. This
suggests that mothers from non-adoptive families were more involved in their children’s
education than mothers from adoptive families with similar income.

Regression Results for Family Social Capital

The next section addresses the hypotheses discussed in the literature review and in
Appendix A. Table 6 presents OLS regression for aspects of family social capital on
family social characteristics and adolescents’ social characteristics. Five aspects of social
capital were included in this study. Three aspects of family social capital measures were:
overall closeness to family, closeness to mother, and closeness to father. Two other
aspects of family social capital were mothers’ and fathers’ involvement in their
adolescents’ education.

Regression analysis for overall closeness to family had several significant items.
Of particular note, in contrast to the descriptive data that shows adopted adolescents were
less close to their families than adolescents from non-adoptive families, when family
social characteristics and adolescents’ social characteristics are controlled, there was no
longer a difference in adopted and non-adopted adolescents’ overall closeness to their
families.

Parents’ social characteristics significantly impacted adolescents’ overall
closeness to their families. First, not addressed in the original hypotheses, adolescents’
families who did not report an income were closer to their families, than families that
reported an income. In contrast to the hypothesis there would be no relationship between
parents’ marital status and family closeness, adolescents from one-parent families had lower overall family closeness than adolescents from married families. As expected, older adolescents felt less close to their families’ than younger adolescents. In contrast to the hypothesis that adolescent boys would be less to close to their families, girls were less close to their families than were boys. Family income, parent’s education, and adolescents’ race were not related to adolescents’ closeness to their families. Parents’ social characteristics and adolescents’ social characteristics accounted for 3% of closeness to family.

Regression analysis for closeness to mother had several significant items. In contrast to the descriptive data, I found support for the hypothesis that there was no difference in closeness to mother and adoptive status. Specifically, when family social background and adolescents’ social characteristics were controlled, there was no difference in adopted and non-adopted adolescents’ closeness to their mothers. As expected, older adolescents were less close to their mothers than younger adolescents to their mothers.

Two significant effects were contrary to those expected relationships. First, I expected there to find no difference between single-parent families and two-parent families and closeness to mother. Yet, adolescents from single-parent families were less close to their mothers than adolescents from two-parent families. I predicted that adolescent boys would be less close to their mothers’ than adolescent girls. Adolescent girls were significantly less close to their mothers than were adolescent boys. Family income, parent’s education, and adolescents’ race were not related to adolescents’
closeness to their mothers. Parents’ social characteristics and adolescents’ social characteristics accounted for 3% of closeness to mother.

Last, the regression analysis of closeness to father had several significant predictors. Contrary to prediction, when family and adolescent social characteristics were controlled, there was no difference between adopted and non-adopted closeness to their fathers. Similar to the descriptive findings, when parents’ social characteristics and adolescents’ social characteristics were controlled, adopted adolescents remained significantly less close to their fathers than non-adopted adolescents to their fathers. Last, as predicted, older adolescents were less close to their fathers than were younger adolescents.

Four significant variables related to adolescents’ closeness to their fathers were contrary to proposed hypotheses. First, I hypothesized no relationship between parent’s education and closeness to father. Contrary to predictions, the higher the parent’s educational attainment, the closer adolescents were to their fathers. Second, I hypothesized no relationship between marital status and closeness to father. In contrast, I found adolescents from single-parent families were less close to their fathers than adolescents from married families. Last, I hypothesized that adolescent girls would be closer to their fathers than adolescent boys. Again, contrary to prediction, girls were less close to their fathers than boys. Family income and adolescents’ race were not related to adolescents’ closeness to their fathers. Parents’ social characteristics and adolescents’ social characteristics accounted for 4% of closeness to father.

Table 7 displays the regression analysis of mothers’ involvement in adolescents’ education in two steps. Model 1 included parents’ social characteristics and adolescents’
social characteristics. Model 2 added an interaction for parents’ income and adoptive status. Model 1 shows that while three family social characteristics items were significant; only one individual adolescent social characteristic was related to mothers’ involvement in their children’s education. I found support for the above hypothesized relationship that family income \( (b = .0002) \) and parent’s education were positively related to mothers’ involvement in their children’s education. The higher was family income and parent’s education, the more the mother was involved in her children’s education. I hypothesized that there would be no difference between mothers’ involvement in their children’s education and marital status. Contrary to expectation, mothers from non-married families were more involved in their children’s education than mothers from married families. Last, I proposed that mothers would be more involved in their sons’ education. Adolescent girls’ mothers were more involved in their education than adolescent boys. Adolescents’ age and race were not related to mothers’ involvement in their education. Parents’ social background and adolescents’ background characteristics accounted for only 1% of mothers’ involvement in their education.

TABLE 7 ABOUT HERE (see page 135)

Model 2 included an interaction for parents’ income and adoptive status. Model 2 displays similar results to model one. As in Model 1, higher family income \( (b = .003) \) and parent’s education were positively related to mothers’ involvement in their children’s education. In addition, mothers from single parent families were more involved in their children’s education than mothers from two-parent families. Similar to Model 1, adolescent girls’ mothers were more involved in their education than adolescent boys. Model 2 displays a significant interaction between family income, adoptive status, and
mothers’ involvement in their children’s education (b = -.001). The relationship between family income and mothers’ involvement in their children’s education was moderated by adoptive status. This suggests that mothers from non-adoptive families were more involved in their children’s education than mothers from adoptive families with similar income. Adolescents’ age and race were not related to mothers’ involvement in their education. Adding the significant interaction between income and adoptive status with parents’ social background and adolescents’ social characteristics scarcely increased the $R^2$ of mothers’ involvement in their adolescent children’s education.

Table 8 displays regression results for fathers’ involvement. Fathers’ involvement in their children’s education had two significant relationships. As predicted, there was no difference in adopted and non-adopted adolescents fathers’ involvement in their education. I predicted higher family income (b = .001) and parent’s education would positively relate to fathers’ involvement in their children’s education. In support of these hypotheses, fathers from families with a higher income and higher educational attainment were more involved in their adolescent children’s education. Based on a one-tailed test, I found older adolescents’ fathers were less involved in their education than younger adolescents. Parent’s marital status, adolescents’ race, and gender were not related to fathers’ involvement in their adolescent’s education. Parents’ social characteristics and adolescents’ social characteristics accounted for 1% of father involvement in their adolescent’s education.

TABLE 8 ABOUT HERE (see page 136)
CHAPTER FIVE

RESULTS

This chapter presents OLS regression results of adolescents’ self-esteem, adolescents’ academic expectations, adolescents’ in-school behavioral difficulties, and grade point average (GPA) on families’ social characteristics, adolescents’ social characteristics, and aspects of family social capital. The aspects of family social capital used for this study were adolescents’ overall closeness to family, closeness to mother, and closeness to father. In addition, two other aspects of family social capital were used, both mothers’ and fathers’ involvement in their adolescents’ education. Next, this chapter presents the OLS results of adolescents’ in-school behavioral difficulties on families’ social characteristics, adolescents’ social characteristics, aspects of family social capital, adolescents’ self-esteem, and adolescents’ academic expectations. Last, this chapter presents the results of OLS regression results of GPA on families’ social characteristics, adolescents’ social characteristics, aspects of family social capital, adolescents’ self-esteem, adolescents’ academic expectations, and in-school behavioral difficulties. I tested and found no significant interactions between adolescents’ self-esteem, academic expectations, in-school behavioral difficulties, and GPA’s by adoptive status.

Regression Results for Adolescents’ Self-Esteem, Academic Expectations, In-School Behavioral Difficulties, and Grade Point Average

Table 9 displays OLS regression results for adolescents’ self-esteem in two steps. Model one of Table 9 displays the OLS regression results of adolescents’ self-esteem on the parents’ social characteristics and adolescents’ social characteristics. Model two added aspects of family social capital. First, as expected in both models of self-esteem,
there was no significant effect on adolescents’ self-esteem of adoptive status. Second, as expected, adolescent girls had significantly lower self-esteem than adolescent boys. Third, as predicted, the higher was parent’s education, the higher adolescents’ self-esteem. Fourth, while not discussed in the literature review, adolescents in families with no reported income had higher self-esteem than adolescents from families that reported an income. Last, contrary to the hypothesis that older adolescents would have higher self-esteem than younger adolescents, older adolescents reported lower self-esteem than younger adolescents. Family income, marital status, and adolescents’ race were not related to adolescents’ self-esteem. Parents’ social characteristics and adolescents’ social characteristics accounted for 3% of the variation in adolescents’ self-esteem.

**TABLE 9 ABOUT HERE (see page 137)**

Model two of Table 9 regression results for self-esteem incorporated aspects of family social capital discussed earlier: closeness to family, closeness to both mother and father, and mothers’ and fathers’ involvement in their children’s education. First, as predicted, when aspects of family social capital were controlled, there was no significant difference between adopted and non-adopted adolescents’ self-esteem. When aspects of family social capital were controlled, parent’s educational attainment remained positively related to adolescents’ self-esteem. As predicted, all three aspects of family social capital were positively related to adolescents’ self-esteem. Specifically, the closer adolescents were to their family, mother, and father, the higher was adolescents’ self-esteem. As predicted, older adolescents had more self-esteem than younger adolescents. Additionally, contrary to the prediction that there was no relationship between mothers’ involvement in their children’s education and their children’s self-esteem, mothers’
involvement in their children’s education was positively related to their self-esteem. Family income, marital status, and race, and fathers’ involvement in their adolescent’s education were not related to adolescents’ self-esteem. The addition of aspects of family social capital in model two increased $R^2$ to 24% of adolescents’ self-esteem.

Table 10 displays OLS regression results for adolescents’ academic expectations in two steps. As described above, adolescents’ academic expectations were based on two items: how much the adolescent wants to go to college and how likely the adolescent will go to college. Model one of Table 10 displays the regression results for adolescents’ academic expectations on family social characteristics and adolescents’ social characteristics. Model two added aspects of family social capital. First, as predicted, across both models there was no difference between adopted and non-adopted adolescents’ academic expectations. Next, as predicted, model one shows that family income (.001) and parents’ education were positively related to adolescent’s academic expectations. Contrary to prediction that there was no difference between parent’s marital status and adolescents’ academic expectations, adolescents from one-parent families had lower academic expectations than adolescents from two-parent families.

Additionally, as expected, older adolescents had lower academic expectations than younger adolescents. Also, as expected, adolescent girls had higher academic expectations than adolescent boys. Adolescents’ race was not related to their academic expectations. Based on parents’ social characteristics and adolescents’ social characteristics, the $R^2$ accounted for 10% of adolescents’ academic expectations.
Model two of Table 10 includes aspects of social capital described earlier: closeness to family, closeness to both mother and father and mothers’ and fathers’ involvement in their children’s education. First, when aspects of family social capital were controlled, there remained no difference in adopted and non-adopted adolescents’ academic expectations. Second, when aspects of family social capital were controlled, both family income (.002) and parent’s educational attainment was positively related to adolescent’s academic expectations. Contrary to prediction there were no differences in adolescents’ academic expectations and whether they came from single-parent families or two-parent families, adolescents from single-parent families had lower academic expectations than adolescents from married families.

As expected, Model 2 displays that both age and gender were related to adolescents’ academic expectations. As expected, older adolescents had lower academic expectations than younger adolescents. Second, as expected, adolescent girls had higher academic expectations than adolescent boys. Third, as predicted, adolescents’ closeness to their family and closeness to their fathers were positively related to their academic expectations. Furthermore, as predicted, fathers’ involvement in their adolescent’s education is positively related to adolescents’ academic expectations. There were no significant relationships between mothers’ involvement in their adolescent’s education, adolescents’ race and academic expectations. Incorporating aspects of social capital increased the adolescents’ academic expectations $R^2$ value to 13%.

Table 11 displays regression results for adolescents’ in-school behavioral difficulties. Model one, in-school behavioral difficulties were regressed on parents’ social
characteristics and adolescents’ social characteristics. Model two added aspects of family social capital. Model three added adolescents’ self-esteem and academic expectations.

Model one, in-school behavioral difficulties were regressed on parents’ social characteristics and adolescents’ social characteristics. Initially, the descriptive data revealed that adolescent adoptees had significantly more in-school behavioral difficulties than non-adopted adolescents. As predicted, after parents’ social characteristics and adolescents’ social characteristics were controlled, there were no differences in adopted and non-adopted adolescents’ in-school behavior. As predicted, adolescent girls reported fewer in-school behavioral problems than adolescent boys. As predicted, adolescents from single-parent families have more in-school behavioral problems than adolescents from two-parent families. Family income and adolescents’ race were not related to in-school behavioral difficulties. Based on parents’ social characteristics and adolescents’ social characteristics, model one accounted for 3% of the variance in adolescents’ academic expectations.

TABLE 11 ABOUT HERE (see page 141)

Model two of adolescents’ in-school behavioral difficulties in table 15 added aspects of social capital described earlier; closeness to family, closeness to both mother and father, and mothers’ and fathers’ involvement in their children’s education. Again, the descriptive table displays that adopted adolescents had significantly more in-school behavioral difficulties than non-adopted adolescents. I did not find support for the hypothesis that when aspects of family social capital are controlled, there would be no difference in adopted and non-adopted adolescents’ in-school behavioral difficulties. Initially, parent’s social characteristics were able to mediate adopted adolescents’ in-
school behavioral difficulties, yet adoptees were not able to maintain this benefit once family social capital measures were controlled. As predicted, several relationships to in-school behavioral difficulties were significant. First, as predicted, adolescent girls had fewer in-school behavioral difficulties than adolescent boys. As predicted, closeness to family, closeness to mother, and closeness to father were negatively related to in-school behavioral problems. The closer adolescents were to their family, their mothers, and their fathers the fewer adolescents’ in-school behavioral problems. While no relationship was originally predicted between parent’s marital status and adolescents’ in-school behavior problems, adolescents from single-parent families had more in-school behavioral difficulties than adolescents from two-parent families.

In contrast to the hypothesis that older adolescents would have more in-school problems than younger adolescents, older adolescents had fewer in-school behavioral problems than younger adolescents. Family income, parent’s education, adolescents’ race, and both mothers’ involvement and fathers’ involvement in their children’s education were not related to adolescents’ in-school behavioral problems. Incorporating aspects of social capital increased the $R^2$ value to 14% of adolescents’ in-school behavioral difficulties.

Model three in Table 11 of adolescents’ in-school behavioral difficulties added adolescents’ self-esteem and academic expectations. I did not find support for the hypothesis that when adolescents’ self-esteem and academic expectations are controlled, there would be no difference in adopted and non-adopted adolescents’ in-school behavioral difficulties. Again, as predicted, when adolescents’ self-esteem and academic expectations were added into the model, several relationships to in-school behavioral
difficulties remained. As predicted, adolescent girls had fewer in-school behavioral
difficulties than adolescent boys. Additionally, adolescents’ who were closer to their
family and their fathers had fewer in-school behavioral difficulties. Last as predicted,
adolescents’ with more self-esteem and higher academic expectations had fewer in-
school behavioral problems.

Contrary to the hypothesis that parent’s education would be negatively related to
their children’s in-school behavior, the higher parent’s education the more their children
had in-school behavioral difficulties. Also contrary to the hypothesis that there was no
relationship between marital status and adolescents’ in-school behavioral difficulties,
adolescents from single-parent families had more in-school behavioral difficulties than
adolescents from two-parent families. Again, in contrast to the hypothesis that older
adolescents would have more in-school problems than younger adolescents, older
adolescents had fewer in-school behavioral problems than younger adolescents.

Family income and adolescents’ race were not related to adolescents’ in-school
behavioral difficulties. Additionally, closeness to mother, and mothers’ and fathers’
involvement in their children’s education were not related to adolescents’ in-school
behavioral difficulties. Adding adolescents’ self-esteem and academic expectations
increased the R$^2$ value to 17% of adolescents’ in-school behavioral difficulties.

Table 12 displays regression results for adolescents’ (grade point average) GPA in
four steps. Model one of Table 12 displays the OLS regression results of adolescents’
GPA on parents’ social characteristics and adolescents’ social characteristics. Model two
added aspects of family social capital. Model three added adolescents’ self-esteem and
academic expectations. Model four added adolescents’ in-school behavioral difficulties.
Model one of Table 12 displays the OLS regression results of adolescents’ GPA and parent’s social characteristics and adolescents’ social characteristics. The descriptive table on adoptive status displays that adopted adolescents had significantly lower GPA’s than non-adopted adolescents. I originally predicted when parents’ social characteristics and adolescents’ social characteristics were controlled; there would be no difference in adolescents’ GPA’s and adoptive status. Contrary to this hypothesis, when family and adolescents social characteristics are controlled, adopted adolescents still had significantly lower GPA’s than non-adopted adolescents. As predicted, family income (b = .001) and parent’s education were positively related to adolescents’ GPA’s. Second, as predicted, adolescents’ from single-parent families had lower GPA’s than adolescents from married families. Third, as expected, adolescents who were younger and female had higher GPA’s than adolescents who were older and male. Adolescents’ race was not significantly related to their GPA’s. The R² for Model 1 displays that 10% of the variation in adolescents’ GPA is accounted for by parents’ social characteristics and adolescents’ social characteristics.

TABLE 12 ABOUT HERE (see page 143)

Model two of table 12 regression for GPA added aspects of family social capital discussed earlier; closeness to family, closeness to both mother and father and mother and fathers involvement in their children’s education. I predicted when aspects of family social capital were controlled; there would be no difference in adopted and non-adopted adolescents’ GPA’s. Contrary to this hypothesis, when aspects of social capital were controlled, adopted adolescents still had significantly lower GPA’s than non-adopted adolescents. As predicted, both family income (b = .001) and parent’s education was
positively related to adolescents’ GPA. First, as expected, female adolescents had significantly higher GPA’s than male adolescents. Second, as predicted, adolescents’ that were closer to their family and their fathers had higher significantly higher GPA’s. Third, as predicted, fathers’ involvement in their children’s education led to significantly higher GPA’s. Last, as predicted, adolescents’ from single-parent families had significantly lower GPA’s than adolescents from married families. Adolescents’ age, race, closeness to mother, and mothers’ involvement in their adolescents’ education were not related to adolescents’ GPA’s. Adding aspects of family social capital increased the R² value to 13% of adolescents’ GPA’s.

Model 3 in Table 12 of adolescents’ GPA’s, added adolescents’ self-esteem and academic expectations. Contrary to predictions that family social capital, adolescents’ self-esteem and academic expectations would mediate the relationship between adolescents’ GPA and adoptive status. When aspects of family social capital, adolescents’ self-esteem, and adolescents’ academic expectations were controlled, adopted adolescents still had significantly lower GPA’s than non-adopted adolescents. As predicted, families income (.001) and parent’s educational attainment was positively related to adolescents’ GPA. As expected, female adolescents had significantly higher GPA’s than male adolescents. As expected, closeness to family, closeness to father, and fathers’ involvement in their adolescent’s education were positively related to adolescents’ GPA. Additionally, as predicted, adolescents’ self-esteem and academic expectations were positively related to adolescents’ GPA.

Contrary to predictions, when family and adolescent social characteristics were controlled, adolescents from single-parent families had lower GPA’s than adolescents
from married families. Adolescents’ age, race, closeness to mother, and mothers’ involvement in their adolescent’s education were not related to adolescents’ GPA. Adding adolescents’ self-esteem and academic expectations increased the $R^2$ value to 21% of adolescents’ GPA’s.

Model 4 in Table 12 for adolescents’ GPA added adolescents’ in-school behavior. Contrary to predictions that family social capital and adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties would mediate the relationship between adolescents’ GPA and adoptive status. When aspects of family social capital, adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties were controlled, adopted adolescents’ still had significantly lower GPA’s than non-adopted adolescents. Yet, in-school difficulties partially mediated the relationship between adoptive status and their academic achievement.

First, as predicted, family income ($b = .001$) and parent’s educational attainment were positively related to adolescents’ GPA. Second, female adolescents had significantly higher GPA’s than male adolescents. Third, fathers’ involvement was significantly related to adolescents’ GPA.

As expected, adolescents’ academic expectations were positively related to adolescents GPA. As predicted, adolescents’ with more in-school behavioral difficulties had significantly lower GPA’s than adolescents with fewer in-school behavioral difficulties. Contrary to the prediction that closeness to mother was positively related to adolescents’ GPA, adolescents closeness to their mothers was negatively related to adolescents’ GPA’s. Contrary to the hypothesis that adolescents’ self-esteem was not related to adolescents’ GPA, adolescents’ self-esteem was positively related to their
GPA’s. Closeness to father, mothers’ involvement in their children’s education and adolescents’ age and race were not related to adolescents’ GPA. Adding adolescent’ in-school behavioral difficulties increased the $R^2$ value to 29% of adolescents’ GPA’s.

The next chapter provides the discussion and conclusions drawn from the findings reported in chapter 4 and chapter 5. Second, the chapter includes both theoretical and applied contributions of the findings presented in Chapters’ four and five. Third, the chapter will also include the limitations for these findings. Finally, the next chapter will include implications and recommendations for future research with relation to adoptive status and academic achievement.
CHAPTER SIX
DISCUSSION AND CONCLUSIONS

This study attempted to provide possible explanations for the gap between adopted and non-adopted adolescents’ academic achievement. As stated above, previous research using the Add Health data found that adopted adolescents had lower academic achievement than non-adopted adolescents (Burrow et al. 2004; Whitten 2002). A meta-analysis of adoptive status and academic achievement later found that most adoptees had similar achievement as non-adoptees, while only a small group of adoptees significantly lagged behind non-adoptees in academic achievement (Van IJzendoorn et al. 2005). I used social capital theory to attempt to explain the small but consistent gap between adoptees’ and non-adoptees’ academic achievement. I also used attachment theory to attempt to explain differences and similarities in closeness between adoptive and non-adoptive families.

As described in the literature review, for Coleman, (1988) the value of social capital is defined by its function for individuals in social relationships. Social capital is the mechanisms or processes through which parents’ financial and economic capital is transmitted to their children (Coleman 1988). “Social capital is seen as less tangible than both financial and economic capital in that it exists in the relations among persons” (Coleman 1988:S100). Social capital theory predicts that children who are able to access their family resources, parents’ financial capital (income) and human capital (parent’s education), benefit in various outcomes, such as academic achievement and positive in-school behavior (Coleman 1988; Wang 2002:17). Aspects of family social capital, such as parent-teen discussions and parental involvement in their children’s education, have
been shown to be positively related to children’s educational achievement, academic achievement, and educational aspirations (see Dika and Singh 2002 for a review). As described in the literature review and confirmed in my study, adoptive families had significantly higher income and educational attainment than non-adoptive families (Chandra et al. 1999; Mosher and Bachrach 1996). This study suggested that adoptive parents’ significantly higher income and educational attainment would benefit adoptees and with other variables described in the model would mediate the gap between adopted and non-adopted adolescents’ academic achievement.

As described above in Figure 1 and in the literature review, I presented a theoretical model of adoptive status, family social capital, and academic achievement. This model allowed me to assess how adoptive status was related to parents’ and adolescents’ social characteristics, family closeness, and parental involvement in their children’s education with relation to academic achievement. The model had four panels that linked family social characteristics to adolescents’ academic achievement though four sets of possible mediating variables: family social capital, adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties.

This research addressed four questions to help explain the relationship between adoptive status and academic achievement. First, does family social capital vary by adoptive status? Second, does family closeness, parental involvement in their children’s education, and adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties, vary by adoptive status? Third, how do differences in family closeness, parental involvement in their children’s education, and adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties influence differences in
academic achievement by adoptive status? Fourth, does family closeness, parental involvement in their adolescents’ education, and adolescents’ self-esteem, academic, and in-school behavioral difficulties influence the academic achievement of adoptees and non-adoptees in different ways? Last, the results of this research have theoretical implications for social capital theory and attachment theory. The results also have practical implications for potential and current adoptive families, adoptive agencies, and social workers in the adoption field.

This chapter focuses on the theoretical and practical application of this research. I begin by addressing the theoretical implications for social capital theory and attachment theory. In doing so, I address how adoptive status affects social capital in the family. Next, the practical implications for potential and current adoptive families, adoptive agencies, and social workers in the adoption field are considered. Next, the limitations of this research are discussed. Then, I draw conclusions about the practical implications for social capital theory and attachment theory. Last, possible questions for future research are offered.

Implications for Social Capital Theory

As stated earlier, family social capital was defined as closeness to family, closeness to mother, closeness to father, and mothers’ and fathers’ involvement in their children’s education. First, I address differences in families’ and adolescents’ social characteristics to explain the relationship between aspects of family social capital by adoptive status. Second, I address the relationships between family social capital and adolescents’ self-esteem, academic expectations, in-school behavioral difficulties by adoptive status. Last, I address the relationship between families’ and adolescents’ social
characteristics, family social capital, adolescents’ self-esteem, academic expectations, in-school behavioral difficulties, GPA’s by adoptive status.

As predicted, social capital did not differ among adoptive and non-adoptive families. Originally I found that adoptees were significantly less close to their families and to their mothers than non-adoptees to their families and mothers, which replicates the findings of Burrow et al. (2004). Yet, when family and adolescents’ social characteristics were controlled, adopted and non-adopted adolescents did not differ in closeness to their families and closeness to their mothers. The insignificant difference in adopted and non-adopted children’s closeness to family has been supported in past research (Lansford et al. 2001). While Burrow et al. (2004) found no difference in closeness to fathers and adoptive status; this study actually found that adopted adolescents were closer to their fathers than non-adopted adolescents to their fathers. More importantly, when family social characteristics and adolescents’ social characteristics were controlled, adoptive status was the strongest factor in predicting adolescents’ closeness to their fathers. Research has found support for adopted adolescents’ greater closeness to their fathers than non-adopted adolescents to their fathers (Sobol, Delaney, Earn 1994). First, these findings suggest that social capital, as defined as closeness to family and closeness to mother, did not differ between adoptive and non-adoptive families. Second, adopted children gain a significant benefit from being adopted, as they are closer to their fathers than adolescents from non-adoptive families.

One possible explanation for why adopted adolescents were closer to their fathers than non-adopted adolescents may be adoptive parents’ higher educational attainment relative to non-adoptive families. Parent’s education was the only significant family
As reported earlier, parents from adoptive families had significantly higher educational attainment than parents from non-adoptive families (Chandra et al. 1999; Mosher and Bachrach 1996). As research has previously suggested, one possible explanation for this greater closeness to fathers may be due to adoptive parents “trying to live up” to the norm of being a “good parent”, these parents may invest more in the relationships with their children than non-adoptive families (Hamilton et al. 2007).

Second, when family social characteristics and adolescents’ social characteristics were controlled, adolescents from single-parent families were less close to their families, their mothers, or their fathers than adolescents from two-parent families. The negative relationship between marital status and closeness to fathers partially mediated the relationship between adoptive status and closeness to fathers. Yet, even when marital status is controlled, adopted adolescents were still significantly closer to their fathers than non-adopted adolescents to their fathers. The negative relationship between closeness to family measures and marital status and other variables in the model will be addressed later.

Third, when family social characteristics and adolescents’ social characteristics were controlled, older adolescents were less close to their families, to their mothers, and to their fathers. Fourth, when family social characteristics and adolescents’ social characteristics were controlled, adolescent girls were less close to their families, to their mothers, and to their fathers than adolescent boys. The possible implications of older and female adolescents being less close to their families, their mothers, and fathers will be addressed later.
The final two aspects of family social capital addressed in this study were mothers’ and fathers’ involvement in their children’s education. First, when family social characteristics and adolescents’ social characteristics were controlled, there were no differences in adopted and non-adopted adolescents’ mothers’ involvement in their education. These findings replicate the research of Hamilton et al. (2007). Mothers from adoptive and non-adoptive families were equally as likely to be involved in their children’s education. Yet, family income and mothers’ involvement in their children’s education was the only relationship in the model to be moderated by adoptive status. This indicates that mothers from non-adoptive families were more involved in their children’s education than mothers from adoptive families with similar income. Adolescents from adoptive families were not able to benefit equally in terms of their mothers’ involvement in their education relative to adolescents’ mothers’ involvement from non-adoptive families. While the interaction between adoptive status and family income was significant, adolescents’ gender, parent’s education and family income were stronger factors in predicting mothers’ involvement in their children’s education.

As social capital theory would predict, both family income and parent’s education were positively related to mothers’ involvement in their education. Contrary to earlier findings that adolescents were less close to their mothers from single-parent families compared to two-parent families, mothers from single-parent families were more involved in their children’s education than mothers from two-parent families. The higher involvement of single mothers in their children’s education families indicates that even though these single mothers may not have been perceived to be as close to their adolescent children relative to two-parent families, these same adolescents believe their
mothers were more involved in their education than adolescents from two-parent families.

Similarly, as discussed above, adolescent girls were less close to their families, mothers, and fathers than adolescent boys were. Yet, mothers were significantly more involved in the education of adolescent daughters than their adolescent sons. The increased involvement of mothers in their daughters’ education suggests that while these adolescent girls may have not felt as close to their mothers as adolescent boys, these same adolescent girls believe their mothers were more involved in their education than did adolescent boys. This increased parental involvement in adolescent girls’ education may reflect their higher GPA’s and fewer in-school behavioral difficulties.

The final aspect of family social capital was fathers’ involvement in their children’s education. As predicted, when family social characteristics and adolescents’ social characteristics were controlled, there were no differences in adopted and non-adopted adolescents’ fathers’ involvement in their children’s education. Fathers from adoptive and non-adoptive families were equally as likely to be involved in their children’s education. As social capital theory would predict, family income and parent’s education were significantly related to fathers’ involvement in their children’s education. Again, we see that parent’s education significantly affects another aspect of family social capital, fathers’ involvement in their children’s education as well as fathers’ closeness to their parents and mothers’ involvement in their children’s education. Hamilton et al. (2007) found that adoptive families were more able than non-adoptive families to allocate their family sources of capital, family income and parent’s education to their children due
to adoptive families’ significantly higher income and parent’s education. The implications of fathers’ involvement in their children’s education will be discussed later.

In conclusion, when family social characteristics and adolescents’ social characteristics were controlled, there was no difference between adoptive and non-adoptive adolescents’ social capital, as measured as closeness to families, closeness to mothers, and fathers’ involvement in their children’s education. As Coleman states, obligations and expectations for academic success depend on a social environment of trustworthiness (1988:26). I find support that social capital as defined by closeness to family, closeness to mothers, and fathers’ involvement in their children’s education operates equally in adoptive and non-adoptive families. The importance of closeness to families, closeness to mothers, and fathers’ involvement in their children’s education will be addressed later.

Next, when family social characteristics and adolescents’ social characteristics were controlled, adopted adolescents were able to access more social capital from their fathers, as defined as closeness to fathers. Adoptive adolescents’ greater closeness to their fathers may promote a social environment with more trustworthiness than non-adopted adolescents to their fathers. The importance of the implications of adopted adolescents increased closeness to their fathers versus non-adopted adolescents closeness to their fathers will be addressed later.

These findings challenge the traditional belief that two-biological parent family is the ideal model for children’s successful outcomes (Amato 2005; Astone and McLanahan 1991; Sun 2003). My findings indicate that adoptive adolescents were as close to their families, their mothers as non-adopted adolescents, and adoptees were closer to their
fathers than non-adooptees to their fathers. Also contrary to biological theories on parents’ involvement (investment) in their children’s education, I found support that both adoptive and non-adoptive fathers were equally as likely to be involved in their children’s education. As noted above, while a small negative interaction between adoptive status and family income decreased mothers’ involvement in their adopted children’s lives, it had the weakest relationship in predicting mothers’ involvement in their children’s education relative to the adolescents’ gender, parent’s marital status, and parent’s education.

Testing the compensation theory, research has shown “that individuals not granted the title of “parent” via biology may actually fulfill (and even succeed) the accompanying expectations better than those who have been accorded this title” (Hamilton et al. 2007:110). Hamilton et al. (2007:110) summarized factors that may contribute to adoptive parents’ increased involvement in their children’s based on the compensation theory, adoptive parents’ may struggle with “presenting” themselves as real parents, are more sensitive and more likely to intervene if the child is having behavioral or other types of difficulties, and the lengthy adoptive process may facilitate more investment in their children versus biological families (Rothman 2005). Similar to my findings, these factors suggest that social capital is operating at levels equal to or even surpassing that of two-parent biological families. Specifically, adoptees’ closeness to their families, closeness to their mothers, and closeness to fathers were mediated by the social characteristics of the family. In addition, the relationship between adoptive status and mothers’ and fathers’ involvement in their children’s education is partially an outcome of adoptive parent’s education.
Last, I only found one significant interaction between adoptive status and any other predictor of social capital. Adoptive status and family income had a negative interaction with relation to explaining mothers’ involvement in their children’s education. While adoptive status was not related to mothers’ involvement in their children’s education, it seems that adoptees did not benefit as much as non-adoptees family income. While this finding is significant in terms of statistical support, this conclusion should be contextualized in reference to stronger factors predicting mothers’ involvement in their children’s education, such as adolescents’ gender, parent’s marital status, and parent’s education.

The next section describes the relationship between adoptive status, social capital, and adolescents’ self-esteem. As described earlier, when family social characteristics, adolescents’ social characteristics, and aspects of social capital were controlled, I find there was no difference in adopted and non-adopted adolescents’ self-esteem. This finding is consistent with past research on adoptive status and adolescents’ self-esteem (Juffer and Van IJzendoorn. 2007; Kelly et al. 1998; Levy-Shiff 2005; Passmore et al. 2005).

Again, we see the importance of parent’s education, in that it is positively related to adolescents’ self-esteem. Even after controlling for aspects of family social capital, parent’s education remains significantly related to adolescents self-esteem. While parent’s education was only initially related to adolescents’ closeness to their fathers, I find that closeness to family, closeness to father, and mothers’ involvement in their children’s education were also positively related adolescents’ self-esteem. Closeness to family has been shown to be a significant factor in promoting adolescents’ self-esteem
Parental involvement in their children’s education has also been shown to be related to their self-esteem (Deutsch et al. 2001; Ruiz et al. 2002).

Both older and female adolescents had lower self-esteem than younger and male adolescents. Unfortunately, even after controlling for family social capital, adolescent girls still had lower self-esteem than adolescent boys. This suggests that while social capital is able to mediate the relationship between age and self-esteem, adolescent girls were not able to capitalize on this same relationship. In conclusion, while there is no difference in adopted and non-adopted adolescents’ self-esteem, this relationship existed without the addition of aspects of family social capital. The next section describes the relationship between adoptive status, social capital, and adolescents’ academic expectations.

Similar to the descriptive findings on adoptive status, when family social characteristics, adolescents’ social characteristics, and aspects of family social capital were controlled, there remained no difference in adopted and non-adopted adolescents’ academic expectations. As reported in past research, when adopted adolescents were drawn from a national sample, they have similar academic expectations as non-adopted adolescents (Burrow et al. 2004).

As social capital theory would predict, family income and parent’s education was positively related to adolescents’ academic expectations. I find a relationship between parent’s education and adolescents’ academic expectations. When aspects of family social capital were controlled, parent’s education remains positively related to their children’s education. This finding supports other research, in that parent’s education
seems to be a significant factor in adolescents’ academic expectations as it was with
closeness to fathers, mothers’ and fathers’ involvement in their children’s education, and

I found several other significant relationships to adolescents’ academic
expectations. First, I found older adolescents had lower academic expectations than
younger adolescents. Next, adolescent girls had significantly higher academic
expectations than adolescent boys. With regard to aspects of family social capital, I found
that closeness to family, closeness to mother, closeness to father, and fathers’
involvement in their children’s education were positively related to adolescents’
academic expectations. The implications of the aspects of family social capital and its
relationship to academic expectations with relation to adolescents’ GPA’s will be
discussed later.

This section focuses on the relationship between adoptive status, social capital,
and adolescents’ in-school behavioral difficulties. When family social characteristics and
adolescents’ social characteristics were controlled, there was no longer a relationship
between adopted and non-adopted adolescents’ in-school behavioral difficulties. Marital
status was positively related to adolescents’ in-school behavioral difficulties. Adolescents
from single-parent families had more in-school behavioral difficulties than adolescents
from two-parent families. Adolescent girls had significantly fewer in-school behavioral
difficulties than adolescent boys.

Yet, as shown Table 11 for adolescents’ in-school behavioral difficulties, I found
that adopted adolescents had more in-school behavioral difficulties than non-adopted
adolescents. In model 2, while adoptees had significantly more in-school behavioral
difficulties than non-adopted adolescents, being female, closeness to family, closeness to mother, and closeness to father partially mediated this positive relationship.

The third model in predicting the relationship between adoptive status, social capital, adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties has several interesting findings. The descriptive table displayed that adopted adolescents had significantly more in-school behavioral difficulties. In model 3, I found that adopted adolescents had more in-school behavioral difficulties than non-adopted adolescents. Parent’s education and single-parent families significantly increased in-school behavioral difficulties for adolescents, yet closeness to mothers, closeness to fathers, adolescents’ self-esteem and academic expectations were negatively related to in-school behavioral difficulties. This suggests that adolescents from families with parents who have high educational attainment may actually lead adolescents to have increased self-esteem and academic expectations, but simultaneously these adolescents with higher self-esteem and academic expectations may have more in-school behavioral difficulties.

This section focuses on the relationship between adoptive status, social capital, and adolescents’ grade point averages (GPA’s). As reported in the descriptive table, adopted adolescents had significantly lower GPA’s than non-adopted adolescents. Contrary to my predictions, social capital within adoptive families was not able to mediate the relationship between adoptive status and adolescents’ GPA’s. My results display across all 4 models, that when family social characteristics, adolescents’ social characteristics, aspects of family social capital, adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties were controlled, adopted adolescents still have lower GPA’s than non-adopted adolescents. Yet, it should be noted that
differences in adopted and non-adopted adolescents GPA’s were only decreased by a range of .18 to .12 in the final model.

I found that while adopted adolescents’ GPA’s were still significantly lower than non-adopted adolescents GPA’s; this relationship was partially mediated by their in-school behavioral difficulties. In-school behavioral difficulties were the only mediator of the relationship between adoptive status and GPA (compare the coefficient of -.18 in Model 2 with the coefficient of -.12 in Model 4 when in-school behavioral difficulties are included). In other words, Model 1 finds that when only controlling for adoptive status, a non-adopted adolescent with a GPA of 4.0, an adopted adolescent will have a GPA of 3.82. Yet, using the same 4.0 GPA for a non-adopted adolescent in Model 4, an adopted adolescent would have a 3.88 GPA. While the GPA’s between adopted and non-adopted adolescents’ are significantly different, the impact of this small difference may have substantial impact in their future economic and educational opportunity.

Additionally, family income and parent’s education were positively related to adolescents’ GPA’s. The only aspect of family social capital in Model 4 to remain positively related to adolescents’ GPA’s was fathers’ involvement in their children’s education. Earlier, I found that fathers’ involvement in their children’s education was positively related to family income and parent’s education. Thus, while adopted adolescents still had significantly lower GPA’s than non-adopted adolescents, their families’ significantly higher income and parent’s education may promote more fathers’ involvement in their children’s education, which in-turn leads to fewer in-school behavioral difficulties and thus partially mediating the relationship between adoptive status and children’s academic achievement. Past research supports this finding; fathers’
involvement in their children’s education significantly decreases adolescents’ in-school behavioral difficulties (McNeal 1999). Additionally, when in-school behavioral difficulties were entered into the model, they promoted adopted adolescents’ to have higher GPA’s. As these findings suggest, fathers’ involvement in their children’s education is the only aspect of family social capital to remain significantly related to adolescents’ GPA. The findings on adoptive status and academic achievement reported here seem to support past research by Van IJzendoorn et al. (2005) in their meta-analysis of adoptive status and academic achievement, as they found that most adoptees had similar achievement as non-adoptees, while only a small group of adoptees significantly lagged behind non-adoptees in academic achievement.

Additionally, it should be noted that while aspects of family social capital were not able to completely mediate the relationship between adoptive status and academic achievement, closeness to family and closeness to father led to fewer in-school behavioral difficulties. This too, suggests that the lack of significant differences between other aspects of family social capital, closeness to family and closeness to fathers, indirectly affects adolescents’ GPA by impacting their children’s in-school behavioral difficulties. In contrast, closeness to mother was negatively related to adolescents’ GPA’s. This negative relationship between single-parent families and adolescents GPA’s may be a reflection of adolescents from single-parent families who earlier reported being less close to their parent.

Next, across all four models, when family social characteristics, adolescents’ social characteristics, aspects of family social capital, adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties were controlled, adolescent girls had
significantly higher GPA’s than adolescent boys. Additionally, when family social characteristics, adolescents’ social characteristics, aspects of family social capital, adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties were controlled, adolescents from single-parent families had significantly lower GPA’s than adolescents from married families.

In conclusion, I find support for one aspect of family social capital related to adolescents’ GPA’s, fathers’ involvement in their children’s education. I suggest that adopted fathers’ higher involvement in their children’s education is an outcome of adoptive families’ significantly higher income and parent’s education. While other aspects of family social capital were important, namely closeness to family and closeness to father, they were indirectly related to adolescents’ GPA’s by the positive relationship to adolescents’ self-esteem, academic expectations, and reducing in-school behavioral difficulties.

An important finding was that only one predictor of any of the variables in the model differed by adoptive status. Family social characteristics had the same effects on aspects of family social capital for adoptive and non-adoptive families, except for mothers’ involvement in their children’s education. Family social capital had the same benefits for adolescents’ self-esteem and academic expectations for adopted and non-adopted adolescents. Last, adoptees benefit from social capital within their families, being closer to their fathers decreased their in-school behavioral difficulties which increased their academic achievement.
Implications for Attachment Theory

Secure or positive attachments between children and their parents promote children’s beliefs in their own self-worth and expectations that others will be available as sources of support (Brodzinsky et. al 1998). The more attached and secure adolescents feel towards their family, the more these adolescents will be able to maximize their families’ social capital to positively influence their academic achievement. As reported above, there were no significant differences between adopted and non-adopted adolescents’ closeness to family and closeness to mother. In addition I found that adopted adolescents were closer to their fathers than non-adopted adolescents were to their fathers. While none of the family closeness measures were significant in predicting adolescents’ GPA, they were consistently related to adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties. Closeness and attachment within the family indirectly influenced the relationship between adoptive status and adolescents’ GPA’s by promoting a secure environment in which social capital can be accessed and maximized to adopted adolescents full benefit.

The results suggest support for attachment theory in promoting similar closeness among adoptive and non-adoptive families, and actually more closeness between adopted fathers and their adopted children. However, adolescents’ attachment to their fathers does not directly impact their academic achievement. Future research should address aspects of attachment theory within the family environment that would directly impact adolescents’ GPA. Also, future research should explore whether attachments within schools and the community impact attachment that is operating within families.
Practical Implications

First, this study added to the body of research that has found that adoptive family status is not a factor in predicting closeness among families or parents’ involvement in their children’s education (Hamilton et al. 2007; Henry 1994; Lansford et al. 2001; McNeal 1999; Miall 1996; Petrill et al. 2005; Rosnati and Marta 1997; Stein and Hoopes 1985). This suggests that adoption professionals have been quite successful in their family placements of foster children and this trend should only improve with future research. Second, providing a loving and caring home environment that encourages more attachment and security has the same benefits in promoting a sense of closeness to families, adolescents’ self-esteem, and academic expectations, for all adolescents regardless of adoptive status (Horner 2000). This suggests that biology is not a necessity for successful attachment among adoptive families (Miall 1996). Finally, regardless of adoptive status, adolescent girls had significantly higher academic expectations, fewer in-school behavioral difficulties, and higher GPA’s than adolescent boys. Regardless of adoptive or non-adoptive status, adolescent boys have significantly more risk factors associated in relation to academic achievement. This suggests that adolescent boys as a group may need more parental time and involvement in their lives.

Limitations

Like all studies, this study had several limitations. Due to a lack of measures in the data, several key variables defined in the literature for predicting the relationship between adoptive status and various social, educational, and other outcomes were missing. First, research suggests a significant factor in predicting adoptees various interactions and outcomes is the age of adoption (Brodzinsky et al. 1998; Howe 1997;
Howe et al. 2001). Second, closely associated with age of placement is the quality of care prior to placement in the adoptive family (Brodzinsky et al 1998; Howe 1997; Howe 1998). Third, this study would have benefited from other measures of attachment. As research suggests, successful access to social capital must be supported within the community, in-schools, and among children’s peers. Last, this study was based on cross-sectional versus longitudinal data.

Conclusions

Based on a nationally representative sample of adolescents, I found few differences in social capital between adoptive and non-adoptive families. I found no differences between adopted and non-adopted adolescents’ closeness to their families and closeness to their mothers. More importantly, adoptees were closer to their fathers than non-adoptees to their fathers and this closeness is an outcome of their families’ higher income and parent’s education. I only found one significant interaction for adoptive status; it was a negative relationship between family income and mothers’ involvement in their children’s education. As reported above, the adoptive status by family income negative interaction had the smallest relationship to mothers’ involvement in their children’s education. Hamilton et al. (2007) suggests that two-parent adoptive families were similar to two-parent biological families in providing social benefits, such as social capital. Additionally, the high levels of investment or involvement allows adoptive families to “allocate more economic, cultural, social, and interactional resources to their children than all other family types” (Hamilton et al. 2007:109). Similar to Hamilton et al. (2007), my research supports the belief that adoptive families’ closeness and
involvement is an outcome of adoptive families’ significantly higher levels of family income and parent’s education.

Compensation theory suggests that while adoptive families may initially be disadvantaged in terms of closeness, they are able to overcome this disadvantaged by becoming “ideal parents” (Hamilton et al. 2007). Similar to the original hypothesis suggested by Hartman and Laird (1990) and supported in Hamilton et al. (2007), I suggest and find partial support for the pressure for adoptive parents to “prove” that they were good parents, may lead them to become more committed than biological families. I find support for compensation theory, when family social characteristics and adolescents’ social characteristics were controlled; adopted adolescents were as close to their families and to their mothers and closer to their fathers than non-adopted adolescents to their families, mothers and fathers respectively. Furthermore, these findings challenge research on the biological necessity for successful family interactions and children’s outcomes. In conclusion, social capital does not vary by adoptive status as measured by closeness to family, closeness to mother, and mothers’ and fathers’ involvement in their children’s education. I also found that there were no differences discovered in adopted and non-adopted adolescents’ self-esteem, academic expectations, and in-school behavioral difficulties.

Despite controlling for the variables in the model, adopted adolescents still had lower GPA’s than non-adopted adolescents. As described above, in-school behavioral difficulties partially mediated the relationship between adoptive status and adolescents’ GPA’s. While adolescents’ self-esteem, academic expectations, fathers’ involvement, and in-school behavioral difficulties were positively related to adolescents’ GPA’s, it is only
with the addition of in-school behavioral difficulties into the model that adoptive status
had a weaker relationship to adolescents’ GPA’s. I did not find that family closeness,
parental involvement in their adolescent children’s education, adolescents’ self-esteem,
academic expectations, and in-school behavioral difficulties influence the academic
achievement of adoptees and non-adoptees in different ways. None of the criteria above
differ by adoptive status in their relationship to adolescents’ academic achievement.

This research shows that family social capital is an important factor in
adolescents’ academic achievement. Closeness to family measures impact adolescents’
self-esteem, adolescents’ academic expectations, and in-school behavioral difficulties.
These factors in turn were significantly related to adolescents’ GPA’s. Fathers’
involvement in their children’s education was the only aspect of family social capital in
promoting equal academic achievement for adopted and non-adopted adolescents.

*Future Research on Adoptive Status and Academic Achievement*

Where does the research on adoptive status and academic achievement go from
here? Future research should explore factors that contribute to social capital within and
outside the home relative to adoptive status. Namely, Coleman (1988) suggests that in
order for social capital to be fully utilized there needs to be consensus among the family,
the school, and the community. This “closure” of social capital networks within the
community and schools should support the social capital being transferred within the
family. In addition to examining the family, research should look at the dynamic nature
of both protective and harmful relationships with peers, teachers, and the community and
their impact on adolescents’ academic achievement (Crosnoe and Elder 2004). Next, the
Add Health Wave 3 contains data on age at adoption. It would be interesting to see if age
of adoption may influence academic achievement among adoptees. Third, research should investigate how social capital operates differently in mixed race adoptive families or adoptive families with internationally born children with relation to academic achievement. Among international adoptive families, research should look at the difference in social capital by the adopted child’s country of origin with relation to academic achievement. Fourth, further research is needed to address the significant factors in explaining adolescent boys’ lower academic expectations, more in-school behavioral difficulties and lower academic achievement. Fifth, future research should investigate parent’s responses on the variables used in this model to see if they were similar to or different from adolescents’ responses. Last, I believe that compensatory theory should be used in more studies to test for possible explanations of why adoptees as a group have outcomes very similar to children reared in biological families as found in my study and several others (Hamilton et al. 2007; Hartman and Laird 1990).
Figure 1. Theoretical Model of Adoptive Status, Family Social Capital, and Academic Achievement
Table 1. Hypotheses of Family Social Characteristics on Closeness to Family, Closeness to Mother, Closeness to Father and Mothers’ and Fathers’ Involvement in their Children’s Education.

<table>
<thead>
<tr>
<th>Parents’ Social Characteristics</th>
<th>Closeness to Family</th>
<th>Closeness to Mother</th>
<th>Closeness to Father</th>
<th>Mothers’ Involvement</th>
<th>Fathers’ Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Income</td>
<td>nr</td>
<td>nr</td>
<td>nr</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Parent’s Education</td>
<td>nr</td>
<td>nr</td>
<td>nr</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Parent’s Marital Status</td>
<td>nr</td>
<td>+</td>
<td>+</td>
<td>nr</td>
<td>nr</td>
</tr>
<tr>
<td>(1 = Not Married)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adolescents’ Social Characteristics</th>
<th>Closeness to Family</th>
<th>Closeness to Mother</th>
<th>Closeness to Father</th>
<th>Mothers’ Involvement</th>
<th>Fathers’ Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adoptive Status (1 = Adopted)</td>
<td>nr</td>
<td>-</td>
<td>nr</td>
<td>nr</td>
<td>nr</td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gender (1=female)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Race (1=non-white)</td>
<td>nr</td>
<td>nr</td>
<td>nr</td>
<td>nr</td>
<td>nr</td>
</tr>
</tbody>
</table>
Table 2. Hypotheses of Family Social Characteristics on Adolescents’ Self-Esteem, Academic Expectations, In-school Behavioral Difficulties, and GPA.

<table>
<thead>
<tr>
<th>Parents’ Social Characteristics</th>
<th>Adolescents’ Self-Esteem</th>
<th>Adolescents’ Academic Expectations</th>
<th>Adolescents’ In-School Behavioral Difficulties</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Income</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Parent’s Education</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td>?</td>
<td>nr</td>
<td>nr</td>
<td>nr</td>
</tr>
<tr>
<td>(1 = Not Married)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adolescents’ Social Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adoptive Status (1=adopted)</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Gender (1=female)</td>
</tr>
<tr>
<td>Race (1=non-white)</td>
</tr>
</tbody>
</table>
Table 3. Hypotheses of Social Capital on Adolescents’ Self-Esteem, Adolescents’ Academic Expectations, In-school Behavioral Difficulties, and GPA.

<table>
<thead>
<tr>
<th>Family Social Capital</th>
<th>Adolescents’ Self-Esteem</th>
<th>Adolescents’ Academic Expectations</th>
<th>Adolescents’ In-School Behavioral Difficulties</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closeness to Family</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Closeness to Mother</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Closeness to Father</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Mother Involvement</td>
<td>?</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Father Involvement</td>
<td>?</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

Adolescents’ Self-Esteem          n/a    +                  -                  nr
Adolescents’ Academic Expectations n/a    -                  +
Adolescents’ In-School Behavioral Difficulties n/a    -
### APPENDIX C

Table 4. Means of the Variables Used in the Analysis, by Adoptive Status

<table>
<thead>
<tr>
<th>Variables</th>
<th>Range</th>
<th>Adopted</th>
<th>N</th>
<th>Non-Adopted</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parents’ Social Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>Thousands of dollars</td>
<td>$58,029***</td>
<td>481</td>
<td>$45,353</td>
<td>9,051</td>
</tr>
<tr>
<td>Education</td>
<td>0 = less than HS to 5 &gt; Four Year College Degree</td>
<td>2.81***</td>
<td>536</td>
<td>2.58</td>
<td>10,288</td>
</tr>
<tr>
<td>Marital Status</td>
<td>0 = Married; 1 = Not Married</td>
<td>.57</td>
<td>609</td>
<td>.55</td>
<td>11,939</td>
</tr>
<tr>
<td>Race</td>
<td>0 = White; 1 = Nonwhite</td>
<td>.17***</td>
<td>609</td>
<td>.13</td>
<td>11,939</td>
</tr>
<tr>
<td><strong>Respondents’ Social Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>12 - 19</td>
<td>15.65</td>
<td>609</td>
<td>15.41</td>
<td>11,931</td>
</tr>
<tr>
<td>Gender</td>
<td>0 = Male; 1 = Female</td>
<td>.51</td>
<td>609</td>
<td>.49</td>
<td>11,939</td>
</tr>
<tr>
<td>Number of Females Reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>0 = White; 1 = Nonwhite</td>
<td>.17***</td>
<td>609</td>
<td>.13</td>
<td>11,939</td>
</tr>
<tr>
<td><strong>Family Social Capital</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closeness to Family</td>
<td>0 = Strongly Disagree</td>
<td>2.71**</td>
<td>607</td>
<td>2.76</td>
<td>11,874</td>
</tr>
<tr>
<td>Variable</td>
<td>Scale</td>
<td>Mean</td>
<td>Standard Error</td>
<td>Unweighted N</td>
<td>Weighted N</td>
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<tr>
<td>-----------------------------------------------</td>
<td>--------------------------------</td>
<td>------</td>
<td>----------------</td>
<td>--------------</td>
<td>------------</td>
</tr>
<tr>
<td>Closeness to Mother</td>
<td>0 = Strongly Disagree, 4 = Strongly Agree</td>
<td>3.23***</td>
<td>570</td>
<td>3.33</td>
<td>11,210</td>
</tr>
<tr>
<td>Closeness to Father</td>
<td>0 = Strongly Disagree, 4 = Strongly Agree</td>
<td>3.28**</td>
<td>470</td>
<td>3.13</td>
<td>8,416</td>
</tr>
<tr>
<td>Mothers’ Involvement in Adolescent’s Education</td>
<td>0 = No; 1 = Yes</td>
<td>.58</td>
<td>570</td>
<td>.57</td>
<td>11,201</td>
</tr>
<tr>
<td>Fathers’ Involvement in Adolescent’s Education</td>
<td>0 = No; 1 = Yes</td>
<td>.49</td>
<td>470</td>
<td>.48</td>
<td>8,409</td>
</tr>
<tr>
<td>Respondents’ Characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adolescents’ Self-Esteem</td>
<td>0 = Strongly Disagree, 4 = Strongly Agree</td>
<td>3.11</td>
<td>609</td>
<td>3.08</td>
<td>11,901</td>
</tr>
<tr>
<td>Adolescents’ Academic Expectations</td>
<td>0 = Strongly Disagree, 4 = Strongly Agree</td>
<td>3.20</td>
<td>608</td>
<td>3.26</td>
<td>11,834</td>
</tr>
<tr>
<td>Adolescents’ In-School Behavioral Difficulties</td>
<td>0 = No; 1 = Yes, 1 = D grade or lower</td>
<td>1.25***</td>
<td>596</td>
<td>1.10</td>
<td>11,695</td>
</tr>
<tr>
<td>Adolescents’ GPA</td>
<td>4 = A grade</td>
<td>2.65***</td>
<td>590</td>
<td>2.80</td>
<td>11,513</td>
</tr>
</tbody>
</table>

*p < .05, **p < .01, ***p < .001. Means and standard errors are reported on weighted N’s, un-weighted N’s are shown.
Table 5. Correlations of Variables Presented in Figure 1.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Family Income</th>
<th>Family Reported Income Y/N</th>
<th>Parent’s Education</th>
<th>Parent’s Marital Status</th>
<th>R’s Age</th>
<th>R’s Gender</th>
<th>R’s Race</th>
<th>R’s Adoptive Status</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Reported Income Y/N</td>
<td>-.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent’s Education</td>
<td>.27</td>
<td>-.11</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent’s Marital Status</td>
<td>-.19</td>
<td>-.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.10</td>
<td>1</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>R’s Age</td>
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<td>.01</td>
<td>-.05</td>
<td>.01</td>
<td>1</td>
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</tr>
<tr>
<td>R’s Gender</td>
<td>.01</td>
<td>.01</td>
<td>-.01</td>
<td>.01</td>
<td>-.04</td>
<td>1</td>
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</tr>
<tr>
<td>R’s Race</td>
<td>-.03</td>
<td>.01</td>
<td>-.13</td>
<td>.02</td>
<td>.03</td>
<td>-.02</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>R’s Adoptive Status</td>
<td>.03</td>
<td>-.01</td>
<td>.06</td>
<td>-.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.02</td>
<td>-.01</td>
<td>.06</td>
<td>1</td>
</tr>
</tbody>
</table>

<sup>a</sup> Absolute value less than .005.
Table 5. Correlations of Variables continued.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Family Income</th>
<th>Family Reported Income Y/N</th>
<th>Parent’s Education</th>
<th>Parent’s Marital Status</th>
<th>R’s Adoptive status</th>
<th>R’s Gender</th>
<th>R’s Race</th>
<th>R’s Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Closeness</td>
<td>.01</td>
<td>.02</td>
<td>.02</td>
<td>-.05</td>
<td>-.03</td>
<td>-.04</td>
<td>-.01</td>
<td>-.13</td>
</tr>
<tr>
<td>Mother Closeness</td>
<td>-.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.02</td>
<td>.01</td>
<td>-.03</td>
<td>-.03</td>
<td>-.09</td>
<td>-.02</td>
<td>-.13</td>
</tr>
<tr>
<td>Father Closeness</td>
<td>.01</td>
<td>.00</td>
<td>.04</td>
<td>-.03</td>
<td>.02</td>
<td>-.07</td>
<td>-.02</td>
<td>-.15</td>
</tr>
<tr>
<td>Mother Involvement</td>
<td>.05</td>
<td>-.02</td>
<td>.06</td>
<td>-.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.05</td>
<td>-.02</td>
<td>.01</td>
</tr>
<tr>
<td>Father Involvement</td>
<td>.06</td>
<td>-.02</td>
<td>.07</td>
<td>-.01</td>
<td>.01</td>
<td>.03</td>
<td>-.01</td>
<td>-.02</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>.01</td>
<td>.02</td>
<td>.05</td>
<td>-.01</td>
<td>-.01</td>
<td>-.16</td>
<td>-.02</td>
<td>-.06</td>
</tr>
<tr>
<td>Academic Expectations</td>
<td>.14</td>
<td>-.02</td>
<td>.27</td>
<td>-.09</td>
<td>.01</td>
<td>.12</td>
<td>-.04</td>
<td>-.08</td>
</tr>
<tr>
<td>In-School Behavioral Difficulties</td>
<td>-.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.01</td>
<td>.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.03</td>
<td>.03</td>
<td>-.14</td>
<td>.02</td>
<td>.02</td>
</tr>
</tbody>
</table>

<sup>a</sup> Absolute value less than .005.
Table 5. Correlations of Variables continued.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Family Closeness</th>
<th>Mother Closeness</th>
<th>Father Closeness</th>
<th>Mother Involvement</th>
<th>Father Involvement</th>
<th>Self-Esteem</th>
<th>Academic Expectations</th>
<th>In-School Behavioral Difficulties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Closeness</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother Closeness</td>
<td>.56</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father Closeness</td>
<td>.46</td>
<td>.38</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother Involvement</td>
<td>.09</td>
<td>.12</td>
<td>.06</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father Involvement</td>
<td>.14</td>
<td>.10</td>
<td>.24</td>
<td>.64</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>.40</td>
<td>.39</td>
<td>.33</td>
<td>.06</td>
<td>.09</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Expectations</td>
<td>.12</td>
<td>.12</td>
<td>.11</td>
<td>.09</td>
<td>.11</td>
<td>.15</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>In-School Behavioral Difficulties</td>
<td>-.29</td>
<td>-.20</td>
<td>-.20</td>
<td>-.04</td>
<td>-.06</td>
<td>-.23</td>
<td>-.20</td>
<td>1</td>
</tr>
</tbody>
</table>

All correlations based on weighted values N= 10, 515. List-Wise Deletion was automatically imputed in STATA.
### APPENDIX C

Table 6. OLS Regression of Closeness to Family, Closeness to Mother, and Closeness to Father on Social Characteristics.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Closeness to Family</th>
<th>Closeness to Mother</th>
<th>Closeness to Father</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parents’ Social Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>.00(^a)</td>
<td>-.00(^a)</td>
<td>-.00(^a)</td>
</tr>
<tr>
<td>Reported Income (Y/N) (1 = No)</td>
<td>.06(^*)</td>
<td>.04</td>
<td>.07</td>
</tr>
<tr>
<td>Education</td>
<td>.00(^a)</td>
<td>.00(^a)</td>
<td>.02(^*)</td>
</tr>
<tr>
<td>Marital Status (1 = Non Married)</td>
<td>-.05(***)</td>
<td>-.02(^*)</td>
<td>-.06(**)</td>
</tr>
<tr>
<td><strong>Respondents’ Social Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adopted (1 = Adopted)</td>
<td>-.02</td>
<td>-.08</td>
<td>.17(**)</td>
</tr>
<tr>
<td>Age</td>
<td>-.06(***)</td>
<td>-.06(***)</td>
<td>-.09(***)</td>
</tr>
<tr>
<td>Gender (Female = 1)</td>
<td>-.08(***)</td>
<td>-.14(***)</td>
<td>-.14(***)</td>
</tr>
<tr>
<td>Race (1 = Non-white)</td>
<td>.01</td>
<td>-.03</td>
<td>-.05</td>
</tr>
<tr>
<td>Constant</td>
<td>3.80(***)</td>
<td>4.27(***)</td>
<td>4.49(***)</td>
</tr>
<tr>
<td>N</td>
<td>10,700</td>
<td>10,233</td>
<td>7726</td>
</tr>
<tr>
<td>R(^2)</td>
<td>.03(***)</td>
<td>.03(***)</td>
<td>.04(***)</td>
</tr>
</tbody>
</table>

\(^a\) Absolute values less than .005.

\(^*\) \(p < .05\); \(^**\) \(p < .01\); \(^***\) \(p < .001\).
Table 7. OLS Regression of Mothers’ Involvement in Adolescent’s Education on Social Characteristics.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mothers’ Involvement in Adolescents’ Education</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents’ Social Characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>.00**a</td>
<td>.00**a</td>
<td></td>
</tr>
<tr>
<td>Reported Income (Y/N) (1 = No)</td>
<td>- .03</td>
<td>- .03</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>.02***</td>
<td>.02***</td>
<td></td>
</tr>
<tr>
<td>Marital Status (1 = Non Married)</td>
<td>.01*</td>
<td>.01*</td>
<td></td>
</tr>
<tr>
<td>Respondents’ Social Characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adopted (1 = Adopted)</td>
<td>.01</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.00a</td>
<td>-.00a</td>
<td></td>
</tr>
<tr>
<td>Gender (Female = 1)</td>
<td>.03**</td>
<td>.03**</td>
<td></td>
</tr>
<tr>
<td>Race (1 = Non-white)</td>
<td>-.03</td>
<td>-.03</td>
<td></td>
</tr>
<tr>
<td>Adopted x Family Income</td>
<td>-.00***a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>.56***</td>
<td>.56***</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>10, 227</td>
<td>10, 227</td>
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</tr>
<tr>
<td>R2</td>
<td>.01***</td>
<td>.01**</td>
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</tr>
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</table>

*a Absolute value less than .005.
*p < .05; **p < .01; ***p < .001.
Table 8. OLS Regression of Fathers’ Involvement in Adolescent’s Education on Social Characteristics.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Fathers’ Involvement in Adolescent’s Education</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parents’ Social Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>.00***(^a)</td>
</tr>
<tr>
<td>Reported Income (Y/N) (1 = No)</td>
<td>-.02</td>
</tr>
<tr>
<td>Education</td>
<td>.02***</td>
</tr>
<tr>
<td>Marital Status (1 = Non Married)</td>
<td>.01</td>
</tr>
<tr>
<td><strong>Respondents’ Social Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Adopted (1 = Adopted)</td>
<td>.00(^a)</td>
</tr>
<tr>
<td>Age</td>
<td>.01(^b)</td>
</tr>
<tr>
<td>Gender (Female = 1)</td>
<td>.01</td>
</tr>
<tr>
<td>Race (1 = Non-white)</td>
<td>-.01</td>
</tr>
<tr>
<td>Constant</td>
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<tr>
<td>N</td>
<td>7,723</td>
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<tr>
<td>(R^2)</td>
<td>.01***</td>
</tr>
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</table>

\(^a\) Absolute value less than .005. \(^b\) (one-tailed test).
\(^*\) \(p < .05\); \(^**\) \(p < .01\); \(^***\) \(p < .001\).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-Esteem</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parents’ Social Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>.00(^a)</td>
<td>.00(^a)</td>
</tr>
<tr>
<td>Reported Income (Y/N) (1 = No)</td>
<td>.05(^*)</td>
<td>.02</td>
</tr>
<tr>
<td>Education</td>
<td>.03(^***)</td>
<td>.02(^***)</td>
</tr>
<tr>
<td>Marital Status (1 = Non Married)</td>
<td>-.00(^a)</td>
<td>.01</td>
</tr>
<tr>
<td><strong>Respondents’ Social Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adopted (1 = Adopted)</td>
<td>.05</td>
<td>.05</td>
</tr>
<tr>
<td>Age</td>
<td>-.02(^***)</td>
<td>.01(^b)</td>
</tr>
<tr>
<td>Gender (Female = 1)</td>
<td>-.21(^***)</td>
<td>-.16(^***)</td>
</tr>
<tr>
<td>Race (1 = Non-white)</td>
<td>.01</td>
<td>.02</td>
</tr>
<tr>
<td><strong>Family Social Capital</strong></td>
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<td></td>
</tr>
<tr>
<td>Closeness to Family</td>
<td></td>
<td>.16(^***)</td>
</tr>
<tr>
<td>Closeness to Mother</td>
<td></td>
<td>.18(^***)</td>
</tr>
<tr>
<td>Closeness to Father</td>
<td></td>
<td>.14(^***)</td>
</tr>
<tr>
<td>Mothers’ Involvement in Adolescent’s Education</td>
<td></td>
<td>.06(^*)</td>
</tr>
<tr>
<td>Fathers’ Involvement in Adolescent’s Education</td>
<td></td>
<td>-.03</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>3.45(^***)</td>
<td>2.53(^***)</td>
</tr>
<tr>
<td>N</td>
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<tr>
<td>------------</td>
<td>--------</td>
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</tr>
<tr>
<td>R²</td>
<td>(0.03^{***})</td>
<td>(0.24^{***})</td>
</tr>
</tbody>
</table>

\(a\) Absolute value less than .005. \(b\) (one-tailed test).

\(*p < .05; \,**p < .01; \,***p < .001.\)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Academic Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
</tr>
<tr>
<td>Parents’ Social Characteristics</td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>.00***a</td>
</tr>
<tr>
<td>Reported Income (Y/N) (1 = No)</td>
<td>.03</td>
</tr>
<tr>
<td>Education</td>
<td>.20***</td>
</tr>
<tr>
<td>Marital Status (1 = Non Married)</td>
<td>-.07***</td>
</tr>
<tr>
<td>Respondents’ Social Characteristics</td>
<td></td>
</tr>
<tr>
<td>Adopted (1 = Adopted)</td>
<td>-.09</td>
</tr>
<tr>
<td>Age</td>
<td>-.05***</td>
</tr>
<tr>
<td>Gender (Female = 1)</td>
<td>.22***</td>
</tr>
<tr>
<td>Race (1 = Non-white)</td>
<td>.02</td>
</tr>
<tr>
<td>Family Social Capital</td>
<td></td>
</tr>
<tr>
<td>Closeness to Family</td>
<td>.10*</td>
</tr>
<tr>
<td>Closeness to Mother</td>
<td>.06*b</td>
</tr>
<tr>
<td>Closeness to Father</td>
<td>.05*</td>
</tr>
<tr>
<td>Mothers’ Involvement in Adolescent’s Education</td>
<td>.05</td>
</tr>
<tr>
<td>Fathers’ Involvement in Adolescent’s Education</td>
<td>.19**</td>
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<td>------------</td>
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</tr>
<tr>
<td>R²</td>
<td>.10***</td>
</tr>
</tbody>
</table>

*a* Absolute value less than .005. *b* (one-tailed test).

*p* < .05; **p** < .01; ***p*** < .001.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Adolescents’ In-School Behavioral Difficulties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
</tr>
<tr>
<td>Parents’ Social Characteristics</td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>-.00&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Reported Income (Y/N) (1 = No)</td>
<td>.01</td>
</tr>
<tr>
<td>Education</td>
<td>.00</td>
</tr>
<tr>
<td>Marital Status (1 = Non Married)</td>
<td>.05&lt;sup&gt;***&lt;/sup&gt;</td>
</tr>
<tr>
<td>Respondents’ Social Characteristics</td>
<td></td>
</tr>
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<td>Adopted (1 = Adopted)</td>
<td>.14</td>
</tr>
<tr>
<td>Age</td>
<td>.01</td>
</tr>
<tr>
<td>Gender (Female = 1)</td>
<td>-.24&lt;sup&gt;***&lt;/sup&gt;</td>
</tr>
<tr>
<td>Race (1 = Non-white)</td>
<td>.03</td>
</tr>
<tr>
<td>Family Social Capital</td>
<td></td>
</tr>
<tr>
<td>Closeness to Family</td>
<td>-.24&lt;sup&gt;***&lt;/sup&gt;</td>
</tr>
<tr>
<td>Closeness to Mother</td>
<td>-.06&lt;sup&gt;**&lt;/sup&gt;</td>
</tr>
<tr>
<td>Closeness to Father</td>
<td>-.12&lt;sup&gt;***&lt;/sup&gt;</td>
</tr>
<tr>
<td>Mothers’ Involvement in Adolescent’s Education</td>
<td>.01</td>
</tr>
<tr>
<td>Fathers’ Involvement in Adolescent’s Education</td>
<td>.01</td>
</tr>
<tr>
<td>Adolescents’ Self-Esteem</td>
<td></td>
</tr>
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</table>
Adolescents’ Academic Expectations

<table>
<thead>
<tr>
<th></th>
<th>10,661</th>
<th>10,509</th>
<th>10,463</th>
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<tr>
<td>Adolescents’ Academic Expectations</td>
<td>-.09***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.03***</td>
<td>2.12***</td>
<td>2.89***</td>
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<tr>
<td>N</td>
<td>10,661</td>
<td>10,509</td>
<td>10,463</td>
</tr>
<tr>
<td>R²</td>
<td>.03***</td>
<td>.14***</td>
<td>.17***</td>
</tr>
</tbody>
</table>

*a* Absolute value less than .005. *b* (one-tailed test).

*p < .05; **p < .01; ***p < .001.*
Table 12. OLS and Step-wise Regression of Adolescents’ Grade Point Average’s (GPA’s) on Family Social Characteristics, Family Social Capital, Adolescents’ Self-Esteem, Academic Expectations, and In-School Behavioral Difficulties.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Grade Point Average (GPA)</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
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<tbody>
<tr>
<td>Parents’ Social Characteristics</td>
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<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td>.00***^a</td>
<td>.00***^a</td>
<td>.00**^a</td>
<td>.00***^a</td>
</tr>
<tr>
<td>Reported Income (Y/N) (1 = No)</td>
<td></td>
<td>.01</td>
<td>.01</td>
<td>.02</td>
<td>.01</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>.13***</td>
<td>.13***</td>
<td>.09***</td>
<td>.10***</td>
</tr>
<tr>
<td>Marital Status (1 = Non Married)</td>
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<td>-.09***</td>
<td>-.08***</td>
<td>-.07***</td>
<td>.06***</td>
</tr>
<tr>
<td>Respondents’ Social Characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adopted (1 = Adopted)</td>
<td></td>
<td>-.17*</td>
<td>-.18*</td>
<td>-.16*</td>
<td>-.12*b</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>-.02*</td>
<td>-.01</td>
<td>-.00^a</td>
<td>-.01</td>
</tr>
<tr>
<td>Gender (Female = 1)</td>
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<td>.23***</td>
<td>.24***</td>
<td>.21***</td>
<td>.13***</td>
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<td>Race (1 = Non-white)</td>
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<td>-.04</td>
<td>-.04</td>
<td>-.03</td>
</tr>
<tr>
<td>Family Social Capital</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closeness to Family</td>
<td></td>
<td>.11*</td>
<td>.06</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>Closeness to Mother</td>
<td></td>
<td>.01</td>
<td>-.03</td>
<td>-.03*</td>
<td></td>
</tr>
<tr>
<td>Closeness to Father</td>
<td></td>
<td>.06***</td>
<td>.03*</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>Mothers’ Involvement in Adolescent’s Education</td>
<td></td>
<td>.02</td>
<td>.01</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>Fathers’ Involvement in Adolescent’s Education</td>
<td></td>
<td>.10**</td>
<td>.07*</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>Adolescents’ Self-Esteem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.12***</td>
</tr>
</tbody>
</table>

^a Significant at the .05 level.
^b Significant at the .01 level.
| Adolescents’ Academic Expectations | .21*** | .18*** |
| Adolescents’ In-School Behavioral Difficulties | -.29*** |
| Constant | 2.72*** | 2.25*** | 1.34*** | 2.17*** |
| N | 10,382 | 10,350 | 10,335 | 10,335 |
| R² | .10*** | .13*** | .21*** | .29*** |

*Absolute value less than .005. **(one-tailed test). 
*p < .05; **p < .01; ***p < .001.
REFERENCES


DATE: February 8, 2006

MEMORANDUM

TO: Anastasia Sue Vogt Yuan Sociology
     K J. Kiecolt Sociology
     John Lawson
     Jeffrey Toussaint

FROM: Carmen Green

SUBJECT: IRB Exempt Approval: “Application to Obtain the Contractual Dataset of the National Longitudinal Study of Adolescent Health (Add Health) ” IRB # 06-064

I have reviewed your request to the IRB for exemption for the above referenced project. I concur that the research falls within the exempt status. Approval is granted effective as of February 8, 2006.

Virginia Tech has an approved Federal Wide Assurance (FWA00000572, exp. 7/20/07) on file with OHRP, and its IRB Registration Number is IRB00000667.

cc: File