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**LONGITUDINAL CHANGES IN PARENTAL INVOLVEMENT IN  
ADOLESCENTS' EDUCATION AND THE EFFECTS OF NEIGHBORHOOD  
CONTEXT ON PARENTAL INVOLVEMENT**

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Psychology

by

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## ABSTRACT

This study conceptualized parental involvement as a multidimensional construct – including home based involvement, school based involvement and academic socialization – and examined how these involvement types change across 7<sup>th</sup> to 11<sup>th</sup> grade. In addition, this study examined the effects of parent’s race, SES, adolescents’ gender and neighborhood context on parental involvement in middle and high school. Data for this study came from the Maryland Adolescents Development in Context Study (MADICS). A total of 1376 European American and African American families participated in the study (caregivers: 92% females, 66% African American; adolescents: 51% male, 67% African American, age range: 11-14). Multilevel modeling was used to examine the change in parental involvement over time. Results showed that parents reduced their home based and school based involvement across middle and high school; however, they engaged in similar levels of academic socialization over time. African American parents engaged in more home based involvement and academic socialization than European American. Parents from low SES families engaged in more home based involvement and academic socialization and less school based involvement than high SES families. In addition, parents engaged in more home based involvement for boys and more academic socialization for girls. The findings for the association of neighborhood structure and social dynamics with parental involvement were mixed.

*Keywords:* home based involvement, school based involvement, academic socialization, race, socioeconomic status, gender, neighborhood structure, social dynamics

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## Chapter 1

### Introduction

Adolescence is a time of many changes in multiple domains. One domain of particular importance is education. From middle school to high school, adolescents' academic performance and engagement declines (Hill & Chao, 2010), which may be due to the competing demands of school (e.g. pressure to do well in school) and changing school structures that afford adolescents less autonomy as they crave it. At the same time, parental involvement in their adolescent's education changes (Hill & Tyson, 2009). Certain parental involvement strategies, like homework help, that were effective during middle school may not be as effective in high school (Catsambis, 2001). Parental involvement in adolescents' education may depend on the context in which it occurs (Bronfenbrenner, 1977). One such context is neighborhood, which can be characterized by both its structure (e.g. neighborhood disadvantage) and social dynamics (e.g. cohesion and trust). The stress associated with living in a disadvantaged neighborhood (neighborhood structure) characterized by low-income neighbors, high unemployment rates and residential instability may reduce parents' levels of warmth and communication with their adolescents, which may further reduce their involvement in adolescents' education (Meyers & Miller, 2004). Living in less cohesive neighborhoods, where parents cannot trust other residents, may cause parents to increase their level of adolescent supervision (Simons, Simons, Burt, Brody, & Cutrona, 2005), which may further lead to increased parental involvement. Thus, both neighborhood structure and social dynamics may influence parental involvement in adolescents' education. Several studies have examined the effects of neighborhood SES and social dynamics on parenting styles (e.g. authoritarian and authoritative parenting styles) but relatively few have

explored how neighborhood context may affect parental involvement in adolescents' education. The present study explored changes in parent involvement strategies from middle to high school among diverse families from various neighborhoods and investigated how neighborhood structure and social dynamics influence parental involvement in adolescents' education.

### **Developmental background and significance**

Adolescence is a period of development marked by self-exploration and increased sense of autonomy (Hill & Chao, 2009; Spera, 2005). At the same time, adolescents experience changes in learning environments (e.g. middle school and high school) that have different structures and provide fewer opportunities for autonomy (Chen & Gregory, 2010; Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999; Holcomb-McCoy, 2007), making the new learning environment unfavorable for adolescents. This mismatch between the demands of the new school setting and adolescents' own needs (Gutman & Midgely, 2000; Ruble & Seidman, 1996) may put adolescents at academic risk such as lower academic motivation and achievement (Holcomb-McCoy, 2007; McGill, Hughes, Alicea & Way, 2011; Witherspoon & Ennett, 2010). Adolescents may therefore need additional support to overcome the negative effects of changes in learning environments.

Adolescents may receive additional support in the form of parental involvement though, the kind of parental involvement strategies that parents engage in, in middle and high school, may vary. As adolescents seek autonomy, they may undergo a renegotiation in the relationship with their parents (Hill & Chao, 2009). As a result of changing relationships, parents may change their involvement strategies which may eventually support or affect adolescents' academic performance in middle and high school. Some

studies suggest that parental involvement declines in middle and high schools. Most of these studies have looked at changes in parental involvement in adolescents' education at home and school (Epstein & Dauber, 1991; Izzo, Weissberg, Kasprow, & Fendrich, 1999; Stevenson & Baker, 1987). Not much is known about changes in parent-adolescent communication about academic values and goals (academic socialization). Also, most of the studies examining changes in parental involvement have been cross-sectional such that they examined differences in mean levels of involvement by grade to make suggestions about potential changes in parental involvement at various developmental periods. In addition, some longitudinal studies have also examined changes in parental involvement; however they examined these changes either in middle school or high school (Eccles & Harold, 1996; Paulson & Sputa, 1996). In order to understand how parents provide academic support to adolescents, while considering their growing need for autonomy, it is important to investigate changes in parental involvement strategies as adolescents move across middle and high school. Therefore, in the current study, we were interested in examining longitudinal changes in parental involvement across middle and high school. We were further interested in understanding the different cultural and contextual factors that may influence parental involvement. We identified two factors from the Integrative model (For details, see Garcia-Coll et. al., 1996): social position variables (gender, race/ ethnicity and SES) and promoting and inhibiting environments (neighborhood context) that may influence parental involvement in middle and high school. Below, we summarize the concept of parental involvement and the extant literature on specific educational-based parental involvement strategies during the middle and high school years.

### **Current conceptualizations of parental involvement**

Parental involvement is defined as “Parent’s interactions with schools and with their children to promote academic success” (Hill et al., 2004, p. 1491). Parental involvement is a multifaceted construct that includes a wide variety of parental behavioral patterns and parenting practices (Fan & Chen, 2001) such as communication about goals, values and aspirations to adolescents (Epstein & Sanders, 2002; Fan & Chen, 2001; Hill, 2001; Hill & Craft 2003), discussion with children about school (Christenson et al., 1992; Fan & Chen, 2001), involvement in adolescents’ learning activities at home (e.g. assistance with homework as well as setting education related rules) (Epstein & Sanders, 2002; Fan & Chen, 2001; Hill, 2001; Hill & Craft 2003; Keith, Keith, Troutman, & Bickley, 1993) and participation in school activities (Epstein & Sanders, 2002).

Several frameworks have been proposed to understand parental involvement in education and how it affects adolescents’ academic behaviors. Epstein (1992, 1994) proposed a framework that focused on parental involvement from the school’s perspective and highlighted how schools get parents involved in their adolescents’ education. Epstein (1992, 1994) identified six types of parental involvement strategies that mainly focused on parent’s participation in activities organized by school and parents’ communication with school about their youth’s progress as well as learning activities at home (Catsambis, 2001; Chen & Gregory, 2010; Fan & Chen, 2001; Stone, 2006). However, research shows that parental involvement in the school context decreases in middle and high school (Hill & Tyson, 2009). So, parents may utilize other

strategies to be involved in their youth's education. Thus, it is important to see how parents involve themselves in their adolescents' education outside of the school context.

Comer (1995) conceptualized parental involvement as occurring both at school and home. Similar to Epstein, Comer operationalized school involvement as attending parent teacher conferences, participation in decision making at school, as well as volunteering at school. Comer suggested that parents may further utilize additional strategies at home like homework help and encouraging youth to study. By including home based parental involvement, Comer's model examines meso-system influences; specifically, he integrated the importance of what happens at home and how it may impact what happens at school. Further, extending parental involvement frameworks, Grolnick and Slowiaczek (1994) added two dimensions—cognitive-intellectual and personal involvement—beyond school and home-based involvement. Cognitive-Intellectual involvement focuses on introducing the children to educationally stimulating activities whereas personal involvement focuses on parents' communication of values, goals and expectations about school to adolescents. All of the models mentioned so far discuss the ways in which parents are involved in their adolescents' education. However, none of the frameworks focus on why parents are involved in their adolescents' education and why parental involvement has positive influence on adolescents' educational outcomes. This limitation was addressed by Hoover-Dempsey and Sandler (1995).

Hoover-Dempsey and Sandler (1995) provide a comprehensive model of parental involvement during adolescence. Not only did their model examine specific types of involvement that parents engage in, but it also focused on individual differences in parents that may impact the use of certain strategies (e.g. parents who are academically

efficacious are more likely to be involved in their adolescents' education). Combining all the frameworks proposed thus far, Hill & Tyson (2009), in their meta-analysis, concluded that there are three distinct constructs in common to all the frameworks that explain parental involvement: home based involvement (e.g. helping children with homework, taking children to the library and museums, and asking children about what happened at school), school based involvement (e.g. communicating with teachers, taking part in activities organized for parents at school, and volunteering at school) and academic socialization (e.g. communicating values and aspirations to children and discussing future goals) (Hill & Tyson, 2009). The present study used this framework to examine and characterize parental involvement strategies in middle and high school.

### **Home based involvement**

Several studies have shown home based involvement to be associated with adolescents' academic outcomes (Falbo, Lein & Amador, 2001; Fan & Williams, 2010). However, some of these findings have been inconsistent (Chen & Gregory, 2010; Hill & Tyson, 2009; Stone, 2006). The inconsistent association of parental home based involvement with academic outcomes may be due to changing home based involvement strategies as adolescents move across middle school and high school.

In middle school, parents are likely to engage in direct forms of home based involvement such as providing structure at home, supervising adolescents' homework as well as providing intellectually engaging material that may help adolescents clearly understand the lessons taught at school (Comer, 1995; Hill & Tyson, 2009; McGill et. al., 2011). In high school, in order to give adolescents' more autonomy, parents may engage in less direct forms of parental involvement. Some studies indicate that parents of

adolescents in high school tend to reduce their levels of daily supervision of adolescents' homework. Instead, parents show more concern towards their children's future education and understanding the learning opportunities provided by high school (Catsambis, 2001; Catsambis & Garland, 1997; Stone, 2006).

The studies mentioned above suggest that parents' home based involvement strategies may differ between middle school and high school; however, to understand how changing home based involvement over time may be associated with changing effectiveness of home based involvement on adolescents' academic outcomes, we first need to understand developmental changes in parental home based involvement from middle school to high school. The current study examined the longitudinal change in parental home based involvement from 7<sup>th</sup> grade to 11<sup>th</sup> grade.

### **School based involvement**

Like home based involvement, school based involvement has also been associated with adolescents' academic outcomes in middle and high schools; however, some of the findings have been inconsistent (Catsambis & Garland, 1997; Stone, 2006). Similar to home based involvement, parents may also change their school based involvement during middle and high school.

Due to increased number of teachers and a less welcoming environment of middle school, parents' may reduce their direct involvement in adolescents' classroom, and engage mostly in assisting teachers in fundraising or other administrative duties (Hill & Tyson, 2009). Parents may further reduce their direct interactions with teachers in high school (Stone, 2006) to grant their adolescents more autonomy, as adolescents do not want their parents to visit school (Collins & Laursen, 2004). However, some parents may

increase their communication with school to learn about courses that may help prepare their adolescents for college entrance exams. Catsambis and Garland (1997) showed that, in high school, parents increased their communication with school to know their adolescents' academic progress as well as learn about school programs. The findings suggest that parents may increase or decrease their school based involvement as adolescents move from middle school to high school. In order to address these inconsistent findings for school based involvement across middle and high school, the present study examined longitudinal changes in school based involvement.

### **Academic socialization**

Academic Socialization, despite being the least studied construct of parental involvement, is considered the most developmentally appropriate form of parental involvement in both middle school and high school (Hill & Tyson, 2009), as it focuses on aspirations and goals for the future, links school work with future goals and provides a sense of autonomy for adolescents by enabling them to make their own decisions. The complex middle school and high school context makes it hard for parents to figure out how to get involved in school (Epstein & Sanders, 2002; Hill & Tyson, 2009). Academic socialization makes it easier for parents to be involved in their adolescents' education without worrying about which teacher to make contact with (Hill & Tyson, 2009).

Even though academic socialization is a developmentally appropriate strategy for adolescents, little is known about the specific strategies parents engage in during middle and high school. On average, studies examining academic socialization have focused on parental aspirations and expectations and how they are perceived by their adolescents (Catsambis, 2001; Chen & Gregory, 2010; Fan, 2001; Fan & Williams, 2010; Stone,

2006). Very few studies examining academic socialization have operationalized it as discussion of adolescents' future goals and courses that adolescents will take in school. Stone (2006), examined academic socialization in 9<sup>th</sup> grade by asking how often parents discussed the course/program adolescents should take in school. Her findings revealed that parents engaged in less academic socialization over time as adolescents' moved across high school. To expand our knowledge of the developmental trajectory of academic socialization from middle school to high school, the present study examined longitudinal changes in academic socialization from 7<sup>th</sup> grade to 11<sup>th</sup> grade.

### **Effects of social position (gender, race and SES) on parental involvement**

Parental involvement in adolescents' education may depend on parents' position in the social hierarchy, which may be determined by their race and social class. The Integrative model suggests that parents' race and social class (SES) may help them determine how segregated they are, socially and psychologically, in their environment (Garcia-Coll et. al., 1996), which may then influence the involvement strategies that parents' engage in. Along with parents' social position, adolescents' social position (gender) may also influence parental involvement strategies. Parents' may base their involvement strategies on the traditional gender roles they may have for their adolescents, and therefore show variations in parental involvement by adolescents' gender.

Research on parental involvement in middle and high schools has shown race differences in parental involvement such that African American parents have been shown to be less involved at school and more involved at home as compared to European American parents (Eccles & Harold, 1996; Hill, 2011; Hill & Taylor, 2004; Hill & Tyson, 2009; Wang & Sheikh-Khalil, 2013). Further, race differences have been

observed in academic socialization in high school such that African American parents have been shown to be more engaged in academic socialization than European American parents (Stone, 2006). Race differences in school based involvement by African American parents may be due to a different understanding of their role in their youth's school. African American parents may engage in school based involvement by just observing the teachers teach and not actually helping in the classroom or volunteering as they may either feel uncomfortable interacting with the teachers or may feel unable to intervene in class due to limited knowledge (Desimone, 1999; Hill & Craft, 2003). African American parents may also engage in less school based involvement as they may have a less trusting relationship with teachers because of the history of discrimination and bias experienced by African American parents at schools (Hill & Tyson, 2009). In order to make up for less school based involvement, African American parents may engage in more home based involvement. Further, due to some African American parents' distrust of teachers (Hill, 2011) and belief that European American teachers and school do not care much about African American adolescents' education, African American parents may feel the need to engage in more academic socialization of their adolescents (Hill & Sprague, 1999) such that, African American parents may feel a greater need to talk to their adolescents about the importance of future courses that may help adolescents prepare for higher education or land a desirable job in the future. Although, race differences have been observed in academic socialization in high school, not much is known about race differences in academic socialization in middle school. Also, previous studies had examined race differences in parental involvement in either middle school or high school. Little is known about race differences in parental involvement across middle

school and high school. This study, therefore, examined if African American parents engaged in more home based involvement and academic socialization and less school based involvement than European American parents across middle school and high school.

Along with parents' race, parents' SES has also been shown to be associated with parental involvement in adolescents' education. Research shows that low SES parents engage in less home based involvement, school based involvement and academic socialization (Hill et. al., 2004; Wang & Sheikh-Khalil, 2013). Parents from low SES backgrounds (i.e. less education and low income) may feel uncomfortable or incapable of assisting their adolescents with their schoolwork and hence may show less home based involvement as compared to high SES parents (Conger, Ge, Elder, Lorenz, & Simons, 1994; Hill et. al., 2004). Parents from low SES backgrounds may be less educated, have less information about school's expectations of parents and hence may be less involved at school than parents from high SES backgrounds (Hill et. al., 2004; Yonezawa, 2000). Further, with limited financial resources, parents from low SES may work more or non-traditional hours and experience greater stress (Hill et. al., 2004; Wang & Sheikh-Khalil, 2013), which may limit their ability to volunteer at school or attend parent teacher conferences (school based involvement). High SES parents also tend to have higher academic aspirations than low SES parents (Baker & Stevenson, 1986; Hayes, 2011; Hill & Taylor, 2004). Thus, high SES parents may communicate the value of higher education and future jobs to their adolescents (academic socialization) more than low SES parents. We have limited knowledge of how parents' SES may influence parental involvement

across middle and high school. Therefore, this study examined the effects of parents' SES on parental involvement over time.

Further, some studies suggest that parental involvement may vary with adolescents' gender. Literature on gender socialization shows that females are socialized to be more dependent and obedient whereas males are usually given more autonomy (Eccles, Jacobs & Harold, 1990), as a result of which parents tend to monitor their daughters more than their sons (Svensson, 2003; Toren, 2013). Thus, parents may provide more structure to female adolescents than male adolescents at home (i.e. engage in more home based involvement). Parents may also engage in higher academic socialization of female adolescents than male adolescents because parents tend to have higher academic expectations of girls than boys (Wood, Kurtz-Costes, Rowley & Okeke-Adeyanju, 2010). However, research has shown parents to engage in more communication with schools (school based involvement) for male adolescents than female adolescents (Sui- Chu & Willms, 1996; Muller, 1998). The reasons for greater school based involvement for male adolescents are not known; however, it is possible that teachers may be contacting parents of male adolescents more than female adolescents' to complain about their deviant behavior. Research shows that boys are more likely than girls to display conduct problems (Aneshensel & Sucoff, 1996; Lahey et. al., 2000), and thus boys may be more likely than girls to engage in deviant behaviors. Also, parents and teachers are more likely to rate boys as more aggressive than girls (Lahey et. al., 2000; McDermott, 1996). Because aggression and delinquent behaviors in adolescents are associated with lower academic achievement (Barriga et. al., 2002), parents of male adolescents may be more concerned about their son's behavior in school,

and therefore may contact teachers or attend conferences more often for male adolescents than for female adolescents. Differences in parental involvement by adolescents' gender may lead to gender differences in adolescents' outcomes, which makes it important to understand how parental involvement may vary with adolescents' gender. Little is known about the association between adolescents' gender and parents' involvement in middle and high school. Therefore, in this study, we examined how parental involvement in middle and high school varies with adolescents' gender.

### **Neighborhood influences on parental involvement**

Along with social position variables like race, SES, and gender, the Integrative model (Garcia–Coll et. al., 1996) suggests that parents' daily interactions and experiences in their neighborhood (promoting and inhibiting environment) may determine their involvement strategies. Neighborhoods are often characterized by neighborhood structural characteristics and social dynamics. The structural aspects of neighborhood refer to the sociodemographic features which include neighborhood median income, employment rates, education level of the residents, racial composition, and presence of institutional resources, whereas, neighborhood social dynamics include the presence of positive relationships and behaviors in the neighborhood (Byrnes & Miller, 2012). Neighborhood structural factors and social dynamics may play an important role in understanding parental involvement in middle and high school. Little is known about how neighborhood structure and social dynamics are associated with parental involvement in adolescents' education; however, the theoretical frameworks reviewed below may highlight both how and why the neighborhood context may be associated with parental involvement in adolescents' education.

## **Neighborhood social disorganization theory, structural factors, and parental involvement**

Neighborhood social disorganization can be defined as the “inability of a neighborhood to achieve the common goals of its residents and maintain effective social control” (Sun, Triplett & Gainey, 2004, p. 1). Shaw & McKay (1942) first proposed neighborhood social disorganization theory and explained that neighborhood structural factors such as socioeconomic status (SES) may prevent neighborhood residents from maintaining order (Leventhal & Brooks-Gunn, 2000). They further explained that the role of SES in social disorganization theory is based on economic and social decline of the residential urban areas and may increase residential turnover and ethnic diversity (Bursik & Grasmick, 1993) which may diminish shared experiences, common norms and beliefs. This can create fear and mistrust among residents and weakened social ties and supports as well as social control (i.e. the monitoring behavior of adults in a neighborhood) (Sampson & Groves, 1989; Wilson, 1989, 1996).

Neighborhood disadvantage, characterized by low SES, female headed households and high unemployment rate, can influence parent’s use of efficient parenting strategies (Byrnes & Miller, 2012; Leventhal & Brooks-Gunn, 2000). Stress created by disadvantaged neighborhoods or less available resources in a neighborhood may determine the extent to which parents engage in home based and school based involvement as well as academic socialization of the adolescents. Neighborhoods characterized by low SES and high rates of crime and violence may cause emotional strain on parents (McLoyd, 1990) which may result in parents’ use of restrictive and controlling parenting (e.g. curfew times and increased behavioral supervision) (i.e., home

based involvement) (Byrnes & Miller, 2012; Dearing, 2004; Furstenberg et al., 1999; Gonzales, Cauce, Friedman, & Mason et al., 1996; Leventhal, Dupere, & Brooks-Gunn, 2009; McLoyd, 1990; Tendulkar, Buka, Dunn, Subramanian, & Koenen, 2010). Research suggests that parents living in disadvantaged neighborhoods are less likely to express their viewpoints and engage in communication with their adolescents (Byrnes & Miller, 2012; Meyers & Miller, 2004; Simons et al., 1997). Therefore, it is reasonable to assume that parents residing in disadvantaged neighborhoods may engage in less communication-based parental involvement (i.e., academic socialization) in middle and high school. Along with neighborhood disadvantage, neighborhood social dynamics (e.g. cohesion and trust) may also influence parental involvement in adolescents' education.

### **Collective socialization, social dynamics, and parental involvement**

Drawing from the original work of Shaw and McKay (1942), Sampson and Grove (1989) developed a two staged model of social disorganization. According to this model, neighborhood structural characteristics were considered exogenous sources of social disorganization that led to weak social support in the neighborhood (Sampson & Grove, 1989; Sampson, Raudenbush & Earls, 1999; Sun, Triplett & Gainey, 2004). Sampson and Groves (1997) proposed a model of collective socialization in order to understand how adults in a neighborhood can act to promote positive adolescent development and protect adolescents from dangerous neighborhood contexts (Brody et al., 2001). According to this model, adults in a neighborhood can influence children and adolescents who are not their own. These adults may act as “potential enforcers” by engaging in informal social control of problem behavior. Informal social control in the neighborhood may further create a level of trust among neighbors and help them to agree

on acceptable forms of conduct in the community (Bursik & Grasmick, 1993; Jencks & Mayer, 1990).

High informal social control and connectedness in a neighborhood (social cohesion) may influence parental involvement in adolescents' education. Parents living in neighborhoods where residents feel connected to each other (social cohesion) and engage in supervision of adolescents in the neighborhood (informal social control) may feel less stressed about their adolescents' safety and thus may show more warmth and engage in a less restrictive parenting style (authoritative parenting) (Leventhal et. al., 2009; Simons et. al., 2005). Parents engaging in a less restrictive parenting style may provide less structure for doing academic work at home (i.e., home based involvement). Also, authoritative parents are considered to have high expectations for achievement for their children and foster these demands through bidirectional communication (Spera, 2005). Hence, parents living in neighborhoods with more informal social control as well as high cohesion may engage in more academic socialization. One study to date has looked at the effects of neighborhood social dynamics on parental involvement. Furstenberg and colleagues (1999) examined the effects of neighborhood on several forms of parenting, one of them being parental involvement in adolescents' education. They did not find any effect of neighborhood context on parent's home based involvement in their adolescents' education (e.g. helping with school work or engaging in school related discussion). However, they did find that parents living in neighborhoods characterized by high levels of social cohesion and trust and more resources displayed more school based involvement such that these parents participated in school activities more than parents living in neighborhoods characterized by less resources and lower social cohesion (Furstenberg et.

al., 1999). Furstenberg and colleagues attributed neighborhood differences in school based involvement to the racial makeup of the neighborhoods. European American families, in their study, were more likely to live in more cohesive neighborhoods than African American families. Therefore, they suggested that because European American parents are more likely to engage in school based involvement than African parents (Eccles et. al., 1996; Wang & Sheikh-Khalil, 2013), and it was mostly the European American families that lived in more cohesive neighborhoods, parents living in more cohesive neighborhoods displayed more school based involvement than parents living in less cohesive neighborhoods. Alternatively, they suggested that neighborhood differences in school based involvement may be due school's resistance to provide help to parents residing in poor neighborhoods (Furstenberg et. al., 1999). Parents' negative experiences with school may prevent them from engaging in school based involvement.

Overall, the neighborhood literature has examined how neighborhood context is associated with parents' parenting style. Little is known about the association between neighborhood context and the specific parenting behaviors of parental home and school based involvement and academic socialization. In the current study, we examined how neighborhood structure and social dynamics may influence the three forms of parental involvement (i.e. home based involvement, school based involvement and academic socialization).

## Chapter 2

### The Current Study

The goals of this study were to determine (1) how parental involvement strategies change over time (i.e. do they increase, decrease or remain stable across middle and high school) (2) do these strategies vary by ethnicity, SES and adolescents' gender over time and (3) do neighborhood structure (e.g. disadvantage) and social dynamics (e.g. cohesion) have any influence on parental involvement in adolescents' education in middle and high school. We hypothesized the following:

H1: Parents will reduce their home based and school based involvement across middle school and high school; however, they will increase their engagement in academic socialization as adolescents move from middle school to high school. As adolescents move to high school, parents may feel less able to help their adolescents with school work as it becomes more advanced (Eccles & Harold, 1996) and hence may decrease home based involvement in high school (i.e. in 11<sup>th</sup> grade). Parents may also feel that their adolescent does not want to be seen with their parents at school as adolescents crave autonomy and parents may also feel uncomfortable talking to teachers (Eccles & Harold, 1996; Leventhal & Brooks-Gunn, 2000). This may decrease parents' school based involvement in high school (i.e. in 11<sup>th</sup> grade). However, parents may show an increase in academic socialization across middle and high school as parents may find it easier to communicate the goals and values of higher education to adolescents.

H2a: From middle to high school, African American parents will display more home based involvement and academic socialization than European American parents. However, European American parents will engage in more school based involvement

than African American parents during middle and high school. Previous research suggests that African American parents may have less trusting relationships with the teachers at school because of a history of discrimination (Hill, 2011; Hill & Tyson, 2009) and hence may engage in more home based involvement and less school based involvement than European American parents in middle and high school. Further, due to their experiences with lower power and status in the society as well as experiences with stereotyping and discrimination due to their ethnic minority status (Harrison, Wilson, Pine, Chan, & Buriel, 1990), African American parents may feel the need to talk to their adolescents about the importance of future education and careers to achieve a status in the society (academic socialization), and therefore may engage in more academic socialization than European American parents.

H2b: High SES parents will be more involved in adolescents' education than low SES parents during middle and high school (Hill & Tyson, 2009). Parents from high SES families may have resources to provide educational materials to their adolescents or they may have time to supervise their adolescents' homework (home based involvement); however, parents from low SES families may not have the resources to provide academic materials to adolescents or may feel unable to assist adolescents with their home work due to limited time and knowledge (Hill et. al., 2004). Therefore, high SES parents may engage in more home based involvement than low SES parents. Further, low SES parents may either work multiple jobs or they may feel uncomfortable interacting with the teacher due to their lack of knowledge and hence may engage in less school based involvement than high SES parents (Wang & Sheikh-Khalil, 2013). Research also shows that high SES parents tend to have higher academic aspirations for their adolescents than

low SES parents (Hill & Taylor, 2004). Therefore, high SES parents may engage in more academic socialization than low SES parents.

H2c. During middle school and high school, parents will engage in more home based involvement and academic socialization for girls; however they will engage in more school based involvement for boys. Previous studies have shown parents to monitor their daughters more closely, even though they have more reasons to monitor the son (Svensson, 2003; Toren, 2013). Thus, these parents may provide more structure to their daughters than sons. In addition, parents may communicate more with female adolescents about the value of higher education and future careers (academic socialization), which may be due to parents' higher expectations of their daughters than sons because female adolescents tend to show higher academic achievement than male adolescents (Duckworth & Seligman, 2006). Parents may however, engage in more school based involvement for boys. Parents may be more involved at school for male adolescents because of more behavior problems displayed by boys (Aneshensel & Sucoff, 1996; Lahey et. al., 2000) or parents may be more interested in discussing future courses for their sons with the teacher, and therefore engage in more school based involvement for boys.

H3. No specific hypotheses for the association of neighborhood context with parental involvement were made; this research question is more exploratory in nature. Other than Furstenberg and colleagues (1999), no one has looked at how neighborhood structure (e.g. SES, resources) and social dynamics (e.g. informal social control) may influence parental involvement. Yet, other related literature offers potential insight to the relation between neighborhood characteristic and parental involvement in education.

Neighborhood disadvantage (i.e. presence of higher number of female headed households, higher unemployment rate) is related to depression in adults (Ross, 2000). Stress and depression caused by living in disadvantaged neighborhoods may further result in less home based involvement. Cohesion and trust and informal social control in the neighborhood may allow parents to be more relaxed and use an authoritative style of parenting (Leventhal et. al., 2009). Authoritative parents are considered to have expectations for achievement for their children and foster these demands through bidirectional communication (Spera, 2005). Hence, these parents may engage in higher levels of academic socialization of their adolescents. Thus, neighborhood cohesion and trust and informal social control may be positively associated with academic socialization. More neighborhood problems may cause some parents to feel unsafe while walking to the school and hence may result in less school based involvement.

## **Chapter 3**

### **Methods**

#### **Sample**

The sample for this study came from Maryland Adolescent Development in Context Study (MADICS) which was designed to study the influence of contexts on adolescent development (Eccles, 1997). A total of 1482 ethnically and socioeconomically diverse families from a county in Maryland participated in the study; the data was collected over 5 waves. For the current paper, we use data from only African American and European American families (N=1376). We use data from Waves 1 (beginning of 7<sup>th</sup> grade), 2 (end of 7<sup>th</sup> grade), 3 (8<sup>th</sup> grade) and 4 (11<sup>th</sup> grade). At waves 1, 3, and 4, caregivers and adolescents participated in a face to face interview and completed self-administered questionnaires. At wave 2 and wave 3, caregivers and adolescents also participated in a phone interview<sup>1</sup>. At Wave 1, 1376 African American and European American families were present. Approximately 72% of the families at Wave 3 (N=989) and Wave 4 (N=986) participated again. Of the 1376 caregivers present at Wave 1, approximately 92% were females. Primary caregivers were mostly mothers (87%); fathers (6%) and other family members (7%). Approximately, 66% of the caregivers were African American and 34% Caucasian. Of the adolescents that participated in the study, 51% were male. Adolescents ranged from 11 to 14 years of age ( $M=12.3$ ,  $SD=0.54$ ). Approximately 67% of the adolescents were African American and 33% Caucasian.

## Measures

### Family demographic variables

Demographic variables included primary caregiver's education level, marital status and family income. Their education level was assessed using the standard question "What is the highest grade you completed?" Parents reported a number corresponding to the number of years of education they completed. This variable was re-coded to record parent's level of education on a scale ranging from (1) less than high school to (5) post 4-year college education. Approximately 36% of the primary caregivers had graduated from high school at wave 1. Thirty percent of caregivers had some college experience; 15% had college degree and 12% had post college education. Marital status was assessed using the question "What's your current marital status?" Response options ranged from (1) married to (5) never married. Approximately 65% of the caregivers were married. Family income was assessed using the question "What was your total family income before taxes in 1990?" Response options ranged from (1) less than 5K to (16) more than 75K. The response range was re-coded to (1) less than 10K to (10) more than 70K. Approximately 21% of the caregivers reported their family incomes as more than 70K.

### Covariates

#### *Parent efficacy*

The Parent Efficacy scale was used to measure the extent to which parents felt efficacious in influencing their youth's academic outcomes. The scale consisted of 2 items -- "How effective do you feel you are in helping your 7<sup>th</sup> grader in math?" and "How effective do you feel you are in helping your 7<sup>th</sup> grader in other school subjects?" - on a 7 point scale from 1(not at all effective) to 7(very effective). On average, at wave

1, parents saw themselves as somewhat effective in helping their adolescents' with their academics ( $M = 4.94$ ,  $SD = 1.49$ ). This scale was included for only wave 1 and had good internal reliability ( $\alpha = 0.73$ ). Higher scores indicated more feelings of efficacy as reported by the caregivers.

## **Parent involvement variables**

### ***Caregiver perceptions***

#### *Parent communication with youth*

This scale was adapted from Philadelphia family management study (Furstenberg, 1992; Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999). It was used to measure the strategies that parents used for the academic socialization of their youth. The original scale consisted of 6 items and measured the frequency with which parents communicated with the youth about things like plans for the future and courses youth should take in school. Only 2 items were included from the scale to measure academic socialization, as they were available at all three waves. Primary caregivers reported their responses to questions like "My 7<sup>th</sup> grader and I talk about his/her plans for the future," on a 6 point scale ranging from 1 (almost never) to 6 (almost every day). This scale was available at waves 1, 3 and 4 and showed moderate internal reliability - wave 1 ( $\alpha = 0.78$ ), wave 3 ( $\alpha = 0.82$ ) and wave 4 ( $\alpha = 0.81$ ). On average, at wave 1, parents communicated with the youth about school at least 1 to 3 times a month ( $M = 3.12$ ,  $SD = 1.21$ ). Higher scores indicated greater parental use of academic socialization strategies with the youth.

#### *School involvement*

The measure on school involvement was used to determine the extent to which parents involved themselves in their adolescents' school and communicated with the

teachers. This measure consisted of 8 items and measured the frequency with which parents communicated with their adolescents' school. Only 3 items were included in this study to measure school based involvement. Primary caregivers reported their responses to "How many times did you attend a parent teacher conference?", "How many times did you contact the school about child?" and "How many times did you help out at school by doing things like going to school performances, helping with fund raising, etc.?" Primary caregivers reported a number in response to the question. A new variable was created that reported the mean of the responses to the three questions. This measure was present at waves 2, 3 and 4. On average, at wave 2, parents contacted school about 3 times in the given school year ( $M = 2.54$ ,  $SD = 2.22$ ). Higher scores indicated greater parental school based involvement.

### **Youth perceptions of parent involvement**

#### ***Youth's perception of parent involvement in schooling***

This scale was adapted from Philadelphia family management study (Furstenberg, 1992; Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999). This scale was used to measure youth's perception of parental home based involvement. The original scale had 4 items, but only 2 items were present at all three waves from which the data was used (i.e., waves 1, 3 and 4). Therefore, for the current study, only 2 items were used. Primary caregivers reported their responses to questions like, "how often did your parents help you with your school work?" on a 6 point scale from 1 (almost never) to 6 (almost every day). On average, at wave 1, youth reported that their parents used home based involvement strategies with them about once a week ( $M = 4.24$ ,  $SD = 1.55$ ). This scale was available at waves 1, 3 and 4 and demonstrated good internal reliability- wave

1( $\alpha = 0.77$ ), wave 3 ( $\alpha = 0.79$ ) and wave 4 ( $\alpha = 0.78$ ). Higher scores indicated greater perceived home involvement.

## **Parent SES predictors**

### ***Parent financial worries***

The Parent financial worries scale was used to measure parent's confidence in their job security. It was used as a measure of parent's SES. This scale consisted of 3 items. Primary caregivers reported their responses to questions like "How concerned are you that you may not be able to pay for the education or training your 7<sup>th</sup> grader may need to get a good job?" on a 5 point scale ranging from 1(not at all concerned) to 5(very concerned). On average, at wave 1, parents were somewhat concerned that they may not be able to provide for their child financially ( $M = 2.80$ ,  $SD = 1.24$ ). This scale was included for only wave 1 and had good internal reliability ( $\alpha = 0.84$ ). Higher scores indicated financial insecurity for the parents.

## **Neighborhood variables**

### ***Neighborhood problems***

The Neighborhood Problems measure was adapted from the Denver Youth Study (Elliott, Menard, Rankin, Elliott, Wilson and Huizinga, 2006) and included 15 items. This scale was used to measure the extent to which neighborhood problems existed. Primary caregivers reported their responses to questions like "How big of a problem is drug use or drug dealing in the open?" on a 3 point scale ranging from 1 (not a problem) to 3 (a big problem). On average, parents saw their neighborhood as somewhat problematic ( $M = 1.55$ ,  $SD = 0.58$ ). This scale was included for only wave 1 and demonstrated good

internal reliability ( $\alpha = 0.96$ ). Higher scores indicated that a given issue was a big problem in the neighborhood.

### ***Neighborhood efficacy responding to problems***

This 3 item scale measured informal social control in the neighborhood and was adapted from Sampson et al. (1997). Primary caregivers reported their responses to questions like “how likely is it that people in your neighborhood would do something if there was a fight in front of your house and someone was being beaten?” on a 4 point scale ranging from 1 (very unlikely) to 4 (very likely). On average, parents reported that their neighbors were likely to intervene if they saw a problem developing in the neighborhood ( $M = 3.30$ ,  $SD = 0.75$ ). This scale was included for only wave 1 and demonstrated good internal reliability ( $\alpha = 0.86$ ). Higher scores indicated that residents were more likely to engage in corrective behavior with adolescents.

### ***Neighborhood resources***

The measure on neighborhood resources was used to determine if institutional resources were present in the neighborhood. The original measure had 6 items. Four of the six items in the measure examined the presence or absence of resources that may be associated with adolescents’ academic outcomes. Therefore, only 4 items were included in the current study. Primary caregivers reported their responses to questions like “do you have after school recreational programs for children in your community?” by indicating either 1(yes) or 2 (no) for a given resource. A count of the number of resources present in the neighborhood was created. On average, at least 3 institutional resources were present in the neighborhood ( $M = 2.97$ ,  $SD = 1.36$ ). This measure was included for only wave 1. Higher scores indicated more neighborhood institutional resources.

### ***Neighborhood cohesion and trust***

The neighborhood cohesion and trust scale was adapted from the Denver Youth Study (Elliott, Menard, Rankin, Elliott, Huizinga, & Wilson, 2006). This scale was used to measure the extent to which people felt close to their neighbors and trusted them. The original measure had 8 items. Only 4 items were included for the purpose of this study. Primary caregivers reported their responses to questions like “This is a close knit neighborhood” on a 5 point scale ranging from 1 (strongly agree) to 5 (strongly disagree). In order to indicate higher levels of social support present in the neighborhood, items in the scale were reverse coded, such that 5 corresponded with “strongly agree”. On average, parents were ambivalent about the extent to which they felt close to their neighbors and could trust them ( $M = 3.37$ ,  $SD = 0.72$ ). This scale was included for only wave 1 and had good internal reliability ( $\alpha = 0.77$ ). Higher scores indicated that residents felt more connected to their neighbors and trusted them.

### ***Archival Neighborhood Data***

Census tract data from 1990 was used to create a scale to measure neighborhood disadvantage. Three variables, percent female headed household, percent unemployed in the civilian labor force and percent of families living below the poverty level were included to measure neighborhood disadvantage. Each of these indicators has been used in prior studies (Leventhal & Brooks-Gunn, 2000). On average, in the neighborhoods included in the study, 23% of the households were headed by females, 4% of the adults (16 years and older) were unemployed and 4% of the families lived below the federal poverty level. Data was available for 89% of the families that participated in the study. The scale had good internal reliability ( $\alpha = 0.87$ ). Each of the structural indicators was

standardized and a mean score, neighborhood disadvantage, was computed. Standardized scores (i.e. z-scores) ranged from -1.26 to 2.94.

## **Plan of analyses**

### **Descriptive analyses**

First, missing data analyses were performed at baseline (wave 1) to determine the degree of missingness in all study variables. We examined whether participants who were missing data differed from those who were not missing data based on important demographic information (e.g. race, income and financial worries). Next, we examined the attrition rate in subsequent waves and investigated any demographic differences in participants who completed measures at wave 1 (7<sup>th</sup> grade) but did not complete measures at wave 3 (8<sup>th</sup> grade) and/or wave 4 (11<sup>th</sup> grade). After investigating missingness in our data, mean and standard deviation of all scales were computed followed by an examination of mean differences in parental involvement and neighborhood variables by ethnicity. Further, correlation analyses were performed on all the scales. Next, we calculated Intraclass Correlation Coefficients (ICCs) to determine the proportion of between individual differences in parental involvement that could be explained by the neighborhoods parents lived in (e.g. census tract). ICCs for home (0.03) and school based (0.02) involvement and academic socialization (0.04) were relatively small and suggested that the proportion of variance attributable to between neighborhood differences was less than 5%. Because the variability in parental involvement due to neighborhoods was relatively small (Witherspoon & Ennett, 2012), we proceeded with multilevel modeling analysis using only 2 levels (i.e., time and individual) in SAS v.9.

## **Substantive analyses**

Multilevel modeling (MLM) (Raudenbush & Bryk, 2002) analyses were conducted using SAS Proc Mixed 9.6, with maximum likelihood estimation (Bryk & Raudenbush, 1992). The data was not multiply imputed before running the analyses, despite missing values, due to the robustness of multilevel modeling against missing data (Quené & Van den Bergh, 2004). Analyses for this study were conducted using a linear fit model, because the present study uses data from only three time points. In order to investigate any between person differences in parental involvement in middle school, unconditional means models were first estimated for home based involvement, school based involvement and academic socialization such that no predictors were added in the model. Intraclass correlation (ICC) analyses were performed to examine the proportion of variability in parental involvement that was due to between person differences.

To examine the change in the three parental involvement strategies over time (research question 1), unconditional growth models were estimated with time specified at level 1 (within person) and the individual (parent/ adolescent) specified at level 2 (between person). Adolescent's grade level was centered at 7<sup>th</sup> grade and then used as a measure of time. This model tested for fixed and random effects of intercept and time<sup>2</sup>.

Next, to examine if race, SES, and adolescents' gender affect parental involvement across middle and high school (research question 2), we first examined if these individual characteristics had any significant effect on initial levels of parental involvement (in 7<sup>th</sup> grade). We added race, adolescents' gender, income and financial worries (measures of SES), and parent efficacy (as control variable) in the conditional model as level 2 predictors. Race and gender were included as dichotomous variables

(0 = African American, 1 = Euro-American; 0 = male, 1 = female). Income, financial worries, and parental efficacy were grand mean centered. Models with home involvement as an outcome, included adolescents' race as a predictor, because adolescents' reports of home based involvement were used in the study. For models with school based involvement and academic socialization as the outcome variable, parents' race was used as a predictor, because parents' reports of school based involvement and academic socialization were used in the study. Further, to examine whether individual characteristics continued to have an effect on parental involvement across middle school and high school, the interactions of the individual characteristics with time were added in the model as level 2 predictors.

In order to examine the effects of neighborhood structure and social dynamics on parental involvement over time (research question 3), we first examined the effects of neighborhood variables on parental involvement at the initial level (7<sup>th</sup> grade). Neighborhood disadvantage, problems, cohesion and trust, informal social control and number of neighborhood resources were added as level 2 (between person) predictors, after adjusting for the effects of individual characteristics. Next, neighborhood variables' interactions with time were added as level 2 predictors to examine the effects of neighborhood variables on the rate of change of parental involvement to determine if the effect of each neighborhood variable on parental involvement at 7<sup>th</sup> grade varied over time.

## Chapter 4

### Results

#### Preliminary analyses

##### Missing data analyses

###### *Baseline*

We first examined the degree of missingness for all study variables at wave 1 (7<sup>th</sup> grade) and school involvement variable at wave 2 (end of 7<sup>th</sup> grade). Next, we examined whether participants who were missing data at baseline differed from those who were not missing data based on demographic information (e.g. race, income and financial worries). Minimal data were missing for neighborhood variables. Only 1 – 2% of the sample did not complete neighborhood measures. Census information was available for approximately 89% of the participants. There were no race differences between participants whose census information was not available and whose census information was available ( $\chi^2(1) = 1.42, ns$ ). However, people whose census information was missing reported significantly more income at wave 1 (7<sup>th</sup> grade) than people whose census information was available ( $t(1290) = -3.43, p < 0.05$ ). Minimal data was missing (i.e., 1-2%) for home based involvement and academic socialization. There were no significant race differences in adolescents who responded and did not respond to parents' home based involvement questions ( $\chi^2(1) = 0.293, ns$ ). Further, there were no race or financial worries differences in parents who responded and did not respond to academic socialization questions; however, responders and non-responders did differ based on income ( $t = 3.54, p < 0.01$ ) such that parents who did respond to academic socialization questions reported higher income than parents who did not respond. Data on school based

involvement questions was available for approximately 81% of the parents. There were significant race and income differences in parents who responded and who did not respond to school based involvement questions such that more European American parents responded to these questions than African American parents ( $\chi^2(1) = 6.83, p < 0.01$ ). Also, parents who did not respond to school involvement questions had significantly more income than parents who did respond ( $t = -3.43, p < 0.005$ ).

### *Attrition analyses*

Approximately 72% of the participants from wave 1 completed the data on home based involvement and academic socialization at wave 3 (8<sup>th</sup> grade). Parents who completed these measures at wave 3 had significantly more income at wave 1 than parents who did not complete ( $t(1290) = -2.23, p < 0.05$ ). However, there were no significant race differences. Approximately, 67% of the participants from wave 2 (baseline for school involvement measure) responded to questions on school based involvement at wave 3 (8<sup>th</sup> grade). There were significant race differences in participants who responded and who did not respond to school based involvement questions such that more African American parents did not respond to school based questions at wave 3 than European American parents ( $\chi^2 = 19.26, p < 0.001$ ). Also, parents who did not respond to school involvement questions at wave 3 had significantly less income and higher financial worries at wave 1 than parents who did respond ( $t_{(\text{income})} = 4.79, p > 0.001; t_{(\text{worries})} = -3.2, p < 0.005$ ).

At wave 4, approximately 67% of the participants from wave 1 completed the data on home based involvement and academic socialization. There were no significant race and income differences in participants who completed these measures and

participants who did not. Approximately 60% of the participants from wave 2 (baseline for school involvement measure) responded to questions on school based involvement at wave 4 (11<sup>th</sup> grade). There were no race or financial worries differences in participants who responded and participants who did not respond to school based involvement questions. However, there was a significant income difference in the participants who responded and did not respond to school based involvement questions such that parents who did not respond to school involvement questions had significantly less income at wave 1 than parents who did respond ( $t = 2.79, p < 0.05$ ).

### **Descriptive analyses**

Demographic characteristics of caregivers and adolescents are presented in Tables 4-1 and 4-2. The mean, standard deviations and reliability of each scale by ethnicity at Waves 1, 3, and 4 are presented in Tables 1 and 2 in the Appendix. The correlations between all scales are presented in Tables 3-6 in the Appendix.

Prior to examining the proposed research questions, descriptive and correlational analyses were performed to determine if all the variables used in the study were normally distributed. Parents' reports of school based involvement were highly skewed (i.e. skewness > 2). Therefore, log transformation was applied to school involvement variables. Next, mean differences in parental involvement by race and gender were examined.

At Wave 1 (7<sup>th</sup> grade), descriptive analyses showed that African American parents displayed significantly more home based involvement ( $t = 5.13, p < 0.001$ ) and academic socialization ( $t = 4.86, p < 0.001$ ) than European American parents. However, African American and European American parents displayed similar levels of school based

involvement in 7<sup>th</sup> grade ( $t = 1.11, p = 0.23$ ). Next, mean difference in home based involvement in 7<sup>th</sup> grade by adolescents' gender was significant ( $t = 4.67, p < 0.0001$ ) such that male adolescents perceived more home based involvement than female adolescents in 7<sup>th</sup> grade. However, parents reported similar levels of school based involvement and academic socialization for male and female adolescents in 7<sup>th</sup> grade ( $t_{(\text{school involvement})} = 1.32, p = 0.84$ );  $t_{(\text{academic socialization})} = -0.39, p = 0.70$ ). Further, mean differences in neighborhood variables were examined by parents' ethnicity. African American parents were significantly more likely to live in more disadvantaged neighborhoods ( $t = 20.13, p < 0.001$ ) and perceived more neighborhood problems than their European American counterparts ( $t = 4.19, p < 0.001$ ). Conversely, European American parents perceived significantly more informal social control and cohesion and trust in their neighborhood than African American parents ( $t_{(\text{informal social control})} = -3.60, p < 0.001$ ;  $t_{(\text{cohesion and trust})} = -4.33, p < 0.001$ ). Further, European American parents reported significantly more resources in their neighborhood than African American parents ( $t = -11.48, p < 0.0001$ ).

### **Correlational analyses**

Next, as expected, all study variables were correlated (See Appendix for Tables 3-6). Analyses showed that parent reported involvement types (i.e. home and school involvement and academic socialization) were positively intercorrelated. Across all three waves of data, neighborhood disadvantage was positively correlated with home based involvement ( $r_{\text{wave 1}} = 0.075$ ;  $r_{\text{wave 3}} = 0.157$ ;  $r_{\text{wave 4}} = 0.123$ ) and academic socialization ( $r_{\text{wave 1}} = 0.081$ ;  $r_{\text{wave 3}} = 0.107$ ;  $r_{\text{wave 4}} = 0.123$ ) and not correlated with school based involvement. Perceived neighborhood problems were positively correlated with academic socialization in 8<sup>th</sup> ( $r = 0.126$ ) and 11<sup>th</sup> grade ( $r = 0.080$ ). Neighborhood resources were

positively correlated with school based involvement in 7<sup>th</sup> grade ( $r = 0.071$ ) and negatively correlated with academic socialization in 8<sup>th</sup> ( $r = -0.101$ ) and 11<sup>th</sup> grade ( $r = -0.121$ ). Neighborhood cohesion and trust was positively associated with academic socialization in 7<sup>th</sup> grade ( $r = 0.054$ )

Table 4-1. Demographic Characteristics of Caregivers.

Variables	Percentage at Wave 1
<b>Parent Education</b>	
Less than High School Graduation	7.60%
High School Graduation	35.70%
Some College	29.60%
College Degree	14.70%
Post 4 Year College Education	12.40%
<b>Total Family Income</b>	
Less than 10K	5.25 (2.07)
Between 10K - 20K	3.3%
Between 20K - 30K	7.0%
Between 30K - 40K	13.0%
Between 40K - 50K	15.4%
Between 50K - 60K	14.9%
Between 60K- 70K	13.2%
More than 70K	12.6%
<b>Marital Status</b>	
Married	65.0%
Widowed	2.0%
Separated	9.5%
Divorced	14.6%
Never married	8.9%

Table 4-2. Demographic Characteristics of Adolescent and Caregivers.

Variables	Percentage at Wave 1
Adolescent Reported Ethnicity	
African American	66.8%
European American	33.2%
Adolescent Sex	
Male	51.2%
Female	48.8%
Age of youth	12.27
Parent Reported Ethnicity	
African American	65.6%
European American	34.4%
Primary caregiver Sex	
Male	7.1%
Female	92.9%

### **Multilevel modeling analyses**

Multilevel models for home based involvement, school based involvement, and academic socialization are presented in Tables 4-3 – 4-5.

#### **Unconditional means models**

To examine the proportion of variability in parental involvement due to between person differences, unconditional means models (Model 1; see Tables 4-3 – 4-5) were estimated. The variance components associated with the intercept of home based involvement, school based involvement and academic socialization were significant ( $b_{(\text{home based})}=0.639, p<0.0001$ ;  $b_{(\text{school based})}=0.038, p<0.0001$ ;  $b_{(\text{academic socialization})}=0.681, p<0.0001$ ) and indicated that parents differ from one another in average parental involvement. The ICCs showed that 23% of the variation in home based involvement,

26% of the variation in school based involvement and 45% of the variation in academic socialization was due to differences between parents.

### **Unconditional growth model**

After examining the proportion of parental involvement that could be explained by differences between parents, unconditional growth models (Model 2; see Tables 4-3 – 4-5) were analyzed to examine how home based involvement, school based involvement and academic socialization changed over time (research question 1). Time was used as a predictor of parental involvement. Results from the model for home based involvement showed that the average home based involvement in 7<sup>th</sup> grade, as reported by adolescents, was about once a week ( $b = 4.28, p < .001$ ). The average true linear rate of change in home based involvement across 7<sup>th</sup>, 8<sup>th</sup> and 11<sup>th</sup> grade decreased from about once a week in 7<sup>th</sup> grade to 1-3 times a month in 11<sup>th</sup> grade ( $b = -0.44, p < 0.001$ ; see Figure 4-1). On average, in 7<sup>th</sup> grade, parents were involved in school about twice during the academic year ( $b = 1.98, p < .001$ ). Also, the average true linear rate of change in school based involvement across 7<sup>th</sup>, 8<sup>th</sup> and 11<sup>th</sup> grade was  $-0.88, p < 0.001$ , indicating that on average, parental school based involvement decreased by a value 0.88 every year (see Figure 4-2). The average academic socialization in 7<sup>th</sup> grade was 3.18,  $p < 0.001$ , indicating that on average, parents engaged in academic socialization of their adolescents about 1 to 3 times a month. Also, the average true linear rate of change in academic socialization across 7<sup>th</sup>, 8<sup>th</sup> and 11<sup>th</sup> grade was 0.057,  $p < 0.001$ , suggesting that on average, parental academic socialization increased by a value of 0.057 every year<sup>3</sup> (see Figure 4-1).

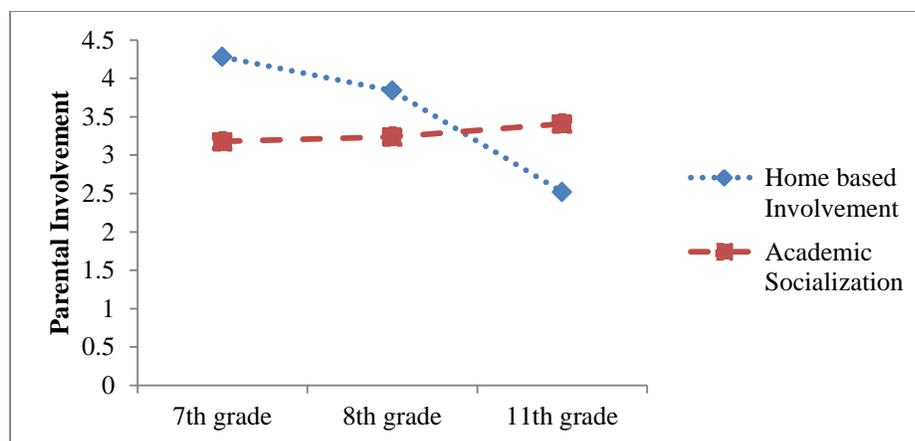


Figure 4-1. Trajectories of Home based Involvement and Academic Socialization across Middle School and High School.

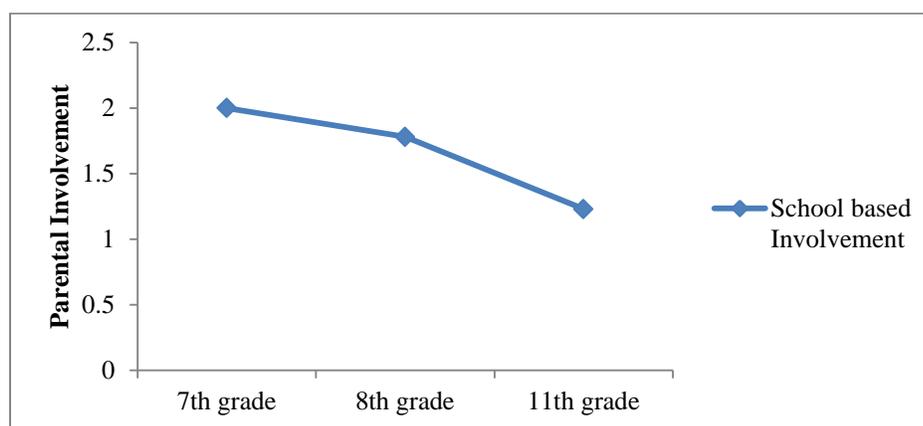


Figure 4-2. Trajectories of School based Involvement across Middle School and High School.

### **Effects of race, gender and SES on parental involvement across middle school and high school**

To determine if parental involvement strategies varied by race, gender, and SES across middle and high school (research question 2), individual difference characteristics (i.e. race, gender and SES) were first added in the conditional growth model (Model 3; see Tables 4-3 – 4-5) to examine their effects on parental involvement at the initial level (i.e. 7<sup>th</sup> grade). Next, the interactions of these individual characteristics were added in the conditional growth model (Model 4; see Tables 4-3 – 4-5) to examine if race, gender and

SES continued to have an effect on parental involvement across middle and high school and if these individual characteristics affected the rate of change of parental involvement over time. Below, additive findings from Model 3 and Model 4 are presented and should be interpreted as the effects of predictors on parental involvement after adjusting for other predictors (i.e., race, gender and SES) and parental efficacy as a control variable.

### ***Home based involvement***

Results from Model 3 (see Table 4-3) showed that, on average, African American adolescents reported higher initial levels of home based involvement than European American adolescents ( $b = -0.33, p < 0.0001$ ). The average initial level of home based involvement was significantly higher for male adolescents than female students ( $b = -0.40, p < 0.0001$ ). Further, adolescents' whose parents had below average income perceived more home based involvement in 7<sup>th</sup> grade than adolescents' whose parents had above average income ( $b = -0.037, p < 0.05$ ). Results from Model 4 (see Table 4-3) showed that, adolescents' race, gender and parents' income did not have a significant effect on the rate of change of home based involvement over time, suggesting that adolescents' race, gender and parent income differences in home based involvement at 7<sup>th</sup> grade remained the same across middle and high school.

### ***School based involvement***

Results from Model 3 (see Table 4-4) showed that parents' with more than average income engaged in more school based involvement in 7<sup>th</sup> grade than parents with less than average income ( $b = 0.011, p < 0.05$ ). On average, African American parents engaged in marginally more school based involvement than European American parents, in 7<sup>th</sup> grade ( $b = -0.03, p = 0.095$ ). Adolescents' gender and parents' financial worries did

not significantly predict school based involvement in 7<sup>th</sup> grade. Results from Model 4 (see Table 4-4) showed that parents' income and race did not have any significant effect on the rate of change of school based involvement, suggesting that income and race differences in school based involvement at 7<sup>th</sup> grade remained the same across middle school and high school.

### ***Academic socialization***

Results from Model 3 (see Table 4-5) showed that on average, African American parents reported higher initial levels of academic socialization than European American adolescents ( $b = -0.28, p < 0.0001$ ). The average initial levels of academic socialization were significantly higher for female adolescents as compared to male adolescents ( $b = 0.19, p < 0.001$ ), suggesting that parents engaged in more academic socialization of girls than boys in 7<sup>th</sup> grade. On average, parents with more financial worries reported higher initial levels of academic socialization than parents with less financial worries ( $b = 0.052, p < 0.05$ ).

Results from Model 4 (see Table 4-5) showed that adolescents' gender had a significant effect on the rate of change of academic socialization over time ( $b = 0.06, p < 0.01$ ; see Figure 4-3), suggesting that parents' academic socialization of female adolescents over time increased at a faster rate than academic socialization of male adolescents. Parents' race, income and financial worries did not have a significant effect on the rate of change of academic socialization over time.

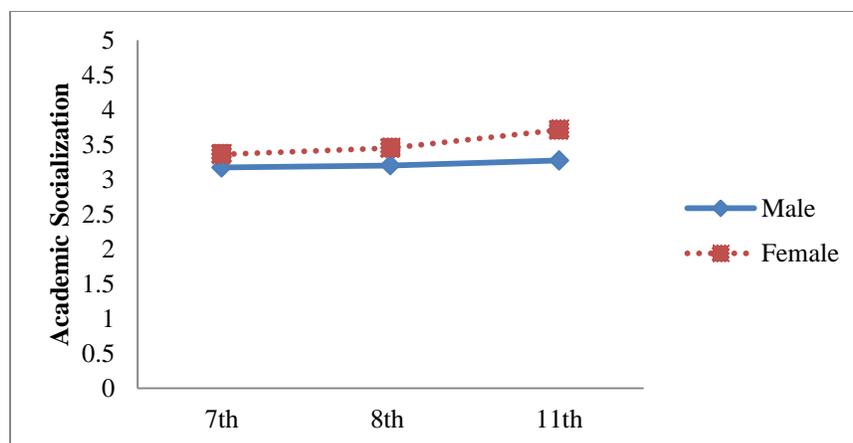


Figure 4-3. Gender Difference in Academic Socialization across Middle and High School.

### **Effects of neighborhood structure and social dynamics on parental involvement across middle school and high school**

To determine if neighborhood structure and social dynamics had any effect on parental involvement strategies across middle and high school (research question 3), neighborhood variables (neighborhood disadvantage, problems, cohesion and trust, informal social control and institutional resources) were added in the conditional growth model (Model 5; see Tables 4-3 – 4-5) to first examine the effects of neighborhood variables on parental involvement at 7<sup>th</sup> grade. Next, interactions of neighborhood variables with time were added in the conditional growth model (Model 6; see Tables 4-3 – 4-5) to examine if neighborhood structure and social dynamics continued to effect parental involvement across middle school and high school. Below, I present only the additive findings from Model 5 and Model 6. The interpretation of the effects of predictors on parental involvement is after adjusting for other predictors (neighborhood variables and individual characteristics) and parenting efficacy.

### *Home based involvement*

Results from Model 5 (see Table 4-3) showed that neighborhood disadvantage ( $b = 0.084, p = 0.055$ ) was marginally associated with adolescents' average perception of home based involvement in 7<sup>th</sup> grade (wave 1), suggesting that adolescents living in disadvantaged neighborhoods perceived marginally more home based involvement than adolescents living in relatively less disadvantaged neighborhoods. Neighborhood problems, informal social control, cohesion and trust and institutional resources were not significantly related to 7<sup>th</sup> grade home based involvement.

Results from Model 6 (see Table 4-3) showed that neighborhood resources had a significant effect on the rate of change of home based involvement over time ( $b = -0.023, p < 0.05$ ; see Figure 4-4), indicating that parents residing in neighborhoods with more resources showed steeper decline in home based involvement over time than parents living in neighborhoods with fewer resources. There were no other significant neighborhood effects on rate of change of home based involvement.

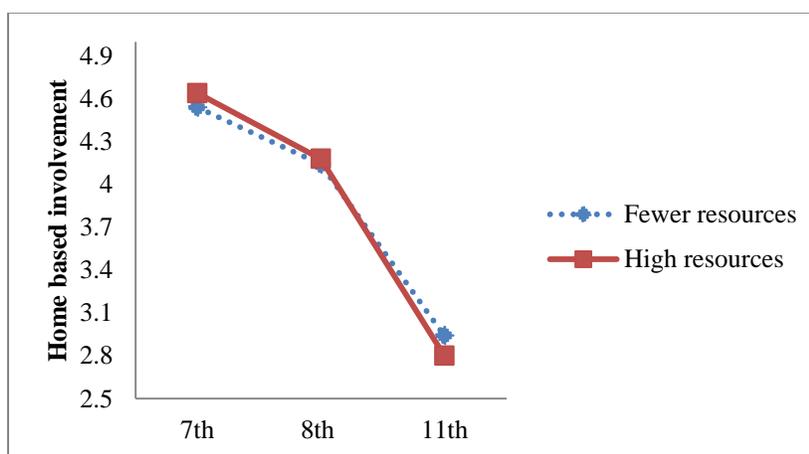


Figure 4-4. Differences in Home based Involvement across Middle and High School by Neighborhood Resources.

### ***School based involvement***

Results from Model 5 (see Table 4-4) showed that the number of resources in the neighborhood were significantly associated with average initial school based involvement ( $b = 0.029, p < 0.001$ ). In other words, parents residing in neighborhoods with more neighborhood resources showed more school based involvement at 7<sup>th</sup> grade. On average, neighborhood problems were marginally associated with average initial school based involvement ( $b = 0.030, p = 0.055$ ), suggesting that parents residing in more than average problematic neighborhoods engaged in marginally more school based involvement than parents residing in less than average problematic neighborhoods. Neighborhood disadvantage, informal social control and cohesion and trust were not significantly related to 7<sup>th</sup> grade school based involvement.

Results from Model 6 (see Table 4-4) showed that neighborhood informal social control marginally predicted the rate of change in school based involvement such that, parents living in neighborhoods with less collective regulation of adolescent behavior showed marginally steeper decline in school based involvement from middle school to high school ( $b = -0.012, p = 0.063$ ). Neighborhood disadvantage, problems, cohesion and trust and institutional resources did not have significant effects on the rate of change of school based involvement over time, after adjusting for the effects of individual characteristics on school based involvement.

### ***Academic socialization***

Results from Model 5 (see Table 4-5) showed that neighborhood problems were significantly associated with average initial academic socialization ( $b = 0.12, p < 0.05$ ). Thus, parents residing in neighborhoods with more than average problems reported using

significantly more academic socialization with their adolescents in 7<sup>th</sup> grade.

Neighborhood cohesion and trust was also significantly associated with average initial academic socialization ( $b = 0.089, p < 0.05$ ), suggesting that parents residing in more than average cohesive neighborhoods engaged in more academic socialization in 7<sup>th</sup> grade.

Neighborhood disadvantage was marginally associated with average initial academic socialization ( $b = 0.069, p = 0.081$ ) such that parents residing in more disadvantaged neighborhoods engaged in more academic socialization. Number of resources and informal social control were not significantly associated with 7<sup>th</sup> grade academic socialization.

Findings from Model 6 (see Table 4-5) showed that the number of resources available in a neighborhood significantly predicted the rate of change in academic socialization over time ( $b = -0.023, p < 0.05$ ; see Figure 4-5). This suggests that parents living in neighborhoods with fewer resources engaged in academic socialization at a faster rate over time than parents living in neighborhoods with more resources.

Neighborhood disadvantage, problems, cohesion and trust and informal social control did not have significant effects on the rate of change of academic socialization over time.

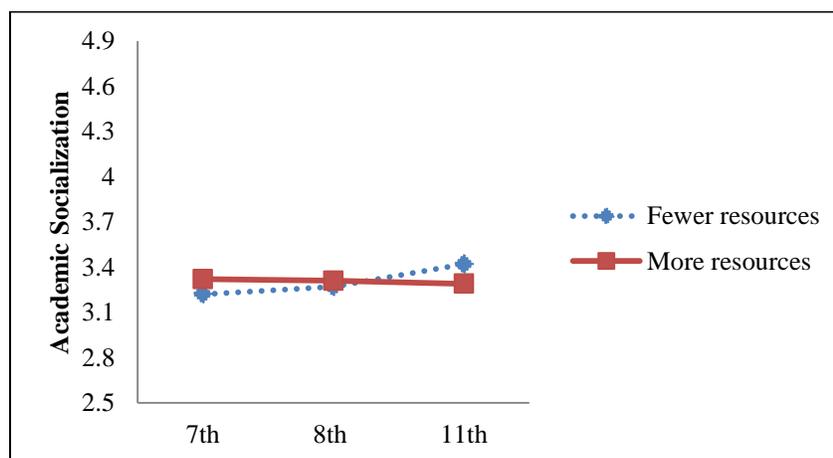


Figure 4-5. Differences in Academic Socialization across Middle and High School by Neighborhood Resources.

Table 4-3. Multilevel Models for Home based Involvement.

Parameters	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Fixed Effects</b>						
Intercept ( $\gamma_{00}$ )	3.68 (0.034)***	4.28 (0.039)***	4.60 (0.055)***	4.61 (0.061)***	4.57 (0.10)***	4.47 (0.12)***
Race ( $\gamma_{01}$ )			-0.33 (0.072)***	-0.33 (0.085)***	-0.31 (0.082)**	-0.32 (0.096)**
Sex ( $\gamma_{02}$ )			-0.40 (0.065)***	-0.42 (0.077)***	-0.41 (0.069)***	-0.42 (0.081)***
Financial Worries ( $\gamma_{03}$ )			0.038 (0.029)	0.048 (0.034)	0.039 (0.031)	0.036 (0.036)
Income ( $\gamma_{04}$ )			-0.037 (0.017)*	-0.030 (0.020)	-0.032 (0.020)	-0.032 (0.023)
Parent Efficacy ( $\gamma_{05}$ )			0.17 (0.022)***	0.19 (0.026)***	0.17 (0.024)***	0.21 (0.028)***
Neighborhood Disadvantage ( $\gamma_{06}$ )					0.084 (0.048) <sup>†</sup>	0.10 (0.057)*
Neighborhood Problems ( $\gamma_{07}$ )					0.0048 (0.064)	0.064 (0.076)
Cohesion and Trust ( $\gamma_{08}$ )					0.086 (0.054)	0.070 (0.064)
Informal Social Control ( $\gamma_{09}$ )					0.048 (0.051)	0.074 (0.060)
Institutional resources ( $\gamma_{10}$ )					0.0051 (0.029)	0.040 (0.034)
<b>Slopes</b>						
Intercept ( $\gamma_{10}$ )		-0.44 (0.013)***	-0.43 (0.013)***	-0.44 (0.021)***	-0.43 (0.014)***	-0.36 (0.042)*
Race ( $\gamma_{01}$ )				0.0036 (0.029)		0.0062 (0.033)
Sex ( $\gamma_{02}$ )				0.013 (0.026)		0.0035 (0.028)
Financial Worries ( $\gamma_{03}$ )				-0.0068 (0.012)		0.00085 (0.013)
Income ( $\gamma_{04}$ )				-0.012 (0.0073)		-0.00059 (0.0078)
Parent Efficacy ( $\gamma_{05}$ )				-0.016 (0.0091)		-0.020 (0.0096)*
Neighborhood Disadvantage ( $\gamma_{06}$ )						-0.013 (0.019)
Neighborhood Problems ( $\gamma_{07}$ )						-0.039 (0.027)
Cohesion and Trust ( $\gamma_{08}$ )						0.011 (0.022)

(table continues)

Parameters	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Slopes</b>						
Informal Social Control ( $\gamma_{09}$ )						-0.016 (0.021)
Institutional resources ( $\gamma_{10}$ )						-0.023 (0.012)*
<b>Random Effects</b>						
Level-1 effect ( $r_{ij}$ )	2.14 (0.068)***	1.23 (0.056)***	1.23 (0.057)***	1.23 (0.057)***	1.26 (0.062)***	1.26 (0.062)***
<b>Level-2 effects</b>						
Intercept ( $u_{0j}$ )	0.64 (0.065)***	1.19 (0.090)***	0.10 (0.086)***	0.99 (0.086)***	0.93 (0.090)***	0.93 (0.90)***
Slope ( $u_{1j}$ )		0.022 (0.010)*	0.022 (0.010)*	0.021 (0.010)*	0.018 (0.011)	0.015 (0.011)
Covariance ( $u_{0j}$ ) ( $u_{1j}$ )		-0.090 (0.024)**	-0.079 (0.024)**	-0.078 (0.023)**	-0.067 (0.025)**	-0.064 (0.025)*
<b>Deviance (-2LL)</b>	12592.6	11605.1	10724.1	10719.7	9623.0	9611.0
<b>AIC</b>	12598.6	11617.1	10746.1	10751.7	9655.0	9663.0
<b>BIC</b>	12614.3	11648.5	10802.7	10834.1	9735.7	9794.1

Note \*\*\*p < 0.001. \*\*p < 0.01. \*p < 0.05.

Table 4-4. Multilevel Models for School based Involvement

Parameters	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Fixed Effects</b>						
Intercept ( $\gamma_{00}$ )	0.22 (0.0084)***	0.30 (0.0097)***	0.32 (0.014)***	0.31 (0.016)***	0.23 (0.027)***	0.21 (0.032)***
Race ( $\gamma_{01}$ )			-0.031 (0.018) <sup>†</sup>	-0.024 (0.022)	-0.047 (0.021)*	-0.034 (0.025)
Sex ( $\gamma_{02}$ )			-0.020 (0.017)	-0.017 (0.020)	-0.017 (0.018)	-0.011 (0.021)
Financial Worries ( $\gamma_{03}$ )			-0.0020 (0.0074)	-0.0064 (0.0088)	-0.00066 (0.0080)	-0.0024 (0.0095)
Income ( $\gamma_{04}$ )			0.012 (0.0045)*	0.012 (0.0053)*	0.0082 (0.0051)	0.0080 (0.0057)
Parent Efficacy ( $\gamma_{05}$ )			0.023 (0.0058)***	0.025 (0.0068)**	0.026 (0.0061)***	0.030 (0.0072)***
Neighborhood Disadvantage ( $\gamma_{06}$ )					-0.0028 (0.012)	-0.0011 (0.015)
Neighborhood Problems ( $\gamma_{07}$ )					0.032 (0.017) <sup>†</sup>	0.034 (0.020) <sup>†</sup>
Cohesion and Trust ( $\gamma_{08}$ )					-0.017 (0.014)	-0.020 (0.017)
Informal Social Control ( $\gamma_{09}$ )					0.0091 (0.013)	0.025 (0.016)
Institutional resources ( $\gamma_{10}$ )					0.029 (0.0077)**	0.034 (0.0091)**
<b>Slopes</b>						
Intercept ( $\gamma_{10}$ )		-0.053 (0.0040)***	-0.052 (0.0041)***	-0.049 (0.0065)***	-0.056 (0.0042)***	-0.038 (0.012)
Race ( $\gamma_{01}$ )				-0.0055 (0.0090)		-0.0096 (0.010)
Sex ( $\gamma_{02}$ )				-0.0031 (0.0081)		-0.0047 (0.0084)
Financial Worries ( $\gamma_{03}$ )				0.0034 (0.0036)		0.0012 (0.0038)
Income ( $\gamma_{04}$ )				-0.00051 (0.0022)		0.000086 (0.0024)
Parent Efficacy ( $\gamma_{05}$ )				-0.0012 (0.0028)		-0.0036 (0.0029)
Neighborhood Disadvantage ( $\gamma_{06}$ )						-0.0014 (0.0057)

(table continues)

Parameters	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Slopes</b>						
Neighborhood Problems ( $\gamma_{07}$ )						-0.0017 (0.0080)
Cohesion and Trust ( $\gamma_{08}$ )						0.0025 (0.0066)
Informal Social Control ( $\gamma_{09}$ )						-0.012 (0.0064) <sup>†</sup>
Institutional resources ( $\gamma_{10}$ )						-0.0038 (0.0036)
<b>Random Effects</b>						
Level-1 effect ( $r_{ij}$ )	0.11 (0.0038)***	0.078 (0.0038)***	0.077 (0.0038)***	0.077 (0.0038)***	0.078 (0.0041)***	0.078 (0.0041)***
Level-2 effects						
Intercept ( $u_{0j}$ )	0.038 (0.0038)***	0.055 (0.0054)***	0.052 (0.0054)***	0.52 (0.0054)***	0.052 (0.0057)***	0.052 (0.0057)***
Slope ( $u_{1j}$ )		0.0045 (0.00085)***	0.0046 (0.00086)***	0.0046 (0.00086)***	0.0040 (0.00089)***	0.0038 (0.00088)***
Covariance ( $u_{0j}$ ) ( $u_{1j}$ )		-0.0055 (0.0018)*	-0.0055 (0.0018)**	-0.0054 (0.0018)**	-0.0053 (0.0018)**	-0.0049 (0.0018)*
<b>Deviance (-2LL)</b>	2514.2	2271.3	2076.1	2073.7	1848.0	1838.3
<b>AIC</b>	2520.2	2283.3	2098.1	2105.7	1880.0	1890.3
<b>BIC</b>	2535.9	2314.7	2154.7	2188.1	1960.7	2021.4

Note \*\*\*p < 0.001. \*\*p < 0.01. \*p < 0.05.

Table 4-5. Multilevel Models for Academic Socialization.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Fixed Effects</b>						
Intercept ( $\gamma_{00}$ )	3.26 (0.028)***	3.18 (0.031)***	3.17 (0.045)***	3.22 (0.048)***	3.17 (0.086)***	3.14 (0.096)***
Race ( $\gamma_{01}$ )			-0.28 (0.060)***	-0.28 (0.067)***	-0.28 (0.068)***	-0.32 (0.076)**
Sex ( $\gamma_{02}$ )			0.19 (0.054)**	0.010 (0.061) <sup>†</sup>	0.16 (0.057)*	0.066 (0.064)
Financial Worries ( $\gamma_{03}$ )			0.052 (0.024)*	0.049 (0.027) <sup>†</sup>	0.021 (0.026)	0.018 (0.029)
Income ( $\gamma_{04}$ )			-0.0087 (0.014)	-0.0023 (0.016)	-0.0054 (0.016)	-0.0048 (0.018)
Parent Efficacy ( $\gamma_{05}$ )			0.14 (0.019)***	0.16 (0.021)***	0.14 (0.020)***	0.16 (0.022)***
Neighborhood Disadvantage ( $\gamma_{06}$ )					0.069 (0.040) <sup>†</sup>	0.078 (0.045) <sup>†</sup>
Neighborhood Problems ( $\gamma_{07}$ )					0.12 (0.053)*	0.12 (0.060)*
Cohesion and Trust ( $\gamma_{08}$ )					0.089 (0.045)*	0.095 (0.050) <sup>†</sup>
Informal Social Control ( $\gamma_{09}$ )					-0.0033 (0.042)	0.0028 (0.048)
Institutional resources ( $\gamma_{10}$ )					0.0073 (0.024)	0.036 (0.027)
<b>Slopes</b>						
Intercept ( $\gamma_{10}$ )		0.057 (0.010)***	0.059 (0.010)***	0.026 (0.016)	0.061 (0.011)***	0.084 (0.033)*
Race ( $\gamma_{01}$ )				0.0068 (0.023)		0.028 (0.026)
Sex ( $\gamma_{02}$ )				0.062 (0.021)**		0.067 (0.022)**
Financial Worries ( $\gamma_{03}$ )				0.0015 (0.0091)		0.0011 (0.0098)
Income ( $\gamma_{04}$ )				-0.0047 (0.0054)		-0.00041 (0.0061)
Parent Efficacy ( $\gamma_{05}$ )				-0.015 (0.0072)		-0.014 (0.0075) <sup>†</sup>
Neighborhood Disadvantage ( $\gamma_{06}$ )						-0.0080 (0.015)
Neighborhood Problems ( $\gamma_{07}$ )						-0.0070 (0.021)
Cohesion and Trust ( $\gamma_{08}$ )						-0.0041 (0.017)
Informal Social Control ( $\gamma_{09}$ )						-0.0049 (0.016)

*(table continues)*

Parameters	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Slopes</b>						
Institutional resources ( $\gamma_{10}$ )						-0.021 (0.0093)*
<b>Random Effects</b>						
Level-1 effect ( $r_{ij}$ )	0.82 (0.026)***	0.73 (0.033)***	0.71 (0.033)***	0.71 (0.033)***	0.73 (0.038)***	0.73 (0.036)***
Level-2 effects						
Intercept ( $u_{0j}$ )	0.68(0.042)***	0.78 (0.056)***	0.67 (0.053)***	0.67 (0.053)***	0.62 (0.056)***	0.62 (0.055)***
Slope ( $u_{1j}$ )		0.020 (0.0063)**	0.018 (0.0062)**	0.018 (0.0062)**	0.013 (0.0066)*	0.013 (0.0066)*
Covariance ( $u_{0j}$ ) ( $u_{1j}$ )		-0.039 (0.015)*	-0.032 (0.014)*	-0.033 (0.015)*	-0.022 (0.015)	-0.022 (0.015)
<b>Deviance (-2LL)</b>	10173.6	10129.2	9340.7	9324.7	8375.8	8352.4
<b>AIC</b>	10179.6	10141.2	9362.7	9356.7	8407.8	8404.4
<b>BIC</b>	10195.3	10172.6	9419.4	9439.1	8488.5	8535.5

Note \*\*\*p < 0.001. \*\*p < 0.01. \*p < 0.05.

## **Chapter 5**

### **Discussion**

Several studies have examined parental involvement in adolescents' education in middle school and high school, but most have done that using cross-sectional research designs. Longitudinal studies on parental involvement have been less studied. Cross-sectional studies on parental involvement in middle and high school have shown that some parental involvement strategies that were often used in middle school may not be used as often by parents in high school. For example, parents may provide structure and supervision to their adolescents in middle school (Hill & Tyson, 2009; McGill et. al., 2011), but in high school, parents may reduce their daily level of supervision and instead show interest in understanding learning opportunities provided by the school (Catsambis, 2001; Stone, 2006). Parents may change their involvement strategies with time to meet the growing autonomy needs of adolescents. Further, parents may use different involvement strategies based on their race, SES, adolescents' gender as well as the neighborhood they live in. Previous studies have shown individual characteristics like race and SES to be associated with parental involvement at home and school (Eccles, 1996; Hayes, 2011; Hill, 2011; Hill et. al., 2004; Yonezawa, 2000); however, little is known about how these individual characteristics may influence academic socialization in both middle and high school. Also, little is known about gender differences in parental involvement across middle and high school. Further, the neighborhood context has been shown to influence parental warmth and monitoring behavior (Byrnes & Miller, 2012; Dearing, 2004; Leventhal et. al., 2009). However, we have limited knowledge of the impact neighborhood context may have on parental involvement in both middle and high school.

The present study examined trajectories of home based involvement, school based involvement, and academic socialization across middle and high school, as well as explored differences in these trajectories by race, SES, adolescents' gender and neighborhood context. Overall, the results showed significant changes in parental involvement across middle school and high school. As expected, results showed race differences in home based involvement and academic socialization. Unexpected findings were observed for race differences in school based involvement. Further, as expected, results showed differences in school based involvement by parents' SES; however, unexpected SES differences were observed in home based involvement and academic socialization. Results also revealed unexpected differences in home based and school based involvement by adolescents' gender; however, the findings for gender differences in academic socialization were expected. In addition, results showed differences in parental involvement by neighborhood context. Below, I begin with a discussion of trajectories of parental involvement and how these changes are affected by individual (i.e., race, gender, and SES) and contextual (i.e., neighborhood structure and social dynamics) characteristics. Following this discussion, I highlight the strengths and limitations of the current study as well as future directions for scholarly work on parental involvement and adolescent development.

### **Trajectories of parental involvement across middle and high school**

Examination of parental involvement trajectories across middle and high school showed that as expected, adolescents' perceptions of parental home based involvement declined over time. Also, parents' reported a decline in school based involvement across middle and high school. In contrast, parents' reported similar levels of academic

socialization as adolescents' moved from middle school to high school. The results for home based and school based involvement are consistent with findings of Catsambis and Garland's (1991) report.

The decline in home based involvement across middle and high school may be due to adolescents' increasing demand for autonomy from their parents (Gutman & Midgley, 2000; Hill & Chao, 2009). By giving adolescents more autonomy, parents may reduce their level of academic help and allow adolescents to regulate their academic behaviors or only assist when asked. Further, adolescents often indicate that they do not want to be seen with their parents at school (Collins & Laursen, 2004). Parents may grant adolescents more autonomy by reducing their school contact during middle and high school. Parents may also reduce their school based involvement over time due to limited opportunities to form any meaningful relationships with teachers, as parents in middle and high school are more likely to volunteer for activities like bake sales or fund raising (Hill & Tyson, 2009).

Unlike school based involvement which may require relationship building with teachers and home based involvement that involves direct supervision of adolescents' academic activities, academic socialization requires parent-adolescent communication that focuses on future goal orientation and the value of education. Academic socialization provides adolescents the autonomy they need and helps them make academic decisions independently (Hill & Tyson, 2009). This strategy provides adolescents' the confidence in their ability to succeed in school which in turn is positively associated with adolescents' academic engagement and achievement (Wang & Eccles, 2012; Wang & Sheikh-Khalil, 2013). Thus, parents may continue to engage in academic socialization over time as it increases adolescents' academic self-efficacy and provides them with psychological

support which helps them to perform well in school (Wang & Sheikh-Khalil, 2013) and thus increase their probability of getting a higher education.

Taken together, these findings highlight the importance of examining different dimensions of parental involvement in adolescents' education and suggest that not all forms of parental involvement decline beyond elementary school. Home based and school based involvement decline across middle and high school; however, parents continue to engage in academic socialization during middle and high school.

### **Effects of social position on parental involvement**

Further, change in parental involvement varied by race, SES, and gender (social position variables), as was suggested by the Integrative model (Garcia - Coll et. al., 1996). Overall, findings for the effects of race, SES and adolescents' gender on home based involvement, school based involvement and academic socialization were mixed.

### **Effects of race on parental involvement**

The data in this study revealed that African American parents engaged in more home based involvement and academic socialization than European American parents, across middle and high school. These results extend the findings of Wang and Sheikh-Khalil's (2013) study that examined race differences in parental home based involvement and academic socialization of high school adolescents. Our data also revealed that African American parents' engaged in marginally more school based involvement than European American parents, which is inconsistent with the findings of some previous studies that showed African American parents to be less engaged in school based involvement than European American parents (Eccles et. al., 1996; Wang & Sheikh-Khalil, 2013).

Race differences in parental involvement may be observed due to African American adolescents' and parents' different experiences with the school system. Some research shows that teachers tend to hold negative stereotypes about the intellectual ability of African American adolescents (Bobo, 2001; McKnown & Weinstein, 2008). These negative stereotypes may lead teachers to have lower expectations of African American adolescents than European American adolescents (Tenenbaum & Ruck, 2007) which can be internalized by the students and in turn have a negative impact on adolescents' academic performance and engagement levels (Neblett, Philip, Cogburn & Sellers, 2006; Weinstein, Gregory & Strambler, 2004). To challenge these negative stereotypes and protect adolescents from the negative effects of lower teacher expectations, African American parents may choose to engage in more home based involvement by providing structure and academic help to keep their adolescents focused on their education so as to boost adolescents' confidence and convey the importance of education and school work (Hill, Tyson & Bromell, 2009). Also, African American parents may engage in more academic socialization than European American parents to help their adolescents develop a positive view of themselves, value education and increase their academic engagement and performance (Cooper & Smalls, 2009). In addition, due to mistrust of the school system, African American parents may attend more parent teacher conferences and volunteer more than European American parents' at school, to monitor the activities of school and teachers (Lareau, 2003; Hill et. al., 2004) as well as to show their commitment to education (Hill & Tyson, 2009) throughout middle school and high school.

### **Effects of parents' SES on parental involvement**

Along with race, parents' SES was also associated with parental involvement across the middle and high school years. High SES parents were found to be engaged in more school based involvement and less home based involvement and academic socialization, as compared to low SES parents. More specifically, parents with above average income (high SES) were more engaged in school based involvement and less engaged in home based involvement, as compared to parents with below average income (low SES). Also, parents with more than average financial worries (low SES) were engaged in more academic socialization than parents with less than average financial worries (high SES). Multiple assessments of SES (income and financial worries) were used to examine the unique effects of these assessments on parental involvement as researchers argue that stress caused by financial strains, such as not being able to provide enough for the family, may affect developmental outcomes more than parents' income (Oakes & Rossi, 2003; Hill & Witherspoon, 2012).

Parents with above average income (high SES) showed more engagement in school based involvement as they may be more efficacious in their interactions with teachers and school authorities. They may also be more effective in advocating the academic needs of their children as compared to parents with below average income (Lareau, 2003; Yonezawa, 2000). Low SES parents may feel uncomfortable in interacting with the teachers due to a lack of knowledge and competence (Jordan & Plank, 2000; Wang & Sheikh-Khalil, 2013), may have less information about school's expectations of the parents and hence engage in less school based involvement (Hill et. al., 2004; Yonezawa, 2000). In contrast, as compared to high SES parents, low SES parents may provide more structure at

home to their adolescents as well as engage in more discussions about future education, to make up for low school based involvement. Low SES parents may also provide more academic supervision than high SES parents as they may be more likely to live in disadvantaged neighborhoods (Furstenberg et. al., 1999) where it might be easy for adolescents to come in contact with deviant peers, if they are not monitored by their parents, and show reduced academic achievement (Leventhal & Brooks-Gunn, 2010). Therefore, to keep their adolescents from engaging in deviant activities, low SES parents may engage in more home based involvement than high SES parents. In addition, low SES parents may also be more likely to live in neighborhoods that lack institutional resources and adequate role models for their adolescents. Thus, low SES parents may feel a greater need to communicate educational values and future goals (academic socialization) to their adolescents than high SES parents. Also, low SES parents may be more worried about their adolescents' future and want their adolescents to do better than them. These parents may therefore engage in more communication, with their adolescents, that emphasizes the value of education, importance of future success and the need for upward mobility (Hill et. al., 2004). Along with race and parents' SES, parental involvement also varied with adolescents' gender.

### **Effects of adolescents' gender on parental involvement**

Consistent with the findings of Sui-Chu and Willms (1996), our study found gender differences in parental involvement across middle and high school such that parents of boys engaged in less home based involvement and academic socialization, as compared to parents of girls. However, parents engaged in similar level of school based involvement for both boys and girls. Our findings also showed that as adolescents moved across middle

and high school, parents increased their use of academic socialization at a faster rate for female adolescents than for male adolescents.

Parents may engage in more home based involvement for boys than for girls as boys are more likely to show lower academic achievement (Dwyer & Johnson, 1997; Hyde, Fennema & Lemon, 1990; Pomerantz, Altermatt & Saxon, 2002) and are at a higher risk of dropping out of high school (National Center for Education Statistics, 2010). Parents are likely to be aware of these academic risks for boys and therefore, may provide boys with more structure at home to keep them away from deviant behaviors and help them succeed in school. In contrast, due to the awareness of girls' likelihood of performing better than boys (Pomerantz, Altermatt & Saxon, 2002), parents may have higher expectations of female adolescents to gain higher education and enter the job market, and thus may engage in more academic socialization of female adolescents than male adolescents. Gender differences in academic socialization may also be due to changing gender norms in society, such as women gaining educational opportunities and entering the workforce. Parents may also have non- traditional gender roles for their adolescents and thus may prepare female adolescents for higher education as well as future jobs, more than male adolescents.

Despite parents' awareness of high academic risk for boys as well as high academic expectations of girls, parents may be equally concerned about their boys and girls academic performance and therefore, may engage in similar levels of school based involvement, for boys and girls, to get to know their teachers and learn about adolescents' performance in school by attending parent teacher conferences and volunteering at school. It is also possible that there may be some gender differences in school based involvement (Carter &

Wojtkiewicz, 2000) that we could not capture in this study because of the types of questions we chose to measure school based involvement.

Overall, the findings showed individual differences in parental involvement such that parents' involvement in adolescents' education varied with parents'/ adolescents' race, parents' SES and adolescents' gender. Further, income and financial worries (measures of SES) were also associated differently with parental involvement.

### **Effects of neighborhood structure and social dynamics on parental involvement**

Along with understanding the effects of individual differences on parental involvement, we were interested in examining how neighborhood structure (disadvantage and institutional resources) and social dynamics (neighborhood problems, cohesion and trust and informal social control) were associated with parental involvement in middle and high school. Findings of our study showed that the presence of institutional resources was associated with parental school based involvement across middle and high school. It was also associated with the rate at which home based involvement and academic socialization changed over time. In contrast, neighborhood disadvantage was not associated with any form of parental involvement. Further, neighborhood social dynamics (problems and cohesion and trust) were associated with only academic socialization across middle and high school.

Institutional resources, like YMCA and after school programs, in a neighborhood may not only provide positive interactions and academic assistance to adolescents (Quane & Rankin, 2006), they may also provide a supportive platform for parents to gain information (Leventhal & Brooks-Gunn, 2000) in order to help their adolescents' perform well in school. They may guide and encourage parents to contact teachers, attend

conferences and volunteer at school to promote adolescents' academic success.

Alternatively, low SES parents may be more likely to reside in neighborhoods with fewer resources. Low SES parents may perceive themselves as less academically competent, may feel hesitant to interact with teachers and school officials (Wang & Sheikh-Khalil, 2013), and hence engage in less school based involvement. The absence of resources or the presence of fewer resources in a neighborhood along with less parental supervision in high school may put adolescents' at a greater risk of engaging in delinquent behaviors (Biglan et. al., 1990; Gottfredson et. al., 2002), than adolescents living in neighborhoods with more resources. Therefore, parents living in neighborhoods with fewer resources may engage in academic socialization at a faster rate over time, to prevent their adolescents from engaging in delinquent behaviors and possibly dropping out of high school. In contrast, adolescents living in neighborhoods with more resources are likely to be enrolled in these institutions (Furstenberg et. al, 1999) that may help adolescents increase their aspirations and develop skills to succeed and improve their academic performance (Quane & Rankin, 2006). As a result, parents living in neighborhoods with more institutional resources may rely on these resources to academically socialize their adolescents, and may not feel the need to further engage in academic socialization, as adolescents approach their final year of school.

Parents' living in neighborhoods with more institutional resources may also rely on the adults working at these institutions to provide homework help to their adolescent.

Therefore, these parents may show a faster decline in home based involvement over time than parents' living in neighborhoods with fewer institutional resources.

Along with the presence of institutional resources in a neighborhood, neighborhood social dynamics may also influence parental involvement strategies. Our findings showed

that neighborhood cohesion and trust and problems were not associated with parental home based and school based involvement; however, they were positively associated with academic socialization. With adolescents' growing need for autonomy, parents' may engage in less direct forms of home based involvement and reduce their school based involvement, irrespective of the social dynamics of the neighborhood they live in. However, the extent to which they engage in academic socialization, a developmentally appropriate strategy of involvement, may depend on parents' perception of their neighborhood. Parents living in more cohesive neighborhoods may feel connected to other residents (Sampson, 2003). Also, residents in a cohesive neighborhood may monitor the behavior of adolescents in the neighborhood (Simons et. al., 2005). Therefore, parents living in neighborhoods with high cohesion and trust may engage in parenting styles that are less restrictive and may show more warmth towards their adolescents (Simons et. al., 2005). They may feel efficacious in providing academic assistance to their adolescents and may place emphasis on future orientation (Klebanov et. al., 1997; Pratt, Turner, Piquero, 2004). Parents living in more cohesive neighborhoods also tend to have higher expectations of their adolescents (Spera, 2005), as a result of which, they may engage in more academic socialization of their adolescents, than parents' living in less cohesive neighborhoods. Further, parents residing in more problematic neighborhoods may also engage in more academic socialization as they may constantly worry about their adolescents' safety, exposure to negative role models (Brooks-Gunn, Duncan, et. al., 1993; Furstenberg, 1993) and its' effects on adolescents' academic performance. Communicating about goals and values of higher education (academic socialization) may motivate these adolescents living in problematic neighborhoods to do well in school and eventually help them move out of

the neighborhood. Unlike neighborhood social dynamics, the objective measure of neighborhood context (neighborhood disadvantage) was not associated with any form of parental involvement. It is possible that neighborhood perceptions mediated the effects of neighborhood disadvantage on parental involvement, and hence our findings did not reveal any relationship between neighborhood disadvantage and parental involvement.

## Chapter 6

### Conclusion

Taken together, this study showed that it is important to see parental involvement as a multidimensional construct, as each dimension of parental involvement changes differently across middle school and high school. Next, this study provides evidence for the Integrative model (Garcia -Coll et. al., 1996) that suggests that parenting processes (i.e. parental involvement), that are associated with adolescents' developmental competencies (e.g. academic achievement and engagement) may vary with one's race, SES, and gender. Even though previous studies have examined race and SES differences in home based and school based involvement, there was a dearth of knowledge on race and SES differences in academic socialization, an important and developmentally appropriate aspect of parental involvement in middle and high school education. In addition to individual differences, this study highlighted how parental involvement in adolescents' education may vary with parent's neighborhood context. Parental involvement is an aspect of parenting behavior which has been shown to be associated with adolescents' academic outcomes (Fan & Williams, 2010; Wang & Sheikh-Khalil, 2013). As parental involvement may depend on the context in which it occurs (Bronfenbrenner, 1977), it was important to understand how neighborhood structure and social dynamics are associated with parental involvement. Previous studies have examined the effects of neighborhood context on parenting styles (i.e. authoritative vs. authoritarian parenting) (Quane & Rankin, 2006); however, little is known about the association between neighborhood context and parental involvement in adolescents' education. The findings revealed that neighborhood structure (e.g. institutional resources) was associated with all three types of parental involvement whereas

neighborhood social dynamics (e.g. neighborhood problems and cohesion and trust) were associated with only academic socialization. This study is one of the first studies to examine the association of both neighborhood structure and social dynamics with a developmentally appropriate model of parental involvement in post-elementary school education.

## Chapter 7

### Limitations and Future Directions

Several limitations should be considered when interpreting the findings of this study. One limitation concerns the time points at which the data was available to examine developmental changes in parental involvement across middle school and high school. As the data on parental involvement was available at only 3 time points (7<sup>th</sup>, 8<sup>th</sup> and 11<sup>th</sup> grade); we could only examine changes in parental involvement from 7<sup>th</sup> to 8<sup>th</sup> to 11<sup>th</sup> grade. Our findings do not suggest how parents may involve themselves in their adolescents' education between 8<sup>th</sup> and 11<sup>th</sup> grade. By not examining the time period between 8<sup>th</sup> and 11<sup>th</sup> grade, we might miss an important developmental period, when most adolescents transition to high school. To make the transition easier for adolescents, it is possible that parents may engage in parental involvement strategies that may change by the time adolescents are in 11<sup>th</sup> grade. Findings from previous studies, examining changes in parental involvement in high school, indicate that parents continue to change their parental involvement strategies as adolescents move through high school (i.e. 9<sup>th</sup> – 12<sup>th</sup> grade) (Paulson & Sputa, 1996), thus suggesting that findings of the present study indicate only the linear change in parental involvement between middle school and high school and that these findings should not be used to interpret gradual changes in parental involvement across middle school and high school. Future longitudinal studies should include parental involvement at at-least 4 time points between middle school and high school to examine quadratic changes, if any, in parental involvement trajectories.

Next, our focus on only two racial groups (European Americans and African Americans) in this study may limit the generalizability of our findings to other ethnic groups, especially Hispanic and Asian immigrants. Due to cultural differences, immigrant

parents may adopt different parental involvement strategies than European American and African American parents. Parents of immigrant adolescents may not be familiar with the school system in the US as well as teachers' expectations of parents. They may believe in maintaining a respectful distance from the teachers at school and see academic development of their adolescent as a function of the school (Carrasquillo & London, 1993; Pena, 2000). As a result, these parents may show less school based involvement than European American and African American parents. In addition, some parents may face language barriers (Bauch, 1993; Pena, 2000). It is possible that language barriers may prevent parents from becoming involved at home (e.g. helping with homework) as well as school (e.g. attending parent teacher conference). Therefore, future studies should examine parental involvement in immigrant families in both middle school and high school and see how it changes over time.

Another limitation that concerns the generalizability of our findings is the locally based sample of our study. The sample for our study came from a relatively diverse (racial and SES) county in Maryland and thus may not be representative of most European American and African American families geographical landscape. Yet, our sample included families from different socio economic backgrounds and structures (i.e. single parent, married, separated, divorced, widowed). Families in our study also came from diverse SES neighborhoods. For these reasons, we believe that our findings are generalizable to other African American and European American families residing outside Maryland. However, future studies should examine changes in parental involvement and effects of cultural and contextual variables on parental involvement in samples that are more representative of US families. Our analyses for examining the association of cultural

and contextual variables with parental involvement were by no means exhaustive. Along with one's social position and neighborhood context, cultural and contextual variables like experiences with discrimination in school settings and the quality of relationships with teachers would have helped us better understand the race differences in parental involvement. Previous studies suggest that parents' previous experiences of discrimination with the school system may keep African American parents from being involved in schools. In contrast, we suggested, that parents' own experiences of discrimination with the school system may influence African American parents academic involvement such that they may increase their level of parental involvement in adolescents' education to show schools their commitment to education and also motivate the adolescents to perform well in school (Hill, Tyson, & Bromell, 2009). However, because all these studies, including the present study, have used an inferred ethnic correlates model (Phinney & Landin, 1998) to understand race differences in parental involvement, it's not clear how experiences of discrimination are actually associated with parental involvement. Future studies should use a measured ethnic correlates model (Phinney & Landin, 1998) by including cultural and contextual factors like discrimination and quality of relationship with teachers, and examining their relations with parental involvement for African American and European American parents. This may help us advance our knowledge of why parental involvement in middle and high school varies by race and/or SES.

Besides addressing the limitations of this study, future studies should also be conducted to extend the findings of the present study. Our study showed mixed findings for the association between neighborhood context and parental involvement. Further, both neighborhood context and parental involvement have been shown to be associated with

adolescents' academic outcomes. Studies have shown adolescents' residing in high SES neighborhoods to have higher GPAs as well as higher high school completion rate (Ainsworth, 2002; Boyle et. al., 2007). Adolescents' academic outcomes like academic achievement in middle and high school have been shown to be associated with high levels of social cohesion in neighborhoods (Witherspoon & Ennet, 2011; Wooley et al., 2008). Mixed findings have been reported for the effects of parental involvement on adolescents' outcomes such that some studies have shown positive effects of home and school based involvement on adolescents' academic outcomes (Fan & Williams, 2001; Wang & Sheikh-Khalil, 2013) , while others have shown negative or inconsistent effects (Fan & Chen, 2001; Hill & Tyson, 2009; Chen & Gregory, 2010). These findings point to a possibility of two routes by which neighborhood context, parental involvement, and youth academic outcomes are interconnected. First, the neighborhood context may moderate the relationship between parental involvement and academic outcomes such that this relation differs depending on demographic and social characteristics of the neighborhoods in which families reside. Second, it is also possible that parental involvement mediates the relationship between neighborhood context and academic outcomes such that, the direct association between neighborhood context and academic outcomes diminishes when parenting behaviors are introduced in the model. Future studies should test these two possible models and determine the most appropriate model (i.e., mediation or a moderation) to describe the role of the neighborhood and parenting context in the academic outcomes.

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### Footnotes

<sup>1</sup>Questions for school involvement at Wave 1 examined parental involvement when the adolescents were in 6<sup>th</sup> grade. However, in the current study, we are interested in parental school involvement at 7<sup>th</sup>, 8<sup>th</sup> and 11<sup>th</sup> grade. Data for parental school involvement for 7<sup>th</sup> grade was available at Wave 2, which was collected via phone interview during the summer right after adolescents' 7<sup>th</sup> grade. Thus, data at Wave 2 was only used to measure parental school involvement in 7<sup>th</sup> grade.

<sup>2</sup> To explore any possible non-linear changes in parental involvement over time, ancillary analyses were performed that included a quadratic term. Unconditional models were estimated to examine if a linear or quadratic trajectory best approximated the data. Unconditional models estimating a linear trajectory included "time" as a level 1 (within person) predictor, whereas unconditional models estimating a quadratic trajectory included "time" and "time\*time" as level 1 (within person) predictors. To determine which of the trajectories best fit the model, the unconditional growth models were compared using the Bayesian Information Criterion (BIC) statistic. BIC compares nested as well as non nested models by penalizing the log likelihood statistic for excesses in the structure of a given model. It accounts for the number of parameters in the model as well as the sample size (Kuha, 2004; Witherspoon & Ennett, 2010).

<sup>3</sup> Exploratory analyses were conducted to compare the linear and curvilinear unconditional growth models of parental involvement. Linear and quadratic models with fixed components as "time" and "time\*time" respectively and random components as intercept and slope were tested for each type of parental involvement. Linear and quadratic models obtained for each involvement strategy were then compared using the BIC fit statistic. A difference of 3 or more points between BIC statistics of the two models is

considered significant; models with smaller values are considered to have a better fit (Rafferty, 1995; Witherspoon & Ennett, 2011). Based on this, we found that there was no significant differences between the linear and quadratic models for home based involvement (linear BIC = 11648.5; quadratic BIC = 11649.6). However, the quadratic model was a better fit for school based involvement (linear BIC = 1740.0; quadratic BIC = 1708.0) and academic socialization (linear BIC = 10172.6; quadratic BIC = 10156.5).

## Appendix

## Tables

Table 1. Descriptive Statistics and Reliability of Caregiver and Adolescent reported Parent Involvement Scales by Ethnicity.

Scale	African American			European American		
	n	M (SD)	$\alpha$	n	M (SD)	$\alpha$
Home Involvement - Youth						
Wave 1	914	4.40 (1.53)	0.76	456	3.94 (1.53)	0.78
Wave 3	660	4.10 (1.52)	0.80	337	3.56 (1.44)	0.77
Wave 4	619	2.65 (1.49)	0.84	310	2.28 (1.25)	0.79
Academic Socialization - Parent						
Wave 1	893	3.24 (1.26)	0.77	469	2.92 (1.08)	0.79
Wave 3	644	3.50 (1.29)	0.82	350	3.06 (1.09)	0.83
Wave 4	614	3.54 (1.30)	0.82	322	3.12 (0.99)	0.70
School Involvement - Parent						
Wave 2	721	2.59 (2.31)	–	405	2.42 (2.08)	–
Wave 3	578	2.80 (2.48)	–	358	2.45 (1.99)	–
Wave 4	543	1.85 (2.05)	–	275	1.70 (2.05)	–

*Note.* School involvement was measured using open ended questions.

Table 2. Descriptive Statistics of Neighborhood Measures by Ethnicity (7<sup>th</sup> grade).

Measure	African American		European American	
	n	M (SD)	n	M (SD)
Neighborhood Problems	897	1.59 (.62)	471	1.46 (.49)
Informal Social Control	889	3.24 (.75)	470	3.40 (.74)
Neighborhood Cohesion and Trust	892	3.31 (.71)	470	3.48 (.73)
Number of Resources	909	2.70 (1.43)	476	2.47 (1.02)
Neighborhood Disadvantage	819	0.27 (0.94)	419	-0.53 (0.46)

Table 3. Correlations between Parent Involvement Scales.

Measure	1	2	3	4	5	6	7	8	9
1. HI_Y 7 <sup>th</sup> grade	--								
2. HI_Y 8 <sup>th</sup> grade	.465**	--							
3. HI_Y 11 <sup>th</sup> grade	.353**	.396**	--						
4. SI_P 7 <sup>th</sup> grade	.125**	.089**	.079*	--					
5. SI_P 8 <sup>th</sup> grade	.110**	.131**	.050	.424**	--				
6. SI_P 11 <sup>th</sup> grade	.115**	.130**	.151**	.240**	.262**	--			
7. AS_P 7 <sup>th</sup> grade	.092**	.125**	.101**	.120**	.123**	.075*	--		
8. AS_P 8 <sup>th</sup> grade	.105**	.110**	.140**	.069*	.090*	.114**	.505**	--	
9. AS_P 11 <sup>th</sup> grade	.107**	.096**	.193**	.076*	.171**	.120**	.377**	.513**	--

*Note.* HI\_Y refers to youth reported home based involvement, SI\_P refers to parent reported school based involvement and AS\_P refers to parent reported academic socialization.

\*\*p < 0.01 level.

\*p < 0.05 level

Table 4. Correlations between Youth Reported Home based Involvement and Neighborhood Variables.

Measure	1	2	3	4	5	6	7	8
1. HI_Y 7 <sup>th</sup> grade	--							
2. HI_Y 8 <sup>th</sup> grade	.465**	--						
3. HI_Y 11 <sup>th</sup> grade	.353**	.396**	--					
4. Neighborhood Problems	.044	.052	-.011	--				
5. Informal social control	.041	-.004	.004	-.132**	--			
6. Cohesion and Trust	.037	.055	.050	-.207**	.384**	--		
7. Neighborhood Disadvantage	.075**	.157**	.071*	.249**	-.187**	-.244**	--	
8. Number of Resources	-.021	-.059	-.076*	-.167**	.175**	.216**	-.347**	--

Note. HI\_Y refers to youth reported home based involvement.

\*\*p < 0.01 level.

\*p < 0.05 level.

Table 5. Correlations between Parent Reported School based Involvement and Neighborhood Variables.

Measure	1	2	3	4	5	6	7	8
1. SI_P 7 <sup>th</sup> grade	--							
2. SI_P 8 <sup>th</sup> grade	.315**	--						
3. SI_P 11 <sup>th</sup> grade	.127**	.175**	--					
4. Neighborhood Problems	.036	.021	.010	--				
5. Informal Social Control	-.007	.028	-.012	-.132**	--			
6. Cohesion and Trust	-.031	-.059	.053	-.207**	.384**	--		
7. Neighborhood Disadvantage	.025	.009	-.006	.249**	-.187**	-.244**	--	
8. Number of Resources	.071*	.012	.040	-.167**	.175**	.216**	-.347**	--

Note. SI\_P refers to parent reported school based involvement.

\*\*p < 0.01 level.

\*p < 0.05 level.

Table 6. Correlations between Parent reported Academic Socialization and Neighborhood Variable.

Measure	1	2	3	4	5	6	7	8
1. AS_P 7 <sup>th</sup> grade	--							
2. AS_P 8 <sup>th</sup> grade	.505**	--						
3. AS_P 11 <sup>th</sup> grade	.377**	.513**	--					
4. Neighborhood Problems	.047	.126**	.080*	--				
5. Informal social control	.019	-.019	.031	-.132**	1			
6. Cohesion and Trust	.054*	.023	.044	-.207**	.384**	--		
7. Neighborhood Disadvantage	.081**	.107**	.123**	.249**	-.187**	-.244**	--	
8. Number of Resources Present	.010	-.101**	-.121**	-.167**	.175**	.216**	-.347**	--

Note. AS\_P refers to parent reported academic socialization.

\*\* p < 0.01 level.

\*p < 0.05 level.