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# Examining School-Based Sport, Parental Involvement, and College-Preparedness Among U.S. Public High School Students: A Path-Analytic Assessment

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UNIVERSITY OF MIAMI

EXAMINING SCHOOL-BASED SPORT, PARENTAL INVOLVEMENT, AND  
COLLEGE-PREPAREDNESS AMONG U.S. PUBLIC HIGH SCHOOL STUDENTS: A  
PATH-ANALYTIC ASSESSMENT

By

Simone T. O'Bryan

A DISSERTATION

Submitted to the Faculty  
of the University of Miami  
in partial fulfillment of the requirements for  
the degree of Doctor of Philosophy

Coral Gables, Florida

August 2010

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Examining School-Based Sport, Parental Involvement,  
And College-Preparedness Among U.S. Public High  
School Students: A Path-Analytic Assessment

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Abstract of a dissertation at the University of Miami.

Dissertation supervised by Professor Jomills Braddock.

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Using data from the Education Longitudinal Study of 2002 (ELS:2002), this study extends research on school-based athletic participation and youth development. First, a conceptual model was developed to assess the impact of 10<sup>th</sup> grade school-based athletic participation and 10<sup>th</sup> grade parental involvement, along with other known correlates of academic success, on the college preparedness of high school seniors attending public high schools. The primary dependent variable, college preparedness, is the factor score of whether a student applied to college, sought college entrance information from a variety of sources, took the SAT or ACT college entrance exam, as well as the student's standardized math test score. College preparedness is thus a composite of both math academic achievement and active college-preparatory behaviors. Multiple regression analyses (standardized beta coefficients) and structural equations models were performed to assess the direct, indirect, and total effects of each of the variables in the causal model. Separate analyses were conducted for the full study sample, males, and females. The findings from the current study indicate that parental involvement remains meaningful for older adolescents and that participation in school-based interscholastic sports generates parental social capital, particularly in the school sphere. The parents of student athletes

were significantly more involved in their adolescents' schools than the parents of non-athletes. This study also examined the differential effect of parent-student gender and parental involvement. The findings did not reveal a same-sex gender advantage with regard to PI. The findings of the current study also provide further empirical evidence that participation in interscholastic athletics does not deter students from the academic mission of schools. Varsity sport participation was shown to be a significant (positive) independent predictor of college preparedness (across groups). The findings of the current study also revealed significant positive associations between parental involvement and college preparedness. For the full study sample, high parental aspirations, positive parent-initiated school communication, and parental school involvement were all significant positive predictors of college preparedness among high school seniors. The findings from the gender analyses, however, suggest student gender may moderate the effect of PI on college preparedness. The findings of this study also revealed that the total causal effect of varsity sport participation on college preparedness is largely direct. Future research should now examine other potential mediators of athletic participation and student academic success.

## DEDICATION

*“A chick that will grow into a cock [hen] can be spotted the very day it hatches.”*

---- African Proverb

*“The moon moves slowly, but it crosses the town.”*

---- African Proverb

I dedicate this dissertation to my parents and to my ancestors, with whom my father now walks among. As I ventured on this long journey, it was your collective strength and prayers that pulled me through. Thank you for believing in me when my confidence and faith faltered.



## ACKNOWLEDGEMENTS

As one of the African proverbs on my dedication page intimates, the journey to the completion of this dissertation has been a long one, with a myriad of twists and turns, obstacles, roadblocks, and setbacks. This accomplishment would not be possible without the lessons instilled in me from my parents, which they inherited from their ancestors. To that end, I would like to thank my parents, Deacon George Travis, Jr. and Joyce Chester, for teaching by example and for always having faith in my abilities. I have learned valuable lessons from each of you that I apply to every aspect of my life. Mom, as I stated in my thesis, you are the epitome of grace, beauty, style, elegance, class, intelligence, hard work, professionalism, and fairness. You have managed to preserve each of these traits despite the hardships of life that often accompany the passage of the time. Dad, March 4, 2009, is a day that will be etched in my memory forever because it is on that day that you left the physical world to walk among our ancestors in the metaphysical realm. As I write these acknowledgements, with tears in my eyes (but not in my heart because I know you will always walk with me), I am struck by the sheer inadequacy of written and verbal communication. I thank you for all you have given me, but I especially thank you for your quiet, spiritual strength and your joy for life in the midst of trials, tribulations, family tragedies, and failing health. It is that example (set by you and mom) that allowed me to overcome the barrage of obstacles encountered on this journey.

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# CHAPTER I

## INTRODUCTION

### **Statement of the Problem**

The relationship between involvement in school-sponsored athletics and academic performance among secondary school students continues to generate considerable debate, despite the fact that reviewers have consistently noted a positive association between athletic participation and educational attainment (Braddock, 1980, 1981; Taylor & Chiogioji, 1988; Trent, 1982; Trent & Braddock, 1992). Most of the literature on this topic (Braddock, 1982; Broh, 2002; Crosnoe, 2001a; Dawkins, 1982; Dawkins & Braddock, 1982; Guest & Schneider, 2003; Harris & Hunt, 1982; Hanson & Kraus, 1998, 1999; Hawkins, 2005; Jordan, 1999; Marsh & Kleitman, 2003; Perry-Burney & Takyi, 2002; Picou, 1978; Trent & Braddock, 1992) report that sport participation is positively associated with a variety of pro-academic outcomes. Even though most empirical studies suggest that participation in school-sponsored athletics results in positive pro-academic and pro-social behaviors, sport participation has generally not been included in models examining parental educational involvement, which has also been demonstrated to increase the academic success of students (for rare exceptions see Broh, 2002; O'Bryan, Braddock & Dawkins, 2006; Stewart, 2007).

Similarly, the empirical evidence generally indicates a positive effect of parental involvement on student achievement (Crosnoe, 2001b; Hawkins, Amato, & King, 2007; Muller, 1998; Pong, Hao & Gardner, 2005; Thompson, Gorin, Obeidat, & Chen, 2006; Witt, Hannafin, & Martens, 1983). However, since research in this area is typically conducted among elementary school populations (Reynolds, 1989, 1992; Scott-Jones,

1987; Sy, Rowley, & Schulenberg, 2007; Wu & Qi, 2006) or middle school-aged children (Archer-Banks & Behar-Horenstein, 2008; Epstein, 1991; Harris, Furstenberg, & Marmer, 1998; Keith & Lichtman, 1994; Keith, Keith, Troutman, Bickley, Trivette, & Singh, 1993; Kim, 2002; McNeal, 1999; Ream & Palardy, 2008; Sing, Bickley, Trivette, Keith, Keith, & Anderson, 1995), the positive effects of involvement among high school students are not as consistently documented. Nevertheless, a few studies that have examined parental involvement among high school students have also found that parental involvement is significant among this age group, as well (Broh, 2002; Fehrmann, Keith, & Reimers, 1987; O'Bryan & Braddock, 1999; O'Bryan, et al., 2006; Song & Glick, 2004; Thompson et al., 2006). Strong parental involvement has been found to result in improved educational outcomes and student academic achievement (Broh, 2002; Carpenter & Ramirez, 2007; Crosnoe, 2001b; Fehrmann et al., 1987; Jeynes, 2005; Song & Glick, 2004; Thompson et al., 2006).

However, parental involvement has generally not been examined within the context of sport. A few empirical studies do suggest that participation in school-sponsored activities in general (and school-based sport in particular) may be an overlooked and underutilized resource in fostering increased social capital in the form of parental involvement (Broh, 2002; O'Bryan, 2000; O'Bryan & Braddock, 1999; O'Bryan et al., 2006).

### **Purpose of the Study**

Extending this line of research (O'Bryan, 2000; O'Bryan & Braddock, 1999; O'Bryan et al., 2006), this study examines parental involvement among high school students using current, nationally representative data. This study examines whether



school-based athletic participation serves as a useful domain in which to study parental involvement by estimating the direct and indirect effects of sport participation and parental involvement on college preparedness.

The purpose of the current study is to develop and empirically test a conceptual model assessing the impact of school-based athletic participation, parental involvement, and other correlates of academic success, on college preparedness. This research addresses three questions: (1) Does the level of parental involvement around educational matters differ among parents with children involved in school-sponsored varsity sports activities and among parents whose children are not involved in school-based varsity sport? (2) Does prior athletic involvement affect college preparedness among high school seniors? (3) Does parental involvement around educational matters mediate the effect of school-based sport participation on college preparedness? Thus, the study seeks to extend the current theoretical conceptions and empirical knowledge regarding parental involvement, athletic involvement, and adolescent development by examining parental involvement within the context of adolescent athletic participation.

Few empirical investigations of parental involvement have examined the independent effects of parent *and* student gender on academic achievement (Hickman, Greenwood, & Miller, 1995; Trusty, 1996). Thus, the unique contribution of fathers to the subsequent social, emotional, and cognitive development of their children is not well documented in the research literature (Parke, 1995). The relatively scarce literature on this topic indicates that within the family, the roles of fathers and mothers are dissimilar. Additionally, the nature and extent of parent-child interactions also vary according to the gender of both the parent and the child (Bogenschneider, 1997; Harris et al., 1998; Lamb,

1981, 1997; Lee, Kushner, & Cho, 2007; Muller, 1998; Parke, 1995). Therefore, in addition to examining parental educational involvement within the context of sport, this study examines parent-child interactions among cross-sex (father-daughter, mother-son) and same-sex (father-son, mother-daughter) patterns of parental involvement.

### **Chapter Summary and Overview of Remaining Chapters**

Chapter One has presented a general statement of the problem and the purpose and rationale for the current investigation. Chapter Two presents the background and review of the relevant research literature. Chapter Three discusses the theoretical underpinnings of the study and presents the study's conceptual framework. Chapter Four describes the methodology, including the data, sample, and measurement of variables from the conceptual framework employed. Chapter Five reports the results of the multivariate data analyses. Finally, Chapter Six provides a summary and discussion of the empirical findings and their policy implications. Limitations of the current study, as well as directions for future research are also discussed.

## CHAPTER II

### BACKGROUND AND LITERATURE REVIEW

The importance of parents in cultivating and nurturing **college preparedness** in young people gained increased national attention with the enactment of the “No Child Left Behind” Act. Nevertheless, researchers have long acknowledged the importance of parental involvement in promoting positive educational outcomes for children (Epstein, 1987; Fan, 2001; Fan & Chen, 2001; Fehrmann et al., 1987; Jeynes, 2003, 2005; Lareau, 1987; Lee et al., 2007; Ream & Palardy, 2008; Scott-Jones, 1984; Stevenson & Baker, 1987). The role of parents in the academic success of their children continues to garner the interest of academicians, educators, school reformists, and policy-makers alike. Many of these constituencies seek reliable strategies to reduce the achievement-gap between white America and the nation’s impoverished and minority populations, while simultaneously attempting to assuage growing concerns over producing a skilled workforce capable of competing in an ever-growing global market.

Researchers have argued that developing effective strategies to increase parental involvement (PI) is a vital component in fostering academic success (Epstein, 1995; Hara, 1998; Lareau, 1989). Extant research literature also documents the positive benefits of PI on a diverse array of youth development outcomes. For example, empirical studies have revealed a significant effect of parental involvement on the reduction of various forms of adolescent delinquency (Hoffmann & Dufur, 2008), including early onset sexual activity (Velez-Pastrana, Gonzalez-Rodriguez & Borges-Hernandez, 2005).

More importantly, perhaps, with regard to academic outcomes and behaviors, the empirical evidence suggests that parental involvement fosters positive attitudes toward school, improves homework habits, reduces absenteeism, reduces the likelihood of students dropping out, and enhances academic achievement (Astone & McLanahan, 1991; Epstein, 1987; Fehrmann et al., 1987; Lareau, 1987; Stevenson & Baker, 1987).

Although the importance of the family on the academic success of youth has been recognized through empirical research and at the federal and state levels through the enactment of legislation aimed specifically at increasing PI (Education Commission of the States, 2005; Stedman, 1994; Trotman, 2001), school-based athletic participation has generally not been included in the discourse on developing effective strategies geared towards fostering, nurturing, and improving the involvement of parents in their children's educational lives. Since these school-sponsored sport activities are spheres of the total school experience, they act as a connection between the adolescent subculture within schools. As a result of the wide appeal and interest of sport for both parents and their children, participation in school-based sport may foster increased interactions between adolescents and their parents around educational matters. Athletic involvement in schools may then positively affect educational outcomes for secondary school students, both directly and indirectly, through increased parental involvement. This study extends research on this topic by examining student participation in varsity sport, parental educational involvement, and college preparedness.

### **School-Based Sport as a Context for Adolescent Development**

Despite the efforts of some school reformists, school-based sport remains a pervasive and prominent feature of American high schools. Using data from the National

Educational Longitudinal Study (NELS: 88), nationally representative data collected on schools and students, Braddock (2005) demonstrated the wide availability of participation in interscholastic sport. Interscholastic (varsity) sport was available in 82% of middle schools and 98% of high schools. Opportunities to participate in intramural sport, on the other hand, were made available in 72% of middle schools and 56% of high schools.

In addition to providing opportunities for participation in sport, athletic programs in middle and high schools involve a significant number of students (Braddock, 2005). According to tabulations from NELS:88, 66% of males and 54% of females in the middle grades report active participation in school-based varsity sport. Even at the high school level, a broad-based interest in varsity sport via participation remains among high school sophomores (males 57% and females 38%). Similar patterns emerge even with more recent national data, the Education Longitudinal Study of 2002 (ELS:2002). According to these data, over half (55%) of sophomores report involvement in school-based sport (National Center for Education Statistics, 2005), with males reporting higher rates of participation than females (61% and 49% respectively).

Not only are a significant number of adolescents actively participating in school-based interscholastic sport, they also value sports activities as important and meaningful. For example, tabulations from NELS:88 reveal that high school students perceive that playing sports is important among their friends (Braddock, 2005). Among males, 81% of sophomores and 71% of seniors report that their friends think it is important to play sports. Among females, 66% of sophomores and 50% of high school seniors share the same sentiment. Additionally, these data reveal that adolescents value and revere athletes

by holding them in high esteem. Specifically, among sophomores, 49% of males and 34% of females report having athletes as role models.

The settings in which extracurricular activities (including sport) occur serve as a domain, a potential safe haven if you will, to act out the various developmental roles of adolescence. It has been purported that participation in organized sports provides opportunities for adolescent socialization (Braddock, 2005; Spady, 1970), identity formation, and the development of social and human capital (Braddock, 2005). Identity formation is a dynamic process that occurs during the development and acquisition of skill sets and through interaction with significant others. As adolescents navigate these processes, they are also determining their unique preferences and establishing their individuality (Eccles & Barber, 1999). The time commitment and investment necessary for varsity athletic participation not only structures what these student-athletes do with their time outside of the classroom, but it also provides additional opportunities for them to develop positive social networks with adult mentors and peers who share similar values (Kahne, Nagaoka, Brown, O'Brien, Quinn, & Thiede, 2001; McNeal, 1999; Patrick, Ryan, Alfeld-Liro, Fredricks, Hruda, & Eccles, 1999). Thus, school-based sport participation has the potential to generate social capital by providing additional opportunities for its participants to interact and form mentoring relationships with coaches and other adults (parents, school staff, and community members) who are supportive of these activities (Dworkin, Larson, & Hansen, 2003; Smith, 2003). The formation of social capital may in turn improve student engagement of athletes to the school, increasing their likelihood of academic success (Lamborn, Brown, Mounts, & Steinberg, 1992).

### **Patterns of Parental Involvement**

Data from the National Education Longitudinal Study (NELS) reveals that there are variations in both the levels and types of parental educational involvement (U.S. Department of Education, 1992). For example, in 1988, most parents (79%) reported regularly discussing current school experiences with their eighth grade children. On the other hand, parent's discussions with their eighth grade children about their high school plans and their post-secondary school plans were considerably lower (47% and 38% respectively). Among African American parents in particular, the amount of discussions around current school experiences was comparable to the overall averages, with 75% reporting they regularly discussed current school experiences with their eighth graders. Interestingly, however, African American parents reported higher levels of involvement with regard to their children's future educational plans. Specifically, 58% of African American parents reported discussing high school plans regularly with their children, while 51% reported regularly discussing post-secondary plans with their children.

Researchers have identified a number of factors that have been consistently demonstrated to influence levels of parental involvement. Research suggests the differential effect of parent gender, race/ethnicity, family socioeconomic status, parent educational attainment, student gender, student age, and household composition. Specifically, the literature suggests that white, married females (Leitch & Tangri, 1988; Moles, 1987), with higher incomes and higher educational attainment (Moles, 1987; Stevenson & Baker, 1987) are the most highly involved parents. In addition, parents tend to exhibit higher levels of educational involvement with their daughters than with their

sons (Crosnoe, 2001b; Jeynes, 2005; Ho Sui-Chu & Willms, 1996). With regard to household composition, single parents have been found to exhibit more PI in at-home aspects of their children's schooling, while married parents tend to exhibit higher levels of parental school involvement (Epstein, 1987).

Since children are more inclined to seek the approval of peers as they progress through adolescence, it is not surprising that PI tends to decrease as children transition through school (Epstein, 1987, 1990; Stevenson & Baker, 1987; Wallace & Fisher, 2007; Zill & Nord, 1994). The declining involvement of parents in their children's schooling as they transition from elementary to high school may be due in part to the parents' belief that their active involvement becomes less beneficial as their children age. Additionally, as children move into adolescence, they may discourage the active participation of their parents in their schooling experiences as they attempt to form autonomous identities separate from the identities shaped through the socialization practices of their parents. Lower parental involvement among older students in general, and high school students in particular, may be the result of structural impediments in the form of fewer opportunities for school participation as children move from primary to secondary schools (Stevenson & Baker, 1987).

In addition to background factors, socio-psychological characteristics of parents have also been purported to differentially affect levels of parental involvement. There is some evidence to suggest that PI is higher among parents who are confident that they can be of assistance to their children (Eccles & Harold, 1996). According to Sy, Rowley, and Schulenberg (2007), the beliefs parents that hold about early education influence the ways in which they become involved in the educational lives of their children. High



parental involvement also seems to be influenced by parents' perceptions of their children's academic abilities and parental educational aspirations. Parents exhibit higher levels of involvement if they believe their children have the cognitive capabilities to perform well in school and if they have high educational aspirations for their children. Variations in PI have also been attributed to school characteristics. For example, parental involvement tends to be higher in smaller schools and in private schools (Zill & Nord, 1994). African American students, however, are over-represented in urban, public schools, which are larger, on average, than schools located in suburban areas (U.S. Department of Education, 1996).

### **Patterns of Parental Involvement by Parent Gender**

Reports based on data from the National Household Education Survey of 1996 describe the distinctive patterns of parental involvement among mothers and fathers (Nord, Brimhall, & West, 1997). In two-parent households, 30% of fathers were highly involved in elementary schools, compared with 25% in middle schools and 23% in high schools. On the other hand, mothers were considerably more highly involved in their children's schools at each grade level (68% were highly involved in elementary school, 51% in middle school, and 39% in high school). Taking household composition into account, 53% of single fathers were highly involved in elementary and middle schools, while 27% were highly involved in high schools. In comparison, 60% of single mothers were highly involved in the elementary grades, 44% were highly involved in the middle grades, and 32% were highly involved in high schools.

Comparatively, the research literature reflects that the importance of the role of the father has been neglected in examining benefits of parental involvement.

Consequently, the extent and nature of the involvement of fathers in the development of their children is not well documented in the research literature (Parke, 1995). This fact may be due, in part, to a primary focus on mothers in relationship to their involvement with school-age children in the traditional view of gender roles and socialization patterns. However, family structures and gender roles within the family, and elsewhere in society, have been changing over the last three decades; so much so that the roles of fathers within families are shifting beyond mere wage earners. As fathers transition from the traditional role of financial provider to those that directly involve them in the lives of their children, the research literature has begun to reflect studies which examine the unique contributions of fathers on the subsequent development of children (Harris et al., 1998; Nord et al., 1997). Although the body of literature is still fairly small, evidence suggests a differential effect of parent gender on parent-child interaction and developmental outcomes (Parke, 1995; Lamb, 1997).

Cognitive benefits have also been associated with father-child interactions, although these benefits appear to accrue more to boys and less so to girls (Radin, 1981). For example, in their study using panel data from the National Survey of Children (NSC), Harris, Furstenberg, and Marmer (1998) found that even in mid-adolescence, fathers in intact families interact with their children and engage in joint activities to nearly the same degree as mothers, although, consistent with previous findings (Marsiglio, 1991; Muller, 1998; Radin, 1981), fathers were more involved with their sons than with their daughters. Moreover, the involvement of fathers significantly improved educational and economic attainment, while significantly reducing delinquent behavior. In fact, an increased closeness with fathers was found to not only reduce delinquency, but a strong father-child

bond was also found to significantly reduce psychological distress. Thus, the active PI of fathers is generally associated with positive, beneficial outcomes for adolescents (Hawkins et al., 2007). The positive developmental, educational and economic benefits that accrue to adolescents with highly involved fathers suggest that innovative strategies to foster and sustain their involvement in the lives of their children should be explored. When one considers the multitude of structural inequities (e.g., within the labor market, schools, and the criminal justice system, etc), the potential of fathers may be even more critical for children in marginalized communities, particularly African-American adolescent males.

### **Parental Involvement and Adolescent Development**

The potential of parental involvement to aid in the development of positive social and academic outcomes for youth has continued to garner the interest of academicians, educators, school reformists, and policy-makers for almost four decades. In the wake of the perceived academic underachievement of U.S. students and the persistent academic achievement gap (albeit narrowing) between African-American and White students, the scholarly interest in PI as a strategy to foster positive youth and academic outcomes has resulted in a voluminous body of literature.

Parental involvement has been demonstrated to reduce nonviolent delinquency and violent behavior (Harris et al., 1998; Hawkins et al., 2007; Hoffmann & Dufur, 2008) and early sexual activity (Velez-Pastrana et al, 2005). There is also empirical evidence to suggest that PI reduces the likelihood of dropping out of school (Carpenter & Ramirez, 2007; McNeal, 1999), improves academic self-confidence (Gonzalez-Pienda, Nunez, Gonzalez-Pumariega, Alvarez, Roces, Garcia, 2002), academic achievement

(Bogenschneider, 1997; Hawkins et al., 2007; Jeynes, 2003, 2005; Kim, 2002; Muller, 1998), post secondary enrollment (Song & Glick, 2004) and post-educational attainment (Thompson et al., 2006). Thus, the active involvement of parents in the lives of their children improves youth developmental and academic outcomes, which in turn affects their life chances and social mobility.

Although most empirical studies in the research literature support theoretical assertions of the important relationship between PI and key academic outcomes (Carpenter & Ramirez, 2007; Lee et al., 2007; Mahoney & Cairns, 1997; Mahoney, 2000; McNeal, 1995; Ream & Palardy, 2008), the literature does not provide a generally agreed upon conceptualization or measurement for parental involvement as a construct (Fan, 2001; Fan & Chen, 2001; Jeynes, 2003). Parental involvement, therefore, can consist of a vast array of behaviors within multiple contexts. Regardless of how parental involvement has been conceptualized and operationalized, it has not been, generally, examined within the context of sport. In the few exceptions, studies tend to suggest that participation in school-sponsored activities in general (and school-based sport in particular) may be a potentially beneficial, but overlooked and underutilized resource in fostering increased social capital in the form of parental involvement (Broh, 2002; O'Bryan, 2000; O'Bryan & Braddock, 1999; O'Bryan et al., 2006).

### **Importance of School-Based Sport**

Four decades after the first empirical studies of athletic participation and academic performance, the potential of school-based sport to aid in the manifest and latent functions of schools continues to generate debate among researchers, although most studies in the literature generally report a positive association between athletic

participation and a variety of academic achievement outcomes (Barron, Ewing & Waddell, 2000; Braddock, 1981, 1982; Crosnoe, 2001a; Darling, 2005; Darling, Caldwell & Smith, 2005; Dawkins, 1982; Guest & Schneider, 2003; Marsh & Kleitman, 2003). In fact, when viewed in their totality, most studies that examine athletic participation and academic success indicate that the academic performance of athletes is at least on par with or better than non-athletes (Marsh & Kleitman, 2003; Melnick, Sabo, & Vanfossen, 1992a, 1992b).

Some research on the effects of sport participation (e.g., Holland & Andre, 1987; Marsh, 1993) have reported the positive relationship of athletic participation with outcomes like academic achievement, educational and occupational aspirations, and self-concept. For example, Melnick, Vanfossen, and Sabo (1988), with data from the nationally representative High School and Beyond study, found that athletic participation of girls was positively related to extracurricular involvement, educational aspirations, and perceived popularity. Fejgin (1994), using data from the first follow-up of the National Educational Longitudinal Study of 1988 (NELS:88), found positive effects of sport participation on grades, self-concept, locus of control, and educational aspirations, while finding a negative effect on discipline problems. Guest and Schneider (2003), using data from the Alfred P. Sloan Study of Youth and Social Development, a five-year longitudinal study of middle and high school students that was carried out at the University of Chicago, also found evidence to suggest that, generally, participation in school-based sports improves academic achievement (grades) and educational expectations. In light of these findings they concluded that athletic participation becomes a tool or resource that is a vital component of a good student's portfolio. Therefore, in

addition to scholastic excellence, these students (many of whom are college-bound) use sport participation as a vehicle for social mobility and as a mechanism to secure their life chances.

### **Review of Related Literature**

In this section, factors that contribute to the academic success of youth (athletic involvement and parental involvement) are examined. First, a synthesis of the extant empirical evidence on the relationship between parental involvement and academic outcomes is presented, followed by a synthesis of the empirical evidence on the relationship between school-based athletic involvement, pro-academic outcomes and academic achievement. This literature review subsequently discusses the correlates (predictors) of parental involvement and academic achievement, followed by a discussion of the issues surrounding the conceptualization and measurement of parental involvement. This section ends with a discussion of the potential of school-based sport participation to serve as a context for parental educational involvement (PEI).

#### **School-Based Athletic Participation and Academic Outcomes**

Despite the mounting empirical evidence that athletic involvement is positively associated with a variety of pro-academic outcomes, the scholarly debate wages on in attempts to determine if school-sponsored athletic activities detract from the overall academic mission of schools. Reviewers have consistently noted a positive association between athletic participation and educational attainment (Braddock, 1980, 1981; Taylor & Chiogioji, 1988; Trent, 1982; Trent & Braddock, 1992). The studies focusing on race and school-based athletic participation (Braddock, 1981; Braddock, Hawkins, Royster, & Winfield, 1991; Hawkins & Mulkey, 2005; Jordan, 1999; Yan, 1999) have frequently

found significant positive associations between athletic participation and the academic performance, attitudes, and future goals of African American males.

Most empirical investigations on athletic participation and educational outcomes report significant positive associations between sport and a variety of pro-academic and achievement outcomes (Barron et al., 2000; Braddock, 1982; Broh, 2002; Darling, 2005; Darling, Caldwell & Smith, 2005; Dawkins, 1982; Dawkins & Braddock, 1982; Guest & Schneider, 2003; Harris & Hunt, 1982; Marsh & Kleitman, 2003; Trent & Braddock, 1992; Videon, 2002). Athletic involvement has been found to be positively associated with curriculum enrollment aspirations (Braddock, 1981; Braddock et al., 1991; Hawkins & Mulkey, 2005; Videon, 2002); plans to enroll in college (Braddock, 1981; Braddock et al., 1991; Hawkins & Mulkey, 2005); educational aspirations or expectations (Braddock et al., 1991; Guest & Schneider, 2003; Darling, 2005; Fejgin, 1994; Marsh, 1993; Melnick et al., 1988; Videon, 2002), attitudes toward school (Darling et al., 2005), and academic self-concept or self-confidence (Braddock, 1981; Fejgin, 1994; Jordan, 1999; Marsh, 1993). Athletic involvement has also been found to reduce the likelihood of dropping out of high school (Mahoney & Cairns, 1997; McNeal, 1995; Melnick et al., 1992a, 1992b). McNeal (1995), using data from the 1980 cohort of the High School and Beyond Study – a predecessor of NELS:88 which was sponsored by the National Center for Education Statistics, under the auspices of the U.S. Department of Education – examined the effect of school-sponsored extracurricular activity participation (including sport) on dropout status. Four activity types were examined (participation in athletics, fine arts, academic clubs, and vocational clubs). When the effect of athletic participation was examined without the inclusion of the other activity groups, student athletes were

significantly less likely to dropout of high school than their non-athletic counterparts. In the statistical model accounting for each of the conceptualized activity types, the beneficial effect of athletic involvement on dropout status remained statistically significant.

Following the standard set by previous studies conducted with data from the National Educational Longitudinal Study (NELS:88), (Braddock et al., 1991; Hawkins, Royster & Braddock, 1992), Hawkins and Mulkey (2005) examined data from NELS:88 with an African American subsample of 8<sup>th</sup> graders attending public schools. These researchers found that athletic participation generally leads to higher educational aspirations and a significantly higher status among ones peers for student-athletes (males and females). These researchers also found a positive association between varsity sport participation and other indicators of academic success: academic resilience (males and females), interest in class (males and females), less social misconduct (males), plans to enroll in an academic or college prep track (males and females), plans to graduate from high school, and plans to attend college (males and females). These positive associations appear to be largely direct and unmediated when other important student background variables (age, SES, standardized test scores, and family composition) and school characteristics (urbanicity, school size, school poverty concentration, and students' ability group placement) are statistically controlled. Similar patterns were found for intramural sport participation.

Positive associations can be found rather consistently in the empirical body of literature between school-based sport participation and academic achievement (Braddock, 1981; Broh, 2002; Crosnoe, 2001a; Darling, 2005; Darling et al., 2005; Eccles & Barber,



1999; Eitle & Eitle, 2002; Fejgin, 1994; Jordan, 1999; Guest & Schneider, 2003; Hanson & Kraus, 1998, 1999; Marsh, 1993; Marsh & Kleitman, 2003; Melnick et al., 1992a, 1992b; Videon, 2002) and between athletic participation and measures of social mobility (Barber, Eccles, & Stone, 2001; Barron et al., 2000; Braddock, 1981; Sabo, Melnick, & Vanfossen, 1993; Snyder & Spreitzer, 1990). For example, Barron, Ewing, and Waddell (2000) used data from the National Longitudinal Survey of Youth (NLSY) and the National Longitudinal Study of the High School Class of 1972 (NLS-72) to examine the effects of high school athletic participation on postsecondary educational attainment and labor market outcomes among men. With regard to the effect of high school athletic involvement on high school percentile rank, athletes achieved essentially the same ranking as non-athletes (controlling for race and parent's education) in both samples (NLS-72 and NLSY). When the effect of intensity level of athletic participation on high school percentile ranking was examined, once again, a significant association was not found (NLS-72 sample only). In the NLSY sample, however, men who were intensely involved in high school athletics actually achieved better high school percentile class rankings than comparison groups. The postsecondary educational attainment of men who participated in high school sport was 25% higher in the NLS-72 sample and 35% higher in the NLSY sample. Moreover, the magnitude of the positive effect is stronger when considering intensive high school athletic participation.

In order to address issues of selection bias, the researchers included measures of academic ability (percentile score on the armed forces qualification test for NLSY sample and a combined score from comprehensive test in mathematics, verbal skills and reading for the NLS-72 sample) in the analysis models. For both samples, the introduction of

ability measures reduced, but did not eliminate the positive relationships between sport participation and educational attainment (high school rank and postsecondary attainment). Although no significant differences were found between athletes and non-athletes with regard to employment, high school athletic involvement was positively associated with wages among those who were employed (both samples). Specifically, former high school athletes enjoyed 12% higher wages in the NLS-72 sample and 32% higher wages in the NLSY sample.

When reviewing the empirical body of literature, it becomes quite clear that consistent patterns (associations) between high school athletic involvement and pro-social, pro-academic youth development characterize the current body of knowledge. Earlier empirical investigations on the effects of school-sponsored athletic involvement and student academic achievement found overwhelming support for theoretical propositions that high school athletics enhance rather than deter student athletes from academic pursuits (e.g., Braddock, 1981; Buhrmann, 1972; Hanks & Eckland, 1976; Lueptow & Kayser, 1973; Otto & Alwin, 1977; Spady, 1971). These pioneering studies in the field, however, were hampered with several methodological issues (with a few exceptions) including: (1) the use of small, non-random samples, (2) the use of regional samples, (3) investigations conducted primarily on samples of white males, (4) the use of cross-sectional research designs, and (5) failure to address selection bias. Again, a few of these early works attempted to eliminate, at least in part, some of the methodological limitations of their contemporaries through the use of large, nationally representative data sponsored by the National Center for Education Statistics (Braddock, 1981; Hanks, 1979).

Empirical investigations conducted in the 1990's ushered in a new methodological direction through the use of nationally representative samples (e.g. Braddock et al., 1991; Marsh, 1993; McNeal, 1995) and longitudinal research designs (e.g., Fejgin, 1994; Hanson & Kraus, 1998, 1999; Marsh, 1993). These more recent studies have also generally found positive associations between high school athletics and a variety of educational outcomes (Broh, 2002; Fejgin, 1994; Hanson & Kraus, 1998, 1999; Marsh, 1993; Marsh & Kleitman, 2003; Videon, 2002) and some have even found that benefits accrue to all student athletes regardless of race or ethnicity (Fejgin, 1994; Marsh, 1993; McNeal, 1995; Jordan, 1999). For example, Jordan (1999) used data from NELS to examine the effects of school-based sport participation on several indicators of academic success. Separate models were examined by race (African American, White, and Hispanic), and effects for the full sample were also examined. Athletic participation was positively associated with GPA, self-concept, academic self-confidence, and standardized test scores for all student athletes, net student background characteristics consistently found to impact student academic achievement. Therefore, Jordan and others in the recent era addressed the issue of selectivity by including controls for factors known to affect socialization into sport – many of which also affect student academic success. In other words, it is possible to conclude that it is not sport, *per se*, that benefits student athletes -- pre-existing differences between athletes and non-athletes could be driving the positive associations found in the research literature. The use of statistical controls and longitudinal designs address this methodological limitation that plagued much of the earlier empirical investigations in the discipline.

Broh (2002), using the NELS:88 dataset to examine the effect of sport participation (10<sup>th</sup> and 12<sup>th</sup> grade) on 12<sup>th</sup> grade measures of academic achievement (grades and standardized test scores), addressed the issue of selectivity through the use of statistical controls. Participation in high school sport was positively associated with math and English grades and time spent on homework, above and beyond controls for student background and family and school characteristics. Marsh and Kleitman (2003) also used data from NELS:88 and found positive relationships between high school sport participation and (1) college enrollment, (2) months attending college, and (3) postsecondary educational attainment, even after controlling for several indicators of academic success. In fact, involvement in more sports was related to higher grades, better self-esteem, higher educational aspirations, more time spent on homework, and more university applications. The findings from this study are particularly promising for students who have been identified as “at-risk” for academic failure – participation in more sports was related to higher parental expectations, particularly for those students with low test scores and initially low educational aspirations. Although the researchers imputed missing data for nearly 2/3 of the sample, this fact should not overshadow its contributions to the literature.

As evidenced by the above referenced review of empirical studies, positive associations between participation in school-based sport and a wide variety of educational outcomes can be found in the research literature. There is some evidence, however, to suggest that the positive benefits of athletic involvement may not accrue equally across race/ethnic and gender groups (Eitle & Eitle, 2002; Hanson & Kraus, 1998, 1999; Melnick et al., 1992a, 1992b; Sabo et al., 1993). Eitle and Eitle (2002), for

example, examined the relationship between high school athletic participation and academic achievement among African American and White males using data from the first two waves of the National Education Longitudinal Study (NELS:88). Significant positive relationships between sport participation, measured as 10<sup>th</sup> grade varsity football, basketball, and other varsity sport (not football or basketball), and academic achievement (10<sup>th</sup> grade math/reading composite standardized test score and a composite of sophomore grades) were dependent upon varsity sport designation and race. Specifically, the association between varsity sport participation and standardized test scores was negative for males who were involved in football or basketball. Participation in varsity football or basketball had no effect on grades. Athletic involvement in other varsity sports, however, was associated with higher grades (white males only).

The studies undertaken by Melnick et al. (1992a, 1992b) and Sabo et al. (1993) also found differential effects of sport participation and academic achievement. These researchers examined race/gender categories that were further divided by geographical region (urban, suburban, and rural) using data from HSB. For example, in the first empirical investigation by Melnick and colleagues (1992a) sport participation improved test performance for only two subgroups: African American, urban males, and Hispanic, rural females. African American, male athletes attending suburban high schools and Hispanic, female athletes attending in rural areas experienced significantly lower grades, while athletes from three of the race/gender/school location categories were significantly less likely to dropout of high school – African American males (rural), Hispanic males (suburban), and Hispanic females (rural). In the second investigation by these researchers, academic achievement benefits were found to accrue only for Hispanic

athletes: GPA (rural females), test scores (rural females), and dropout status (rural females and suburban males).

Sabo and colleagues (1993) used the same race-ethnic/gender/school location schemata as Melnick and colleagues (1992a, 1992b), with the addition of White Americans. Whites, by and large, benefited from athletic involvement in that most gender/school location categories for White athletes were significantly more likely to attend college: male (rural, urban, and suburban) and female (suburban and rural only). Significant positive effects of college attendance were also found for Hispanic athletes: males (suburban and rural) and females (rural only). No academic benefits (measured as college attendance) accrued to African Americans. Although positive associations between participation in school-based sport and the various measures of academic achievement were not found across all of the race/gender/location categories, the non-traditional category designations could account for these differences. Additionally, even though significant positive associations were generally not found in these studies, the vast majority of the associations were in the expected direction. Therefore, it could be concluded from these studies that student athletes were, at the very least, on par academically with non-athletes, and in several instances greater academic achievement benefits were found to accrue to student athletes.

Even with the findings in the literature of the positive effect of school-based sport participation on pro-academic and pro-social behaviors, sport participation has generally not been included in models examining parental educational involvement (for rare exceptions see, Broh, 2002; O'Bryan, Braddock & Dawkins, 2006 and Stewart, 2007).

## **Parental Involvement and Academic Outcomes**

Conceptualization and operationalization of parental involvement lacks consensus in the research literature. As a result, empirical examinations of the relationship between parental involvement and various positive adolescent outcomes have been conducted with different measures of the construct. In spite of the inconsistency of measurement, the empirical evidence suggests that generally, PI benefits a host of youth educational outcomes (Bogenschneider, 1997; Carpenter & Ramirez, 2007; Carpenter, Ramirez, & Severn, 2006; Fan, 2001, Fan & Chen, 2001; Garg, Kauppi, Lewko, & Urajnik, 2002; Garg, Melanson, & Levin, 2007; Gonzalez-Pienda et al., 2002; Harris et al., 1998; Hawkins et al., 2007; Jeynes, 2003, 2005; Kim, 2002; Lee et al., 2007; Pong et al., 2005; Ream & Palardy, 2008; Song & Glick, 2004; Yan, 1999). The research literature indicates that parental involvement significantly improves academic achievement (Bogenschneider, 1997; Carpenter et al., 2006; Fan, 2001; Fan & Chen, 2001; Garg et al., 2002; Gonzalez-Pienda et al., 2002; Harris et al., 1998; Hawkins et al., 2007; Jeynes, 2003, 2005; Kim, 2002; McNeal, 1999; Muller, 1998; Pong et al., 2005; Ream & Palardy, 2008; Yan, 1999; Yan & Lin, 2005) and reduces the likelihood of dropping out of school (Carpenter & Ramirez, 2007; McNeal, 1999). Parental involvement has also been found to improve academic self-confidence (Gonzalez-Pienda et al., 2002) post secondary enrollment (Song & Glick, 2004) and post-educational attainment (Thompson et al., 2006).

Although the empirical evidence generally supports the position that parental involvement improves a variety of educational outcomes, there is growing evidence to suggest that the dimensions of PI exert differential effects on student academic

achievement (Bembutty, 2005; Fan, 2001; Ho Sui-Chu & Willms, 1996; Pong et al., 2005; Ream & Palardy, 2008; Sing et al., 1995; Song & Glick, 2004; Thompson et al., 2006; Wu & Qi, 2006). Some studies have found that parent-child discussions pertaining to a variety of educational matters (secondary and post-secondary) exert the strongest direct effect on student academic achievement (Ho Sui-Chu & Willms, 1996; Pong et al., 2005; Ream & Palardy, 2008; Song & Glick, 2004; Thompson et al., 2006). Ream and Palardy (2008) examined the differential effects of four constructs of parental involvement (conceptualized as social capital) on 8<sup>th</sup> grade academic track placement and 8<sup>th</sup> grade test scores using structural equation modeling techniques with data taken from NELS:88. The researchers developed four latent constructs – parents help students, parents visit school, PTA involvement, and parents influence school – pertaining to parental social capital, which were then conceptualized along two dimensions: informal social capital and formal social capital. Informal social capital was conceptualized as parental involvement occurring in the home sphere, the parents help construct – a composite of five items assessing the frequency of parent-child discussions regarding educational matters. The formal social capital dimension was conceptualized as parental involvement occurring in the school sphere – parents’ school visitations, PTA involvement, and school influence. Positive associations were found between the parents help construct (educational discussions) and both educational outcomes. In fact, the effect of educational discussions between parents and their children improved the standardized test scores of all students, regardless of SES. Parental school visitations were found to improve the academic track placement of all students (except those from upper-class families), while PTA involvement did not improve academic track placement



or standardized test scores for any of the student SES groups. Parental influence in schools, which is rarely examined in the PI literature, was found to significantly improve the standardized test scores of middle-class students only. In their study, Ream and Palardy (2008) contend that a 1 standard deviation increase in parent-child discussions was roughly equivalent to an entire year of schooling or approximately 10 months of learning.

Other empirical studies suggest that parental educational aspirations and expectations may be one of the most important predictors of student academic achievement (Fan 2001; Singh et al., 1995; Thompson et al., 2006; Yan & Lin, 2005). For example, Yan and Lin (2005) examined the differential effects of various types of parental involvement on the mathematics achievement of high school seniors among four racial/ethnic groups (Whites, African Americans, Hispanics and Asians). The researchers used a longitudinal design by taking items from four waves of NELS:88 data and found that educational expectations had a significant, positive impact on the mathematics achievement of all four racial/ethnic groups. Thompson, Gorin, Obeidat, and Chen (2006) used data from several sources, including NELS:88 and the Integrated Postsecondary Education Data System (IPEDS), to examine determinants of postsecondary educational attainment. Educational expectations (of parents and students) and engaging in discussions with parents (particularly concerning going to college) were the most predictive of postsecondary attainment, explaining 30% of the variance. Additionally, African American parents held significantly higher expectations of postsecondary attainment for their children than White parents. In light of these findings, it becomes evident that inconsistencies in the empirical research on the impact of parental

involvement on academic achievement can partly be accounted for by the inconsistencies of measurement of the parental involvement construct (Fan & Chen, 2001; Jeynes, 2003).

In addition to measurement considerations, the positive effects of parental involvement on academic achievement and other positive academic outcomes may also be dependent upon student population. Specifically, the positive benefits that have consistently been documented in the research literature to accrue to younger students are less consistently documented for older students (particularly high school students). For example, Keith, Reimers, Fehrmann, Pottebaum, and Aubey (1986) examined the effect of parental involvement on standardized test scores and found only negligible effects for high school seniors. The parental involvement measures used in the study were student self-reports of the degree of their parents' influence on their plans after high school and the extent to which their parents monitored their day-to-day activities and school progress. Since there is empirical evidence to suggest that parental educational aspirations and parent-student discussions regarding a variety of secondary schooling experiences and postsecondary plans may be the most predictive of academic achievement (Epstein, 1991; Fan 2001; Ho Sui-Chu & Willms, 1996; Keith et al., 1993; Pong et al., 2005; Ream & Palardy, 2008; Singh et al., 1995; Song & Glick, 2004; Thompson et al., 2006; Yan & Lin, 2005), it is plausible to conclude that different results may have emerged if different measures of parental involvement were examined. For example, Keith, Keith, Quirk, Sperduto, Knowles, & Killings (1998) conducted a rare longitudinal study using data from NELS:88 in order to determine the effect of parental involvement on the academic achievement (GPA) of high school sophomores. The study revealed that 8<sup>th</sup> grade parental involvement -- parental educational aspirations and

parent-child communication about school and school activities -- had a strong effect on 10<sup>th</sup> grade GPA.

Despite the fact that a persistent achievement gap remains between African Americans (and other racial-ethnic minorities) and Whites, most empirical examinations of parental involvement and educational outcomes have been conducted on white samples (Jeynes, 2003). Moreover, the few empirical examinations of parental involvement among African Americans have focused almost exclusively on risk factors, largely ignoring those behaviors that have been shown to contribute to academic success (Yan, 1999). Although empirical evidence is limited, extant research suggests positive benefits of parental involvement on academic outcomes accrue to students regardless of their racial or ethnic ancestry (Carpenter & Ramirez, 2007; Carpenter et al., 2006; Fan, 2001; Jeynes, 2003; Pong et al., 2005; Sanders, 1998; Slaughter & Epps, 1987; Song & Glick, 2004; Yan & Lin, 2005). For example, in a meta-analysis of parental involvement and academic achievement, parental involvement was found to affect the academic achievement of minority students regardless of outcome measurement (for example, GPA and standardized test scores), and these effects held across all of the racial groups under study (Jeynes, 2003). The positive benefits of parental involvement also appear to accrue more for African Americans and Latinos than for Asian Americans. The findings of this study suggest that, although levels of parental involvement are somewhat lower among African Americans, when involvement does occur, African American students benefit more, on average, than other minority groups.

Using longitudinal data from NELS:88, Fan (2001) examined parental involvement and academic achievement (standardized test scores in four subject areas)

for four racial/ethnic groups (African Americans, Latinos, Asians, and Whites). Since parental involvement was measured along multiple dimensions, the differential effect of each aspect of parental involvement on test scores was assessed. First of all, the study found that once SES was controlled, the levels of parental involvement were comparable across each of the four ethnic groups. Moreover, parental educational aspirations had a consistent effect on academic growth (improved standardized test scores), across ethnic group and academic subject area, even controlling for SES. Yan and Lin (2005), also using NELS:88 data, found statistically significant associations between parental educational expectations and math academic achievement for high school seniors (Whites, African Americans, Hispanics, and Asian Americans).

### **Correlates of Parental Involvement and Academic Achievement**

The research literature indicates that parental involvement and various measures of student academic success have many factors in common. As noted earlier, family structure, parental educational level, family socioeconomic status, student gender and age, parental gender, and race/ethnicity have all consistently been identified as correlates of parental involvement. The fact that parents living in two-parent household structures tend to exhibit higher levels of parental involvement than single-parent families may be due in part to differences in socioeconomic status. The differential effect of household structure could also be explained as a function of two-parent families having an additional resource for involvement by way of an extra parent (Scott-Jones, 1984).

Parents with higher levels of educational attainment and higher socioeconomic backgrounds tend to exhibit higher levels of parental involvement than less educated parents (Bogenschneider, 1997; Garg et al., 2002; Herrold & O'Donnell, 2008; Moles,

1987; Stevenson & Baker, 1987; Sy et al., 2007; Yan, 1999), from lower socioeconomic backgrounds (Garg et al., 2002; Moles, 1987; Stevenson & Baker, 1987; Zill & Nord, 1994). For example, Garg, Kauppi, Lewko, and Urajnik (2002), using a national sample of Canadian adolescents (ages 13-19), found that SES exerted a significant direct effect on parental involvement. Some researchers have asserted the possibility that parents with less education may be intimidated by the school setting because it is largely a middle-class institution, with middle-class norms and modes of communication (Lareau, 1987, 1989). As a result, parents with low levels of human capital in the form of educational attainment and family SES may experience reluctance entering their children's schools. This reluctance, in turn, impacts levels of parental involvement in the school setting. Other researchers have suggested that working-class parents may be discouraged from active participation in their children's schools as a result of the staff's inability to offer opportunities for engagement. It has also been suggested that subtle discriminatory practices operating in schools, either through teachers, administrators, or staff, may result in working-class parents (and racial/ethnic minorities) avoiding these institutions (Becker & Epstein, 1982; Lightfoot, 1978).

Parents from racial and ethnic minority groups also exhibit lower levels of parental involvement on average than Whites (Herrold & O'Donnell, 2008; Leitch & Tangri, 1988; Moles, 1987; U.S. Department of Education, 1992). Similar explanations have been posited for racial/ethnic minorities as indicated above for educational attainment and family SES. It has been suggested that the cultural values of some minority groups, particularly the value of deference to school authority and a reluctance to communicate with teachers within Asian communities, contribute to their lower levels

of participation in the school setting (Lee & Manning, 2001; Sy et al., 2007). Potential language barriers may adversely impact the communication between minority parents and school personnel (particularly among immigrant groups), and thus language has been proffered as an explanatory factor of the significant lower levels of parental involvement in the school environment of racial/ethnic minorities (Delgado-Gaitan, 1991; Herrold & O'Donnell, 2008; Kim, 2002; Lopez, 2007; Song & Glick, 2004). Parents with limited English proficiency are significantly less likely to enter their children's schools and engage in traditional measures of parental involvement (Herrold & O'Donnell, 2008; Kim, 2002; Lopez, 2007). For example, Lopez (2007) examined the impact of language on the parental involvement of fathers of Mexican-origin children. Fathers who were more linguistically acculturated reported more positive perceptions of their child's school and indicated more positive contacts with their child's teacher.

There is now evidence to suggest that parents who are members of groups that have historically been marginalized are just as involved in the educational lives of their children as majority group member parents. Although parents with lower educational attainment and SES, and parents from racial/ethnic minority populations exhibit lower levels of parental involvement in schools (Herrold & O'Donnell, 2008; Ho Sui-Chu & Willms, 1996; Pong et al., 2005; Sy et al., 2007), research indicates that these groups are more likely to exhibit various types of parental involvement in the home sphere at similar or higher levels than Whites (Ho Sui-Chu & Willms, 1996). For example, when parental involvement is measured as parent-child discussions regarding educational matters, Hispanic parents were no different than Whites in levels of discussions (Pong et al., 2005). In an examination of parental involvement among successful African Americans,

Yan (1999) compared successful African American students with successful White students and non-successful African American students using data from all four waves of NELS:88. Contrary to the research literature, no significant differences were found between the parents of successful Black students and Whites with regard to parental involvement in schools (PTA involvement). Additionally, parents of successful African American students were significantly more likely to contact their child's school and engage in educational discussions than both comparison groups.

The results of the study conducted by Yan and Lin (2005) were consistent with previous research. Using data from NELS:88 among a subpopulation of high school seniors, they found statistically significant differences in the types of involvement exhibited by White and minority parents. African American parents exhibited higher levels of contact with schools regarding their adolescents' performance. With regard to having strict family rules in place, African American and Hispanic parents reported significantly more family rules than White parents, while Asian American parents held the highest educational expectations for their children. In light of these findings, schools may be underestimating the involvement of parents from marginalized groups by focusing primarily on involvement occurring in the school setting (Anderson & Minke, 2007; Ho Sui-Chi & Willms, 1996).

Parent gender and student gender are two additional factors that affect levels of parental involvement. Not only do they exert individual effects, but they also exert an interaction effect on parental involvement (Bogenschneider, 1997; Garg et al., 2002; Lee et al., 2007; Muller, 1998). Mothers are significantly more involved in the educational lives of their children than fathers (Garg et al., 2002; Muller, 1998). Fathers are

significantly more likely to interact with their sons than with their daughters (Harris et al., 1998; Lamb, 1986; Marsiglio, 1991; Muller, 1998; Radin, 1981). Ho Sui-Chu and Willms (1996) found that mothers, on average, engaged in more discussions about schooling experiences with their daughters than with their sons; however, mothers were more likely to initiate contact with schools about their sons. Using NELS:88 data, Muller (1998) found that girls engaged in more discussions regarding school with their mothers and boys were more likely to engage in these conversations with their fathers. In a rare study that examined the independent impact of parent and student gender on parental involvement (Bogenschneider, 1997), mothers demonstrated higher levels of parental involvement with their daughters than with their sons, while active fathers were equally involved with their sons and daughters, resulting in the conclusion that the parental involvement of both fathers and mothers can be equally beneficial for sons and daughters.

As children progress through the educational system, parental involvement changes (Muller, 1998) and parents tend to become less involved with their children and their schools (Epstein, 1987, 1990; Stevenson & Baker, 1987; Zill & Nord, 1994; Wallace & Fisher, 2007). This apparent disengagement in the schooling experiences and educational lives of youth as they transition from elementary to high school may be due in part to the parents' belief that their involvement is not as important for their adolescent children. However, since adolescence is typically a period of self-discovery resulting in the formation of autonomous identities separate from one's parent, secondary school students may in fact discourage their parents' active participation in their schooling experiences. It has also been posited that lower levels of parental involvement in schools at the secondary level could result from structural impediments. Thus, as children grow



older, schools may in fact provide fewer opportunities for parents to become involved in their children's schools (Stevenson & Baker, 1987).

The research literature also suggests that socio-psychological factors of parents influence levels of parental involvement. There is some evidence that parental self-efficacy impacts parental involvement, in that parents who are confident that they can be of assistance to their children exhibit higher levels of involvement (Anderson & Minke, 2007; Eccles & Harold, 1996). High parental involvement also seems to be influenced by parents' perceptions of their children's academic and cognitive abilities and parental educational aspirations for their children. Parents exhibit higher levels of involvement if they believe their children have the cognitive capabilities to perform well in school and if they have high educational aspirations for their children (Eccles & Harold, 1996).

Although most studies concentrate on individual or family characteristics in their examinations of parental involvement, variations in the involvement of parents have also been attributed to characteristics of schools. For example, parents whose children attend smaller schools and private schools are typically more involved than parents whose children attend large, public schools (Herrold & O'Donnell, 2008; Zill & Nord, 1994). Since African American students are over-represented in urban, public schools, which are larger, on average, than schools in suburban areas (U.S. Department of Education, 1996), any strategy that could potentially increase the involvement of these parents should be explored. It has also been suggested that school policies, teacher practices and family practices are more important than race, parental educational level, family size, marital status, and grade level in predicting whether parents will remain active agents in the

educational lives of their children (Becker & Epstein, 1982; Eccles & Harold, 1996; Epstein, 1990).

### **Conceptualization of Parental Involvement**

Parental involvement lacks a definitive conceptual and operational definition (Fan 2001; Fan & Chen, 2001; Grolnick & Slowiaczek, 1994; Jeynes, 2003, 2005). Although examinations of the policy discourse could lead one to erroneously conclude that parental involvement is a unidimensional construct, theoretical models and empirical evidence indicate otherwise. Parental involvement has proven to be multidimensional and multi-layered (Anderson & Minke, 2007; Epstein, 1987; Fan, 2001; Keith et al., 1993; Kim, 2002; McNeal, 1999; Pong et al., 2005; Ream & Palardy, 2008; Singh et al., 1995; Song & Glick, 2005; Ho Sui-Chu & Willms, 1996; Yan, 1999). Parental involvement has been conceptualized as specific parental behaviors and practices -- parental aspirations (e.g., Garg et al., 2002; Garg et al., 2007; Kim, 2002; Singh et al., 1995; Song & Glick, 2004; Yan & Lin, 2005), parental rules (e.g., Fan, 2001; Keith et al., 1993; Keith, Reimers, Fehrmann, Pottebaum, & Aubey, 1986; Kim, 2002; Sy et al., 2007), parental supervision (e.g., Ho Sui-Chu & Willms, 1996; Kim 2002; Yan, 1999), communication with children regarding educational matters (e.g., Fan, 2001; Garg et al., 2007; Ho Sui-Chu & Willms, 1996; Kim, 2002; McNeal, 1999; Singh et al., 1995; Thompson et al., 2006), communication with teachers or schools regarding educational matters (e.g., Epstein, 1991; Fan, 2001; Ho Sui-Chu & Willms, 1996; O'Bryan et al., 2006), participation in school functions or PTA involvement (e.g., Domina, 2005; Fan, 2001; Gutman, Sameroff, & Eccles, 2002; Ho Sui-Chu & Willms, 1996; McNeal, 1999; Pong et al., 2005; Stevenson & Baker, 1987), checking or helping with homework (e.g., Domina,

2005; Garg et al., 2002; Gonzalez-Pienda et al., 2002; Lopez, 2007; Wu & Qi, 2006) -- and indices constructed with some combination of the above (e.g., Jeynes, 2005). Thus, the research literature has broadly defined PI as consisting of various activities of home involvement, school involvement, involvement in school governance, involvement surrounding school choice, and parental educational expectations and aspirations.

Parental involvement occurring in the home sphere could take several different forms. For example, helping with homework or tutoring (Davies, 1987; Garg et al., 2002; Gonzalez-Pienda et al., 2002; Hallett, 1986; Lopez, 2007; Moles, 1987; Sandfort, 1987; Wu & Qi, 2006), playing games that have educative value or involvement in other enrichment activities (Epstein, 1987), or discussing various aspects of the schooling experience (Fan, 2001; Ho Sui-Chu, 1996; Kim, 2002; McNeal, 1999; Singh et al., 1995; Thompson et al., 2006; Yan, 1999). Parental involvement in the school sphere, on the hand, is any activity that brings the parent in direct contact with teachers and administrators. Some examples include assisting with field trips, volunteering in the child's classroom (Davies, 1987; Epstein, 1987, 1988; Hallett, 1986) or supporting school programs. More direct involvement in schools could be achieved by parents acting as an "audience" for their children through their attendance at school functions and athletic events (Epstein, 1987, 1988; Hallett, 1986). School parental involvement could also include those activities that are directly relevant and beneficial to parents, for example, workshops or other programs designed to provide training for parents (Epstein, 1988).

The interaction that occurs between parents and school personnel is also an important aspect of parental involvement. One example of parent-school interaction is the traditional parent-teacher meeting. It has been posited that parents are more likely to

initiate this form of parental involvement when their child has exhibited behaviors counter-productive to academic success; examples include poor academic performance, truancy, and absenteeism (Leitch & Tangri, 1988). Although PI in schools has also been conceptualized as active participation in school governance, the research literature is inconsistent in defining exactly what behaviors constitute this particular aspect of parental involvement. For example, Davies (1987) asserts the advocacy role should be viewed separately from the decision-making role. Epstein (1988), on the other hand, combines PIO/PTA membership with advisory councils and advocacy groups in her conceptualization of involvement in school governance.

As a result of the various conceptualizations of parental involvement, much of the empirical evidence has been conducted without the benefit of a guiding theoretical framework (Fan, 2001). The last two decades, however, have ushered in the emergence of several promising theoretical frameworks for parental involvement research. Epstein (1987) developed a widely recognized typology that initially identified four types of parental involvement in schools. She subsequently expanded her typology to include six types of involvement: (1) basic obligations of parents, (2) basic obligations of schools, (3) parent involvement at school, (4) parent involvement in learning activities at home, (5) parent involvement and participation in school decision making, and (6) involving parents in school-community collaborations (Epstein, 1990).

Hoover-Dempsey and Sandler (1995) have also posited a promising theoretical framework that could guide empirical investigations of parental involvement. In contrast to Epstein's (1990) typology, which identifies areas or types of parental involvement, the framework developed by Hoover-Dempsey and Sandler focuses on three primary issues

of PI: (1) why parents become involved in their child's education, (2) how they select the particular type of involvement, and (3) why parental involvement is beneficial to student academic outcomes. Although this framework is quite promising, it does not clearly identify how the major components should be conceptualized and measured.

### **Toward a Broader Conceptualization: Sport as a Potential Domain for Parental Educational Involvement**

Although the potential of school-sponsored athletic participation as a domain in which to foster increased parental involvement has generally been neglected in the research literature, the few empirical investigations conducted along this area of scientific inquiry suggest that school-based sport participation may be an underutilized resource in the quest for innovative tools to involve parents in their children's schooling experiences (Broh, 2002; O'Bryan & Braddock, 1999; O'Bryan, 2000; O'Bryan et al., 2006). For example, using data from NELS:88, O'Bryan (2000) found significant positive relationships between school-based athletic participation and high levels of parental involvement among a nationally representative sample of high school seniors. Parental involvement was conceptualized as home discussions around educational matters and parent-school communication (both parent-initiated and school-initiated). Mothers were found to engage in significantly higher levels of home discussions with their sons (with statistical controls) and daughters (without statistical controls) if they were student-athletes. Fathers, on the other hand, were significantly more likely to engage in high levels of educational discussions with their sons (without statistical controls) who were student-athletes. Additionally, positive, significant relationships were generally found between varsity sport participation and high levels of both measures of parent-school

communication: parent-initiated communication from mothers (both sons and daughters with statistical controls), parent-initiated communication from fathers (male student-athletes only, with statistical controls), school-initiated communication with mothers (female student-athletes only, with statistical controls), and school-initiated communication with fathers (male student-athletes only, with statistical controls).

O'Bryan, Braddock, and Dawkins (2006) later examined the relationship between school-based varsity sport participation and high levels of parental involvement among African American high school seniors and found similar patterns.

School-based sport participation also has the potential of bringing parents in direct contact with the school and school personnel where information pertinent to the academic development of students may be shared. For example, Fritch (1999) found that school-based athletic programs at the high school level provided increased opportunities for the formation of social capital. Not only did the sporting events act as a mechanism for parents to enter their children's schools, social capital was created among parents during games where conversations regarding the school would transpire (creating social networks among parents). In fact, 76-91% of the parents responded that they were very likely or likely to discuss their child's school while they were attending a school-sponsored athletic event. Thus, in addition to potentially providing additional opportunities for the creation and formation of social networks between parents and students, athletic involvement may also serve to improve parent-parent social networks, strengthening the emergent social ties between parents and the social bonds to their children's schools and academic pursuits.

The results of these studies, therefore, not only suggest that varsity sport participation has the potential of fostering high levels of parental involvement, but also indicate that parents can continue to play prominent roles in the educational lives of high school students (even seniors). Drawing upon the review of literature, the current study develops and empirically tests a broader conceptual model which assesses the impact of school-based varsity sport participation and parental involvement, along with other known correlates, on student academic success.

### **Chapter Summary**

The literature reveals consistent positive associations between parental involvement and a number of indicators of academic success (Carpenter & Ramirez, 2007). However, different conceptualizations and measures of parental involvement have been used (Fan, 2001; Fan & Chen, 2001; Jeynes, 2003, 2005). Parental involvement has been examined as part of an array of behaviors in multiple contexts (including home and school). In general, the empirical evidence suggests that the involvement of parents (particularly around educational matters) improves academic achievement and other pro-academic outcomes for students. Parental involvement has been found to reduce nonviolent delinquency and violent behavior (Harris et al., 1998; Hawkins et al., 2007; Hoffmann & Dufur, 2008) and early sexual activity (Velez-Pastrana et al., 2005). Parental involvement has also been shown to reduce the likelihood of dropping out of school (Carpenter & Ramirez, 2007; McNeal, 1999), and to improve academic self-confidence (Gonzalez-Pienda et al., 2002), educational aspirations and expectations (Garg et al., 2002; Garg et al., 2007; Singh et al., 1995), academic achievement (Bogensneider, 1997; Carpenter et al., 2006; Hawkins et al., 2007; Jeynes, 2003, 2005;

Kim, 2002; Lee et al., 2007; Muller, 1998), college enrollment (Song & Glick, 2004), and postsecondary educational attainment (Thompson et al., 2006).

Although academicians, teachers, school reformists, and policy-makers all acknowledge the vital role parents play in the academic development of youth, a broader conceptualization of parental involvement to include school-based athletic participation, which the present study proposes, has generally not been a part of the policy discourse on developing effective strategies to increase the involvement of parents in their children's educational lives. The extant body of literature on the impact of participation in sports on student outcomes reveals a pattern of positive associations between school-based sport participation and a host of pro-academic behaviors many of them directly or potentially linked to parental involvement in their children's educational life (Braddock, 1982; Broh, 2002; Crosnoe, 2001a; Dawkins, 1982; Dawkins & Braddock, 1982; Guest & Schneider, 2003; Harris & Hunt, 1982; Hanson & Kraus, 1998, 1999; Hawkins, 2005; Jordan, 1999; Marsh & Kleitman, 2003; Perry-Burney & Takyi, 2002; Trent & Braddock, 1992).



### **CHAPTER III**

#### **THEORETICAL AND CONCEPTUAL FRAMEWORK**

Despite empirical evidence supporting the theoretical proposition that educational benefits accrue to student athletes, sport participation has generally not been included in models which have been developed to examine parental educational involvement and its correlates. Since school-sponsored athletic activities are spheres of the total school experience, they may serve as important elements in understanding the adolescent subculture within schools. As a result of the wide appeal and interest of sports for both parents and their children, participation in school-based athletics may foster increased parent-child interactions around educational matters that may not otherwise occur. Participation in school-based athletics may then positively affect educational outcomes for secondary school students, both directly and indirectly, through increased social capital in the form of parental involvement. Among the few investigations of this issue, O'Bryan (2000), O'Bryan and Braddock (1999) and O'Bryan, Braddock and Dawkins (2006) suggest that school-based sport may, indeed, be an underutilized resource in efforts to improve the active involvement of parents in their adolescents' educational experiences. These investigations generally found positive associations between high school athletic involvement and high levels of parental involvement across multiple dimensions of parent educational involvement. More specifically, parents of high school seniors were more likely to be highly involved with their children around educational matters if they were student athletes (males and females) across race/ethnic groups. As an extension of these findings, the present study proposes a model to further examine

parental involvement and its impact on academic success among high school students attending public schools. Before turning to the proposed model, I will review theoretical perspectives which I draw upon (i.e., Ecological Theory and Social Capital Theory) in reconceptualizing parental educational involvement and constructing the proposal model.

### **Ecological Theory**

Ecological theory posits that an individual's total environment is comprised of interconnected spheres or levels that interact to affect human development -- the microsystem, mesosystem, exosystem, and macrosystem. (Bronfenbrenner, 1979). For purposes of this dissertation, the microsystem (which refers to ones immediate environment, like the home) and the exosystem (which pertains to neighborhoods and schools) are of interest. Having originated in developmental and community psychology, ecological theory necessitates that empirical models designed to examine human behavior and development include characteristics of both the individual and the social environment in which the individual is nested. Thus, an ecological approach to an examination of student academic success recognizes that social processes in the immediate environment of students (their homes) and processes and activities operating in their schools influence achievement.

### **Social Capital Theory**

Contemporary sociological treatments of social capital can be traced to Bourdieu (1986) and Coleman (1988). Although differences exist with regard to conceptualization and measurement, generally social capital is viewed as the ability of individuals to accrue benefits as a result of their membership in social networks (Portes, 1998). Social capital has gained in popularity in the decades following Bourdieu's and Coleman's initial

analyses, as evidenced by the growing body of literature in several disciplines (e. g., sociology, education, and economics). This popularity may be due in whole or in part to the assertion that social capital has the potential to create human capital (Bourdieu, 1986; Coleman, 1988) and economic capital (Bourdieu, 1986).

Unquestionably, research has long established the prominent role the family plays in adolescent development (including academic success). As the primary agent of socialization, the family is also considered to be a primary location of social capital (Coleman, 1988). Social capital within the context of the family is often characterized as the quality, depth, and nature of the interpersonal relationships within families (Lee, 1993). Human capital and economic capital (also referred to as fiscal or financial capital) are both comprised of demographic factors that exist within the family. Human capital would include the educational level of parents and the corresponding skill sets parents bring to the household as a direct result of their educational attainment. Economic or fiscal capital within the family encompasses the financial resources of the household (income, wealth, and assets).

With specific regard to academic outcomes, human capital and social capital are both well-documented correlates of academic success (Hawkins et al., 2007; Jeynes, 2003, 2005). Parents with more accumulated human capital (i.e., higher education) and high levels of social capital (i.e., active involvement with their children and their schools) increase the likelihood of educational success for their children (Coleman, 1988). School-based sport participation (and participation in other extracurricular activities) is assumed to act as a vehicle for the creation of social capital within families by providing additional opportunities for parent-child interaction. Social networks that develop from

parent-child interactions are not the only source of social capital important in fostering beneficial educational outcomes. Thus, networks can and do, exist beyond the family. The social ties that result from extra-familial social networks provide additional resources and opportunities for student success, beyond those secured during social interaction with parents. Social capital, then, may not only operate between parent and child, but may also exist between students, parents, and the school. Thus, school-based athletic involvement has the potential to create various sources of social capital beyond the family (parent-child) through increased opportunities for the formation of social ties and social networks involving peer groups, parents, and the school.

School-sponsored sports activities have the potential to create social capital by providing additional opportunities for social interaction between several actors. For purposes of this dissertation, empirical inquiry is directed towards parent-child and parent-school interactions. In attempting to explain the processes by which social capital operate, I take a “network-mediated” approach (Portes, 1998). In this regard, resources and assets are accrued by virtue of membership in the networks. Thus, it is possible that a parent-school bond is formed when parents attend their children’s sporting events on campus. The attachment and commitment to the school may in turn result in active participation in other activities within the school setting (e.g., PTA membership and participation). Educational information and resources beneficial for the cognitive development of students may be disseminated through these social networks (Coleman, 1990), which may then be directly transmitted to the student through parent-child interactions. Parents may also transmit their educational values and desires for academic success through parent-child interactions. Students may also be encouraged to adhere to

school rules and norms through their social interactions with their parents, resulting in an increased likelihood of positive educational outcomes. As such, social capital may also act as a mechanism of social control. Thus, it is possible that participation in school-sponsored sports increases the formation of social ties and bonds that are then strengthened through the increased opportunities for social interaction (for purposes of this dissertation the focus is parent-child interactions and parent-school interactions). As a result of these strong bonds, students who participate in sport may then form strong attachments to their schools as a result of the educational values, standards, and norms that are communicated and transmitted through those parent-child interactions. Parents in turn may have access to educationally enriching information through their increased interactions with their child's school that may then be communicated to their child during their interactions, which in turn increases their likelihood of academic success.

Social networks and the strong social ties that emerge from them may also result in negative forms of social capital. Although this particular line of inquiry is not the focus of this dissertation, it is important to note that negative forms of social capital exist. Portes (1998), for example, proffered four potential negative ramifications that could result from social capital: (1) social closure (barring outsiders from inclusion in the network), (2) excessive claims or demands being made of group members by other members of the network, (3) limitations being placed on individual freedoms, and (4) a reduction, "downward leveling", of norms previously held by the group.

### **Reconceptualizing Parental Educational Involvement**

One notable issue throughout the parental involvement literature is the lack of consistency regarding its conceptualization. Some researchers conceptualize PI in

accordance with the environment in which the involvement occurs: in the home, in the school, or in the community. Grounding her work in ecological theory, Epstein (1990) proposed a model focused on the shared responsibilities of families and schools as a set of overlapping spheres of influence. According to Epstein (1990), these overlapping spheres shape the interactions of parents, teachers, students, and other members of the school and family, which in turn impact student learning and adolescent development. Ho Sui-Chu and Willms (1996) attempted to further clarify the construct and conceptualized parental involvement along both the home and school spheres of a student's environment. Specifically, they identified two types of PI in the home (discussing school related activities and monitoring a child's activities outside of school) and two types of parental involvement in the school (contact between parents and school personnel and volunteering in the school).

For purposes of this study, parental educational involvement (PEI) is defined as "the dedication of resources by the parent to the child within a given domain" (Grolnick & Slowiaczek, 1994). This particular conceptualization of PI allows for the analysis of specific dimensions of the construct. This dissertation is specifically interested in resources within the educational domain that occur within the home and school spheres. Thus, in this dissertation I extend the conceptualization of parental involvement by focusing on the parental aspirations, parent-child communication, parent-initiated school communication, and school involvement of parents around the educational experiences of their high school children that are facilitated by the child's participation in school-based sports.

## **The Proposed Model**

Drawing upon the extant research literature, a conceptual model is developed and presented (see: Figure 3.1) to assess the impact of school-based varsity sport participation and parental involvement, along with more traditional factors from the research literature, on student academic success -- college preparedness. The rationale for the model is guided by the research literature which consistently documents the importance of parental involvement in the social, affectional and academic development of youth (Astone & McLanahan, 1991; Fehrman et al., 1987). This literature has established the importance of parental involvement in predicting a variety of outcomes deemed essential for academic success (Garg et al., 2002; Gonzalez-Pienda et al., 2002) including academic achievement (Carpenter et al., 2006; Jeynes, 2005; Kim, 2002; Pong et al., 2005; Rea & Palardy, 2008). The model also draws upon the research literature on athletic involvement that fairly consistently indicates the educative value of participation in school-sponsored sports activities (Broh, 2002; Braddock, 1982; Crosnoe, 2001a; Dawkins, 1982; Fredricks & Eccles, 2005; Guest & Schneider, 2003; Hawkins & Mulkey, 2005; Marsh, 1993; Marsh & Kleitman, 2003; McNeal, 1995).

Children's involvement in school-based sport provides a unique context for enhancing parent-child relationships that can be educationally supportive for parents and potentially academically enhancing for the student. While this specific relationship has not been given much attention, our primary attention is given to the issue of whether school-based sport participation exerts a significant effect on various forms of parental educational involvement among high school students. Furthermore, since it has been demonstrated in the research literature that a child's gender is associated with whether

fathers will become involved in the lives of their children (Lamb, 1986), and a child's gender is associated with how mothers interact with their children (Bogenschneider, 1997; Ho Sui-Chu & Willms, 1996), we are also interested in addressing the issue of whether gender (parent and student) moderates the relationship between athletic involvement and PEI. More specifically, the model permits a direct examination of the question of whether levels of PEI vary significantly among same-sex, different-sex parent-child pairs.

Thus, as shown in Figure 3.1, the proposed model identifies the factors that influence academic success and posits a developmental sequence where social class and other familial and student characteristics, student educational experiences, and social capital are examined with regard to their direct and indirect influence on positive academic behaviors. For purposes of this study, student academic success is the ultimate dependent factor, college preparedness, while the independent factors include family socioeconomic status (SES), family structure, race/ethnicity, parent gender, student gender, involvement in school-based sport activities, high school standardized test score, and high school academic track placement. More specifically, Figure 3.1 provides a heuristic model of the potential causal relationships between these sets of factors, thereby enabling us to specify the sequence of hypothesized direct and indirect effects of each of the independent factors on academic success.

Since empirical research has established social class, family background, and educational experiences as important factors in predicting athletic participation, parental involvement, and various measures of academic success, the model posits that family socioeconomic status (SES), family structure, race/ethnicity, parent gender and student



gender affect high school standardized test scores and high school academic track placements. These factors in turn, both directly and/or indirectly, influence participation in high school athletics. More specifically, each of the exogenous variables (family SES, family structure, race/ethnicity, parent gender and student gender) is hypothesized to directly affect high school students' participation in school-based sports and to indirectly influence athletic participation through standardized test scores and academic track placement. The model then posits that each of the aforementioned factors is associated with parental involvement, either directly and/or indirectly. Finally, the model posits that each of these antecedents is associated with the college preparedness of high school seniors in a variety of ways. Participation in high school athletics is expected to directly influence the college preparedness of high school seniors, and parental involvement is expected to mediate this association.

### **Hypotheses**

***Hypothesis 1:*** School-based sport participation is significantly related to various forms of parental educational involvement in both the home and school contexts.

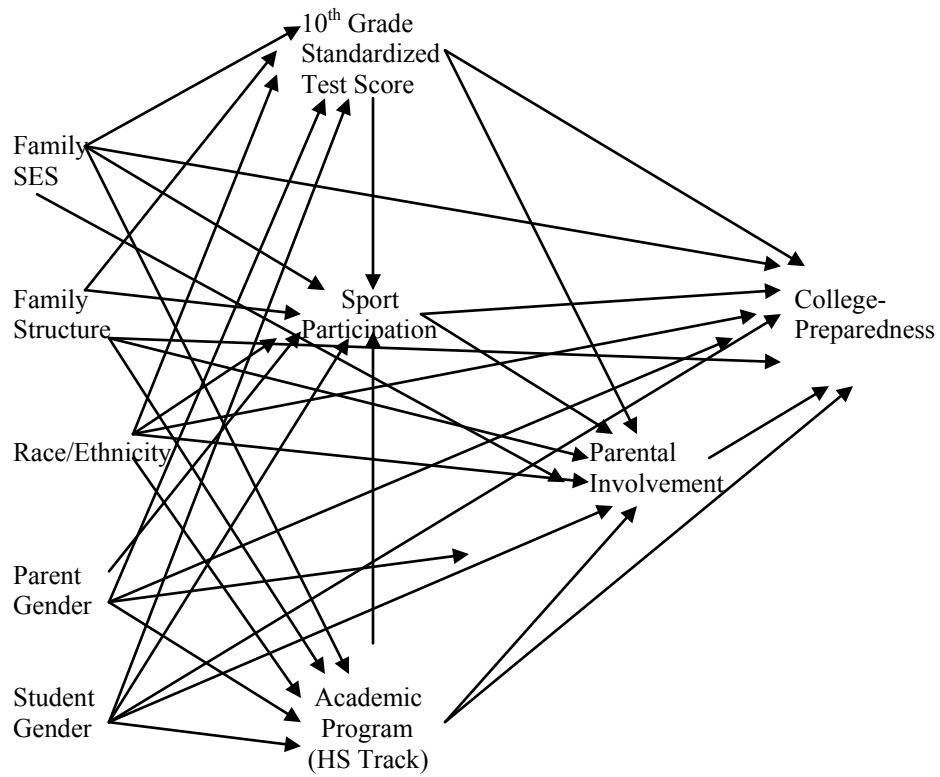
***Hypothesis 2:*** Parental educational involvement significantly varies by parent-gender pairs. Significantly higher parental involvement is expected among same-sex parent-child pairs.

***Hypothesis 3:*** Varsity sport participation significantly affects the college preparedness of high school seniors.

***Hypothesis 4:*** Parental involvement significantly affects the college preparedness of high school seniors.

**Hypothesis 5:** Parental educational involvement mediates the effect of varsity sport participation on the college preparedness of high school seniors.

Figure 3.1 A Conceptual Model of Athletic Participation and Academic Success



## **CHAPTER IV**

### **METHODOLOGY**

#### **Source of Data**

This study uses data from the Education Longitudinal Study of 2002 (ELS: 2002). ELS is a nationally representative, longitudinal study of adolescents (while in tenth and twelfth grades), their parents, teachers, school administrators, and library media specialists, drawn from a national probability sample of public and private schools in the United States. The purpose of the parent, teacher, librarian, and school data is to provide contextual data for better understanding the student cohort. ELS is the most recent longitudinal study of high school students that continues a series of nationally representative longitudinal studies conducted by the United States Department of Education's National Center for Education Statistics (NCES) over recent decades. Future ELS survey waves will follow both students and high school dropouts and will monitor the transition of the cohort to postsecondary education, the labor force, and family formation. This data set, like its predecessors, is particularly rich in its coverage of items pertaining to parental involvement and school-based athletic participation.

The base-year survey was conducted during the spring of the 2001-02 academic school year and employed a two-stage sample selection procedure. A national probability sample of 1,221 eligible schools was selected from a population of 27,000 high schools with 10<sup>th</sup> graders. Of the eligible public, Catholic, and other private high schools, 752 participated, resulting in a 68% weighted response rate. High school sophomores were then randomly sampled from the enrollment lists provided by their high schools. Of the 17,591 eligible 10<sup>th</sup> graders, 15,362 completed surveys (87.3% weighted

response rate). The first follow-up was conducted in 2004 on those students who completed surveys in the base-year and were attending the same high school, in addition to a freshened sample of seniors within those schools. Parents, teachers, school administrators, and library media specialists were also surveyed. All data are taken from student surveys, except the parental involvement measures.

The sample for the present study is taken from both the base-year and the 1<sup>st</sup> follow-up of (ELS: 2002). Thus, this investigation has a longitudinal design based on the analysis of 10<sup>th</sup> grade predictors of 12<sup>th</sup> grade outcomes. Since minority populations were oversampled in order to enhance their representativeness, all analyses in this study were conducted with the appropriate NCES weights. The weight was normed by dividing it by the sample mean, in order to adjust the data for nonresponse bias and to redistribute the sample to more accurately reflect high school students in the United States in 2002 and 2004 (correcting for any exaggerated sample sizes that would affect interpretations drawn from significance tests). Public high schools are the focus of this study. Thus, the analytic sample (n=3,805) examines students who attended public schools and who were present at both waves of data collection (creating a panel sample).

### **Measurement of Variables**

***Athletic Participation:*** The ELS: 2002 student survey (base-year) provided the data for the athletic participation measure. Students were asked to report their level of participation in interscholastic and intramural sports. For purposes of this study, only interscholastic sport participation is examined. The sport participation measure utilized in this study is a measure of any varsity sport participation (individual or team) in the 10<sup>th</sup> grade, excluding cheerleading. It is important to note that for purposes of this study, the

sport participation measure treats non-participation the same as non-availability of the sport activity. This author recognizes that these phenomena may be different, in that students who fail to participate because their school does not offer an activity may be dissimilar to students who have the opportunity for engagement but chose not to participate.

***Parental Involvement:*** The parental involvement measure is operationalized along three of the four dimensions of parental involvement (home discussions, school communication, and school participation) identified by Ho Sui-Chu and Willms' (1996). All items selected for the measurement of the various aspects of parental involvement were taken from parent questionnaire data (base-year). NCES did not collect parent data in the 1<sup>st</sup> follow-up. To construct of each parental involvement measure, factor analyses (principal component analysis with a varimax rotation) were conducted. Items that did not load or that loaded equally on more than one factor were not included in the composite.

The ***home discussion dimension*** is represented by a 4-item composite index that measures whether students discussed selecting high school courses, plans for college entrance exams, applying to college after high school, and what jobs to apply for after high school with their parents. Values for each item ranged from (1=never, 2=sometimes, and 3=often). Each item was then recoded (0=never, 1=sometimes, and 2=often), and an index of home discussions was constructed with values ranging from 0 (no home discussions regarding school matters) to 8 (high home discussions on all items). Reliability analysis was conducted using Cronbach's alpha (standardized  $\alpha = .77$ ).

For the present study, the school-communication dimension of parental involvement is a departure from the measure employed by Ho Sui-Chu and Willms (1996) in that only communication with schools initiated by a parent is considered.

***Negative parent-initiated communication*** represents a 3-item composite index that measures parental contacts with schools regarding their adolescent's poor performance, poor attendance, and problem behavior. The items, initially coded (1=never, 2=once or twice, 3=3 or 4 times, and 4=more than 4 times), were re-coded (0=never, 1=once or twice, 2=3 or 4 times, and 3=more than 4 times) in order to construct a measure of parent-initiated communication regarding negative behaviors. The index ranges from 0 (no parent-initiated contacts with high schools regarding negative behaviors) to 9 (high parent-initiated contacts in the form of communication on all items). The reliability coefficient for this index, measured with Cronbach's alpha, is standardized  $\alpha = .69$ .

***Positive parent-initiated communication*** is also a 3-item composite index measuring the level at which parents contacted their teen's school regarding the current school year's program, their teen's course selection, and post-secondary plans. The values for the items were exactly the same as those for the negative parent-initiated items, and were thus, recoded in the same manner (0=never, 1=once or twice, 2=3 or 4 times, and 3=more than 4 times). The values for the index range from 0 (no parent-initiated communication) to 9 (high parent-initiated communication with schools, more than four times, on each item). The reliability of this index was also measured using Cronbach's alpha (standardized  $\alpha = .75$ ).

The ***school participation/involvement*** dimension is a four-item composite index measuring diverse patterns of parental involvement at school. Each of the items (PTA

membership, attendance at PTA meetings, taking an active part in PTA sponsored activities, and volunteering at schools) are dichotomous, thus the values for the index range from 0 (no participation) to 4 (participation on each item). Cronbach's alpha was also used to assess the reliability of this index (standardized  $\alpha = .70$ ). The final dimension of parental involvement used in the present study is the NCES constructed item measuring *parental educational aspirations*. The values range from 1 (less than high school graduation) to 7 (to obtain a PhD, MD, or some other advanced degree).

***College Preparedness:*** College preparedness is operationalized as a composite measure reflecting academic achievement (standardized test performance) and college planning and preparatory behaviors: *Academic achievement* is measured using the raw 12<sup>th</sup> grade standardized math test score. This item was chosen because the ELS data does not have a composite measure of achievement in the 1<sup>st</sup> follow-up. Three measures of positive academic behaviors were constructed that assess 12<sup>th</sup> grade active college planning and preparatory behaviors. The original NCES item measuring whether or not the SAT/ACT had been taken, or if plans were made to take a college entrance exam was recoded into a dichotomous variable (0=did not take the SAT/ACT, 1=took the SAT/ACT), *college exam*. Thus, for purposes of this study, only active college preparatory behaviors are considered. The *college awareness* measure is 13-item index enumerating the sources high school seniors sought, if any, in order to obtain college entrance information. Since each of the items used in the construction of this measure were dichotomous, the values for the index range from 0 (no college entrance information sought) to 13 (sought college entrance information from each source or resource). The reliability of the measure (standardized  $\alpha = .67$ ) was determined using Cronbach's alpha.

The final measure, *college application* indicates whether or not the high school senior applied for college. The original variable, which assessed how many schools the student applied to, was recoded into a dichotomous variable (0=did not apply to college/school, 1=applied to college). For the present study, factor analysis (principal component analysis with a varimax rotation) was used to determine if the academic achievement and active college-preparatory measures were conceptually one construct. Since each measure loaded on one factor, the factor score was saved, resulting in an index of *college preparedness*. Thus, college preparedness -- the primary dependent variable for the present study -- is a composite measure of academic achievement and active college-preparatory behaviors.

### ***Control Variables***

*Prior Academic Achievement and Academic Track:* The NCES constructed measure of 10<sup>th</sup> grade composite (reading and math) standardized test score is used as a control for the 12<sup>th</sup> grade achievement measure included within the college preparedness index. The academic high school track (*academic track*) is taken from base-year data. The values, ranging from 1 (general), 2 (college preparatory-academic) and 3 (vocational-including technical/business), were recoded to create a dichotomous variable (0=non-college prep, 1=college prep) measuring enrollment in the college-prep academic track. This item measures self-reported high school program of study. Unfortunately, unlike the NELS:88 data, NCES has not constructed a composite variable of high school rigor to date. Therefore, the self-report measure is employed for the present study.



### ***Exogenous Variables***

All exogenous variables were drawn from base-year student data. *Family SES* is a NCES constructed composite measure based on five equally standardized components (father's education, mother's education, family income, father's occupation, and mother's occupation). The item measuring *family structure* is taken from the NCES constructed measure BYFCOMP. The variable was recoded to create a dichotomous variable distinguishing single-parent households from other household structures. Therefore, the reference category (household structures other than single-parent families) is composed of either two parent households (both parents in the home) or households consisting of one-parent and a guardian. All other household structures (two-guardian, guardian-only, or arrangements where the adult lives with the high school student less than half time) were excluded from these analyses. ELS:2002 includes a composite measure of racial/ethnic identification (Black, White, Hispanic, Asian/Pacific Islander, and Native American). For purposes of this study, *race/ethnicity* is measured with a dichotomous variable created for African-Americans, with Whites serving as the reference category (0=White, 1=African-American), with all other racial/ethnic categories excluded from the present study. *Parent gender* was taken from base-year parent data assessing the respondent's relationship to the high school student. A dichotomous variable was created to assess the unique contributions of mothers and fathers (0=mothers, 1=fathers). For purposes of the current study, parent is conceptualized as a biological, adoptive, or stepparent. All other relationships (for example, grandparents and foster parents) are not examined in the present study. Since *student gender* impacts both patterns and levels of

athletic participation and parental involvement, separate models for males and females are empirically tested.

### **Data Analyses**

First, zero-order correlations for all analysis variables identified in the conceptual model were conducted. Second, path analysis was conducted in order to empirically test the conceptual model proposed in chapter 3. Multiple regression analyses (standardized beta coefficients) and structural equations models were performed in order to assess the direct, indirect, and total effects of each of the variables in the causal model. Multiple regression (MR) techniques allow researchers to assess the extent to which the effect of a particular predictor of interest on an outcome variable persists once other known correlates of the outcome measure have been included in the analysis. Thus, by employing MR techniques, researchers are able to examine the direct (partial) effects of all correlates included in the analysis in predicting the outcome measure of interest. Unfortunately, the type of multiple regression procedure employed (for example, stepwise, sequential, or simultaneous) could lead to entirely different interpretations for the exact same data. This problem, however, is somewhat diffused with path analysis. Since path analysis does not focus exclusively on direct effects, it is often considered to be a better option than MR for the explanatory analysis of non-experimental data (Keith, 2006). The paths (arrows) in path models assert weak causal ordering. In other words, if the variables are causally related, then the causal relationship is in the direction that is specified by the arrow. Thus, for purposes of this dissertation, the correlations among the predetermined variables in the proposed conceptual model (Figure 3.1) are assumed to be

linear, additive, and causal. As a result, each endogenous variable, as specified by the model, is directly related to all of the antecedent variables in the sequence.

Since the primary purpose of this dissertation is to empirically test the proposed conceptual model developed in Chapter 3, path analysis is appropriate for that purpose. Path models provide a diagrammatic visual of a researcher's hypothesized understanding of how a particular phenomenon operates. Path models then, allow us to focus on the mediating effects (indirect effects) in addition to the direct effects. Mediating effects are important because they add a critical piece to the proverbial pie with regard to explanatory analysis. Stated differently, indirect or mediating effects allow us to understand how an effect operates -- the mechanisms through which an explanatory variable affects an outcome variable.

To solve for the paths using multiple regression, each endogenous variable (again, as specified by the model), was regressed on the appropriate antecedent variables as dictated by the model. Since the standardized beta coefficients are equal to the standardized paths, they were used to calculate the indirect and total effects. Indirect effects were determined by calculating the product of the appropriate paths set forth in the model. Total effects were determined by adding the appropriate direct and indirect effects. Since the parental involvement literature indicates that student gender influences how parents interact with their children, and because of the gender differences in varsity sport participation, all analyses were conducted separately for males and females.

## CHAPTER V

### RESULTS

The major issue examined in this dissertation is the extent to which correlates with student academic success identified in the research literature can explain college preparedness (i.e., pro-academic behaviors and academic achievement). The factors of primary interest in this dissertation are school-based varsity sport participation and parental involvement. This chapter presents the results of our bivariate and multivariate analyses of college preparedness. First, the zero-order correlations for all analysis variables identified in the conceptual model are presented. Second, we report the direct effects of the predetermined variables on our five measures of parental involvement for the full study sample, then separately for male and female students. We focus primarily on the role of varsity sport participation, with secondary attention paid to race effects. Third, the direct effects of the predetermined variables on college preparedness are presented (for the full study sample, then separately for male and female students). Here we also focus primarily on the direct effects of varsity sport participation (with some attention paid to race effects). Fourth, we examine the indirect and total effects of varsity sport participation and other determinants specified in the conceptual model and the potential mediating role of parental involvement.

#### **Bivariate Analyses**

Table 5.1 presents zero-order correlations, means, and standard deviations among all analysis variables for the full study sample and parallel results are reported separately by student gender in Table 5.2.

For the full study sample, as shown in Table 5.1, varsity sport participation is significantly correlated with three of our five measures of parental involvement: home discussions ( $r = .04$ ;  $p < .05$ ), negative parent-initiated school communication ( $r = -.05$ ;  $p < .01$ ), and school participation/involvement ( $r = .12$ ;  $p < .001$ ). With regard to our primary dependent variable – college preparedness -- we observe significant associations with each of the determinants identified in the conceptual model. Significantly, among students attending public U.S. high schools, there is a significant positive association between participation in school-based varsity sports and college preparedness ( $r = .16$ ;  $p < .001$ ). The intercorrelations also reveal significant associations between college preparedness and each of the five measures of parental involvement: parental aspirations ( $r = .31$ ;  $p < .001$ ), home discussions ( $r = .09$ ;  $p < .001$ ), positive parent-initiated school communication ( $r = .05$ ;  $p < .01$ ), negative parent-initiated school communication ( $r = -.22$ ;  $p < .001$ ), and parents' school participation ( $r = .14$ ;  $p < .001$ ). Put differently, these associations reveal that parental aspirations, home discussions, positive parent-initiated school communication, and parents' school participation exert a significant positive influence on the level of college preparedness among their children. In contrast, negative parent-initiated school communication diminishes children's college preparedness. The zero-order correlations reveal a significant negative correlation between race and college preparedness, indicating that African American students exhibit lower levels of college preparedness than their white peers.

Table 5.2 presents the intercorrelations by student gender: females (lower diagonal) and males (upper diagonal). The male and female patterns observed in Table 5.2 are similar to those noted in Table 5.1 for the full sample. School-based varsity sport

Table 5.1  
Correlation Matrix and Descriptive Statistics (N=3,805)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1-Family SES														
2-Single-Parent HH	-.21 <sup>c</sup>													
3-Race (Black=1)	-.19 <sup>c</sup>	.26 <sup>c</sup>												
4-Parent Gender (Fathers=1)	.12 <sup>c</sup>	-.03 <sup>a</sup>	-.00											
5-Student Gender (Male=1)	.05 <sup>b</sup>	-.03	-.02	.07 <sup>c</sup>										
6-Standardized Test Score	.38 <sup>c</sup>	-.17 <sup>c</sup>	-.31 <sup>c</sup>	.04 <sup>b</sup>	.04 <sup>a</sup>									
7-H.S. Track (Academic=1)	.13 <sup>c</sup>	-.05 <sup>b</sup>	.01	.01	-.05 <sup>b</sup>	.25 <sup>c</sup>								
8-Varsity Sport	.13 <sup>c</sup>	-.10 <sup>c</sup>	-.10 <sup>c</sup>	-.02	.14 <sup>c</sup>	.08 <sup>c</sup>	.11 <sup>c</sup>							
9-Parental Aspirations	.23 <sup>c</sup>	.01	.18 <sup>c</sup>	.06	-.07 <sup>c</sup>	.07 <sup>c</sup>	.21 <sup>c</sup>	-.00						
10-Home Discussions	.13 <sup>c</sup>	-.04 <sup>a</sup>	.10 <sup>c</sup>	.00	.03	.06 <sup>c</sup>	.13 <sup>c</sup>	.04 <sup>a</sup>	.23 <sup>c</sup>					
11-Positive School Contacts	.15 <sup>c</sup>	-.04 <sup>a</sup>	.05 <sup>b</sup>	.01	.05 <sup>c</sup>	-.02	.01	-.00	.08 <sup>c</sup>	.22 <sup>c</sup>				
12-Negative School Contacts	.01	.08 <sup>c</sup>	.13 <sup>c</sup>	-.02	.12 <sup>c</sup>	-.16 <sup>c</sup>	-.13 <sup>c</sup>	-.05 <sup>b</sup>	-.08 <sup>c</sup>	.06 <sup>c</sup>	.26 <sup>c</sup>			
13-School Participation	.21 <sup>c</sup>	-.10 <sup>c</sup>	.07 <sup>c</sup>	.00	-.04 <sup>a</sup>	.04 <sup>a</sup>	.08 <sup>c</sup>	.12 <sup>c</sup>	.16 <sup>c</sup>	.20 <sup>c</sup>	.28 <sup>c</sup>	.01		
14-College Preparedness	.38 <sup>c</sup>	-.16 <sup>c</sup>	-.14 <sup>c</sup>	.04 <sup>a</sup>	-.05 <sup>b</sup>	.58 <sup>c</sup>	.28 <sup>c</sup>	.16 <sup>c</sup>	.31 <sup>c</sup>	.09 <sup>c</sup>	.05 <sup>b</sup>	-.22 <sup>c</sup>	.14 <sup>c</sup>	
Mean	.11	.21	.19	.16	.46	52.98	.58	.54	5.44	4.99	.97	.52	1.22	.08
S.D.	.64	.41	.39	.37	.50	9.35	.49	.50	1.169	2.21	1.37	1.05	1.34	.94

a indicates  $p < .05$ ; b indicates  $p < .01$ ; c indicates  $p < .001$

is positively and significantly associated with college preparedness among both males ( $r = .16$ ;  $p < .001$ ) and females ( $r = .18$ ;  $p < .001$ ). Additionally, several of the parental involvement measures are also significantly associated with college preparedness: Among females, parental aspirations ( $r = .27$ ;  $p < .001$ ), negative parent-initiated school contacts ( $r = -.23$ ;  $p < .001$ ), and school participation ( $r = .12$ ;  $p < .001$ ) are each significantly correlated with college preparedness. Among males, each of the parental involvement measures is significantly associated with college preparedness: parental aspirations ( $r = .36$ ;  $p < .001$ ), home discussions ( $r = .18$ ;  $p < .001$ ), positive parent-initiated school communication ( $r = .07$ ;  $p < .01$ ), negative parent-initiated school communication ( $r = -.21$ ;  $p < .001$ ), and parental school participation ( $r = .16$ ;  $p < .001$ ). Race is significantly (negatively) associated with college preparedness for males ( $r = -.13$ ;  $p < .001$ ) and females ( $r = -.15$ ;  $p < .001$ ) indicating that African American males and females exhibit lower levels of college preparedness than their same-sex white peers.

### **Effects on Parental Involvement**

Table 5.3 presents the results of the regression analyses of the predetermined variables on our five measures of parental involvement. Results are presented for the full study sample then separately for male and female high school students. Focusing first on the full sample (upper panel, Table 5.3), varsity sport participation exerts significant direct effects on two of our parental involvement measures after controlling for the effects of family SES, single family household structure, race, parent gender, student gender, standardized test score, and high school academic track. Specifically, varsity sport exerts a significant (negative) direct effect on parent-initiated school communication surrounding negative educational matters ( $\beta = -.030$ ;  $p < .05$ ) and a

Table 5.2  
Correlation Matrix and Descriptive Statistics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	Mean	S.D.
1-Family SES															
2-Single-Parent HH	-.21 <sup>c</sup>														
3-Race (Black=1)	-.19 <sup>c</sup>	.25 <sup>c</sup>													
4-Parent Gender (Fathers=1)	.11 <sup>c</sup>	-.02	-.02												
5-Standardized Test Score	.37 <sup>c</sup>	-.17 <sup>c</sup>	-.30 <sup>c</sup>	.07 <sup>b</sup>											
6-H.S. Track (Academic=1)	.14 <sup>c</sup>	-.03	-.01	.02	.28 <sup>c</sup>										
7-Varsity Sport	.17 <sup>c</sup>	-.10 <sup>c</sup>	-.13 <sup>c</sup>	.03	.13 <sup>c</sup>	.08 <sup>b</sup>									
8-Parental Aspirations	.22 <sup>c</sup>	.05 <sup>a</sup>	.14 <sup>c</sup>	.04	.27 <sup>c</sup>	.18 <sup>c</sup>	.00								
9-Home Discussions	.11 <sup>c</sup>	-.01	.15 <sup>c</sup>	-.00	.01	.09 <sup>c</sup>	.01	.21 <sup>c</sup>							
10-Positive School Contacts	.14 <sup>c</sup>	-.02	.05 <sup>a</sup>	.02	-.01	-.00	.02	.05 <sup>a</sup>	.23 <sup>c</sup>						
11-Negative School Contacts	-.01	.08 <sup>c</sup>	.08 <sup>c</sup>	.00	-.21 <sup>c</sup>	-.12 <sup>c</sup>	-.05 <sup>a</sup>	-.07 <sup>b</sup>	.06 <sup>b</sup>	.25 <sup>c</sup>					
12-School Participation	.22 <sup>c</sup>	-.09 <sup>c</sup>	.08 <sup>c</sup>	.02	.06 <sup>a</sup>	.07 <sup>b</sup>	.11 <sup>c</sup>	.12 <sup>c</sup>	.20 <sup>c</sup>	.30 <sup>c</sup>	.02				
13-College Preparedness	.40 <sup>c</sup>	-.13 <sup>c</sup>	-.15 <sup>c</sup>	.06 <sup>a</sup>	.61 <sup>c</sup>	.27 <sup>c</sup>	.18 <sup>c</sup>	.27 <sup>c</sup>	.04	.03	-.23 <sup>c</sup>	.12 <sup>c</sup>			
Mean	.14	.21	.15	.13	53.20	.60	.49	5.50	4.90	.93	.41	1.24	.18		
S.D.	.66	.40	.36	.34	8.78	.49	.50	1.12	2.18	1.32	.94	1.33	.88		

a indicates  $p < .05$ ; b indicates  $p < .01$ ; c indicates  $p < .001$

Females: Listwise N=1,780 (lower diagonal); Males: Listwise N=1,743 (upper diagonal)



significant (positive) direct effect on school participation ( $\beta = .082$ ;  $p < .001$ ), after the effects of family SES, single family household structure, race, parent gender, student gender, standardized test score, and high school academic track are taken into account. More specifically, parents of students who are actively involved in varsity sports are less likely to have parent-initiated school communication involving negative educational matters, than parents whose children are not involved in varsity sports. In contrast, parents of students who are actively involved in varsity sports are more likely to become active participants in school activities than parents whose children are not involved in varsity sports. As noted in Table 5.1, varsity sport participation is also significantly correlated with the home discussions dimension of parental involvement ( $r = .04$ ;  $p < .05$ ); however, this relationship does not hold when the appropriate predetermined variables were entered into the regression equation. Varsity sport participation does not exert a significant effect on parental aspirations ( $\beta = .016$ ;  $p > .05$ ), home discussions ( $\beta = .021$ ;  $p > .05$ ), or parent-initiated school communication regarding positive educational experiences ( $\beta = .007$ ;  $p > .05$ ) after accounting for each of the antecedents in the model, although the direction of each association is positive.

Interestingly, and contrary to the extant body of literature, race exerts significant (positive) direct effects on each of our measures of parental involvement, suggesting that, at least for our sample, African American parents are significantly more involved than white parents in the educational lives of their high school adolescent children, when the effects of family SES, single family household structure, race, parent gender, student gender, standardized test score, and high school academic track are taken into account. As the results show for the full study sample (upper panel, Table 5.3), race is positively

and significantly related to parental aspirations ( $\beta = .277$ ;  $p < .001$ ), home discussions ( $\beta = .133$ ;  $p < .001$ ), positive parent-initiated school communication ( $\beta = .071$ ;  $p < .001$ ), negative parent-initiated school communication ( $\beta = .056$ ;  $p < .001$ ), and parental school participation ( $\beta = .136$ ;  $p < .001$ ). This pattern is also observed for our student gender models (middle and lower panels, Table 5.3), suggesting that regardless of their child's sex, African American parents are significantly more involved in the educational experiences of their high school children relative to white parents. Again, considering the full study sample, family SES is the only other variable in the model that is significantly related to each of our parental involvement measures-- parental aspirations ( $\beta = .228$ ;  $p < .001$ ), home discussions ( $\beta = .150$ ;  $p < .001$ ), positive parent-initiated school communication ( $\beta = .186$ ;  $p < .001$ ), negative parent-initiated school communication ( $\beta = .067$ ;  $p < .001$ ), and parental school participation ( $\beta = .229$ ;  $p < .001$ ). Similar to the race effects, this pattern is also observed for males and females.

The results presented in Table 5.3 also show that varsity sport participation exerts significant direct effects (positive) on parental school involvement among both male ( $\beta = .092$ ;  $p < .001$ ) and female ( $\beta = .073$ ;  $p < .001$ ) high school students, when the effects of other key variables (including family SES, standardized test score, and high school academic track) are taken into account. Indeed, family SES ( $\beta = .219$ ;  $p < .001$ ) is the only predictor in our model that exerts a stronger direct effect on parental school involvement than varsity sport participation among males. Among females, family SES ( $\beta = .234$ ;  $p < .001$ ) and race ( $\beta = .180$ ;  $p < .001$ ) are the only two variables in our model which exert stronger direct effects on parental school involvement than varsity sport.

Table 5.3  
Results of the Regression Analyses on Parental Involvement Measures (Standardized Regression Coefficients)

	(1)	(2)	(3)	(4)	(5)
Family SES	.228***	.150***	.186***	.067***	.229***
Single-Parent	.017	-.029*	-.021	.038**	-.063***
Race (African-American=1)	.277***	.133***	.071***	.056***	.136***
Parent Gender (Fathers=1)	-.018	-.038**	-.005	-.011	.001
Student Gender (Male=1)	-.081***	-.011	.040**	.124***	-.071***
Standardized Test Score	.235***	.014	-.085***	-.211***	-.006
H.S. Track (Academic=1)	.116***	.096***	.012	-.061***	.053***
Varsity Sport	.016	.021	.007	-.030*	.082***
<b>R<sup>2</sup></b>	<b>.204</b>	<b>.051</b>	<b>.036</b>	<b>.079</b>	<b>.086</b>
<b>Adjusted R<sup>2</sup></b>	<b>.203</b>	<b>.050</b>	<b>.035</b>	<b>.078</b>	<b>.084</b>
<b><u>Males</u></b>					
Family SES	.245***	.142***	.176***	.064***	.219***
Single-Parent	-.002	-.044*	-.059**	.009	-.071***
Race (African American=1)	.283***	.078***	.046*	.062***	.087***
Parent Gender (Fathers=1)	-.019	-.071***	-.009	-.052***	-.004
Standardized Test Score	.251***	.037	-.113***	-.213***	-.025
H.S. Track (Academic=1)	.107***	.100***	.024	-.097***	.078***
Varsity Sport	.018	.020	.011	.022	.092***
<b>R<sup>2</sup></b>	<b>.214</b>	<b>.051</b>	<b>.036</b>	<b>.071</b>	<b>.080</b>
<b>Adjusted R<sup>2</sup></b>	<b>.212</b>	<b>.049</b>	<b>.033</b>	<b>.070</b>	<b>.078</b>
<b><u>Females</u></b>					
Family SES	.214***	.156***	.192***	.064***	.234***
Single-Parent	.038*	-.021	.013	.061***	-.061***
Race (African American=1)	.271***	.178***	.095***	.039*	.180***
Parent Gender (Fathers=1)	-.017	-.006	.002	.010	.006
Standardized Test Score	.219***	-.014	-.050*	-.218***	.012
H.S. Track (Academic=1)	.126***	.093***	.000	-.095	.032
Varsity Sport	.015	.027	.004	-.017	.073***
<b>R<sup>2</sup></b>	<b>.183</b>	<b>.059</b>	<b>.037</b>	<b>.076</b>	<b>.089</b>
<b>Adjusted R<sup>2</sup></b>	<b>.181</b>	<b>.057</b>	<b>.035</b>	<b>.074</b>	<b>.087</b>

\* p < .05; \*\* p < .01; \*\*\* p < .001; NOTE: Parental Aspirations = (1); Home Discussions = (2); Positive Parent-Initiated School Communication (Contacts) = (3); Negative Parent-Initiated School Communication = (4); School Participation/Involvement = (5)

These results lend support to the argument that school-based athletic involvement can enhance social capital by strengthening the connection between parents and their adolescents' schools. Thus, based upon the results of the bivariate analyses presented in Tables 5.1 and 5.2 and the results of the regression analyses presented in Table 5.3, hypothesis 1, which states that varsity sport participation is significantly related to various forms of parental educational involvement in both the home and school spheres, is only partially supported.

With regard to the differential effects on parental involvement of parent and student gender, the results presented in Table 5.3 (middle panel) reveal that mothers are significantly more involved than fathers with their sons in both home discussions ( $\beta = -.071$ ;  $p < .001$ ) and negative school communication ( $\beta = -.052$ ;  $p < .001$ ). Parental gender does not significantly affect parental aspirations, positive parent-initiated school communication, or parental school involvement for males. No significant effects of parental gender are observed for female high school students (lower panel, Table 5.3). Therefore, hypothesis 2, which states parental educational involvement varies significantly as a function of parent and student sex, with greater parental involvement among same-sex parent-child pairs, is not supported.

### **Analyses of Primary Dependent Variable: College Preparedness**

Full Sample: Table 5.4 presents the results of the OLS regression analyses (standardized beta coefficients) employed to assess the influence of varsity sport participation, parental involvement, and other predetermined variables on the college preparedness of high school seniors based on the conceptual model presented in Chapter 3 for the full study sample. Background variables (family socioeconomic status,

household structure (single-family household), race, parent gender, and student gender) were entered into the equation at the first step of the analysis. Each of the background variables exerts a significant direct effect on college preparedness, except parent gender and each continues to exert significant direct effects at model 2, when standardized test score and academic track were entered into the equation. Not surprisingly, standardized test score ( $\beta = .489$ ;  $p < .001$ ), family SES ( $\beta = .189$ ;  $p < .001$ ), and high school track ( $\beta = .129$ ;  $p < .001$ ) exert the strongest direct effects on college preparedness than the other variables in the equation at step two. However, the direct effect of race, which remains statistically significant, is now positive in Model 2, indicating that when SES and prior achievement are taken into account, African-Americans exhibit greater college preparedness than their white counterparts.

When varsity sport participation is entered into the equation in Model 3, all of the statistically significant relationships from the previous model retain significance, and varsity sport participation also exerts a positive direct effect ( $\beta = .092$ ;  $p < .001$ ) on college preparedness among high school seniors. As expected, prior academic achievement exerts the strongest direct effect ( $\beta = .490$ ;  $p < .001$ ) in Model 3, followed by family SES ( $\beta = .180$ ;  $p < .001$ ) and academic track ( $\beta = .120$ ;  $p < .001$ ). Nevertheless, varsity sport participation exerts a stronger direct effect on college preparedness than both household structure ( $\beta = -.049$ ;  $p < .001$ ) and race ( $\beta = .068$ ;  $p < .001$ ). When the five parental involvement measures (parental educational aspirations, home discussions, positive parent-initiated school communication, negative parent-initiated negative school communication, and school participation/involvement) were

entered into the regression equation in model 4, each exerted a significant direct effect on college preparedness in the expected directions (with the exception of home discussion).

Table 5.4  
Results of the Regression Analyses on College Preparedness among High School Seniors Attending Public Schools (Standardized Regression Coefficients, Full Panel Sample) N=3,805

	Model 1	Model 2	Model 3	Model 4
Family SES	.366***	.189***	.180***	.162***
Single-Parent	-.077***	-.054***	-.049***	-.040**
Race (African-American=1)	-.048**	.062***	.068***	.046***
Parent Gender (Fathers=1)	-.004	-.005	-.001	-.008
Student Gender (Male=1)	-.070***	-.070***	-.083***	-.060***
Standardized Test Score		.489***	.490***	.450***
H.S. Track (Academic=1)		.129***	.120***	.094***
Varsity Sport			.092***	.086***
Parental Aspirations				.097***
Home Discussions				-.005
Positive School Contacts				.050***
Negative School Contacts				-.138***
School Participation				.036**
R <sup>2</sup>	.164	.396	.404	.433
Adjusted R <sup>2</sup>	.163	.395	.403	.431

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

In this sample of high school seniors attending public schools, parent-child discussions around educational matters does not significantly influence college preparedness.

However, both negative parent-initiated school communication ( $\beta = -.138$ ;  $p < .001$ ) and parental aspirations ( $\beta = .097$ ;  $p < .001$ ) had significant effects on college preparedness which were stronger than the effect of academic track ( $\beta = .094$ ;  $p < .001$ ). Positive parent-initiated school communication ( $\beta = .050$ ;  $p < .001$ ) and parental school participation ( $\beta = .036$ ;  $p < .01$ ) are each significantly (positive) related to college preparedness. Not surprisingly, standardized test score ( $\beta = .450$ ;  $p < .001$ ) and family

SES ( $\beta = .162$ ;  $p < .001$ ) exhibited the strongest direct effects on college preparedness. Additionally, the direct effect of varsity sport participation ( $\beta = .086$ ;  $p < .001$ ) is only slightly smaller than the effect of academic track. These results reveal that 10<sup>th</sup> grade varsity sport participation – net of background characteristics, prior achievement, academic track placement -- and 10<sup>th</sup> grade parental involvement –are significant determinants of 12<sup>th</sup> grade college preparedness. Thus, varsity sport involvement appears to be an important determinant of college preparedness, even after other important differences between athletes and non-athletes have been statistically controlled. Student race also remains a statistically significant, positive predictor of college preparedness ( $\beta = .046$ ;  $p < .001$ ) in the final stage (Model 4) of the regression analysis. Although the effect is modest, it indicates that African American students attending public high schools are significantly more prepared for college than their white counterparts, when other factors are statistically controlled.

Males: Table 5.5 presents the results of regression analyses of the predetermined variables on college preparedness among male high school seniors. Two of the background variables entered into the regression equation in Model 1 exert significant direct effects on college preparedness: family SES ( $\beta = .370$ ;  $p < .001$ ) and household structure ( $\beta = -.099$ ;  $p < .001$ ). Standardized test score and high school academic track were entered into the regression equation in Model 2, where all background variables (with the exception of parent gender) exert significant direct effects on college preparedness. Although non-significant when only the background variables were entered into the regression equation, race ( $\beta = .078$ ;  $p < .001$ ) exerts a significant positive direct effect on college preparedness, net of other important background variables. These

background and prior educational attainment variables remain significant in Model 3 when varsity sport participation was entered into the equation. Nevertheless, varsity sport participation exerts a significant direct effect ( $\beta = .104$ ;  $p < .001$ ) on the college preparedness of males, and this relationship holds ( $\beta = .094$ ;  $p < .001$ ), although it is slightly reduced in magnitude, when the parental involvement measures were entered into the equation at the final stage (Model 4) of the analysis. All of the parental involvement measures exert significant direct effects, and race retains its significant direct effect on the dependent variable. Thus, school-based varsity sport, parental involvement, and race are independently important determinants of college preparedness for male high school students. Male athletes and African American males are significantly more likely to exhibit greater college preparedness than white males and males who are not involved in varsity sport, above and beyond the effects of family SES, single-parent household structure, standardized test score, and high school academic track.

As shown in Table 5.5, each of the parental involvement measures exerts a significant, independent effect on college preparedness among male high school students. Among the parental involvement measures, negative parent-initiated communication with schools is the strongest predictor of college preparedness for males ( $\beta = -.148$ ;  $p < .001$ ), followed by parental aspirations ( $\beta = .115$ ;  $p < .001$ ), positive parent-initiated school communication ( $\beta = .075$ ;  $p < .001$ ), school participation and involvement ( $\beta = .055$ ;  $p < .001$ ) and home discussions around educational matters ( $\beta = .040$ ;  $p < .05$ ). These results indicate that sons of parents who initiated negative school contacts are likely to be less well prepared for college than are sons of parents who find it less necessary to initiate similar contacts. On the other hand, male students whose parents hold high expectations



Table 5.5  
Results of the Regression Analyses on College Preparedness among Male High School Students Attending Public Schools (Standardized Regression Coefficients), N=1,743

	<u>Model 1</u>	<u>Model 2</u>	<u>Model 3</u>	<u>Model 4</u>
Family SES	.370***	.195***	.187***	.152***
Single-Parent	-.099***	-.086***	-.082***	-.065***
Race (African-American=1)	-.020	.078***	.080***	.055**
Parent Gender (Fathers=1)	-.042	-.027	-.016	-.024
Standardized Test Score		.452***	.457***	.419***
H.S. Track (Academic=1)		.170***	.155***	.117***
Varsity Sport			.104***	.094***
Parental Aspirations				.115***
Home Discussions				.040*
Positive School Contacts				.075***
Negative School Contacts				-.148***
School Participation				.055**
R <sup>2</sup>	.17	.39	.40	.44
Adjusted R <sup>2</sup>	.16	.38	.39	.44

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

for their educational attainment; are involved in school activities, engage in educational discussions at home; and have positive school contacts, exhibit greater college preparedness.

Females: Table 5.6 presents the results of the regression analyses of the predetermined variables on the college preparedness of female high school students attending U.S. public schools. The college-bound measure is regressed on family SES, household structure, race, and parent gender in Model 1. Each of the background variables exerts significant direct effects on college preparedness, with the exception of parent gender. These significant relationships continue in Model 2 (with the exception of single-parent household structure), when educational variables (standardized test score and academic track) were entered into the regression equation. Similar to the results

from the full study sample and male subsample, race ( $\beta = .048$ ;  $p < .01$ ) is also positively associated with college preparedness at this stage for the female sample. Interestingly, when varsity sport is entered into the regression equation in Model 3, it exerts a significant direct effect ( $\beta = .074$ ;  $p < .001$ ) on the college preparedness of female high school students and the effect of race ( $\beta = .074$ ;  $p < .01$ ) is slightly magnified at this stage of the analysis.

In Model 4, the parental involvement measures were entered into the regression equation. All significant relationships from the previous step retain significance in the fully specified model. Varsity sport continues to exert a significant, positive, direct effect on the college preparedness of high school females, net all analysis variables ( $\beta = .071$ ;  $p < .001$ ). Unlike the case for males, only three of the five parental involvement measures exert statistically significant direct effects on the college preparedness of female high school students: parental aspirations ( $\beta = .072$ ;  $p < .001$ ), home discussions ( $\beta = -.035$ ;  $p < .05$ ), and negative parent-initiated school communication ( $\beta = -.124$ ;  $p < .001$ ). For the female subsample, positive parent-initiated school communication ( $\beta = .017$ ;  $p > .05$ ) and parental school participation ( $\beta = .024$ ;  $p > .05$ ) are not significant predictors of college preparedness. These results also reveal that parental aspirations ( $\beta = .072$ ;  $p < .001$ ), varsity sport ( $\beta = .071$ ;  $p < .001$ ), and academic track ( $\beta = .070$ ;  $p < .001$ ) exert nearly identical direct effects on the college preparedness of female high school students. Thus, these results suggest that female varsity athletes are significantly more likely than their non-athletically involved counterparts to exhibit greater college preparedness, above and beyond the effect of more traditional measures of academic success. Additionally, these results suggest that African American females attending public high schools are

significantly more likely to exhibit greater college preparedness than white female students.

Table 5.6  
Results of the Regression Analyses on College Preparedness among Female High School Students Attending Public Schools (Standardized Regression Coefficients), N=1,780

	<u>Model 1</u>	<u>Model 2</u>	<u>Model 3</u>	<u>Model 4</u>
Family SES	.367***	.186***	.178***	.175***
Single-Parent	-.053*	-.024	-.019	-.014
Race (African-American=1)	-.076***	.048**	.055**	.043*
Parent Gender (Fathers=1)	.037	.020	.020	.020
Standardized Test Score		.527***	.525***	.482***
H.S. Track (Academic=1)		.090***	.085***	.070***
Varsity Sport			.074***	.071***
Parental Aspirations				.072***
Home Discussions				-.035*
Positive School Contacts				.017
Negative School Contacts				-.124***
School Participation				.024
R <sup>2</sup>	.17	.42	.42	.44
Adjusted R <sup>2</sup>	.16	.41	.42	.44

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

Based upon the results presented in Tables 5.4-5.6, as stated above, hypothesis 3, which states that 10<sup>th</sup> grade varsity sport participation significantly affects the college preparedness of high school seniors, is fully supported. Varsity sport participation significantly impacts (positively) the college preparedness of the full study sample and the male and female subsamples. Hypothesis 4, which states that parental educational involvement significantly affects the college preparedness of high school seniors, is also fully supported. As delineated above, most of the parental involvement measures significantly affect 12<sup>th</sup> grade college preparedness (full study sample, males, and

females), and particularly for males since each of the five parental involvement measures significantly impact college preparedness for male high school seniors.

#### Path Analytic Results

Table 5.7 presents the direct, indirect, and total effects of the predetermined variables on the college preparedness of high school seniors attending public schools in the U.S., in addition to their total associations for the full study sample. The total causal effect of varsity sport participation on college preparedness measured in 12<sup>th</sup> grade ( $\beta = .095$ ) is largely direct ( $\beta = .086$ ). Only a little more than 9% of the total causal effect of varsity sport participation on the college preparedness of high school seniors is indirect ( $\beta = .009$ ). Thus, according to the model examined here, 9.5% of the total causal effect of

Table 5.7  
Total, Direct and Indirect Effects of Predetermined Variables on College Preparedness among High School Students Attending Public Schools (Full Study Sample)

	Total Effect	Direct Effect	Total Indirect Effect	Total Association
Family SES	.444	.162	.282	.387
Single-Parent	-.131	-.040	-.091	-.164
Race (African-American=1)	-.113	.046	-.159	-.136
Parent Gender (Fathers=1)	.007	-.008	.015	.036
Student Gender (Male=1)	-.081	-.060	-.021	-.050
Standardized Test Score	.509	.450	.059	.579
H.S. Track (Academic=1)	.133	.094	.039	.281
Varsity Sport	.095	.086	.009	.155
Parental Aspirations	.097	.097	_____	.305
Home Discussions	-.005	-.005	_____	.094
Positive School Contacts	.050	.050	_____	.049
Negative School Contacts	-.138	-.138	_____	-.224
School Participation	.036	.036	_____	.141

NOTE: Direct effects are the standardized regression coefficients. Indirect effects are computed from the appropriate combinations of paths in the structural equations solutions for the model. Total effects are the sum of the direct and indirect effects for each predetermined variable in the model.

varsity sport participation on college preparedness is mediated by parental involvement. The portion that is mediated by PI operates largely through parental aspirations, negative parent-initiated school contacts, and school participation (see Table 5.8). In contrast, the total effect of race ( $\beta = -.113$ ) on college preparedness is largely indirect ( $\beta = -.159$ ) and negative. Thus, while the direct effect of race on the primary dependent variable exerts a small significant direct effect ( $\beta = .046$ ), indicating that African American students engage in more college preparedness than white students, the total causal effect of race is mediated largely through standardized test scores ( $\beta = -.176$ ), see Table 5.8 – accounting for the negative total causal effect. However, since the direct effect of race is significant and positive above and beyond the effects of the other predetermined variables in the research model (including standardized test scores), this would lead one to conclude that the positive direct effect of race is diminished as a result of African Americans' significantly lower standardized test scores, relative to whites. A small portion ( $\beta = .027$ )

Table 5.8  
Indirect Effects of Predetermined Variables on College Preparedness through Standardized Test Score, H.S. Track, Varsity Sport and Parental Involvement (Full Study Sample)

	Indirect Effect via							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family SES	.214	.022	.017	.022	-.001	.009	-.009	.008
Single-Parent Household	.061	-.004	-.004	.002	.000	-.001	-.005	-.002
Race (African-American=1)	-.176	-.007	-.003	.027	-.001	.004	-.008	.005
Parent Gender (Fathers=1)	.015	-.003	.003	-.002	.000	-.000	.002	.000
Student Gender (Male=1)	-.002	-.007	.014	-.008	.000	.002	-.017	-.003
Standardized Test Score	_____	_____	.003	.027	-.000	-.004	.030	.003
H.S. Track (Academic=1)	_____	_____	.010	.016	-.000	-.000	.011	.002
Varsity Sport	_____	_____	_____	.002	-.000	.000	.004	.003

NOTE: Standardized Test Score = (1); High School Track = (2); Varsity Sport = (3); Parental Aspirations = (4); Home Discussions = (5); Positive School Contacts = (6); Negative School Contacts = (7); and School Participation = (8)

of the effect of race is also mediated through parental aspirations. Based on the intercorrelations, African American parents hold significantly higher aspirations ( $r = .18$ ;  $p < .001$ ) for their children than white parents, and these positive aspirations for their children's educational futures help to mitigate some of the detrimental effects of significantly lower standardized test scores on the college preparedness of African American students.

Table 5.9 presents the direct, indirect, and total effects of the predetermined variables (based on our proposed research model) on the college preparedness of male students attending U.S. public high schools. Similar patterns are revealed for male high school students as were observed for the full study sample. With regard to varsity sport

Table 5.9  
Total, Direct and Indirect Effects of Predetermined Variables on College preparedness among Male High School Students Attending Public Schools

	Total Effect	Direct Effect	Total Indirect Effect	Total Association
Family SES	.436	.152	.284	.391
Single-Parent	-.142	-.065	-.077	-.186
Race (African-American=1)	-.061	.055	-.116	-.131
Parent Gender (Fathers=1)	0	-.024	.024	.015
Standardized Test Score	.485	.419	.066	.557
H.S. Track (Academic=1)	.160	.117	.043	.308
Varsity Sport	.110	.094	.016	.155
Parental Aspirations	.115	.115	—	.356
Home Discussions	.040	.040	—	.177
Positive School Contacts	.075	.075	—	.069
Negative School Contacts	-.148	-.148	—	-.206
School Participation	.055	.055	—	.164

NOTE: Direct effects are the standardized regression coefficients. Indirect effects are computed from the appropriate combinations of paths in the structural equations solutions for the model. Total effects are the sum of the direct and indirect effects for each predetermined variable in the model.

participation, the total causal effect ( $\beta = .110$ ) on college preparedness among males is largely direct ( $\beta = .094$ ), accounting for roughly more than 85% of the total effect. The remaining portion (15%) of the total effect that is mediated through parental involvement ( $\beta = .016$ ) – operates primarily through negative school contacts initiated by parents ( $\beta = .007$ ) and school participation ( $\beta = .005$ ), see Table 5.10, and to a lesser degree through parental aspirations ( $\beta = .002$ ), home discussions ( $\beta = .001$ ), and positive parent-initiated school communication ( $\beta = .001$ ). As observed with the full study sample, the total effect of race ( $\beta = -.061$ ) on the college preparedness among males is primarily indirect ( $\beta = -.116$ ). Once again, the total effect of race is mediated overwhelmingly through standardized test scores ( $\beta = -.152$ ), with a small portion of the effect ( $\beta = .033$ ) mediated through parental aspirations (Table 5.10). Although standardized test scores and family SES are the strongest predictors of college preparedness based on our model, it is important to emphasize the fact that varsity sport participation and race are both

Table 5.10  
Indirect Effects of Predetermined Variables on College Preparedness through Standardized Test Score, H.S. Track, Varsity Sport and Parental Involvement (Males)

	Indirect Effect via							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family SES	.192	.026	.017	.028	.006	.013	-.010	.012
Single-Parent Household	-.065	-.002	-.003	-.000	-.002	-.004	-.001	-.004
Race (African-American=1)	-.152	-.000	-.000	.033	.003	.004	-.009	.005
Parent Gender (Fathers=1)	.023	.006	-.007	-.002	-.003	-.001	.008	-.000
Standardized Test Score	_____	_____	.003	.033	.003	-.008	.033	.002
H.S. Track (Academic=1)	_____	_____	.016	.019	.004	-.001	.001	.004
Varsity Sport	_____	_____	_____	.002	.001	.001	.007	.005

NOTE: Standardized Test Score = (1); High School Track = (2); Varsity Sport = (3); Parental Aspirations = (4); Home Discussions = (5); Positive School Contacts = (6); Negative School Contacts = (7); and School Participation = (8).

significant (positive), independent determinants of college preparedness for males, net of prior academic achievement (standardized test scores) and family SES.

Table 5.11 presents the direct, indirect, and total effects of the predetermined variables in our proposed research model on college preparedness among female students attending U.S. public high schools. A similar pattern is observed with the female sample as was evidenced with males and the full study sample with regard to the effects of varsity sport participation and race. The total effect of varsity sport ( $\beta = .075$ ) on college preparedness is overwhelmingly direct ( $\beta = .071$ ), accounting for 95% of the total causal effect of varsity sport participation on college preparedness among female high school students. The total causal effect of varsity sport mediated through parental involvement

Table 5.11  
Total, Direct and Indirect Effects of Predetermined Variables on College Preparedness among Female High School Students Attending Public Schools

	Total Effect	Direct Effect	Total Indirect Effect	Total Association
Family SES	.455	.175	.280	.404
Single-Parent	-.111	-.014	-.097	-.131
Race (African-American=1)	-.144	.043	-.187	-.153
Parent Gender (Fathers=1)	.022	.020	.002	.059
Standardized Test Score	.529	.482	.047	.607
H.S. Track (Academic=1)	.098	.070	.028	.270
Varsity Sport	.075	.071	.004	.176
Parental Aspirations	.072	.072	_____	.272
Home Discussions	-.035	-.035	_____	.042
Positive School Contacts	.017	.017	_____	.027
Negative School Contacts	-.124	-.124	_____	-.229
School Participation	.024	.024	_____	.120

NOTE: Direct effects are the standardized regression coefficients. Indirect effects are computed from the appropriate combinations of paths in the structural equations solutions for the model. Total effects are the sum of the direct and indirect effects for each predetermined variable in the model.



is as follows: parental aspirations ( $\beta = .001$ ), home discussions ( $\beta = -.001$ ), positive parent-initiated school communication ( $\beta = .000$ ), negative parent-initiated communication ( $\beta = .002$ ), and parental school participation ( $\beta = .002$ ). The total causal effect of race ( $\beta = -.144$ ) on the primary dependent variable is largely indirect ( $\beta = -.187$ ). As shown in Table 5.12, the indirect effect of race on college preparedness among female high school students is mediated primarily through standardized test scores ( $\beta = -.191$ ), with smaller portions mediated through varsity sport ( $\beta = -.01$ ) and parental aspirations ( $\beta = .02$ ). The remaining indirect effect operates largely through negative school contacts.

Based upon the path analytic results presented in this section, hypothesis 5, which states that parental educational involvement mediates the effect of varsity sport participation on the college preparedness of high school seniors, is partially supported. For each of the models (the full study sample, males, and females), the total causal effect of varsity sport participation on college preparedness is largely direct.

Table 5.12  
Indirect Effects of Predetermined Variables on College Preparedness through Standardized Test Score, H.S. Track, Varsity Sport and Parental Involvement (Females)

	Indirect Effect via							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family SES	.239	.018	.013	.015	-.006	.003	-.008	.006
Single-Parent Household	-.080	-.006	-.005	.003	.001	.000	-.008	-.002
Race (African-American=1)	-.191	-.001	-.010	.020	-.006	.002	-.005	-.002
Parent Gender (Fathers=1)	.003	.002	-.001	-.001	.000	.000	-.001	.000
Standardized Test Score	_____	_____	.004	.019	-.000	-.001	.026	-.001
H.S. Track (Academic=1)	_____	_____	.006	.012	-.003	-.000	.012	.001
Varsity Sport	_____	_____	_____	.001	-.001	.000	.002	.002

NOTE: Standardized Test Score = (1); High School Track = (2); Varsity Sport = (3); Parental Aspirations = (4); Home Discussions = (5); Positive School Contacts = (6); Negative School Contacts = (7); and School Participation = (8).

## Chapter Summary

This chapter presented the statistical results of the study, beginning with a discussion of bivariate relationships among all of the predetermined variables in the conceptual model. Next, results of the regression analyses of school-based varsity sport participation on our five measures of parental involvement were presented. These results, presented in Table 5.3, offered partial, but robust, support to our first hypothesis that school-based varsity sport participation exerts significant effects on parental educational involvement among high school students. However, our second hypothesis, that levels of parental involvement are significantly higher among same-sex parent-child pairs was not supported. In fact, we found that mothers were significantly more likely than fathers to interact with their sons around educational matters. Our third hypothesis, that school-based varsity sport participation significantly affects the college preparedness of high school students, was fully supported, exerting a significant direct (positive) effect on the primary dependent variable across all groups. Our fourth hypothesis, that PEI significantly affects the college preparedness of high school seniors, was also fully supported. Most of our measures of PEI exerted significant direct effects on college preparedness across all groups. In fact, all of the PEI measures were significantly related to college preparedness for males. Only modest partial support was found for our fifth hypothesis. These results (and the model employed in this study) indicate that the total causal effect of school-based athletic involvement on the college preparedness of seniors attending U.S. public high schools is largely direct, with very little of the effect mediated through parental involvement.

Table 5.13 Summary of Major Findings

- 
- Participation in school-based varsity sports significantly affects parental involvement
    - Parents of athletes significantly less likely to initiate contact with high schools regarding negative school experiences
    - Parents of athletes significantly more involved with their adolescents' schools
      - Effect holds for both male and female athletes
  - Mothers are significantly more involved than fathers (home discussions only)
  - Student gender differentially affects the type of PI
    - Parents hold significantly higher aspirations for daughters
    - Parents initiate significantly more communication with schools about their sons' behaviors (positive and negative)
    - Parents are significantly more involved with high schools of their daughters
  - The intersection of parent and student gender differentially affects PI
    - Mothers are significantly more involved with or about their sons (home discussions and negative parent-initiated school communication)
    - No significant parent-gender effects for female students
  - Race significantly affects parental involvement
    - African American parents significantly more involved on each PI measure
    - African American parents display similar pattern of involvement as higher SES parents on each PI measure
    - Effect holds for males and females
  - Participation in school-based varsity sports in 10<sup>th</sup> grade significantly affects (increases) college preparedness in 12<sup>th</sup> grade
    - Effect holds for both male and female athletes
  - Parental involvement in 10<sup>th</sup> grade significantly affects 12<sup>th</sup> grade college preparedness
    - Parental aspirations, positive parent-initiated school communication, and school participation significantly enhance college preparedness
    - Negative parent-initiated communication with schools significantly decreases college preparedness
    - PI a significant determinant of college preparedness for male high school seniors
      - Parental aspirations, home discussions, positive parent-initiated communication, and school participation increase college preparedness
      - Negative parent-initiated communication decreases college preparedness
    - PI also a significant determinant of college preparedness for female seniors
      - Parental aspirations significantly increase college preparedness
      - Home discussions and negative parent-initiated school communication significantly decrease college preparedness
      - Positive parent-initiated school communication and school participation, not significant predictors for females
  - The total causal effect of varsity sport participation on college preparedness is largely direct: 91% for the full sample, 86% for males, and 95% for females
    - Portion mediated by PI operates primarily through parental aspirations, negative parent-initiated school communication, and school participation
  - The significantly higher aspirations of African American parents help mitigate detrimental impact of lower standardized test scores on college preparedness
-

## CHAPTER VI

### CONCLUSION

#### Summary

The purpose of the current study was to develop and empirically test a conceptual model assessing the impact of school-based athletic participation, parental involvement, and other correlates of academic success, on college preparedness. The extant literature has generally found that parental involvement is positively related to adolescent developmental outcomes, including college preparedness (Bogenschneider, 1997; Carpenter & Ramirez, 2007; Hawkins et al., 2007; Jeynes, 2003, 2005; McNeal, 1999). This literature has also consistently demonstrated that a variety of positive educational outcomes accrue to students who are involved in school-sponsored athletics (Broh, 2002; Crosnoe, 2001a; Guest & Schneider, 2003; Hanson & Kraus, 1998, 1999; Hawkins & Mulkey, 2005; Jordan, 1999; Marsh & Kleitman, 2003; Perry-Burney & Takyi, 2002). This study also sought to further examine and extend empirical evidence to prior research suggesting that school-based sport participation may be a useful context in which to better understand parental involvement around educational matters for adolescent children (O'Bryan, 2000; O'Bryan & Braddock, 1999; O'Bryan et al., 2006).

Given the multidimensional nature of parental involvement, this study has examined the effect of school-based varsity sport on parental educational involvement in both home and school contexts by considering five dimensions of parental involvement. These patterns of parental involvement were also examined within the context of parent-child gender pairs. Building upon and extending our previous investigations, this study also assessed the effects (direct, indirect, and total) of school-based varsity sport

participation and parental involvement (in addition to the other predetermined variables in our proposed model) on our measure of college preparedness. Five hypotheses were tested: (1) school-based sport participation is significantly related to various forms of parental educational involvement in both home and school contexts, (2) parental educational involvement significantly varies by parent-gender pair (significantly higher parental involvement expected among same-sex parent-child pairs), (3) varsity sport participation significantly affects the college preparedness of high school seniors, (4) parental involvement significantly affects the college preparedness of high school seniors, and (5) the effect of varsity sport participation on college preparedness is mediated through parental involvement. These hypotheses were tested (primarily) using path analysis via multiple regression (standardized beta coefficients) and structural equations, which allowed us to assess all of the effects (direct, indirect, and total effects) of the variables in our proposed conceptual model.

#### Hypothesis 1:

The results of the bivariate analyses reveal significant correlations between varsity sport participation and most of our parental involvement measures (Tables 5.1 and 5.2). As predicted, significant relationships were found between varsity sport participation and home discussions around educational matters ( $r = .04$ ), negative parent-initiated school communication ( $r = -.05$ ), and school participation ( $r = .12$ ). Thus, for the full study sample, participation in school-based varsity sports is significantly related to greater parental involvement at home (home discussions regarding schooling experiences) and at school (negative parent-initiated communication with schools and parental involvement in schools). When taking into account student gender differences,

similar patterns were observed; however, significant associations between varsity sport participation and parental involvement in the home sphere were no longer observed. When separate gender models were examined, the zero-order correlations revealed statistically significant relationships between athletic involvement and direct parental involvement with their child's high school. Thus, the intercorrelations revealed that student athletes were significantly more likely to have parents who interacted with them in their homes through discussions concerning their high school educational experiences (full sample only), significantly less likely to have parents initiating communication with their high schools regarding negative schooling issues (for example poor attendance or poor grades), and were significantly more likely to have parents actively involved in their high schools.

The results of the regression analyses on each of our dimensions of parental involvement also revealed statistically significant relationships between varsity sport participation and parental involvement, lending partial support for our first hypothesis (Table 5.3). Since the primary purpose of this study was to develop and empirically test a conceptual model to assess how well the model predicted our measure of college preparedness, the regression analyses presented in Table 5.3 follow the causal ordering specified in the conceptual model that was presented in Chapter 3. Taking into account the exogenous and antecedent variables in our model, varsity sport participation was observed to be a significant, independent determinant of parental involvement within the school context (negative parent-initiated school communication and school participation). For the first model (the full study sample), parents of student athletes involved in varsity sports were significantly less likely to contact their adolescents high schools about

negative schooling experiences (for example, poor attendance or problem behavior), and they were significantly more involved in their high schools (for example, through attendance at PTA meetings or volunteering at the school). When separate models were examined by student gender, significant relationships were observed between varsity sport participation and parental school involvement (males and females). In fact, for male high school students, varsity sport participation was among the strongest predictors of parental school involvement – only family SES exerted a stronger direct effect on this measure of parental involvement. In the female model, varsity sport again emerged as one of the strongest predictors of parental school involvement – family SES and race were the only other determinants that exerted a stronger effect. Although these effects were modest, it is important to emphasize that the effect of varsity sport participation on parental involvement was observed while accounting for other differences between the non-athletes and student athletes.

#### Hypothesis 2:

The results of the regression analyses on our five parental involvement measures do not support our second hypothesis that significant differences in parental involvement would be observed as a function of parent-student gender pairs (Table 5.3). Specifically, our prediction that parents would exhibit significantly greater involvement with same-sex adolescent children was not supported. Specifically, it was observed that mothers were significantly more involved than fathers in home discussions around educational matters (for example, selecting courses and applying to college after high school) with their adolescent sons. This is inconsistent with previous research (Muller, 1998). Mothers were also significantly more likely than fathers to contact their sons' high schools

concerning negative schooling experiences. However, this finding is consistent with previous research indicating mothers initiate more contact with schools regarding their sons than their daughters (Ho Sui-Chu & Willms, 1996). No other significant differences between mothers and fathers were observed on any of our parental involvement measures among female high schools.

#### Hypothesis 3:

Our third hypothesis, that athletic involvement in varsity sports would significantly influence our construct of college preparedness, was fully supported, and is consistent with the general patterns found in the extant empirical literature (e.g., Broh, 2002; Darling, 2005; Guest & Schneider, 2003; Marsh & Kleitman, 2003; Videon, 2002). In each of our models, varsity sport participation exerted a significant, positive direct effect on college preparedness among high school students (Table 5.4–5.6). These direct effects were observed net of both the exogenous and antecedent variables in our model. Thus, participation in school-based varsity sport in the 10<sup>th</sup> grade is a significant predictor of future positive academic behaviors (12<sup>th</sup> grade college preparedness) for students attending public high schools in the U.S. (males and females), above and beyond the effect of family SES, single-parent household structure, race, parent gender, 10<sup>th</sup> standardized test score, 10<sup>th</sup> grade high school track, and our five measures of parental involvement.

#### Hypothesis 4:

Our fourth hypothesis predicting (based on our conceptual model) that parental involvement would exert a significant direct effect on college preparedness among high school seniors was generally supported. Significant relationships were observed for most



our parental involvement measures and 12<sup>th</sup> grade college preparedness. Analyses based on the full study sample (Table 5.4) revealed significant relationships between each of our 10<sup>th</sup> grade measures of parental involvement and college preparedness among high school seniors (with the exception of home discussions). Additionally, each of the parental involvement measures exerted significant direct effects (in the expected direction) on college preparedness among male high school seniors (Table 5.5).

Among female high school seniors (Table 5.6), parental aspirations, home discussions around educational matters, and negative parent-initiated contact with school exerted significant direct effects. However, counter to expectations, the effect of home discussions on college preparedness among female high school seniors is negative. This finding is inconsistent with previous research (Fan, 2001; Pong et al., 2005; Thompson et al., 2006) which demonstrate the importance to academic success of discussions between parents and their children about their child's schooling experiences. For example, Ho Sui-Chu and Willms (1996) found home discussions had the strongest effect on 8<sup>th</sup> grade reading and math performance. Nevertheless, our finding that parental aspirations is one of the strongest predictors of college preparedness is consistent with previous studies (Fan, 2001; Fan & Chen, 2001; Yan & Lin, 2005). Our finding that parent-initiated contacts with high schools regarding negative schooling matters was the strongest predictor of college preparedness among the parental involvement measures was surprising. In fact, in each of our models, negative parent-initiated communication with schools was the 3<sup>rd</sup> strongest predictor of future college preparedness. Therefore, less parent-initiated contact with their adolescents' high schools regarding negative aspects of

the schooling experience (for example, regarding poor attendance or problem behavior), translates into significantly more college preparedness.

#### Hypothesis 5:

Our fifth hypothesis that parental involvement would mediate the effect of varsity sport participation on college preparedness was only partially supported (Tables 5.7–5.12). The results presented in Tables 5.7, 5.9, and 5.10, show that the effect of high school varsity sport participation in 10<sup>th</sup> grade on 12<sup>th</sup> grade college preparedness was largely direct for each our models. Specifically, the total causal effect of varsity sport participation on college preparedness --our primary dependent variable -- is 91% direct for the full study sample, nearly 86% direct for males, and nearly 95% direct for females. The remaining portion of the total causal effect of varsity sport on the college preparedness of male high school seniors is mediated primarily through negative parent-initiated school communication ( $\beta = .007$ ) and school participation ( $\beta = .005$ ). Thus, the benefits that accrue to high school student athletes are largely direct, and unmediated, when taking into account other important correlates of positive academic behaviors. Although parental involvement (at least with our model) did not mediate much of the indirect effect of varsity sport, most of our parental involvement measures were significant predictors of college preparedness among high school seniors.

### **Discussion**

Four decades after the first empirical examinations of athletic participation and academic performance, the potential of school-based sport to promote the academic mission of schools continues to generate considerable debate. Supporters have posited that participation in organized sports provide “value-added” opportunities for adolescent

socialization (Trent & Braddock, 1992), and the development of social and human capital (Braddock, 2005). The enactment of the 'No Child Left Behind Act' (NCLB) of 2001 has resulted in a renewed research and policy agenda on parental involvement, increasingly conceptualized as social capital in the research literature (McNeal, 1999, Yan, 1999; Yan & Lin, 2005), in an effort to improve schools and student academic success. Despite the tremendous controversy surrounding NCLB, it mandates the development of effective PI programs and strategies that are grounded in scientific research in order to narrow the achievement gap between economically advantaged and disadvantaged youth, many of whom are members of racial/ethnic minority groups.

In this study, a model was developed and empirically tested to assess the effect of school-based athletic participation, parental involvement, and other correlates, on college preparedness. The findings from the current study indicate that parental involvement remains meaningful for older adolescents and that participation in school-based interscholastic sports generates parental social capital. As stated throughout this dissertation, very few empirical investigations have explored the relationship between interscholastic sport participation and parental involvement. The findings of this study are both consistent and inconsistent with the rare examinations along this line of scientific inquiry. Consistent with Broh (2002), O'Bryan (2000), and Fritch (1999), varsity sport participation was generally correlated with some of our parental involvement measures (home discussions, parent-initiated school contacts regarding negative schooling matters, and school participation). Thus, the results herein suggest that social capital is formed as a direct result of a child's participation in sport. Parents and their children who are student athletes increase their interactions around educational

matters. As a result of these parent-child discussions regarding the schooling experiences of their adolescents, it becomes possible for parents to communicate and transmit their educational aspirations, expectations (although parents of student athletes did not hold significantly higher aspirations than the parents of non-athletes). The finding that athletic involvement was not correlated with parental aspirations is inconsistent with Marsh and Kleitman (2003) who found that participation in sports leads to higher parental expectations. The finding that varsity sport participation was not associated with positive parent-initiated communication with schools regarding positive educational matters is also inconsistent with prior studies (Broh, 2002; O'Bryan, 2000; O'Bryan et al., 2006). O'Bryan (2000), for example, found varsity sport participation had a significant positive effect on high levels of parent-initiated school communication, net statistical controls, for male and female high school seniors. However, it should be stated that these previous studies did not directly test positive and negative school communication, which this study was able to test as a result of specific items in the ELS data which now allow us to assess the types of communication parents contact their adolescents' schools about.

The findings of the regression analyses revealed that once more traditional correlates of PI were accounted for, the significant relationship between interscholastic sports and home discussions did not persist, inconsistent with prior studies. Broh (2002), for example found that parents of high school seniors who were student athletes were significantly more likely to talk with their children about educational issues than parents of non-athletes, net statistical controls. O'Bryan (2000) observed similar findings for male and female high school seniors on her measure of high home discussions. In the present study, the only relationship that persists when statistical controls are considered is

the relationship between varsity sport and parental school involvement. Thus, when other factors known to contribute to PI were statistically modeled, athletic involvement was shown to be a significant, independent predictor of parental involvement in the school sphere. Not only is the impact of sport on social capital in the form of parental involvement significant above and beyond the effects of more traditional determinants of parental involvement, it is one of the strongest predictors of parental school involvement in our model. Consistent with the few studies on this topic (Broh, 2002; O'Bryan, 2000; O'Bryan et al., 2006) athletic involvement, in the present study, resulted in the formation of social capital, specifically within schools. The parents of student athletes were significantly more involved in their adolescents' schools as a direct result of their child's varsity sport involvement.

This study also examined the differential effect of parent-student gender and parental involvement. It was hypothesized that significantly more parental educational involvement would be observed among same-sex parent-student pairs. The findings, however, did not reveal a same-sex gender advantage with regard to parental involvement. Mothers were not significantly more likely to be involved with their daughters, and fathers were not significantly more involved with their sons. In fact, the findings revealed that mothers were significantly more involved with or about their sons than fathers. Specifically, mothers engaged in significantly more conversations with their sons around educational matters, which is inconsistent with prior research (Ho Sui-Chu & Willms, 1996; Muller, 1998; O'Bryan, 2000; O'Bryan et al., 2006). For example, Muller (1998) found that mothers engaged in more discussions regarding their child's high school program with their daughters, while male high school students talked more with

their fathers about their high school program. Findings of the current study also revealed mothers initiated significantly more contacts with their sons' high schools regarding negative educational behaviors. Although contrary to our prediction, this finding is consistent with prior research indicating that parents, including mothers, are in significantly more communication with school personnel about their sons' educational experiences than their daughters' (Ho Sui-Chu & Willms, 1996). No significant differences were observed between mothers and fathers in their involvement with their daughters.

Although not explicitly hypothesized, findings revealed a differential effect of student gender on the type of parental involvement. Parents held significantly higher aspirations for their daughters and were more involved with their daughters' schools, while parents were significantly more likely to contact their sons' schools (regardless of the type of educational experience, positive or negative). These findings are consistent with prior PI research (Ho Sui-Chu & Willms, 1996; Muller, 1998). For example, Muller (1998), found parents are more likely to attend their daughter's school events than their sons', but they attend more meetings about their sons and intervene more on behalf of their sons than their daughters.

Again, although not explicitly hypothesized, a differential effect of race on parental involvement was observed. The findings revealed that African American parents were significantly more involved than white parents, net other correlates in the model, on each of the parental involvement measures in this study. In fact, findings revealed the pattern of parental educational involvement of African American parents to be similar to the involvement of parents from higher SES backgrounds. This pattern was also

observed for the student gender models. More specifically, family SES was the only factor other than race found to be a significant positive predictor of each PI measure under investigation (for the full study sample, males, and females). Thus, consistent with recent research indicating that racial/ethnic minorities are just as involved with (and thus committed to the academic success of) their children in the home sphere (Ho Sui-Chu & Willms, 1996; O'Bryan, 2000; Pong et al., 2005; Yan, 1999; Yan & Lin, 2005), findings from this study revealed that African American parents are significantly more involved in the educational lives of their adolescent children in the home sphere through high parental aspirations for their children and discussions about their children's schooling experiences. For example, Yan (1999) compared the parental involvement of successful African American students, successful White students, and non-successful African American students and found that the parents of successful African American students were significantly more likely to engage in educational discussions with their children than the parents of the two comparison groups. Contrary to the prevailing research finding indicating that parents from racial/ethnic minority groups exhibit lower levels of PI in the school sphere (Herrold & O'Donnell, 2008; Ho Sui-Chu & Willms, 1996; Pong et al., 2005; Sy et al., 2007), the findings of this study revealed that African American parents were significantly more involved in their children's schools than White parents. There are, however, examples in the PI literature with findings consistent to those revealed in this study (O'Bryan, 2000; Yan, 1999; Yan & Lin, 2005). For example, O'Bryan (2000) found African American mothers were significantly more likely than White mothers to initiate communication with their children's schools.

The findings of the current study also underscore the importance of school-based varsity sport participation in enhancing youth developmental outcomes, and they provide further empirical evidence that participation in interscholastic athletics does not deter students from the academic mission of schools. Varsity sport participation was shown to be a significant (positive) independent predictor of college preparedness (across groups). Thus, student athletes, regardless of gender, were significantly more likely to engage in college preparedness in their senior year of high school if they participated in varsity sport their sophomore year. The measure of college preparedness employed in this study encompasses both active college preparatory behaviors (whether high school seniors sought college entrance information from a variety of sources, applied to college, and had taken a college entrance exam) and academic achievement (their senior year math standardized test score). Although this specific measure of academic success has not been examined prior to this dissertation, the finding of a significant positive association is consistent with the general findings in the extant body of literature indicating positive associations between athletic involvement and a host of pro-academic behaviors and academic achievement outcomes (Barron et al., 2000; Braddock et al., 1991; Crosnoe, 2001a; Darling et al., 2005; Eccles & Barber, 1999; Guest & Schneider, 2003; Jordan, 1999; Videon, 2002). Athletic involvement has been found to be positively associated with plans to enroll in college (Braddock, 1981; Braddock et al., 1991; Hawkins & Mulkey, 2005), math standardized test scores (Broh, 2002), and (although not the focus of this dissertation) postsecondary educational outcomes (Braddock, 1981; Marsh & Kleitman, 2003; Sabo et al., 1993; Snyder & Spreitzer, 1990). For example, Marsh and Kleitman (2003) found a positive relationship between high school sport participation



and college enrollment, which is consistent with prior empirical evidence of the benefits of school-based athletic participation and college enrollment and persistence (Braddock, 1981; Snyder & Spreitzer, 1990). Therefore, our finding that seniors who participated in interscholastic athletics in their sophomore year of high school were significantly more prepared for college than seniors who were not involved in interscholastic sport is consistent with findings that athletes are significantly more likely to enroll (and persist) in college (Braddock, 1981; Marsh & Kleitman, 2003; Snyder & Spreitzer, 1990).

The results of this study also provide further empirical evidence that parental involvement is beneficial for the development of positive educational outcomes for high school students. Consistent with the extant body of literature which indicates that parental involvement significantly improves academic achievement (Fan & Chen, 2001; Garg et al., 2002; Gonzalez-Pienda et al., 2002; Jeynes, 2003, 2005; Kim, 2002; Ream & Palardy, 2008), post-secondary enrollment (Song & Glick, 2004), and post-secondary educational attainment (Thompson et al., 2006), the findings of the current study revealed significant positive associations between parental involvement and college preparedness. Specifically, for the full study sample high parental aspirations, positive parent-initiated school communication, and parental school involvement were all significant positive predictors of college preparedness among high school seniors. These findings are consistent with the research literature. For example, Pong, Hao, and Gardner (2005) found that parent-student discussions about school (school talk), PTA involvement, and educational expectations were all significant positive predictors of academic achievement. Thompson, Gorin, Obeidat, and Chen (2006), found that educational expectations and discussions about college were the most predictive of post-secondary

educational attainment, explaining 30% of the variance. In this study, parent-initiated communication with school personnel around negative school matters was observed to significantly reduce college preparedness, and surprisingly, home discussions regarding educational matters was not significantly associated with college preparedness. These findings highlight the complexity of parental involvement and lend support to the multidimensionality of the construct (Fan & Chen, 2001; Kim, 2002; Thompson et al., 2006; Pong et al., 2005; Yan, 1999), providing further empirical evidence that the type of involvement parents engage in has differential effects on academic outcomes.

The findings from the gender analyses modeling the hypothesized causal relationship between parental involvement and college preparedness were simultaneously consistent and inconsistent with the research literature, suggesting student gender may moderate the effect of PI on college preparedness. For males, the pattern of relationships was similar to those observed for the full sample, with the notable exception of a significant positive relationship between home discussions and college preparedness. Thus, for males, their parents' high educational aspirations, home discussions, positive parent-initiated school communication, and parental school involvement during their sophomore year in high school resulted in them being significantly better prepared for college than male high school seniors whose parents did not engage in these activities. On the other hand, negative parent-initiated contacts with school personnel resulted in males who were significantly less prepared for college in their senior year of high school. Upon examination of the female model, interesting findings emerged. As expected, parental aspirations and negative parent-initiated school communication each exerted significant direct effects on the college preparedness of female high school seniors (in the

same direction as the full sample and the male sample). Surprisingly, however, parent-initiated school communication and parental school involvement were not significant predictors of college preparedness for females. Even more surprising is the finding of a significant negative effect of home educational discussions on the college preparedness of female high school seniors given the empirical evidence of the significant positive effect of these type of discussions occurring between parents and their adolescent children on academic achievement (Ho Sui-Chu & Willms, 1996; Pong et al., 2005) and post-secondary educational outcomes (Thompson et al., 2006).

Thus, while each of our five measures of parental involvement significantly influenced college preparedness among male high school seniors, only high parental educational aspirations resulted in female high school seniors being significantly prepared for college. Given that 10<sup>th</sup> grade parental involvement was generally a significant predictor of 12<sup>th</sup> grade college preparedness these findings suggest that past parental involvement may still translate to future positive outcomes for older adolescents. These positive benefits accrued to male and female students above and beyond the antecedent variables in our model (including family SES, prior academic achievement, and academic track). Since prior academic achievement and family SES have been identified by some studies as the strongest predictors of academic achievement (Wu & Qi, 2006), our finding of an independent effect of most of our parental involvement measures on college preparedness among high school seniors is an important one. Additionally, since the empirical evidence indicates decreased levels of parental involvement as children progress through the educational system (Wallace & Fisher, 2007), lower levels of PI are typically found with older adolescents (especially high

school seniors). However, our findings suggest that prior parental involvement (in this case during the sophomore year) may be just as important as the current involvement of parents as a meaningful strategy to improve the academic success of students attending public high schools.

In addition to providing empirical evidence of the educative benefits of high school interscholastic athletics, another major focus of this dissertation was to examine the potential of varsity sport to create social capital (in the form of parental educational involvement) and determine if that social capital in turn acted as a mechanism through which varsity sport participation benefited college preparedness. Toward that end, in addition to examining the direct effect of sport on the college preparedness of high school seniors, indirect effects were also examined. The findings of this study revealed that the total causal effect of varsity sport participation on college preparedness is largely direct (91% direct for the full study sample, nearly 86% direct for males, and nearly 95% direct for females). Thus, the benefits that accrue to high school student athletes are largely direct, and unmediated, when taking into account other important correlates of academic success. Although parental involvement (at least with our model) did not mediate much of the indirect effect of varsity sport, most of our parental involvement measures were significant predictors of college preparedness. The findings of this study are particularly compelling for males attending public high schools. As discussed earlier, males who participated in interscholastic athletics in their sophomore year of high school were significantly better prepared for college in their senior year than non-varsity athletes. Additionally, slightly more than 14% of the total causal effect of that relationship was mediated by parental involvement (primarily through negative parent-initiated

communication with schools and parental school involvement, which were both positive). Thus, it appears that parent-initiated contacts regarding negative schooling experiences (for example poor attendance or poor school performance) from the parents of male athletes is beneficial for their college preparedness, which is not the case for the rest of the sample.

Since the findings of this study revealed that very little of the total causal effect of sport participation on college preparedness is mediated by parental involvement, future research should now examine other potential mediators of athletic participation and student academic success. One potential mediator is social capital through pro-academic friends and peers. Thus, it is possible that the benefits of sport participation on college preparedness could be mediated through the resources that students access through their peer networks. For purposes of this dissertation, social capital was measured as parental involvement and was examined as a potential link between athletic involvement and college preparedness. Typically, peer networks and parental involvement are the focus of empirical research examining the connection between social capital and student academic success (Finn, 1989; McNeal, 1995). Future research should now focus on examining peer networks as a causal link between sport participation and academic outcomes (particularly for adolescent populations). During adolescence, the relationships between parents and their teens are reinvented as teens attempt to navigate through the labyrinth of self-discovery, identity formation, and autonomy. While walking this delicate tightrope between their continued dependence upon their parents and their growing need for autonomy, teens begin to interact more with their peers. As such, the primary focal point of socialization begins to shift from parents to friends and peers. Thus, parent-child

interactions begin to wane, although, as indicated by this study, parents are still arguably important at this developmental stage. Not only are adolescents much more keenly aware of themselves, they are also more aware of their friends and their location within their peer networks. The thoughts, feelings, and opinions of their friends begin to take on added significance and importance during this developmental stage. As a result, it stands to reason that peer networks have the potential to affect student educational outcomes. Fredricks and Eccles (2005), for example, found that athletes (and students involved in extracurricular activities) had significantly more academic peers than students who were not involved in any activity. Crosnoe (2001a) found a significant positive relationship between sport and academically successful peers and academic achievement, while Rodriguez and Braddock (2000) found significant relationships between parental and peer social capital and life chance perceptions.

Future research should also explore social-psychological variables as mediating links between athletic participation and student academic success. Research indicates that sport participation has a significant positive association with self-concept and locus of control (Broh, 2002; Fejgin, 1994) and academic self-esteem (Braddock, 1981; Jordan, 1999). Thus, in attempting to identify the mechanisms and processes through which athletic involvement benefits student educational outcomes, self-concept, locus of control, self-esteem, self-efficacy, academic confidence, and academic resilience should all be empirically examined. Rutter (1987) defines resiliency as the ability to think, behave, and respond positively in times of adversity, stress, and thus turmoil. The ability to remain positive then, to keep your head when everyone around you is losing his as the old adage goes, becomes a protective mechanism from the adverse psychological and

emotional effects of stress. With specific regard to sport, Braddock et al., (1991) conceptualize resilience as the persistence that is developed by virtue of the structure of athletics. Thus, as a result of being involved in sport, athletes learn persistence and determination that are born out of the day-to-day activities of athletic involvement: going to practice; the patience and time commitment necessary for conditioning and training the body; and competing, even in the face of setbacks and occasional losses. These skills, once acquired, become strategies that students can then transfer to any context, including the educational domain, thereby increasing their likelihood of academic success.

School-sponsored athletics may also improve the educational outcomes of adolescents by connecting and binding them to their schools. According to Finn's (1989) participation-identification model, participation in extracurricular activities increases a student's identification with her school, which then results in improved academic outcomes. For example, Fredricks and Eccles (2005) found that athletes reported significantly higher levels of school belonging than non-athletes. Thus, future research should continue to explore these mechanisms (school identification, school attachment, school affect, and school belonging) across groups and across a variety of educational outcomes.

Generally, social capital is viewed as the ability of individuals (or groups) to accrue benefits and resources as a result of their membership in social networks (Bourdieu, 1986; Portes, 1998). As delineated throughout this dissertation, school-sponsored activities (including varsity sport) have the potential to create social capital by providing additional opportunities for the formation of social networks. Thus, according to social capital theory, the time commitment interscholastic athletes invest in sport

provides additional opportunities for them to form positive social networks with peers, parents, teachers, and other adult mentors (Kahne et al., 2001; McNeal, 1999; Patrick et al., 1999). Varsity sport, then, in addition to structuring how student athletes use their time outside of the classroom, also creates additional resources through membership in social networks as a result of their school engagement. School-based sport participation has the potential to generate social capital by providing athletes additional opportunities outside of the classroom to interact with, and form mentoring relationships with, coaches and other supportive adults (Dworkin et al, 2003; Smith, 2003).

The results of this study generally support the tenets of social capital as one mechanism through which participation in school-sponsored athletics improves academic achievement and other educational outcomes beneficial for academic success. Although parents of student athletes did not hold significantly higher parental aspirations for their children and were not significantly more likely than parents of non-athletes to engage in discussions regarding their children's educational experiences, parents of student athletes were significantly more involved with their adolescents' schools. Therefore, as a direct result of their child's athletic involvement, parents became active agents in their children's schools, resulting in the formation of parental social networks (for example through their membership in PTA and their participation in activities sponsored by the PTA), which lends empirical support to the proposition that athletic participation can improve parental involvement in schools. These results suggest that the educational benefits accrue to children when their parents increase their social capital. Parental school involvement translated into high school seniors who were better prepared for college. Thus, it is possible that parents of student athletes were able to take advantage of



their membership in their newly formed social networks, possibly accessing information from teachers and other parents that was then communicated to their children. It is also possible that parents were able to reinforce and strengthen their educational values and desires for their child's academic success through their interactions with similarly active parents with similar beliefs and values. It is then possible that these parents were able to monitor their children's peers (potentially suggesting the formation of new peer networks with the children of other parents in their social network).

### **Study Limitations and Future Directions**

This study extends previous research and addresses several key gaps in the research literature. First, sport participation was conceptualized as a potential site for parental educational involvement. Second, a conceptual model to assess the impact of school-based sport participation on college preparedness was developed and empirically tested using current, nationally representative data and a longitudinal research design. Third, the differential effects of parent and student gender were examined. Fourth, since several dimensions of parental involvement (PI) were examined, the differential effects of each aspect of PI on our measure of college preparedness were assessed to determine the best predictor of academic success for this population. Thus, this study makes several contributions to the research literature and advances the current state of knowledge on the affect of school-sponsored activities (specifically high school varsity sport participation) and parental involvement on educational outcomes.

Although the current study contributes to the research literature in several meaningful ways, there were limitations to the present study. First, our sport participation measure was as an aggregate of any varsity sport involvement in the 10<sup>th</sup>

grade. Students who were not involved in varsity sport (regardless of the reason) were treated equally. Therefore, students who did not participate as a result of non-availability were treated as if they actively decided not to avail themselves of the activity. We recognize that these two groups are not the same. Secondly, there is evidence to suggest that the positive benefits that accrue to student athletes may be dependent upon the type of sport involvement (Eitle & Eitle, 2002; Marsh & Kleitman, 2003; McNeal, 1995). Our sport measure does not account for the differential effects of the type of athletic involvement. Eitle and Eitle (2002), for example, found that the association between varsity sport participation and standardized test scores was negative for males who were involved in football or basketball, but they did not have a significant effect on grades. Athletic involvement in other varsity sports, however, was associated with higher grades (white males only).

Although the focus of this study was school-sponsored interscholastic athletic participation, future research should also examine intramural sport participation and participation in community based organized sport activities occurring outside the curriculum. Future research should continue to explore the differential effects of sport type across a variety of groups and measures of academic success. Particularly with regard to minority populations, intramural and community-based sports are additional sites of access to the myriad of benefits fostered and reinforced as a result of sport participation. African Americans and members of other minority populations may encounter diminished access to school-sponsored interscholastic sport as a result of the non-availability of varsity sport programs. Therefore, African American students may be more likely to seek participation in less organized sport activities. This particular issue

may have grown in importance as a direct result of the deleterious effects of the current economic crises and the budget cuts that have been occurring nationwide. As more school districts are saddling parents with additional financial expenditures in order for their children to participate in school-based varsity sports, these alternative sports opportunities are, in all likelihood, going to grow in scope and importance (if communities can find the economic resources to support these programs).

Secondly, this study does not examine participation in extracurricular activities, nor does it tease out the possibility of participation in extracurricular activities from the sport measure. School-sponsored activities (sport and other extracurricular activities) provide students with additional social networks from which to access resources and information, and thus accrue benefits that are potentially educationally enriching. In their efforts to access these resources from a variety of sources, students are becoming what Quiroz, Gonzalez, and Frank (1996) called “hypernetworked” through their multiple memberships (participation) in extracurricular activities. Therefore, it becomes important to tease out and empirically test the differential impact of these multiple networks. It was not the intent of this study to determine if sport exerts a stronger effect than non-sport extracurricular involvement; therefore, this limitation does not minimize the findings of the current study. Future studies should, however, include extracurricular activities in order to model the unique contributions of sport (by activity) and extracurricular activities (by activity type), which can only, in turn, strengthen policy implications and recommendations. Future research should also explore the social-psychological aspects of athletic involvement. In addition to the social-psychological factors discussed earlier, research should also focus on assessing the quality of the participation (Fredricks &

Eccles, 2005). Qualitative studies would be useful for these investigations. Quantitative studies would also be useful, particularly in investigations of the athletes' perceptions of their sport involvement; however, these data, at least to my current knowledge, are not currently being collected. It is understood and recognized that student perceptions of the school (including the curricula) affect student outcomes. For example, ELS:2002 includes variables assessing student perceptions of whether the school feels dangerous, how students feel about their classes, and their perceptions of their teachers (including the quality of teaching) because it is understood that how students feel about the school climate, their perceptions of their classes, and their perceptions of what occurs in their classrooms (for example, class disruptions and whether they interfere with learning) impact how students navigate the educational system. School-based sports (and other extracurricular activities, although not the specific focus of this dissertation) are structured within schools and are thus a meaningful part of the curricula. The perceptions of student athletes with regard to these activities may help explain differential effects and inconsistencies in the literature. Student perceptions of sport participation may not only impact continued participation, it may also impact a multitude of experiences within the adolescent subculture in schools, including academic outcomes. Large scale, national surveys are now warranted with measures that would allow us to assess the quality (as best we can) and perceptions of sport participation.

The same argument can be made for parental involvement. Research indicates that student parental affect, in addition to direct parental involvement, impacts student outcomes. For example, Pong et al., (2005) found that parental trust and parent-student closeness were significant positive predictors of academic achievement. Thus, students'

perceptions of parental involvement (even when that involvement is behaviorally positive, like discussing the school program or plans after high school) can impact educational outcomes. For example, even during discussions of positive educational experiences like the school's curriculum and plans after high school, if that interaction is perceived negatively by the student, then it is possible that the parent-child interaction creates anxiety and stress for the child, which may in turn detrimentally impact academic success.

A third limitation of this study is the measurement of the primary dependent variable of interest (college preparedness). Although the indices used to construct the composite were identified to be one construct through factor analysis, several indices were combined to construct the measure. Additionally, the academic achievement measure (math standardized test scores) could be masking (reducing) the overall effect of varsity sport on the college-bound measure. In the future, this measure should be disaggregated in order to examine academic achievement and college-preparatory behaviors separately. Future research should also include more than one measure of achievement. The research literature indicates that the effect of parental involvement (and sport participation) on achievement may be dependent upon the type of achievement measure examined. Some suggest that the relationship between PI and achievement may be stronger when academic achievement is measured with a global indicator (Fan & Chen, 2001; Jeynes, 2003). It has also been suggested that an overall measure of GPA is more comprehensive (instead of GPA in a specific subject area) and is a composite of multiple measurements. As a result, overall measures of GPA are generally more reliable than one component of a composite measure (Fan & Chen, 2001).

Finally, the age of the data employed in these analyses are a limitation. Major structural changes have occurred since the collection of these data, specifically structural shifts in the economy. Although this fact does not negate the finding herein, the structure and composition of sports programs in schools (if they still exist) are quite probably very different than they were in 2002. Sports and other extracurricular activities have historically been the first programs considered when school districts have faced economic shortages. However, school districts are now faced with school closures, teacher layoffs, and eliminating school programs (for example, libraries and music programs). Some school districts, in an effort to retain these activities, are requiring students to pay-to-play. Parents, who have also been hard hit by the current economy, are faced with job losses, foreclosures, and the day-to-day realities of providing for their families with less. Therefore, since these data were collected, structural inequalities (within the larger society and within schools) have undoubtedly been exacerbated. Paradoxically, however, these structural shifts highlight the need for these programs in our schools (and in our communities) to combat the potentially detrimental impact of these inequities on student developmental outcomes and academic success.

The results of the current study (despite its limitations) suggest varsity sport participation, a resource that already exists within schools, may be an innovative resource to increase parental involvement and improve academic outcomes for youth. A consistent finding in the research literature is the fact that levels of parental involvement decrease as children progress through the educational system (Herrold & O'Donnell, 2008), particularly among older adolescents. However, these findings suggest that prior parental involvement (in this case during the sophomore year) may be just as meaningful

as current involvement in transmitting positive educational benefits to high school students. The results of this study also suggest that policy initiatives should be directed at strategies to foster and reinforce the parental educational aspirations for their children (across groups).

Scholars, educators, school reformists, and even high school students not involved in school-sponsored athletics, continue to debate the educative benefits of athletic involvement despite fairly consistent empirical evidence. The findings of this study support the extant research literature that school-based varsity sport participation does not detract from, but indeed enhances, the academic pursuits (in the form of college preparedness) of high school seniors in public schools. The U.S. is currently facing the worst economic crisis in several decades, and as such, local school districts are facing unprecedented budgetary constraints with deleterious results for public schools. Across the country, programs are being reduced, eliminated, and students are being required to “pay to play”. The results of this study highlight the educative value of school sports; therefore, every effort should be made to retain these programs in the curriculum.

Although we are facing one of the worst economic crises the United States has witnessed since The Great Depression, this study highlights the importance of federal, state, and local governmental support of school-sponsored programs (particularly athletics). In lieu of systematic program cutbacks, this study suggests the need for creative fund raising and fiscal allocation measures in order to ensure the survival of these academically enriching programs.

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APPENDIX A  
ITEMS SELECTED FOR PARENTAL INVOLVEMENT AND COLLEGE  
PREPAREDNESS MEASURES

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Selected Items for Parental Involvement Measures

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- Parental Aspirations**
- BYPARASP How far in school do you want your tenth grader to go? Please mark only the highest level that applies.
- 1 = less than high school graduation  
 2 = high school graduation or GED only  
 3 = attend or complete a 2-year school course in a community or vocational school  
 4 = attend college, but not complete a 4-year degree  
 5 = graduate from college  
 6 = obtain a Master's degree or equivalent  
 7 = obtain a Ph.D., M.D., or other advanced degree
- Home Discussions**
- BYP56 In the first semester or term of this school year, how often have you and/or your spouse/partner provided advice or information about the following to your tenth grader? .....(1 = never, 2 = sometimes, 3 = often)
- .....(a) selecting courses or programs at school  
 .....(b) plans and preparation for college entrance exams such as ACT, SAT, or ASVAB  
 .....(c) applying to college or other schools after high school  
 .....(d) specific jobs your tenth grader might apply for after high school
- Parent-Initiated School Communication**
- BYP53 Since your tenth grader's school opened last fall, how many times have you or your spouse/partner contacted the school about the following?  
 ... (1 = none, 2 = once or twice, 3 = three or four times, 4 = more than four times)
- Negative Parent-Initiated Contacts**
- .....(a) your tenth grader's poor performance in school  
 .....(e) your tenth grader's poor attendance record at school  
 .....(f) your tenth grader's problem behavior in school
- Positive Parent-Initiated Contacts**
- .....(b) your tenth grader's school program for this year  
 .....(c) your tenth grader's plans after leaving high school  
 .....(d) your tenth grader's course selection for entry into college, vocational, or technical school after completing high school
- School Participation/Involvement**
- BYP54 In this school year, do you or your spouse/partner do any of the following?  
 .....(0 = no, 1 = yes)
- .....(a) belong to the school's parent-teacher organization  
 .....(b) attend meetings of the parent-teacher organization  
 .....(c) take part in the activities of the parent-teacher organization  
 .....(d) act as a volunteer at the school
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Selected Items for College Preparedness Measure

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- F1TXMSTD     Academic Achievement  
12<sup>TH</sup> grade standardized math test score
- F1S21c        College Exam  
Have you taken or are you planning to take any of the following tests?  
(c) SAT or ACT  
.....1 = haven't thought about it,  
          2 = no, don't plan to,  
          3 = yes, already taken it,  
          4 = yes, plan to take it
- F1S50         College Application  
To how many schools have you applied?  
.....1 = none,  
          2 = 1 school,  
          3 = 2-4 schools,  
          4 = 5 or more schools)
- F1S48         College Awareness  
Where have you gone for information about the entrance requirements of various colleges? (MARK ALL THAT APPLY).....(0 = no, 1 = yes)  
.....(a) Guidance counselor  
          (b) High school coach  
          (c) Parent  
          (d) Brother or sister  
          (f) Other relative  
          (g) Friend  
          (h) College representatives  
          (i) A college's publication or website  
          (j) College search guides, publications, or websites  
          (k) School library  
          (l) Public library  
          (m) College or university library
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