DISSERTATION

LONG-TERM OUTCOMES ASSOCIATED WITH PARTICIPATION IN SCHOOL-BASED EXTRACURRICULAR ACTIVITIES FOR AT-RISK ADOLESCENTS

Submitted by

Andrea L. Montoya

Department of Psychology

In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Summer 2012

Doctoral Committee:

Advisor: Lee A. Rosén

Kimberly L. Henry
Richard M. Suinn
Brian D. Butki

ABSTRACT

LONG-TERM OUTCOMES ASSOCIATED WITH PARTICIPATION IN SCHOOL-BASED EXTRACURRICULAR ACTIVITIES FOR AT-RISK ADOLESCENTS

The current study sought to explore the long-term outcomes associated with participation in extracurricular activities for at-risk adolescents. Participation was divided into four categories; sports, non-sports, multiple (sports and non-sports), and no activity. Psychological, educational/economic, and deviant behavior outcomes were measured, and the major conclusion that emerged from was that participation in high school extracurricular activities (especially multiple activities, including both sports and non-sports activities) was associated with a number of positive long-term effects in a variety of domains. With a few notable exceptions that deserve further inquiry, participation in high school extracurricular activities appeared to be beneficial for at-risk youth and should be encouraged by parents, in the way of modeling, verbal praise and encouragement, financial resources, time, etc., and by communities, in the way of funding, opportunities for low-cost activities, and through the promotion of an active/involved lifestyle starting in childhood.

TABLE OF CONTENTS

CHAPTER 1

Introduction

Adolescence is a period of time characterized by significant growth and change. Opportunities, as well as vulnerabilities, become evident during this time. Adolescents have a significant amount of free time available to them and research demonstrates that they are increasingly capable of self-directed actions in their search for identity (Erickson, 1968; Gootman, Sameroff, & Eccles, 2002; Larson, 2000). Participation in extracurricular activities is a popular free time choice for young people (Larson & Varma, 1999). According to data from the National Center for Education Statistics (2002), 75% of 14-year olds participate in extracurricular activities. What's more, leisure activities, of all types, consume half of an adolescent's waking hours (Larson & Varma, 1999).

The large amount of time spent by adolescents engaging in leisure activities, coupled with the high rates of participation in organized extracurricular activities, means that these activities should be viewed as an important developmental context for adolescents, much like family, peer, and school have been viewed as developmental contexts (Bronfenbrenner, 1979; Mahoney et al, 2005). And, like other developmental contexts, participation in extracurricular activities is associated with a variety of outcomes, with both short and long-term implications for development.

Most of the research to date has examined the impact that participation in extracurricular activities has on white, middle-class adolescents (Fredricks & Eccles, 2006; Mahoney & Cairns, 1997). Less research has been devoted to examining outcomes for at-risk and ethnic minority adolescents (Brown, 1988; Holland & Andre, 1987; Lisella & Serwatka, 1996; Pederson & Seidman, 2005). Previous studies suggest that adolescents from these populations are especially vulnerable during this period (Carnegie Council on Adolescent Development, 1995; Gutman, Sameroff, & Eccles, 2002). The current study seeks to explore the long-term outcomes associated with participation in extracurricular activities for at-risk adolescents.

What Are Extracurricular Activities?

Extracurricular activities have been defined in a number of ways. A basic definition holds that extracurricular activities are those activities that are not part of the regular school curriculum (Mahoney et al., 2005). Although many of these activities take place in the school setting (e.g., sports teams, academically-oriented activities, performing arts, school involvement clubs, etc.), participation in these activities is voluntary, unlike the school curriculum. Characteristics of extracurricular activities include: structure (e.g., regular meetings, rules, expectations), adult-supervision (e.g., coaches, teachers, parents, athletic trainers, etc.), and the emphasis of skill building in a particular area (e.g., athletics, public speaking, leadership, etc.; Eccles & Gootman, 2002; Larson, 2000; Roth & Brooks-Gunn, 2003).

Extracurricular activities vary in the degree to which they provide each of these characteristics and these differences have significant implications for outcomes. For example, participation in structured activities is associated with more positive outcomes

than participation in unstructured activities, which has been associated with recruitment into a risky peer group (Dishion, McCord, & Poulin, 1999; Mahoney & Stattin, 2000) and increased problem behavior (Mahoney, Stattin, & Lord, 2004).

Adolescents today have many extracurricular activities to choose from (Carnegie Council, 1992; Eccles & Gootman, 2002). From national organizations (e.g., YMCA), to community, youth sports, church, and school-sponsored activities, adolescents are not lacking options (Roth & Brooks-Gunn, 2003). Options, however, do not guarantee participation, as there are several "selection" factors including individual, family, and community characteristics that influences whether or not a particular adolescent participates (Elder & Conger, 2000; Furstenberg et al., 1999; Mahoney et al., 2005).

Who Participates in Extracurricular Activities?

The majority of adolescents participate in some form of extracurricular activities (Larson & Varma, 1999, National Center for Education Statistics, 2002) and prior research has identified some of the variables affecting participation rates (McNeal, 1998). For example, previous studies have shown, a higher socioeconomic status is associated with higher reported levels of involvement (Csikszentmihalyi, Rathunde, & Whalen, 1993; Hollingshead, 1949); with the exception of sports-related activities, girls report higher levels of involvement than boys (Coleman, 1961; Hollingshead, 1949; Jacobs & Chase, 1989); adolescents who participated in "higher profile" activities tended to have a higher status among their peers and in their school (Coleman, 1961; Eder & Parker, 1987; Kinney, 1993); and participants in extracurricular activities tend to have higher academic performances (Marsh, 1992; McNeal, 1998). McNeal (1998) did not find racial/ethnic differences related to reported rates of participation in extracurricular activities, with the

exception that Hispanics participate at slightly lower rates than white and other minority adolescents.

Adolescent Participation as a Developmental Context

Adolescence is a pivotal developmental period marked by various tasks that must be satisfactorily completed before one can successfully transition to adulthood (Erikson, 1968). It is when young people are striving to establish their identities, values, and peer groups, among other things. According to Erickson's stages of psychosocial development, adolescence is characterized by the need to establish one's identity and find his/her role in this world. Extracurricular activities are important to this process because the question, "who am I" is addressed, in part, by the choices teens make with respect to their leisure activities (Eccles & Gootman, 2002). For example, one's decision to join the marching band has implications for identity that are different from their peer who chooses to join the football team/glee club/honor society, etc.

Furthermore, participation in extracurricular activities is largely voluntary and is indicative of adolescents' early signs of initiative and a desire to shape the world around them (Larson, 2000; Sibereisen & Eyferth, 1986). Participation in various activities allows adolescents to examine their interests and values, and to develop these both as an individual, and also as part of a larger social group (Eccles & Gootman, 2002). Extracurricular activities can be an especially useful context to examine development because inherent in extracurricular activities are specific features that promote positive development. Findings of the Committee on Community-Level Programs for Youth (Eccles & Gootman, 2002) identified eight positive, development enhancing features: physical and psychological safety; appropriate structure; supportive relationships;

opportunities for belonging; positive social norms; support for efficacy and mattering; opportunity for skill building; and integration of family, school, and community efforts.

In addition to identity development, participation in extracurricular activities during adolescence also provides opportunities for teens to form social connections. Connections are made to both non-familial adults and to peers. Research shows that teens who feel connected to adults are at a lower risk for deviant behavior (Rhodes et al., 2002). Furthermore, Social Control Theory posits that one's bond to their school, parents, and conventional society in general is an important predictor of deviant behavior (Hirschi, 1969). It is when this bond is weak or broken that adolescents tend to engage in deviant behaviors (Hirschi, 1969). Through participation in extracurricular activities, adolescents are able to develop relationships with coaches, teachers, trainers, parents of teammates, and other adults in the community that can connect them with a larger social network from which they can draw support (Eccles & Gootman, 2002); thereby strengthening their bond to conventional society and decreasing the likelihood for deviant behavior (Hirschi, 1969).

Additionally, the social nature of extracurricular activities means that participation allows adolescents to develop relationships with peers. Ample research has been aimed at distinguishing positive peer relationships from negative peer relationships and the influence each provides. Bandura's social learning theory (1977) posits that social behavior is learned through the processes of observation, imitation, and modeling. Proponents of this theory argue that the peer context is crucial, as adolescents begin to learn behaviors from the people they spend the most time with (Bandura, 1977).

An adolescent who spends time with delinquent peers is more likely to engage in delinquent behavior (Elliot et al, 1985; Gardner et al, 2009; Lipsey & Derzon; 1998). In many cases, however, participation in extracurricular activities is thought to provide a setting in which adolescents can connect with prosocial peers and enjoy the benefits of positive peer influence (Berndt, 1992; Fredericks & Eccles, 2005; Mahoney et al, 2005). This positive influence can be seen in peers who are more academically minded, and have future plans to attend college (Eccles & Barber, 1999).

Participation and Outcomes

Participation in extracurricular activities has been examined with respect to a number of different outcomes including, but not limited to: academic achievement (Broh, 2002; Crosnoe, 2001; Davalos et al, 1999; Eccles & Barber, 1999; Gerber, 1996; Hanson & Kraus, 1998; Jordan & Nettles; 2000; Mahoney, 2000; Mahoney & Cairns, 1997; Marsh & Kleitman, 2003; McHale et al, 2001; Melnick et al, 1992a; Perry-Burney & Takyi, 2002; Rees & Howell, 1990; Schreiber & Chambers, 2002; Zill et al, 1995); substance use (Borden et al,2001; Cooley et al., 1995; Crosnoe, 2002; Eccles & Barber, 1999; Elder et al., 2000; Perry-Burney & Takyi, 2002; Shilts, 1991; Youniss et al., 1997; Zill et al., 1995); sexual activity (Miller et al., 1998; Miller et al., 1999; Zill et al., 1995); psychological adjustment (Gore et al., 2001; Mahoney et al. 2002; Melnick et al., 1988; Perry-Burney & Takyi, 2002; Rees & Howell, 1990; Tracy & Erkut, 2002); and delinquency (Mahoney & Stattin, 2000; Melnick et al., 1988; Schmidt, 2003; Zill et. al., 1995).

Participation and Academic Achievement

Numerous studies have examined the relationship between participation in extracurricular activities and academic achievement. In these studies academic achievement has been measured by GPA, test scores, educational aspirations, school engagement, drop-out rates, college attendance, etc. Results have differed based on multiple factors such as: gender, ethnicity, type of activity, etc. Overall, existing literature supports the idea that participation is associated with positive academic outcomes (e.g., Cooper, Valentine, Nye, & Lindsay, 1999; Eccles & Barber, 1999; Marsh & Kleitman, 2002).

Similar findings have been reported for both males and females in terms of academic achievement. When compared with their non-athlete peers, higher GPA and college aspirations were cited for females who participated in athletic activities (Eccles & Barber, 1999; Feltz & Weiss, 1984; Perry-Burney & Takyi, 2002). Similarly, higher academic achievement (e.g., Math and English grades, time spent on homework) have been found in male athletes when compared with male non-athletes (Broh, 2002). One key finding of studies looking at participation in extracurricular activities and academic achievement is that the type of activity (e.g., school-based vs. community, structured vs. unstructured) seemed to be important to outcomes. In general, structured activities have been found to provide the most benefit in terms of academic achievement when compared to non-structured activities (McHale, 2001).

Long-term academic outcomes associated with high school participation in extracurricular activities have not received as much attention in the literature (Feldman & Matjasko, 2005). In the few studies that have examined this issue, college enrollment,

years of education, job autonomy, and educational attainment have been positively related to participation in extracurricular activities (Barber, Eccles, & Stone, 2001; Eccles, et al., 2003; Spreitzer, 1994). Even so, Barber et al. (2003) found that participation benefits disappeared when maternal education and prior math and verbal ability were controlled. Marsh and Kleitman (2003), however, found that benefits existed even after controlling for factors related to educational outcomes.

Some studies have posited that "at-risk" youth gain particular benefit (e.g., lower drop-out rates), from engaging in extracurricular activities (Mahoney & Cairns, 1997; McNeal, 1995; Schmidt, 2003). Results in this area have been mixed, however, as other findings have suggested that participation had no effect (Spreitzer, 1994; Davalos, Chavez, & Guardiola, 1999) or had a detrimental effect on academic achievement (Lisella & Serwatka, 1996). Spreitzer (1994) focused on the impact of race and found that minority student-athletes did not enjoy the same level of educational achievement as their non-minority student-athlete peers. Spreitzer (1994) concluded that the long-term educational benefits of high school athletic participation seen in non-minority students did not exist for minorities. More worrisome for minority youth in urban schools, Lisella and Serwatka (1996) found that participation in extracurricular activities actually led to lower academic achievement for at least 50% of the minority males in the study when compared to nonparticipating minority males (with mixed results for minority females).

Participation and Substance Use

Most previous studies have examined substance use in terms of athletic participation and findings have been mixed. In general, however, participation in extracurricular activities has been associated with decreased substance use among

adolescents (Barber et al., 2001; Eccles et al., 2003; Fredricks & Eccles, 2006; Perry-Burney & Takyi, 2002; Younis et al., 1997; Zill et al., 1995). Results have varied based on numerous factors including: gender, time spent in activities, and type of activity (e.g., sport vs. non-sport).

In terms of time spent in activities, more time spent participating in activities generally predicts less substance (e.g., alcohol and tobacco) use among adolescents (Elder et al., 2000, Zill et al., 1995). A study by Barnes et al. (2007), however, did not find a relationship between spending time participating in extracurricular activities and substance use. Additionally, some researchers have suggested that one can spend *too much* time in extracurricular activities such that participation has the possibility to lead to negative outcomes (Fredricks & Eccles, 2006; Luthar et al. 2006; Mahoney et al, 2006). For example, Luthar et al. (2006) found that very high levels of involvement in extracurricular activities was associated with higher levels of substance use in a group of middle school girls when compared to their peers who had medium to low levels of involvement. Mahoney et al. (2006) failed to find that adolescents who had higher levels of participation were at increased risk and Fredricks and Eccles (2006) only found an effect for older adolescents.

Type of activity also seems to play a role in adolescent substance use. Particular attention has been paid to the role of sport participation and substance use. Numerous studies have linked sport participation to decreases in adolescent substance use (Cooley et al., 1995; Elder et al., 2000; Fredricks & Eccles, 2006; Perry-Burney & Takyi, 2002). Exceptions include a study done by Eccles and Barber (1999) in which athletic participation actually predicted higher alcohol use among adolescents. These results were

based on a primarily White, working class sample. A later study with a more diverse sample by Fredricks and Eccles (2006) found that sports participation was associated with lower drug and alcohol use for participants relative to non-participants.

Lastly, gender appears to play a moderating role in the relationship between extracurricular participation and drug and alcohol use (Crosnoe, 2002; Fredricks & Eccles, 2006). Over time, alcohol use increased for all boys and for female athletes. With respect to drug use, Crosnoe (2002) found that participation seemed to delay the onset of drug use in male athletes and decreased the likelihood of drug use among female athletes. Fredricks and Eccles (2006) found that involvement in extracurricular activities predicted lower alcohol and marijuana use for boys only. Overall, more research is needed to clarify the role of extracurricular activity participation and substance use (Feldman & Matjasko, 2005).

Participation and Psychological Adjustment

Results have also been mixed when examining the relationship between participation in extracurricular activities and psychological adjustment. Some studies (e.g., Barber, Eccles, & Stone, 2001; Broh, 2002; Bohnert & Garber, 2007; Eccles & Barber, 1999; Fredricks & Eccles, 2008; Mahoney, Pederson & Seidman, 2005; Schweder, & Stattin, 2002) have found participation to be related to positive psychological outcomes (e.g., higher self-esteem, lower rates of depressed mood, increased internal locus of control). For example, Fredricks and Eccles (2008) found that involvement in organized activities yielded psychological benefits in the areas of perceived psychological resiliency and self-esteem.

Fredricks and Eccles (2008) postulated that participation in sports, in particular, might increase perceived resiliency and self-esteem because it gives adolescents a chance to belong to a group and have opportunities to achieve success and recognition. Additionally, according to Flow theory (Cskszentmihalyi et al., 1993), participation in extracurricular activities gives adolescents the opportunity to meet challenges that are commensurate with their ability-level and provides a context where they can be successful and receive praise or recognition from others. Experiences that provide these opportunities have been associated with positive psychological outcomes (Cskszentmihalyi et al., 1993). Similarly, Bohnert and Garber (2007) found that participation in extracurricular activities during adolescence is related to lower levels of externalizing psychopathology during high school. Interestingly, they also found that psychopathology prior to high school predicted participation in extracurricular activities, with prior psychopathology (e.g., externalizing symptoms, substance use, diagnosed behavior disorders) predicting significantly lower levels of extracurricular activity participation (Bohnert & Garber, 2007).

Other studies (Darling, 2005; Melnick et al., 1988; Tracy & Erkut, 2002) that have failed to find similar relationships have highlighted the importance of mediating factors (e.g., demographic factors, relations with parents, school attachment, physical health) in psychological outcomes. For example, Darling (2005) found that participation in extracurricular activities was associated with positive outcomes for many variables, though there was no association between participation in extracurricular activities and reported symptoms of depression. Additionally, McHale et al. (2001) failed to find a

relationship between involvement in sports and rates of depression after controlling for previous symptoms of depression.

Gender differences have also been found in the relationship between participation and psychological adjustment (Fredricks and Eccles, 2006b; Gore, Farrell, & Gordon, 2001). In their examination of sports participation and outcomes for African-American youth, Fredricks and Eccles (2006b) found that participation was associated with decreases in self-reported depressive symptoms and parent-reported internalizing symptoms for girls and boys, but that decreases in parent-reported externalizing symptoms were only found for boys. Activity type has also contributed to different psychological outcomes (Eccles & Barber, 1999; Barber et al., 2001). Prosocial activity involvement during high school (e.g., church attendance, volunteer work) was associated with higher self-esteem in young adulthood while involvement in high school performance arts was associated with higher rates of suicide attempts and visits to a psychologist in young adulthood (Barber et al., 2001).

Participation and Delinquency

Much research has focused on the link between participation in extracurricular activities and adolescent delinquency. Overall, results are mixed. Some studies indicate that participation is associated with reductions in problem behavior (Mahoney & Cairns, 1997; McNeal, 1995; Youniss, Yates, & Su, 1997). Other studies (Barnes et al., 2007), however, have found no relationship while some studies have actually reported increases in problem behavior associated with participation in sports-related activities (Marsh & Kleitman, 2003; Miller et al., 2007).

Numerous explanations have been given for these finding, and most seem to focus on the prosocial nature of extracurricular activities and how it acts as a protective factor for adolescents (Eccles & Gootman, 2002). Guiding theories include social control theory (Hirschi, 1969) and the participation-identification model (Finn, 1989). Both theories stress the importance of an adolescent's bonding with school and conventional society and how this bond serves as a deterrent for deviant behavior. Furthermore, participation in extracurricular activities is seen as promoting an adolescent's sense of attachment or identification with their school, and consequently the adolescent may be less likely to feel alienated and engage in deviant behaviors (Schafer, 1972).

Type of activity also seems to play a major role in the relationship between participation in extracurricular activities and deviant behavior outcomes. For example, Linville and Huebner (2005) found that youth violence differed based on what type of activity the individual participated in (e.g., extracurricular school activities, non-school clubs, volunteer activity, and church activity). Additionally, investigations into sports participation (in particular) and juvenile delinquency have yielded the most mixed results (Bartko & Eccles, 2003; Eccles & Barber, 1999; Fauth, Roth, & Brooks-Gunn, 2007). Even so, researchers are quick to point out the strong influence that peers play in shaping social behavior (Mahoney, 2000; Mahoney & Stattin, 2000). As such, the characteristics of the peer group appear to mediate the relationship between participation in extracurricular activities and delinquency (Gardner, Roth, & Brooks-Gunn, 2009).

Similarly, the nature of the activity and the degree of structure that it affords has been cited as another important variable in understanding the relationship between participation in extracurricular activities and delinquency. Mahoney (2000) and Zill

(1995) both argued that increased structure was associated with decreased delinquent behaviors among adolescents. When activities were more unstructured in nature, Mahoney (2000) found that adolescents were more likely to engage in antisocial behaviors.

Extracurricular Participation and At-Risk Adolescents

At-risk youth are defined by various factors that put their productive functioning as an adult "at-risk" (Dryfoos, 1990). More specifically, risk factors are variables that have "proven or presumed effects that can directly increase the likelihood of a maladaptive outcome" (Rolf & Johnson, 1990, p. 387, as cited in Gutman et al., 2002). A number of factors have been identified as possible indicators of "at-risk" status, and these include, but are certainly not limited to, socioeconomic status and minority status (Dryfoos, 1990; Rolf & Johnson, 1990).

Poverty is closely linked to race/ethnicity, and individuals from minority groups are overrepresented in the lower socioeconomic classes. According to the U.S. Census Bureau's most recent statistics on poverty, the official poverty rate in 2009 was 14.3 percent [Current Population Survey (CPS), 2010 Annual Social and Economic Supplement (ASEC)]. This figure denotes the third consecutive year that the poverty rate has increased in the United States, and represents the highest poverty rate since 1994. As a result, 2009 marked the year with the largest number of people living in poverty in the 51 years that poverty estimates have been available [Current Population Survey (CPS), 2010 Annual Social and Economic Supplement (ASEC)]. Additionally, "between 2008 and 2009, the poverty rate increased for non-Hispanic Whites (from 8.6 percent to 9.4 percent), for Blacks (from 24.7 percent to 25.8 percent), and for Hispanics (from 23.2

percent to 25.3 percent)" [Current Population Survey (CPS), 2010 Annual Social and Economic Supplement (ASEC)]. These data support the link between poverty and minority status.

It is well known that living in poverty puts children and adolescents at-risk for negative outcomes in adulthood. Not only are children raised in poverty more likely to live in poverty themselves as adults, they are also more likely to drop out of high school, experience teen pregnancies, and struggle with employment (Edelman, 2010). For impoverished youth, participation in extracurricular activities may be especially important because these youth are at risk for poorer developmental outcomes and participation provides benefits which may not be available otherwise (Mahoney, Larson, Eccles, & Lord, 2005; Pederson, 2005). In general, participation in extracurricular activities is thought to be beneficial to all who participate, but a few studies have suggested that the benefits of participation is greatest for youth from low-income groups (Marsh, 1992; Marsh & Kleitman, 2002). Poverty is seen as a crucial risk-factor in many studies examining adolescent's who are at high probability of having negative outcomes.

With respect to minority status, according to population data from the US Census Bureau, the population of the United States is growing more diverse by race and Hispanic origin (Population Profile of the United States, 2007). In fact, the growth rate for all racial groups and people of Hispanic origin is approximately five times that of the non-Hispanic white group (Population Profile of the United States, 2007). The Black and American Indian/Alaska Native communities also saw significant increases in their population numbers, adding six and seven percent respectively (Population Profile of the United States, 2007). The Asian and Hispanic populations represented the largest

growing groups, and the Hispanic population grew from 13 percent of the overall population in 2000 to 14 percent in 2005 (Population Profile of the United States, 2007). Even so, much of our understanding of the effects of participation is based on samples of working and middle-class white youth with limited research focused on outcomes for minority youth (e.g., Brown & Evans, 2002; Fauth, Roth, & Brooks-Gunn, 2007; Fredricks & Eccles, 2010; Marsh & Kleitman, 2002).

Additionally, individuals from minority groups often face additional challenges during adolescence (Carnegie Council on Adolescent Development 1995; Gutman et al., 2002). For example, there is an increased risk of school failure for individuals from minority groups (e.g., Siedman et al., 1994; Steele, 1992; U.S. Department of Health, Education, & Welfare, 1975; Velez, 1989). Negative outcomes can be seen in a pattern of underachievement by minority adolescents when compared to non-Hispanic peers (Gonzales et al., 1996; Sirin and Sirin, 2005), decreased school engagement (Dotterer, McHale, & Crouter, 2007); and higher dropout rates (US Department of Education, 1992; Davalos, Chavez, & Guardiola, 1999).

Lastly, there is a robust body of literature which suggests that children and adolescents from single-parent households, approximately 28% of children according to the 2000 Census (Simmons and ONeil, 2001), are more vulnerable to negative outcomes than their peers that live with both biological parents. For example, adolescents from single-parent homes are at an increased risk for, among others, higher rates of mental illness (Aseltine, 1996); Hetherington and Clingempeel, 1992; Zill and Peterson, 1986), poor academic outcomes (McLanahan and Sandefur, 1994), and a higher probability of engaging in deviant behaviors (Dornbusch et al., 1985). Different explanations, exist for

the impact of family structure on developmental outcomes, the most prominent of which involve single-mothers' higher rates of poverty as well as factors related to the stress and general lack of resources (economic, social, and community) children and adolescents experience while growing up in a single-parent household (McLanahan and Sandefur, 1994).

Given the vulnerability to negative developmental outcomes experienced by adolescents who come from low-income and single-family households, it is important to determine whether the potentially beneficial/protective links between extracurricular activities and outcomes exist for at-risk adolescents. Gaining a better understanding of this relationship is essential, and information gained from examining the effect of participation in extracurricular activities and outcomes can be used by those designing activities intended to better the lives of a diverse group of youth (Eccles, 2005).

Selection Factors Influencing Participation in Extracurricular Activities

Despite a wealth of literature aimed at examining outcomes associated with participation in extracurricular activities, much of the literature is considered "mixed," and firm, conclusive statements are not available regarding the relationship between participation in extracurricular activities and later outcomes (Fredricks & Eccles, 2006). A major criticism of the existing literature is that few researchers have taken into account the self-selection factors that influence participation (Fredricks & Eccles, 2006). Self-selection refers to the idea that certain characteristics of the individual or larger social context lead an individual to select themselves to a particular group. Fredricks and Eccles (2006) argue that, consequently, previous findings looking at outcomes related to

participation in extracurricular activities may represent nothing more than the preexisting differences between participants and non-participants.

Selection factors exist on multiple contextual levels (e.g., individual, family, peer, school, and neighborhood; Feldman & Matjasko, 2005). Some of the individual-level selection factors identified in previous research include: gender, age, SES, race/ethnicity, academic performance, school engagement, and skill level in activity (Antshel & Anderman, 2000; Davalos, Chavez, & Guardiola, 1999; Garten & Pratt, 1991; Marsh & Kleitman, 2003; Quiroz, Gonzalez, & Frank, 1996). Family-level factors include: parent-adolescent relationship quality, emphasis on activities/academic achievement, parental involvement in activities, level of parents' education, and parental emotional well-being (Gutman, Sameroff, & Eccles, 2002; Larson, Dworkin, & Gilman, 2001; Quiroz, Gonzalez, & Frank, 1996).

Outside of the immediate individual and family context exist peer, school, and neighborhood factors also influence participation in extracurricular activities (Feldman & Matjasko, 2005). These contextual levels include factors related to peer groups, activity participation, region of the country, school size, teacher involvement, GPA requirements for participation, availability of activities, and neighborhood connectedness (Eccles & Barber, 1999; Fredricks & Eccles, 2005; Gardner, Roth, & Brooks-Gunn, 2009; Holland & Andre, 1987; McNeal, 1988).

Current Study

The current study seeks to understand outcomes associated with participation in school-based extracurricular activities for at-risk adolescents after they have transitioned to adulthood. This researcher was particularly interested in exploring the potential long-

term impact that participation in extracurricular activities during high school may have on at-risk adolescents, and, therefore, the current study focused on a sample of at-risk youth. Family structure and socioeconomic status were used as the risk categorization variables.

Since less research has been devoted to examining outcomes for ethnic minority adolescents (Brown, 1988; Holland & Andre, 1987; Lisella & Serwatka, 1996; Pederson & Seidman, 2005), the current study examined the role that race/ethnicity plays in the relationship between participation in extracurricular activities and later outcomes. Feldman and Matjasko (2005) also point to the role of gender as a possible moderating variable, and, therefore, the impact of gender on outcomes was examined in this study. Furthermore, previous research has not always examined the influence of different types of extracurricular activities on later outcomes (Eccles & Barber, 1999; Larson, Hanson, & Moneta, 2006). Extracurricular activities vary in the degree in which they provide certain positive characteristics such as structure, adult supervision, and the opportunity to develop skills (Eccles & Gootman, 2002; Larson, 2000; Roth & Brooks-Gunn, 2003). These differences are likely to influence later outcomes and the current study took type of activity into account in order to determine whether outcomes varied depending on the type of activity one participated in.

Finally, there is little research to date that examines the long-term (when the participant has reached adulthood) implications of participation in high school extracurricular activities (Feldman & Matjakso, 2005). The developmental outcomes examined in this study were assessed using data collected when the participants were settling into adulthood and were between the ages of 28 and 32 years old. A goal of the

current study was to determine whether any potential benefits of participation are present many years following participation in extracurricular, when an individual is in adulthood.

Research Question

What, if any, outcomes during adulthood are associated with participation in high school extracurricular activities for "at-risk" adolescents?

a. Do outcomes vary based on gender of the participant?
b. Do outcomes vary based on the race/ethnicity of the participant?

Hypotheses

Because this study is one of the first to examine these variables in at risk youth, there are few clear hypotheses and most of the analyses are best thought of in terms of research questions. Generally speaking, and consistent with previous research (see Holland & Andre, 1987; Feldman & Matjasko, 2005 for reviews) and theories of adolescent development (Bronfenbrenner, 1979; Erickson, 1968), it is expected that participation in high school extracurricular activities will be associated with beneficial outcomes for at-risk adolescents and that effects will be seen in the following domains: psychological, educational, and deviant behavior.

CHAPTER II

Method

Data from the National Longitudinal Study of Adolescent Health (referred to as "Add Health"; Bearman, Jones, and Udry, 1997) was used to address the research question. The Add Health dataset is a longitudinal study that has followed a cohort of young people since 1994-1995. At the initiation of the study, participants were in grades 7 through 12. The most recent data collection (Wave IV) was completed in 2008 when participants were aged 24-32. The multi-survey, multi-wave interdisciplinary design consisted of four waves of in-school questionnaires, in-home interviews, and various physical/biological measurements. This yielded a wealth of data about adolescent functioning including individual (e.g., social, economic, psychological and physical well-being) and contextual data (e.g., family, neighborhood, community, school, and peer and romantic relationships). Furthermore, the Add Health data set is nationally representative and includes an oversampling of adolescents from minority populations.

Sample

The current study examined outcomes related to participation in extracurricular activities for "at-risk" adolescents. The study focused on high school extra-curricular activity participation, and the sample was limited to adolescents who were in 10^{th}-12^{th} grades at the time of the first data collection. Family structure and socioeconomic status were used as the risk categorization variables, and the sample was limited to individuals

who came from a family where at least one biological parent did not reside with the family, or for whom neither parent graduated from high school, or individuals for whom their family had received public assistance. To be included in the study, participants had to meet at least one of the above criteria for being "at risk," and they also had to have data from both Wave I and Wave IV.

Measures

Dependent Variables

Pre-constructed variables from Wave IV that were created by previous Add Health researchers were used to explore outcomes in the following domains of functioning. The specific items composing each variable are listed below.

- Psychological variables included:
    - *Abbreviated Cohen Perceived Stress Scale* (Cohen, Kamarck, & Mermelstein, 1983). The Perceived Stress Scale (PSS) was designed to measure an individuals perceptions of the stress in their lives. The original version is 10 items long, but a short version can be made using 4 specific items. Previous Add Health researchers constructed the scale used in the current study with those 4 items. Respondents were asked to rate their experiences of stress in the past month on a 4-point scale from 0 = *never or rarely* to 3 = *most of the time or all of the time*. The items included: "In the last 30 days, how often have you felt that you were unable to control the important things in your life?" "How often have you felt confident in your ability to handle your personal problems?" "How often have you felt that things were going your way?" The

final question was, “how often have you felt that difficulties were piling up so high that you could not overcome them?”

- *Abbreviated CES-D Depression Scale* (Radloff, 1977). The Center for Epidemiological Studies Depression Scale (CES-D) is a widely used instrument to measure symptoms of depression. The pre-constructed version of this scale was abbreviated from 20 items to 5 key items and asked respondents to rate their symptoms of depression on a 4-point scale from 0 = *never or rarely* to 3 = *most of the time or all of the time.* Items included: (During the past seven days:) “You were bothered by things that usually don't bother you,” “You could not shake off the blues, even with help from your family and your friends,” “You had trouble keeping your mind on what you were doing,” “You felt depressed,” and “You felt sad.” Higher scores indicate higher levels of depression.

- Educational/Economic variables included:
  - *Graduate from College*. To determine if participants had graduated from college, respondents were asked the following question: “What is the highest level of education that you have achieved to date?” Responses from this question were used to form a dichotomous variable indicating whether an individual had or had not graduated from college.
  - *Personal Earnings*. To determine personal earnings, respondents were asked the following question: “Now think about your personal earnings. In [the past year], how much income did you receive from personal earnings before taxes,

that is, wages or salaries, including tips, bonuses, and overtime pay, and income from self-employment?"

- Deviant Behavior variables included:
    - *Arrest Record.* Respondents were asked the following question: "Have you ever been arrested?" Responses from this question were used to form a dichotomous variable indicating whether an individual had or had not ever been arrested.
    - *DSM-IV Alcohol Abuse Symptoms*. This scale was created by previous Add Health researchers who selected items that met DSM-IV criteria for Alcohol Abuse. These items included: "How often has your drinking interfered with your responsibilities at work or school?" "How often have you been under the influence of alcohol when you could have gotten yourself or others hurt, or put yourself or others at risk, including unprotected sex?" "How often have you had legal problems because of your drinking, like being arrested for disturbing the peace or driving under the influence of alcohol, or anything else?" "How often have you had problems with your family, friends, or people at work or school because of your drinking?" The final item was, "did you continue to drink after you realized drinking was causing you problems with family, friends, or people at work or school?" Responses to these items were used to form a dichotomous variable that indicated the presence of symptoms of Alcohol Abuse. The two categories created represented those individuals who did not endorse any symptoms, and those who endorsed at least one symptom of Alcohol Abuse.

- *DSM-IV Marijuana Abuse Symptoms.* This scale was created by previous Add Health researchers who selected items that met DSM-IV criteria for Cannabis Abuse. These items included: "How many times has each of the following things ever happened? How often has your marijuana use interfered with your responsibilities at work or school?" "How often have you been under the influence of marijuana when you could have gotten yourself or others hurt, or put yourself or others at risk, including unprotected sex?" "How often have you had legal problems because of your marijuana use, like being arrested for disturbing the peace or anything else?" "How often have you had problems with your family, friends, or people at work or school because of your marijuana use?" The final item was, "did you continue to use marijuana after you realized using it was causing you problems with family, friends, or people at work or school?" Responses to these items were used to form a dichotomous variable that indicated the presence of symptoms of Marijuana Abuse. The two categories created represented those individuals who did not endorse any symptoms, and those who endorsed at least one symptom of Marijuana Abuse.

Predictor Variables

Participation in school-based extra-curricular activities. This variable was determined using responses from the Wave I In-School Questionnaire. Based on the individual's responses, a variable was constructed in which participation in extracurricular activities was divided by type of activity (as suggested by Larson, Hansen, & Moneta, 2006). These divisions included:

- *Sports-Related*
    - e.g., baseball/softball, basketball, field hockey, football, ice hockey, soccer, swimming, tennis, track, volleyball, wrestling, other sport
- *Other Activities*
    - e.g., French/German/Latin/Spanish club, book, computer, debate, history, math, science, and honor society, drama, band, chorus/choir, and orchestra, newspaper, student council, yearbook, Future Farmers of America, cheer/dance, other clubs or organization
- *Multiple Activities*
    - e.g., respondent indicates participation in both sports-related and other types of activity
- *No Participation*

Moderating Variables

- Gender
- Race/Ethnicity
    - Six different groups were formed, White, Hispanic, African American, Asian, Native American, and Other.

Control Variables

In order to address some of the self-selection factors mentioned above, the analyses accounted for some of the factors known to be linked to participation and also to beneficial outcomes. Covariates were constructed from items drawn from the Wave I In-Home Questionnaire. These variables included:

- *School Bonding*
    - "I feel like I am a part of this school"
- *Social Support*
    - "I feel socially accepted"
- *Parental Support*
    - "I feel loved and wanted"

Participants were asked to rate their agreement with the above statements on a 5-point scale from 1 = *strongly agree* to 5 = *strongly disagree*. Responses to these items were centered at the mean and included in each model as a control variable.

Analytic Strategy

The Add Health data represent a complex survey design, including post-stratification, nesting of students in schools, and unequal probability of selection. The survey procedures in SAS, Version 9.2, correctly deal with each of these issues. The SURVEYREG procedure was used for all continuous outcomes (Stress, Depression, and Personal Earnings) and the SURVEYLOGISTIC procedure was used for all binary outcomes (Graduate from College, Ever Arrested, Alcohol Abuse, and Marijuana Abuse).

Model 1

For each outcome, an initial model was created in order to determine whether participation in extracurricular activities predicted developmental outcomes. Outcomes were regressed on: extracurricular participation (represented by three dummy-coded variables - participation in *Multiple activities*, participation in *Other activities*, participation in *Sports activities* - with *No Participation* in extracurricular activities

serving as the reference group) and a set of control variables (gender, ethnicity, grade, and the self-selection variables).

Model 2

A second model, which built on Model 1, was created in order to determine whether there was an *interaction between participation in extracurricular activities and gender* in predicting outcomes. Outcomes were regressed on: extracurricular participation, gender, and the interaction terms between the variables. Ethnicity, grade, and the self-selection variables were included as control variables.

Model 3

A final model, which also built on Model 1, was created in order to determine whether there was an *interaction between participation in extracurricular activities and race/ethnicity* in predicting outcomes. Outcomes were regressed on extracurricular participation, ethnicity, and the interaction terms between the variables. Gender, grade, and the self-selection variables were included as control variables.

Interaction Effects

In models that produced a significant interaction term between participation and either gender or race/ethnicity, the interaction was probed by running additional models in which the dummy codes for those terms were reversed (e.g., for significant gender interactions, the reference group was changed from females to males) in order to test whether or not the effects of interest for the other groups (e.g., males) were significant.

CHAPTER III

Results

Descriptive Statistics

Participants: Of the 1,555 participants who met selection criteria for being "at risk" and had data from Wave I and Wave IV, 57.7% (*n*=897) were females, and 42.3% (*n*=658) were males. With respect to race/ethnicity of the participants, 37.2% (*n*=578) were White, 26.8% (*n*=417) were African American, 21.9% (*n*=340) were Hispanic, 5.5% (*n*=85) were Asian, 2.4% (*n*=38) were Native American, and 6.2% (*n*=97) identified as "other" (see Table A). At the time of the Wave I data collection, about 45% of participants were in the 10th grade, 44% were in the 11th grade, and 11% were in the 12th grade.

Participation in Extracurricular Activities: Of the 1,555 participants who met selection criteria for being "at risk," 26.5% (*n*=412) did not endorse participating in any extracurricular activities (*No Participation*), 22.9% (*n*=356) endorsed participating in only *Sports activities*, 21.8% (*n*=339) endorsed participating in only *Other extracurricular activities*, and 28.8% (*n*=448) endorsed participating in *Multiple activities*, including at least one sport and one non-sport/other activities (see Table 1).

Table 1. *Participation in Extracurricular Activities by Gender and Race/Ethnicity*

	Gender		Race/Ethnicity						
Activity Type	F	M	White	Hisp.	African Am.	Asian Am.	Native Am.	Other	Total
No Participation	234	178	152	121	85	24	4	26	412
Sports	133	223	127	70	119	14	7	19	356
Other	241	98	132	84	79	14	11	19	339
Multiple	289	159	167	65	134	33	16	33	448
Total	897	658	578	417	340	85	38	97	1555

Psychological Outcomes

Stress – Perceived Stress Scale (PSS)

Model 1: Though participation in any type of high school extracurricular activity was associated with lower scores on the PSS in adulthood when compared to *Non-Participants*, only participation in *Multiple* high school extracurricular activities significantly predicted PSS scores when holding all other variables (e.g., gender, race/ethnicity, self-selection variables, and grade) constant. This effect of participation in *Multiple* extracurricular activities on PSS scores was beneficial, meaning high school participation in *Multiple* activities (compared to *No Participation*) was associated with significantly lower scores on the PSS many years later when the individual was in their thirties.

Model 2: The gender interactions were not significant, indicating there were no differential effects of extracurricular participation on PSS scores as a function of gender.

Model 3: Likewise, the race/ethnicity interactions were not significant, indicating there were no differential effects of extracurricular participation on PSS scores as a function of race/ethnicity.

Table 2. Model Statistics and Effect Estimates for Stress.

	Model 1	Model 2	Model 3
Intercept	5.24	5.26	5.33
Mult. Activities	-.70*	-.56	-1.03*
Other Activities	-.41	-.51	-.42
Sports Activities	-.09	-.30	-.09
School Bonding	.18	.18	.16
Social Support	.19	.17	.17
Parental Support	.36	.36*	.40*
Male	-.75*	-.77	-.79*
Hispanic	-.19	-.21	-.27
African American	.38	.37	.92
Asian	.61	.66	-.32
Native American	-.21	-.25	-2.15
Other Ethnicity	-.31	-.34	-1.96*
Grade	.02	.03	.04
Mult*Male	-	-.38	-
Other*Male	-	.29	-
Sport*Male	-	.32	-
Mult*Hispanic	-	-	.25
Other*Hispanic	-	-	.25
Sport*Hispanic	-	-	-.27
Mult*Af. Am	-	-	-.25
Other*Af. Am	-	-	-1.21
Sport*Af. Am	-	-	-.70
Mult*Asian	-	-	2.04
Other*Asian	-	-	-.70
Sport*Asian	-	-	1.00
Mult*Nat. Am.	-	-	2.53
Other*Nat. Am.	-	-	2.83
Sport*Nat. Am	-	-	.50
R^2	.074	.076	.092
ΔR^2	.009	.011	.027
F	6.46**	6.00**	5.54**

* $p < .05$
** $p < .01$

Depression – Center for Epidemiological Studies Depression Scale (CES-D)

Model 1: Participation in *Multiple* high school extracurricular activities was associated with significantly lower CES-D scores in adulthood when compared to the scores of *Non-Participants* and when holding all other variables (e.g., gender, race/ethnicity, self-selection variables, and grade) constant. This effect of participation in *Multiple* extracurricular activities on CES-D scores was beneficial, meaning high school participation in *Multiple* activities (compared to *No Participation*) was associated with significantly lower levels of depression, as measured by the CES-D.

Model 2: With the gender by extracurricular activity interactions in the model, the regression coefficients for extracurricular participation represent the effects for females. None of these effects were significant, indicating that extracurricular participation is not significantly associated with CES-D scores for females. The gender by extracurricular activity interactions indicate the extent to which these effects differ for males compared to females. The interaction was significant for *Multiple* activities, indicating that the protective effect of engaging in *Multiple* extracurricular activities (compared to *No Activities*) is stronger for males compared to females (see Figure 1). By probing the interaction, it was determined that indeed participation in *Multiple* extracurricular activities was associated with significantly fewer depressive symptoms endorsed on the CES-D scale for males (b=-1.15, $p<.05$; adjusted means = 1.47 for participants, 2.62 for non-participants).

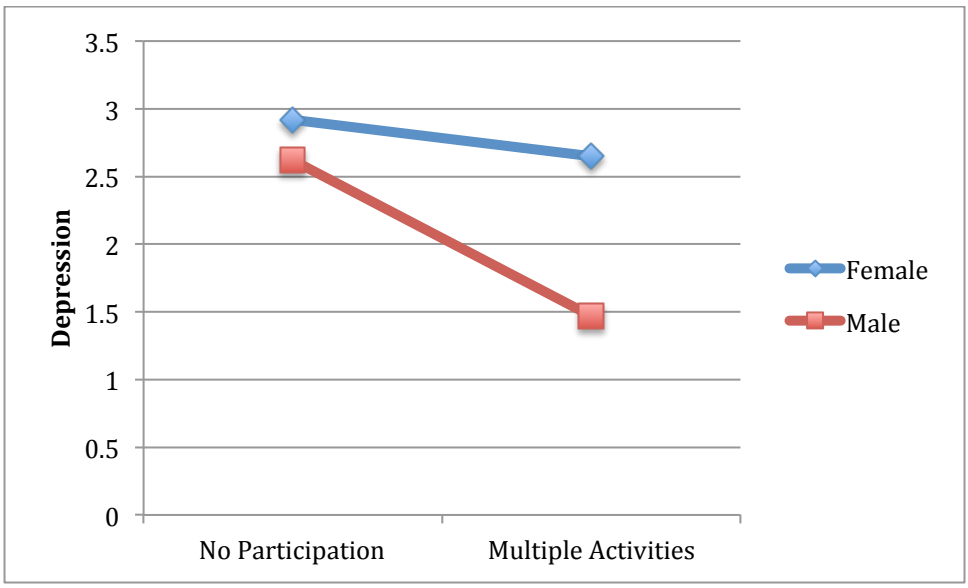

Figure 1. Effects of Participation in Multiple Activities on Depression as a Function of Gender

Model 3: With the race/ethnicity by extracurricular activity interactions in the model, the regression coefficients for extracurricular participation represent the effects for White individuals. For White individuals, the effect of participation in *Multiple* high school extracurricular activities (compared to *No Participation*) was significant, indicating that participation in *Multiple* extracurricular activities is associated with lower CES-D scores in adulthood (b=-.76, $p<.05$; adjusted means = 2.01 for participants and 2.77 for non-participants).

The race/ethnicity by extracurricular activity interactions indicate the extent to which these effects differ for Hispanic/African American/Asian/Native American individuals compared to White individuals. The interaction is significant for African Americans who participated in *Sport* activities, indicating that the protective effect of engaging in *Sport-related* extracurricular activities (compared to *No Activities*) is stronger for African Americans compared to White individuals (see Figure 2). Further analyses of

the interaction revealed a significant effect (e.g., lower CES-D scores) for participation in *Sports-related* extracurricular activities compared with *No Participation* among African Americans (b=-1.05, p=.05; adjusted means = 3.07 for participants, 4.12 for non-participants).

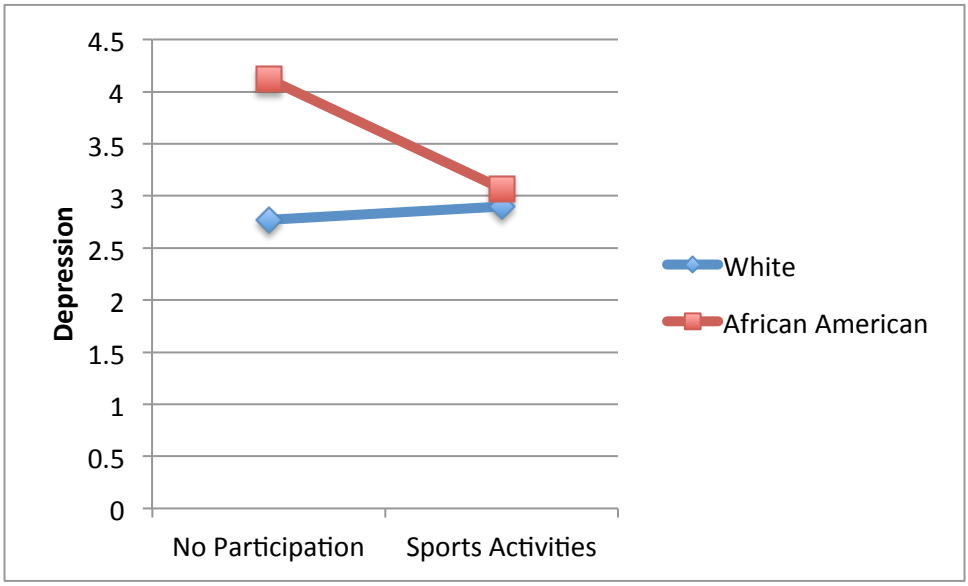

Figure 2. Effects of Participation in Sports Activities on Depression as a Function of Race/Ethnicity

The interaction is also significant for Asian individuals who participated in *Multiple* extracurricular activities. In this case, the effect of participation in *Multiple* extracurricular activities is actually detrimental for Asian individuals compared to White individuals, for whom the effect was protective (see Figure 3). By probing this interaction, it was determined that participation in *Multiple* extracurricular activities was associated with significantly higher levels of Depression on the CES-D for Asian individuals (b=2.46, p<.01; adjusted means = 4.62 for participants, 2.16 for non-participants).

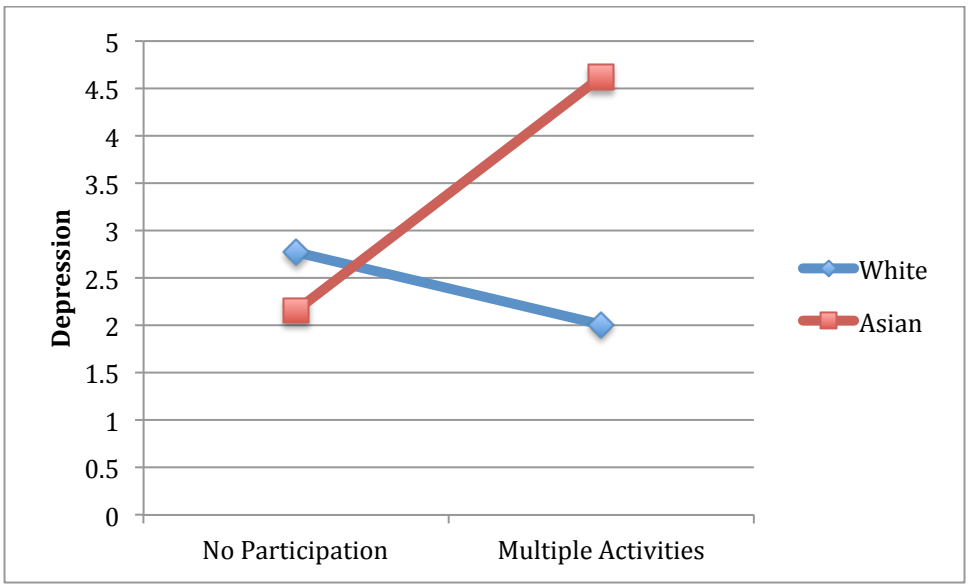

Figure 3. Effects of Participation in Multiple Activities on Depression as a Function of Race/Ethnicity

Marginally significant differences ($p < .07$) in the effect of participation on CES-D depressive symptoms were found for Hispanic individuals who participated in *Sports* and for Hispanic and African American individuals who participated in Other activities when compared with White individuals who participated in these same activities. In each scenario, the effect of participation was beneficial, with a more protective effect of participation on depression for these individuals compared to White individuals. (Note: further analyses to determine the significance of the specific effects by race/ethnicity were not conducted on marginally significant interaction results).

Table 3. Model Statistics and Effect Estimates for Depression.

	Model 1	Model 2	Model 3
Intercept	2.92	2.67	2.77
Mult. Activities	-.66**	-.27	-.76*
Other Activities	.10	-.36	.41
Sports Activities	-.24	.14	.13
School Bonding	-.04	-.03	-.06
Social Support	.21	.19	.20
Parental Support	.36	.37**	.40**

Male	-.56**	-.04	-.60**
Hispanic	-.16	-.19	.41
African American	.66**	.66**	1.34*
Asian	1.18*	1.23*	-.61
Native American	-.21	-.23	-1.66
Other Ethnicity	-.29	-.30	-.86
Grade	-.02	.02	.01
Mult*Male	-	-.88*	-
Other*Male	-	-.50	-
Sport*Male	-	-.71	-
Mult*Hispanic	-	-	-.49
Other*Hispanic	-	-	-1.10
Sport*Hispanic	-	-	-1.00
Mult*Af. Am	-	-	-.29
Other*Af. Am	-	-	-1.24
Sport*Af. Am	-	-	-1.19*
Mult*Asian	-	-	3.22**
Other*Asian	-	-	.41
Sport*Asian	-	-	1.34
Mult*Nat. Am.	-	-	1.23
Other*Nat. Am.	-	-	.48
Sport*Nat. Am	-	-	.69
R^2	.079	.083	.103
ΔR^2	.012	.016	.036
F	7.86**	9.72**	8.79**

* $p < .05$
** $p < .001$

Educational/Economic Outcomes

College Degree

Model 1: Within this model, participation in any type of extracurricular activity had a significant effect on the likelihood that an individual would Graduate from College (as measured by the Graduating from College variable). Participation in *any type* of extracurricular activity (compared to *No Participation*) was associated with an increase in the odds of Graduating from College, holding all other variables constant. More specifically, the odds of Graduating from College are nearly 6 times higher for individuals who participated in *Multiple* activities when compared to *Non-Participants*; 3

times higher for individuals who participated in *Other* activities when compared to *Non-Participants*; and 2 times higher for individuals who participated in *Sports* activities when compared to *Non-Participants*.

Model 2: For females, participation in any type of extracurricular activity had a significant and positive effect on the likelihood that one would Graduate from College. There was also a differential effect of extracurricular participation on college graduation as a function of gender. This effect was seen for those who participated in *Multiple* and *Other* extracurricular activities. More specifically, females who participated in *Multiple* extracurricular activities during high school had nearly 4 times higher odds of Graduating from College than female *Non-Participants*. For males, participation in *Multiple* extracurricular activities was associated with 13 times higher odds of Graduating from College when compared to male *Non-Participants* (see Figure 4). By probing the interaction, it was determined that participation in *Multiple* extracurricular activities was associated with significantly higher odds of graduating from college for males (b=2.59, p<.01).

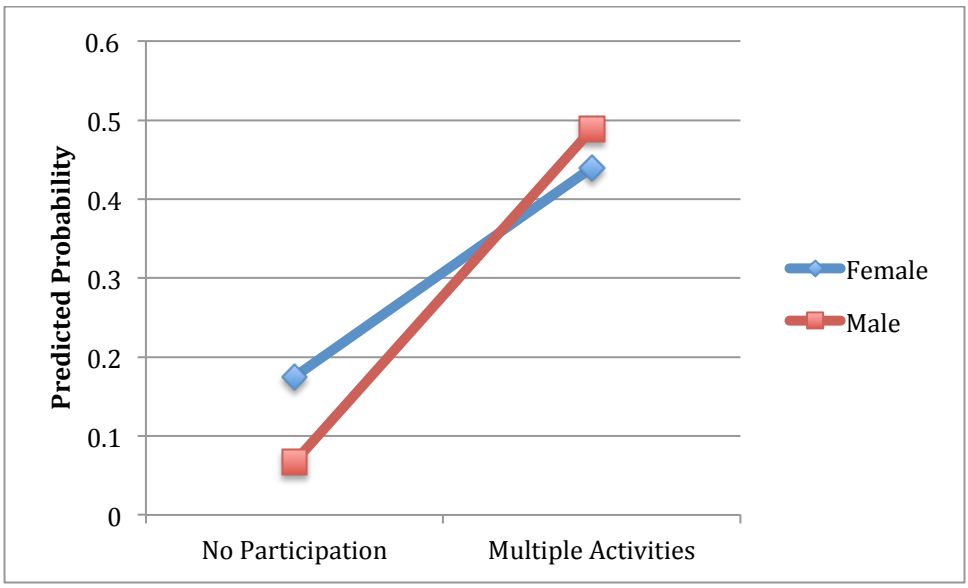

Figure 4. Predicted Probabilities of Graduating from College by Activity Type and Gender

The interaction was also significant for participation in *Other* extracurricular activities, indicating that the protective effect of engaging in other types of extracurricular activities (compared to *No Activities*) is stronger for males compared to females. More specifically, the odds of Graduating from College were 2 times higher for females who participated in *Other* extracurricular activities when compared to *Non-Participants*, while males who participated in *Other* activities had odds of Graduating from College that were over 7 times higher than the odds of graduating for *Non-Participants* (see Figure 5). Again, by probing the interaction, it was determined that participation in *Other* extracurricular activities was associated with significantly higher odds of Graduating from College for males (b=1.99, p<.01).

Overall, the effect of participation in extracurricular activities was positive for both males and females, and participation seems to be linked with even stronger benefits for males than for females when it comes to Graduating from College.

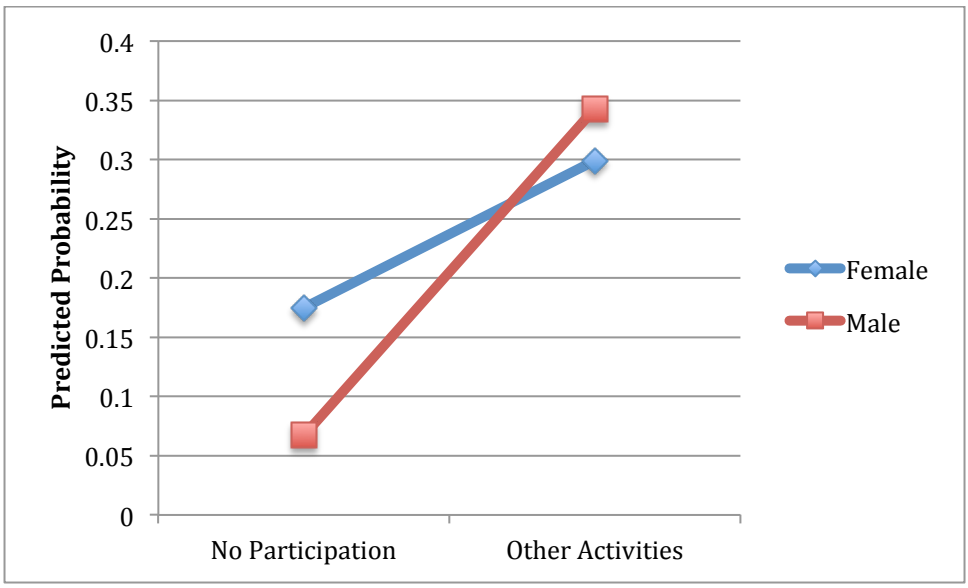

Figure 5. Predicted Probabilities of Graduating from College by Activity Type and Gender

Model 3: For White individuals, any type of participation in extracurricular activities was associated with a higher likelihood that one would Graduate from College. There was also a differential effect of extracurricular participation on college graduation as a function of race/ethnicity. This effect was seen for those who participated in *Sports*-related extracurricular activities. More specifically, for Native Americans, there was a significant and negative effect for participation in *Sports*, as those who participated in *Sports* during high school were significantly less likely to Graduate from College than their White counterparts (b=-13.82, p<.01).

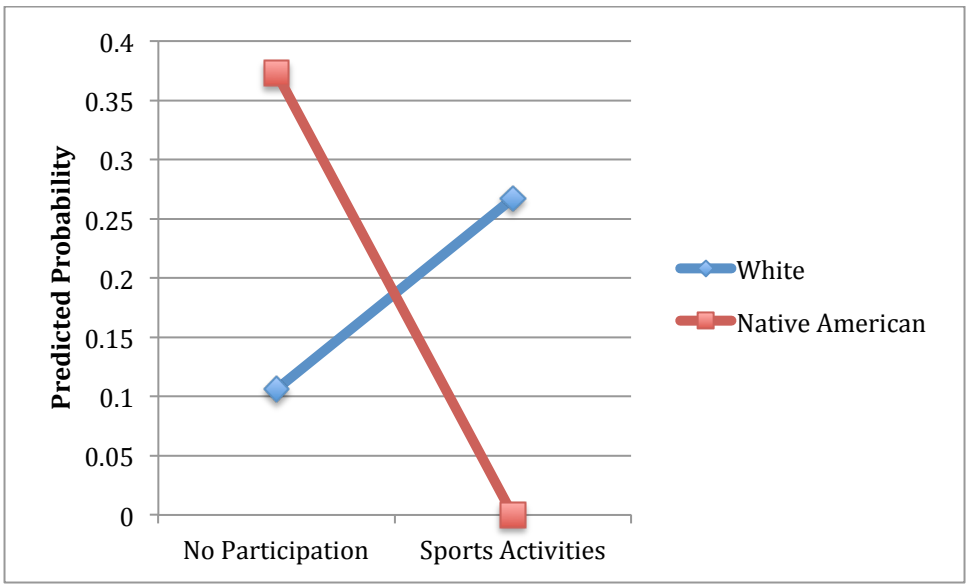

Figure 6. Predicted Probabilities of Graduating from College by Activity Type and Race/Ethnicity

Table 4. Model Statistics and Effect Estimates for College Degree.

	Model 1	Model 2	Model 3
Intercept	-1.87	-1.55	-2.13
Mult. Activities	1.77**	1.31**	2.16**
Other Activities	1.16**	.70*	1.37**
Sports Activities	.78**	.85*	1.12**
School Bonding	-.09	-.10	-.08
Social Support	.02	.03	.00
Parental Support	-.04	-.05	-.04
Male	-.21	-1.09**	-.23
Hispanic	-.12	-.06	.08
African American	-.31	-.27	.58
Asian	.32	.26	.51
Native American	-.51	-.53	1.61
Other Ethnicity	-.16	-.15	-.19
Grade	-.02	-.02	-.02
Mult*Male	-	1.29**	-
Other*Male	-	1.29*	-
Sport*Male	-	.22	-
Mult*Hispanic	-	-	-.35
Other*Hispanic	-	-	-.29
Sport*Hispanic	-	-	.09
Mult*Af. Am	-	-	-1.04
Other*Af. Am	-	-	-.89
Sport*Af. Am	-	-	-1.12

Mult*Asian	-	-	-.71
Other*Asian	-	-	.88
Sport*Asian	-	-	.21
Mult*Nat. Am.	-	-	-2.68
Other*Nat. Am.	-	-	-1.55
Sport*Nat. Am	-	-	-14.94**
Wald χ^2	80.41**	87.06**	1644.84**

* $p < .05$
** $p < .001$

Personal Earnings

Model 1: In this model, there was a significant effect for participation in *Multiple* high school extracurricular activities. When holding all other variables constant, individuals who participated in *Multiple* high school activities had yearly (pre-tax) Personal Earnings (as measured by the Personal Earnings variable) that were approximately $10,300 higher than the Personal Earnings of *Non-Participants*. Thus, the effect of participation in *Multiple* extracurricular activities on Personal Earnings was positive, meaning high school participation in *Multiple* activities (compared to *No Participation*) was associated with significantly higher Personal Earnings in adulthood.

Model 2: The gender interactions were not significant, indicating there were no differential effects of extracurricular participation on Personal Earnings as a function of gender.

Model 3: With the race/ethnicity by extracurricular activity interactions in the model, the regression coefficients for extracurricular participation represent the effects for White individuals. For White individuals, the effect of participation in *Multiple* high school extracurricular activities (compared to *No Participation*) was significant and positive, meaning that those who participated in *Multiple* high school extracurricular

activities earned more money as adults than *Non-Participants* (*b*=10,164.06, *p*<.05; adjusted means = $36,863.78 for participants and $26,699 for non-participants).

The race/ethnicity by extracurricular activity interactions indicate the extent to which these effects differ for Hispanic/African American/Asian/Native American individuals compared to White individuals. The interaction was significant for Asians individuals who participated in *Multiple* extracurricular activities, indicating that the effect of participation in *Multiple* extracurricular activities on Personal Earnings was significantly different for Asian individuals compared to White individuals (see Figure 7). Where the effect of participation in *Multiple* extracurricular activities was beneficial (e.g., associated with higher Personal Earnings) for White individuals, it was detrimental (e.g., associated with lower Personal Earnings) for Asian individuals. Furthermore, Asian individuals did not seem to benefit from participation in *Multiple* extracurricular activities when compared to Asians who did *Not Participate*—their earnings were lower (by approximately $7, 295). Further analyses of the interaction revealed that, for Asians, this effect of participation in *Multiple* extracurricular activities was not significant.

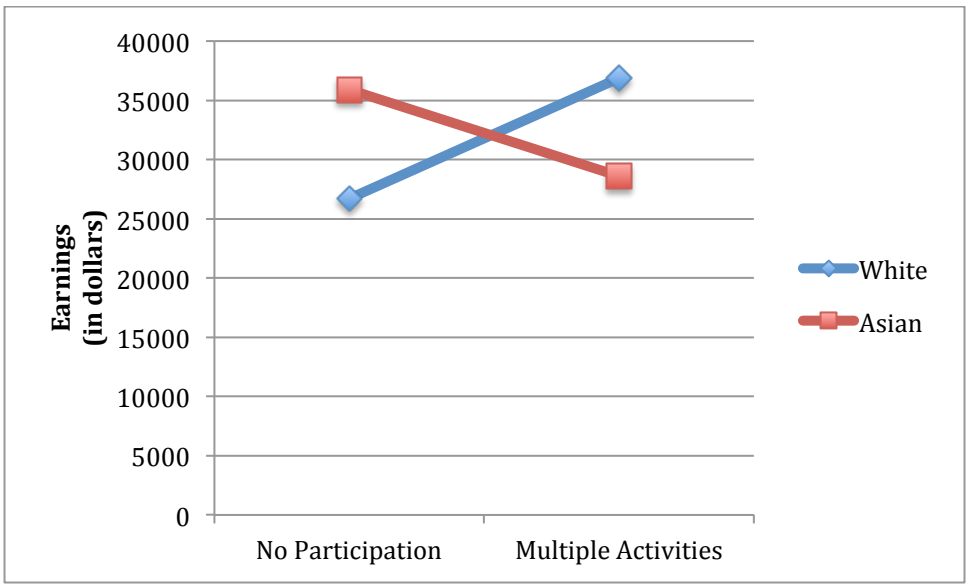

Figure 7. Effects of Participation in Multiple Activities on Personal Earnings as a Function of Race/Ethnicity

The interaction was also significant for Asian individuals who participated in *Other* extracurricular activities, indicating that the positive effect of engaging in *Other* types of extracurricular activities (compared to *No Activities*) is stronger for Asian individuals compared to White individuals. Interestingly, further analyses into this interaction revealed that this effect on Personal Earnings was significant and positive for Asian individuals who participated in *Other* activities when compared to Asian individuals who did *Not Participate*. The Personal Earnings of those who participated in *Other* extracurricular activities were much higher (by approximately $17,700) than the Personal Earnings of Asian individuals who did *Not Participate* in any extracurricular activities (see Figure 8).

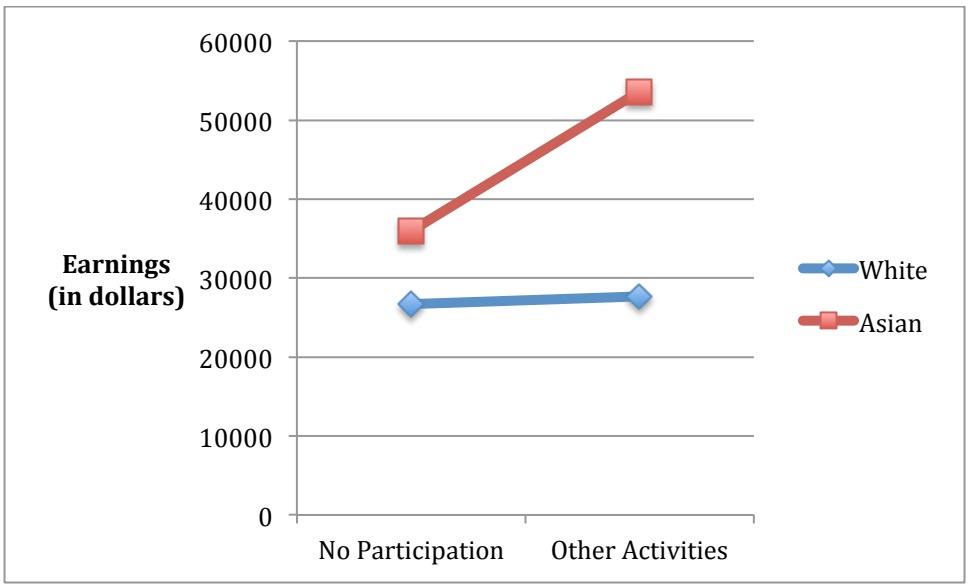

Figure 8. Effects of Participation in Multiple Activities on Personal Earnings as a Function of Race/Ethnicity

Table 5. Model Statistics and Effect Estimates for Personal Earnings.

	Model 1	Model 2	Model 3
Intercept	27127.74	27338.45	26699.72
Mult. Activities	10,300.92**	9799.03**	10164.06*
Other Activities	1942.93	1623.70	940.11
Sports Activities	2669.85	3006.63	4228.35
School Bonding	-1460.75	-1475.10	-1195.81
Social Support	236.18	236.75	396.98
Parental Support	794.29	801.06	703.46
Male	11475.60**	11066.74**	12292.22**
Hispanic	1836.47	1928.63	1800.92
African American	-6681.90*	-6639.44*	-6612.81
Asian	1010.44	943.28	9202.80
Native American	-7952.96*	-7897.43*	-4458.61
Other Ethnicity	3696.75	3760.91	1165.75
Grade	2263.84	2252.84	2102.33
Mult*Male	-	1173.11	-
Other*Male	-	658.78	-
Sport*Male	-	-397.91	-
Mult*Hispanic	-	-	1097.50
Other*Hispanic	-	-	1913.32
Sport*Hispanic	-	-	-2592.63
Mult*Af. Am	-	-	-1985.42
Other*Af. Am	-	-	5639.90
Sport*Af. Am	-	-	-1308.43

Mult*Asian	-	-	-17459.11*
Other*Asian	-	-	16764.81*
Sport*Asian	-	-	-4837.07
Mult*Nat. Am.	-	-	-334.51
Other*Nat. Am.	-	-	-5824.75
Sport*Nat. Am	-	-	-10004.05
R^2	.090	.090	.111
ΔR^2	.023	.023	.044
F	5.26**	5.22**	11.25**

* $p < .05$
** $p < .001$

Deviant Behavior Outcomes

Arrest Record

Model 1: Within this model, participation in *Other* extracurricular activities or *Sports* activities had a significant and beneficial effect on the likelihood that an individual would ever be Arrested (as measured by the Arrest Record variable), as participation in either *Other* or *Sports* activities (compared to *No Participation*), was associated with a decrease in the odds of ever being Arrested, holding all other variables constant. More specifically, those who participated in *Other* types of extracurricular activities had 52% lower odds of ever being Arrested than those who did *Not Participate*, while those who participated in *Sports*-related extracurricular activities during high school had 39% lower odds of ever being Arrested than those who did *Not Participate*.

Model 2: The gender interactions were not significant, indicating there were no differential effects of extracurricular participation on ever being Arrested as a function of gender.

Model 3: For White individuals, *Sports* participation during high school was associated with a lower likelihood of ever being Arrested. Compared with *Non-*

Participants, White high school student-athletes had 50% lower odds of having at least one Arrest on their criminal record at the time of the data collection in adulthood.

Interestingly, the effect of participation in *Multiple* extracurricular activities on Arrest record varied by race/ethnicity, and was significantly different for Hispanic individuals when compared to White individuals, indicating the protective effect of engaging in *Multiple* extracurricular activities (compared to *No Activities*) is stronger for Hispanic individuals compared to White individuals (see Figure 9). Further analyses into this interaction revealed that the effect of participation in *Multiple* extracurricular activities on ever being Arrested was significant (b=-2.53, $p < .01$). More specifically, Hispanic individuals who participated in *Multiple* extracurricular activities had odds of being Arrested that were 92 percent lower than their peers who did *Not Participate*. Taken together, these results indicate that for Hispanic individuals, participation in *Multiple* activities serves as a protective factor in that it is related to significantly lower odds of being Arrested.

The interaction was also significant for Asian individuals who participated in *Other* extracurricular activities. Again, participation in *Other* extracurricular activities had a stronger protective effect for Asian individuals than White individuals. By probing this interaction, it was revealed that, for Asian individuals, participation in *Other* extracurricular activities (compared to *No Activities*) was associated with significantly lower odds (b=-11.55, $p < .01$) of ever being Arrested (see Figure 10).

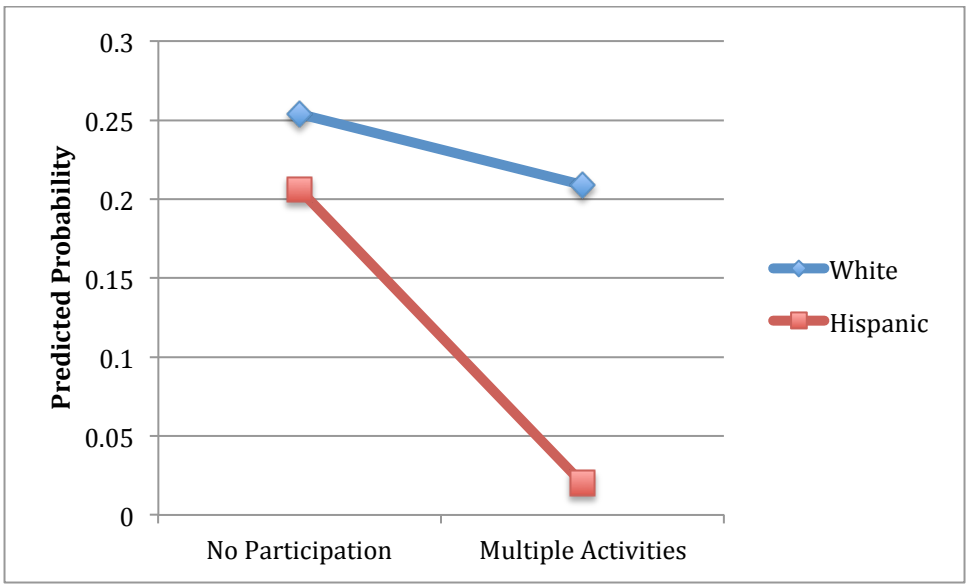

Figure 9. Predicted Probabilities of Having Ever Been Arrested by Activity Type and Race/Ethnicity

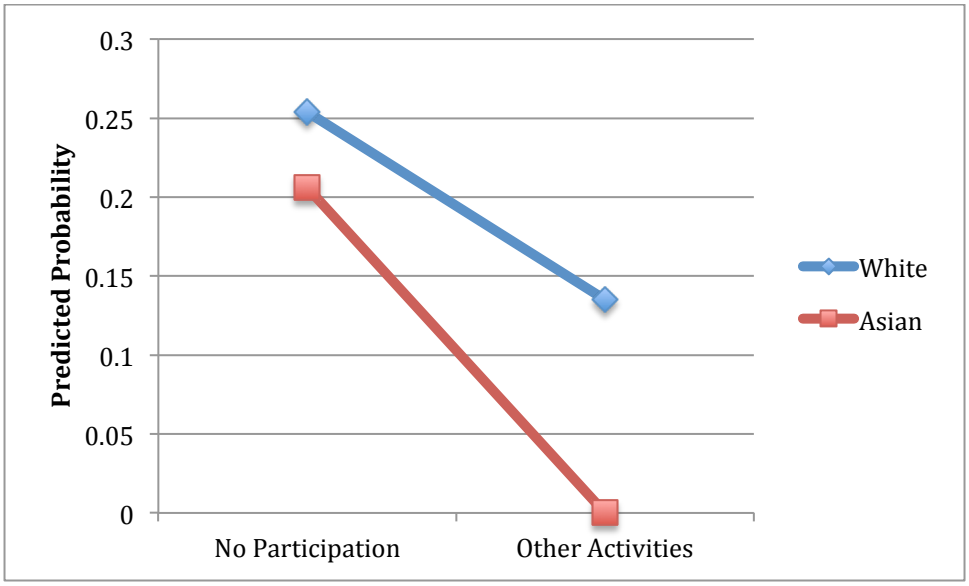

Figure 10. Predicted Probabilities of Having Ever Been Arrested by Activity Type and Race/Ethnicity

Table 6. Model Statistics and Effect Estimates for Arrest Record.

	Model 1	Model 2	Model 3
Intercept	-1.11	-1.12	-1.08
Mult. Activities	-.39	-.35	-.25
Other Activities	-.73**	-.74*	-.78
Sports Activities	-.49*	-.48	-.70*
School Bonding	.15	.15	.15
Social Support	-.15	-.15	-.15
Parental Support	.09	.09	.10
Male	1.30**	1.32**	1.25**
Hispanic	-.48	-.49	-.27
African American	.23	.23	-.01
Asian	-2.77**	-2.76**	-2.36**
Native American	.26	.25	1.65
Other Ethnicity	-.23	-.23	-.83
Grade	.07	.07	.09
Mult*Male	-	-.09	-
Other*Male	-	.02	-
Sport*Male	-	-.02	-
Mult*Hispanic	-	-	-2.28**
Other*Hispanic	-	-	.36
Sport*Hispanic	-	-	.03
Mult*Af. Am	-	-	.16
Other*Af. Am	-	-	-.07
Sport*Af. Am	-	-	.63
Mult*Asian	-	-	-.02
Other*Asian	-	-	-10.77**
Sport*Asian	-	-	2.19
Mult*Nat. Am.	-	-	-2.03
Other*Nat. Am.	-	-	-1.00
Sport*Nat. Am	-	-	-1.85
Wald χ^2	227.07**	247.98**	1485.51**

* $p < .05$
** $p < .001$

Alcohol Abuse

Model 1: Within this model, participation in high school extracurricular activities was not significantly related to symptoms of alcohol abuse in adulthood (as measured by the DSM-IV Alcohol Abuse Symptoms Variable). A marginally significant result (b=.52, p = .07) was found for participation in *Multiple* extracurricular activities. Findings

indicate that participation in *Multiple* extracurricular activities (compared to No *Participation*), was associated with an increase in the odds of demonstrating one or more symptoms of Alcohol Abuse (1.67 times higher), holding all other variables constant.

Model 2: The gender interactions were not significant, indicating that there were no differential effects of extracurricular participation on symptoms of Alcohol Abuse as a function of gender.

Model 3: With the race/ethnicity by extracurricular activity interactions in the model, the regression coefficients for extracurricular participation represent the effects for White individuals. None of these effects are significant, indicating that extracurricular participation is not significantly associated with symptoms of Alcohol Abuse in adulthood for White individuals. Within this model, however, there was a differential effect of extracurricular participation on symptoms of Alcohol Abuse as a function of race/ethnicity. The interaction was significant for *Sports*-related extracurricular activities, as there was a significant difference in the effect of *Sports* participation on developing symptoms of Alcohol Abuse between Native American and White individuals. The protective effect of participating in *Sports*-related extracurricular activities was much stronger for Native American individuals compared to White *Sports* participants (see Figure 11). More specifically, the odds of demonstrating one or more symptoms of Alcohol Abuse were an astonishing 99% lower for Native Americans who participated in *Sports* activities during high school when compared to their *Non-Participating* counterparts (b=-4.25, p<.01). In sum, participation in *Sports* activities during high school seems to serve as a protective factor against developing symptoms of Alcohol Abuse for Native American individuals.

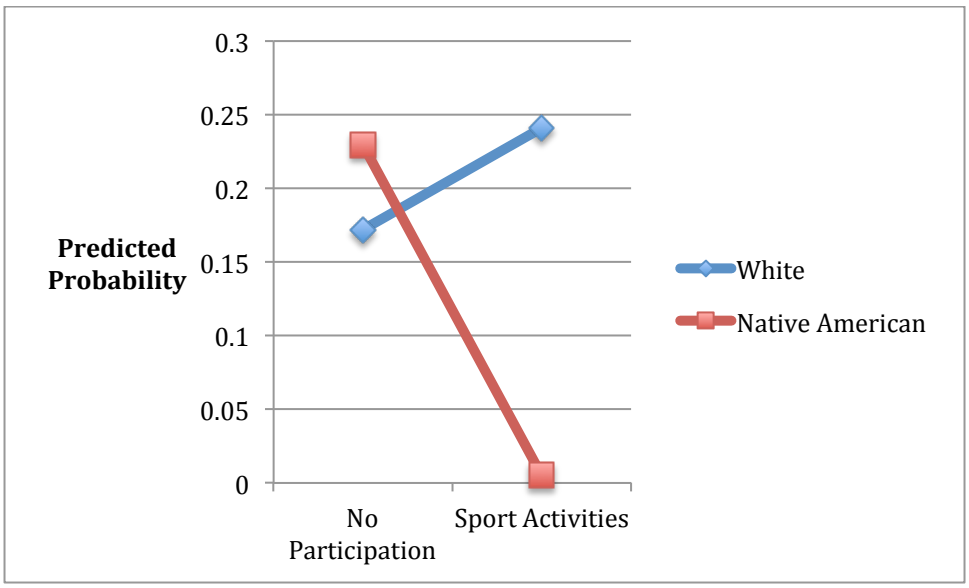

Figure 11. Predicted Probabilities of Developing Symptoms of Alcohol Abuse by Activity Type and Race/Ethnicity

Table 7. Model Statistics and Effect Estimates for Alcohol Abuse Symptoms.

	Model 1	Model 2	Model 3
Intercept	-1.57	-1.63	-1.57
Mult. Activities	.52	.45	.55
Other Activities	-.03	-.10	-.19
Sports Activities	.28	.85*	.42
School Bonding	.17	.18	.18
Social Support	-.20	-.21	-.22
Parental Support	.09	.09	.09
Male	.61**	.70*	.61**
Hispanic	-.96**	-.94**	-1.16
African American	-1.02**	-.98**	-1.06*
Asian	-1.46**	-1.52**	-.81
Native American	.36	.35	1.23
Other Ethnicity	-.13	-.12	.06
Grade	.12	.12	.10
Mult*Male	-	.18	-
Other*Male	-	.19	-
Sport*Male	-	-.85	-
Mult*Hispanic	-	-	.18
Other*Hispanic	-	-	.35
Sport*Hispanic	-	-	.35
Mult*Af. Am	-	-	.06
Other*Af. Am	-	-	.42
Sport*Af. Am	-	-	-.21

Mult*Asian	-	-	-1.15
Other*Asian	-	-	.49
Sport*Asian	-	-	-1.77
Mult*Nat. Am.	-	-	-.51
Other*Nat. Am.	-	-	-.51
Sport*Nat. Am	-	-	-4.68**
Wald χ^2	70.37**	86.98**	210.07**

* $p < .05$
** $p < .001$

Marijuana Abuse

Model 1: Within this model, participation in *Other* extracurricular activities (compared to *No Participation* was associated with a decreased likelihood that an individual would demonstrate one or more symptoms of Marijuana Abuse by adulthood (b=-1.16, p<.01; as measured by the DSM-IV Marijuana Abuse Symptoms variable), holding all other variables constant.

Model 2: The gender interactions were not significant, indicating that there were no differential effects of extracurricular participation on symptoms of Marijuana Abuse as a function of gender.

Model 3: For White individuals, participation in *Other* extracurricular activities was again associated with a significantly lower probability (about 70% lower) that an individual would demonstrate one or more symptoms of Marijuana Abuse by adulthood when compared to *No Participation* (b=-1.2, p=.05).

Additionally, the effect of participation in *Multiple* and *Sports*-related extracurricular activities (compared to *No Activities*) differed by race/ethnicity, as the effects of participation in these extracurricular activities were much more detrimental to Asian individuals compared to White individuals (see Figures 12 and 13). By probing the interactions, it was determined that the negative effect of participation in *Multiple* and

Sports-related extracurricular activities was associated with significantly higher odds of demonstrating one or more symptoms of Marijuana Abuse in adulthood for Asian individuals (b=10.06, p<.01 for *Multiple* extracurricular activities, and b=13.31, p<.01 for *Sports*-related extracurricular activities).

Practically speaking, Asian individuals who participate in *Multiple* and *Sports*-related extracurricular activities are still less likely, or as likely in the case of *Sports* participation, to develop symptoms of Marijuana Abuse than White individuals, it is just that their odds of developing symptoms are not as low as *Non-Participating* Asian individuals.

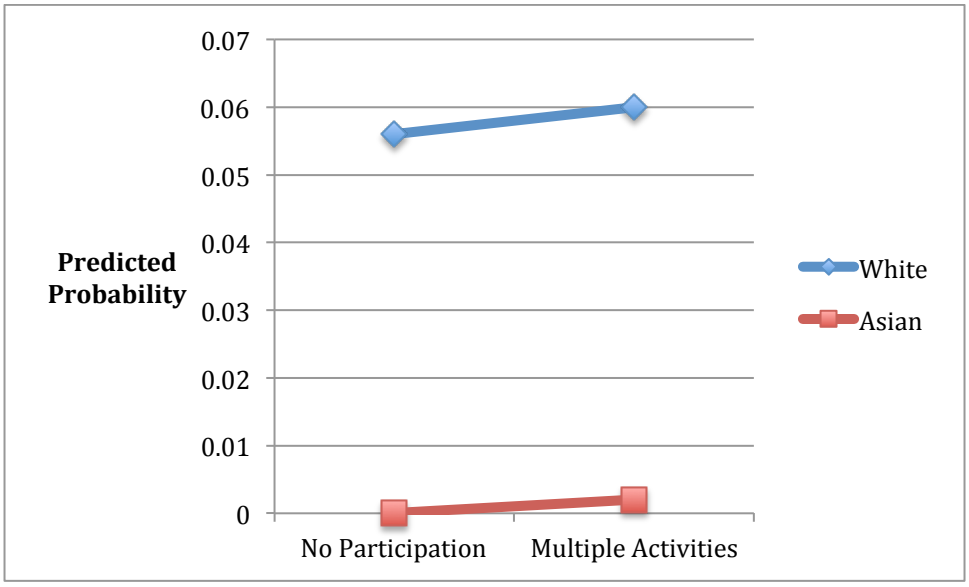

Figure 12. Predicted Probabilities of Developing Symptoms of Marijuana Abuse by Activity Type and Race/Ethnicity

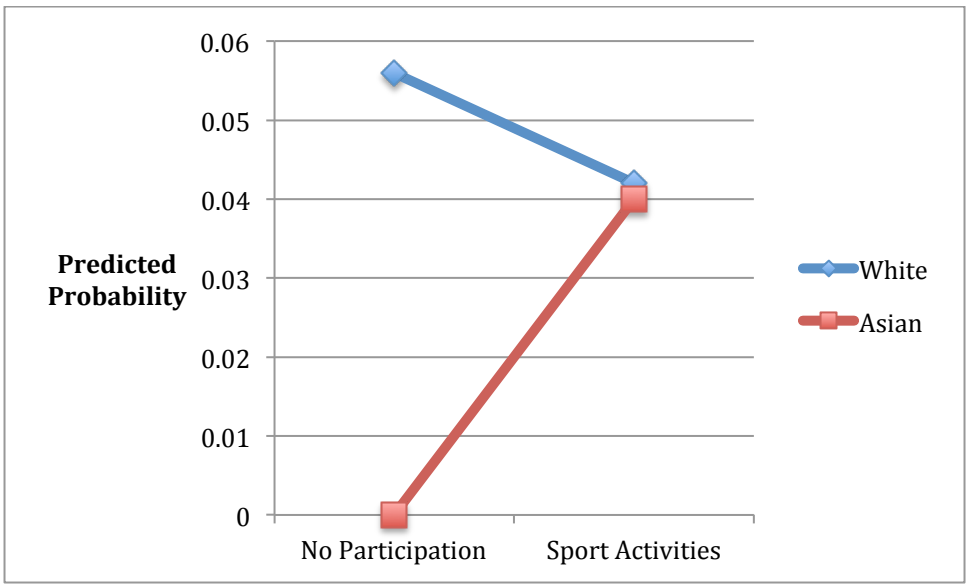

Figure 13. Predicted Probabilities of Developing Symptoms of Marijuana Abuse by Activity Type and Race/Ethnicity

Table 8. Model Statistics and Effect Estimates for Marijuana Abuse Symptoms.

	Model 1	Model 2	Model 3
Intercept	-2.76	-2.57	-2.83
Mult. Activities	-.30	-.75	.02
Other Activities	-1.16**	-1.09*	-1.20*
Sports Activities	-.24	-.74	-.29
School Bonding	.06	.05	.07
Social Support	-.19	-.18	-.22
Parental Support	.32	.31	.30
Male	1.17**	.87*	1.17**
Hispanic	-.12	-.08	-.16
African American	-.24	-.26	.08
Asian	-2.62**	-2.68**	-13.52**
Native American	1.18**	1.27**	1.90*
Other Ethnicity	-.28	-.27	-.06
Grade	.18	.18	.17
Mult*Male	-	.71	-
Other*Male	-	-.21	-
Sport*Male	-	.66	-
Mult*Hispanic	-	-	.03
Other*Hispanic	-	-	.20
Sport*Hispanic	-	-	.17
Mult*Af. Am	-	-	-.86
Other*Af. Am	-	-	-.28
Sport*Af. Am	-	-	-.17

Mult*Asian	-	-	9.9**
Other*Asian	-	-	.50
Sport*Asian	-	-	13.46**
Mult*Nat. Am.	-	-	-1.41
Other*Nat. Am.	-	-	-1.34
Sport*Nat. Am	-	-	.41
Wald χ^2	110.63**	132.79**	1843.22**

* $p < .05$
** $p < .001$

CHAPTER IV

Discussion

Results indicate that participation in high school extracurricular activities is linked to a number of long-term outcomes for at-risk youth, and in many cases, differential effects of participation on outcomes were observed as a function of gender and race/ethnicity.

Psychological Outcomes

With respect to perceived levels of stress in adulthood, individuals who participated in multiple high school extracurricular activities showed significantly lower levels of stress than those who did not participate in any extracurricular activities. This finding, that those who participated in multiple extracurricular activities tend to have lower levels of stress in adulthood, is consistent with previous research (e.g., Barber, Eccles, & Stone, 2001; Broh, 2002; Bohnert & Garber, 2007; Eccles & Barber, 1999; Fredricks & Eccles, 2008; Mahoney, Pederson & Seidman, 2005; Schweder, & Stattin, 2002) and could be related to the continued ability of these individuals to balance tasks/activities in their lives in a way that decreases stressful feelings. The abilities to plan ahead, prioritize, and manage time/resources, etc. are necessary to be a successful student-athlete who also participates in other school activities.

Involvement in high school athletics also requires a significant time commitment, as does involvement in many of the extracurricular activities which fall into the "other"

category (e.g., debate, band, student counsel, etc.). Juggling the amount of time and effort necessary for participation in both of these types of activities, in addition to fulfilling the demands of the student role, is no easy task, and challenges an individual to structure their lives in a particular way in order to be successful. It is possible that the individuals who participated in multiple extracurricular activities during high school acquired and/or refined the skills needed to multitask, and that they were able to maintain these skills in adulthood.

With respect to symptoms of depression, and consistent with previous research (e.g., Fredricks and Eccles, 2008), adults who participated in multiple high school extracurricular activities reported significantly fewer negative feelings than those who did not participate in any extracurricular activities. There was also a significant difference between men and women in the effect of participation in multiple extracurricular activities. While both men and women who participated in multiple extracurricular activities showed lower levels of depression in adulthood, men showed significantly fewer depressive symptoms than women. In other words, participation in multiple extracurricular activities is good for both sexes, and appears to be significantly more beneficial for men than for women.

Also, the effect of participation in extracurricular activities on depression differed by race/ethnicity. For African American individuals, results indicated that participation in sports served as a protective factor, as the sports participants demonstrated significantly lower levels of depression when compared with non-participating African American peers. Interestingly, the opposite effect was found for Asian individuals who participated in multiple extracurricular activities. Where participation in multiple activities served as a

protective factor (i.e., was associated with lower levels of depression) for White individuals, Asian individuals actually reported significantly higher levels of depression than Asian non-participants.

In trying to understand the beneficial effects of participation on symptoms of depression, one could speculate that students who were involved in multiple activities continued to be more active in general than those who did not participate in any activities. Since behavioral activation is an empirically supported treatment for depression (Dobson, et al., 2008), it follows that active adults may be at decreased risk for symptoms of depression given their tendency towards an active/involved lifestyle (King, Taylor, Haskell, & DeBusk, 1989). Involvement in multiple activities also puts one into contact with a number of people who could provide the crucial anti-depression element of social support in times of need. Furthermore, participation in multiple extracurricular activities gives students chances to experience success in a variety of domains, form an identity, and build self-esteem, all of which are positively linked to a healthy emotional state and the development of effective coping skills—the development of the latter being foundational to a successful transition into adulthood (Eccles & Gootman, 2002).

Even so, for Asian individuals in particular, participation in multiple extracurricular activities was not protective and was associated with greater psychological distress in adulthood. These disparate findings are interesting, and cultural values and expectations might offer some explanation as to why participation in extracurricular activities served as a buffer for some people but not others. This cultural explanation is not without its limits, as much of the "evidence" is anecdotal and existing research does not overwhelmingly support this finding, however, it is likely that cultural

values promoting education developed as a response to limited opportunities for upward mobility in other areas (e.g., sports, entertainment, politics, etc.; Sue & Okazaki, 2009). In this way, success in academics becomes a priority as it is a more "functional" goal and provides the best opportunities for future success as opposed to a focus on extracurricular activities.

By way of this cultural explanation, it can be speculated that the "extra" part of extracurricular activities is not generally emphasized nor encouraged in individuals from Asian American families, and that rather, the focus is on the "curricular (i.e., academics)," and anything that may detract from this focus is discouraged (Mordkowitz & Ginsberg, 1987). Therefore, individuals who choose to participate in activities that distract from their focus on their schoolwork, especially if it is not school-related (i.e., the difference between being in math club vs. being on the soccer team), are choosing paths that are incongruent with their family's hopes and expectations. This incongruence may create tension in the family, cause an individual to question his/her identity, and may lead to lower self-esteem, thereby contributing to higher levels of depression in adulthood.

Educational/Economic Outcomes

Consistent with previous research (e.g., Cooper, Valentine, Nye, & Lindsey, 1999; Eccles & Barber, 1999; Marsh & Kleitman, 2003) that found participation in extracurricular activities to be positively related to measures of academic success, participation in *any type* of high school extracurricular activity was associated with a greater likelihood of graduating from college. In general, this finding is not surprising. High school requirements for participation in extracurricular activities are such that certain GPAs must be maintained in order to continue in that activity. In addition,

previous literature has suggested that participation can connect an individual to prosocial peers (Berndt, 1992; Fredericks & Eccles, 2005; Mahoney et al., 2005). The sample of at-risk group utilized by the current study could be reaping the benefits of increased contact with adult mentors, positive peer influences, and college-oriented peers who are available to provide support and encouragement as they transition from high school to college. Furthermore, someone who participates in an extracurricular activity during high school goes above what is required and may be inclined to do the same when it comes to attending and graduating from college, especially when he/she is surrounded by people who send the message that a college degree is beneficial.

Interestingly, this effect of participation in extracurricular activities was significantly more beneficial for males than for females. At-risk adolescent males are far more likely to graduate from college if they participated in extracurricular activities during high school. One possible explanation for the beneficial effect of participation in extracurricular activities for males on college degree attainment is that participation in extracurricular activities exposes young men to an academically motivated peer group who have ambitions to attend college. Contact with this group of peers may positively influence young men and make them more likely to enroll in college in the first place. Given the current gender gap (with females outnumbering males) in college enrollment and graduation rates (Bae et al., 2000), getting young men into college is the first, crucial step towards graduation.

One surprising finding, however, was that, for Native Americans, participation in sports had a significant and detrimental effect on their odds of graduating from college. Some previous studies (Lisella & Serwatka, 1996; Spreitzer, 1994) have reported similar

findings in which at-risk and minority youth who participated in extracurricular activities had lower academic achievement than their non-participating peers. In general, high school graduation rates for Native American students are low, hovering around 51 percent (Orfield et al., 2004), while college graduation rates are even lower, at around 25% (Wells, 1997). Given these grim statistics, predicted probabilities of graduating from college for Native American students are low, regardless of participation in extracurricular activities. Still, this finding is surprising because the effect of participation in any type of extracurricular on college graduation rates was positive for all other racial/ethnic groups. Sampling issues may have also contributed to this result, as there were only 38 Native American participants in the study, four of which did not participate in any extracurricular activity, and only seven of which participated in sports. Accordingly, the responses of so few may not actually be representative of the true effect of sports participation on the likelihood that one would graduate from college for Native American individuals. If, however, this finding is true, one can only speculate as to why sports participation has such a negative effect on the college graduation rates of Native American individuals. One possible explanation is that Native American athletes are actually less prepared for college than their non-participating peers, as sports participation diverted their attention away from academics during high school. Even so, this explanation seems unlikely and further research is needed to better understand this relationship.

With respect to economic achievement, individuals who participated in multiple extracurricular activities had personal earnings that were approximately $10,300 higher than the earnings of non-participants. Once again, participation in multiple extracurricular

activities seemed to be beneficial. As stated earlier, certain abilities are required of individuals who participate in multiple extracurricular activities. These individuals have to be able to balance a variety of tasks, carry out plans to meet goals, and be accountable for their actions. As one moves from high school into adulthood, the skills they acquired/refined as a result of their earlier participation in multiple extracurricular activities are transferrable to their new activities in life, namely, their jobs. The ability to effectively manage time and resources, to show initiative and interest in learning or getting better at something, motivation, and perseverance, are useful skills in the workplace—skills which are often accompanied by financial rewards in the form of higher pay.

The effect of participation in extracurricular activities on earnings differed, however, as a function of race/ethnicity, with interesting results for Asian individuals depending on the type of extracurricular activity they were involved in during high school. Sport involvement seemed to be the key issue here, as involvement in both sports and other activities (i.e. "multiple" extracurricular activities) was associated with lower earnings while involvement in just other extracurricular activities, and not sports, was associated with significantly higher earnings when compared to non-participants.

Building on the argument put forth earlier regarding the negative effect of participation in multiple extracurricular activities on depression and stress, cultural values of Asian American families could help explain why participation in multiple activities is not beneficial in terms of personal earnings. Asian American families stereotypically value academic achievement (Mordkowitz & Ginsberg, 1987); in a family where a child does not excel at school, he/she may try to find acceptance/achievement in other areas

(e.g., sports and other extracurricular activities). In this way, participation in multiple activities is compensatory, and poorer outcomes for Asian American individuals who participated in multiple extracurricular activities may reflect pre-existing differences in academic achievement/abilities—abilities which have strong ties to future earning potentials. Future research would benefit from methodology that controlled for previous level of academic functioning (Fredricks & Eccles, 2006).

Deviant Behavior Outcomes

With respect to whether or not someone would ever be arrested, participation in sports and other extracurricular activities was associated with a lower probability of ever being arrested when compared to non-participants. The effect of participation varied by race/ethnicity, with participation having a stronger protective effect for Hispanic individuals compared to White individuals. For Asian Americans, the effect of participation in other (non sport-related) extracurricular activities was more protective than the effect for White individuals.

Possible explanations for these results involve the previous findings that individuals who participate in structured activities are less likely to be recruited into risky peer groups (Dishion, McCord, & Poulin, 1999; Mahoney & Stattin, 2000). Participation in extracurricular activities provides access to more prosocial peers, as well as something for adolescents to do with their time that minimizes the likelihood that they will fall into the "wrong crowd" and engage in delinquent behavior when their parents are at work. These findings are important because, for at-risk kids, identifying protective factors, such as extracurricular activities, that guard against future delinquency is imperative. These findings are also useful because they have strong implications for the funding of

extracurricular activities and add to the argument for encouraging involvement in extracurricular activities during high school for at-risk youth.

With respect to the development of symptoms of alcohol abuse, there was a marginally significant result for those who participated in multiple extracurricular activities. For these individuals, participation was not beneficial, as the odds of demonstrating one or more symptoms of alcohol abuse were slightly higher for participants than for non-participants. For females, there was a significant and negative effect for sports participation, as female athletes had odds of developing alcohol abuse symptoms that were over 2 times higher than the odds of non-participating females.

The effect of participation in extracurricular activities on alcohol abuse symptoms also differed as a function of race/ethnicity. Extracurricular participation was not significantly associated with symptoms of alcohol abuse in adulthood for White individuals, however, there was a significant difference in the effect of sports participation between Whites and Native Americans. The protective effect of sports participation on developing symptoms of alcohol abuse for Native Americans was incredibly strong, with the odds of developing alcohol abuse symptoms in adulthood being 98% lower for those who participated in high school sports when compared to their non-participating counterparts.

One of the most interesting and potentially important findings of this study is the very strong protective effect of sports participation with respect to alcohol abuse symptoms. For Native American individuals, participation in high school sports is associated with vastly lower odds of developing symptoms of alcohol abuse in adulthood. Previously mentioned sampling issues may have impacted this result, however, if this

finding can be replicated in future studies with a larger sample, it has strong implications for the promotion of a healthy lifestyle for Native American youth and the development of programs designed to teach sports to Native American children and teens.

Previous literature has been mixed when it comes to the impact of participation in extracurricular activities (specifically sports participation) on alcohol use. Some research has found beneficial effects of sport participation (e.g., Cooley et al., 1995; Elder et al., 2000) while other research (Eccles & Barber, 1999) has shown negative effects for sports participation in high school on drinking behavior and has used the argument that the sports culture (i.e., athletic involvement and/or success leads to social prestige, which leads to more parties with alcohol, ect.) in high school promotes underage drinking. The results of the present study skew towards previous findings that do not support the idea that involvement in high school sport-related extracurricular activities is a protective factor against drinking, except for Native American individuals. Further research is needed to clarify the role of high school sports participation on substance use.

Finally, participation in other extracurricular activities in high school was associated with significantly lower odds of developing symptoms of marijuana abuse in adulthood compared to no participation. The effect of participation on symptoms of marijuana abuse also differed by race/ethnicity. More specifically, the effects of participation in sports and multiple extracurricular activities were significantly different for White and Asian individuals. For Asian individuals, the effect for participation in these types of extracurricular activities was not protective, as participation was associated with an increase in the likelihood that one would develop symptoms of marijuana abuse. Examination of the effect sizes, however, reveal that this finding is of little practical

significance, since Asian American individuals who participate in sports and multiple activities are still highly unlikely to develop symptoms of marijuana abuse.

Implications

The current study is one of the first to examine the long-term effects of participation in extracurricular activities during high school. Although causal statements cannot be made regarding the role of participation in extracurricular activities on later adult outcomes, it is nevertheless helpful to gain a better understanding of what high school participants in extracurricular activities look like (in terms of their psychological adjustment, educational/economic status, and behaviors) as adults.

Examining the outcomes more broadly, it is clear that there are several beneficial effects for participation in extracurricular activities. With a few, notable exceptions, most of these effects were generalizable to all at-risk youth, though some effects did vary by gender or race/ethnicity. Given these results, which suggest that the benefits of participation in extracurricular activities persist into adulthood, it is important that measures are taken at the appropriate levels (individual and community) to promote at-risk youth involvement in extracurricular activities.

Additionally, despite the small effect sizes observed in the current study, the potential for using the results to make a meaningful impact is possible. Extracurricular activities are a relatively affordable option, with most activities being offered at no cost to students at their public high schools. Previous research has demonstrated that at-risk youth have similar opportunities for involvement in extracurricular activities than their more affluent peers, though, research also shows that they do not take advantage of these opportunities at the same rates (U.S. Department of Education, National Center for

Education Statistics, 1992). Increasingly, however, budget cuts are threatening extracurricular activities and many students are now paying "Participation Fees" for their involvement in various school teams/clubs. These fees range in price, from annual flat fees for participation, to itemized bills that charge by activity. The rising costs for participation in extracurricular activities could result in a situation in which at-risk students are unable to experience the benefits from participation in extracurricular activities because of the economic barriers presented by the new fee structures. Accordingly, it will be incumbent on educators and voters to approve measures that promote policies that allow access to extracurricular activities to students from all socioeconomic backgrounds.

The beneficial outcomes associated with participation in extracurricular activities during high school pose an intriguing possibility: what if extracurricular activities were integrated into the standard curriculum? Most high schools already require students to select "elective" courses that they complete during their four years. Increasing elective requirements could expose more students to the types of activity settings with the characteristics (i.e., structure, prosocial peers, positive adult role models, opportunity for success/recognition, etc.) that promote positive development (Mahoney, Larson, Eccles, & Lord, 2005).

The current study also divided extracurricular participation into different types (sports, other, and multiple). Differential effects were observed based on type of extracurricular involvement, and findings can be used to help parents and educators alike make informed choices with respect to what type of activity should be promoted/encouraged for which groups (e.g., males/females? White/Hispanic/African

American/Asian/Native American?). In the instances where the effect of participation was not beneficial for certain groups, (e.g., sports for Native American individuals with respect to graduating from college; multiple activities for Asian American individuals with respect to symptoms of emotional distress), and where these effects can be substantiated by further research with a larger sample, the promotion of participation in certain activities should be approached cautiously, and perhaps even discouraged.

Limitations and Directions for Future Research

The current study attempted to take into account many of the limitations described as being prominent in previous research looking at the relationship between participation in extracurricular activities during high school and long-term developmental outcomes. While some of the major self-selection variables impacting participation and outcomes were controlled for (e.g., social support, parental support, and school bonding), additional variables remain that might have influenced the results. More specifically, future research could improve upon the current study by controlling for individual factors like achievement motivation and prior level of functioning (e.g., academic achievement). With respect to the current study, controlling for level of acculturation in ethnic minority participants, a variable linked to some negative outcomes in minority youth, could make for a stronger model (Berry, 1997). In this way, researchers can more definitively link outcomes to characteristics of participation in extracurricular activities and lessen the chance that observed outcomes are the result of pre-existing differences between participants and non-participants.

Additionally, extracurricular activity divisions were broadly defined, and more specific divisions could lead to more informative findings. For example, within the

sports-related category of extracurricular participation, there is a tremendous amount of variance in the nature of these different sports, what skills/abilities they require, the amount of structure they provide, and the type of people who gravitate towards them (e.g., football vs. golf). The same differences exist in the "other" extracurricular activities group (e.g., debate team vs. Future Farmers of America vs. drama club). Similarly, the current study did not have data regarding the time each participant spent in their activity(s), the intensity of practice/meetings, the quality of the activities, the involvement of supervising adults, etc. These factors impact the relationship between participation in extracurricular activities and outcomes, and future research should take these into account (Holland & Andre, 1987).

Furthermore, the consistent result that participation in extracurricular activities during high school is associated with beneficial effects is noteworthy and begs the question regarding the impact that "breadth" of participation has on outcomes. Put differently, the current study did not consider the question, "How much involvement is optimal?" Combined with more specific participation divisions, a variable capturing breath of participation could provide valuable information about the impact of varying amounts of involvement.

Conclusion

The major conclusion that emerges from these findings is that participation in high school extracurricular activities (especially multiple activities, including both sports and non-sports activities) is associated with a number of positive long-term effects in a variety of domains. With a few notable exceptions that deserve further inquiry, participation in high school extracurricular activities appears to be beneficial for at-risk

youth and should be encouraged by parents, in the way of modeling, verbal praise and encouragement, financial resources, time, etc., and by communities, in the way of funding, opportunities for low-cost activities, and through the promotion of an active/involved lifestyle starting in childhood. The opportunities to improve upon or protect the adult lives of at-risk youth has far-reaching implications, made more exciting by the real-world feasibility of implementing programs to increase access to extracurricular activities for at-risk youth. For the most part, structures for these activities are already in place. Ultimately, what's required now is a change in attitude, where the virtues of participation in extracurricular activities are better understood and acknowledged, and a collective action is taken so that access and benefits can be maximized for at-risk youth.

References

Antshel, K.M., & Anderman, E.M. (2000). Social influences on sports participation during adolescence. *Journal of Research and Development in Education, 33,* 85-94.

Aseltine, R. (1996). Pathways linking parental divorce with adolescent depression. *Journal of Health and Social Behavior, 37,* 133–48.

Bae, Y., Choy, S., Geddes, C., Sable, J. & Snyder, T. (2000). Trends in educational equity of girls and women. Washington, DC: National Center for Education Statistics.

Balsano, A.B., Phelps, E., Theokas, C., Lerner, J.V., & Lerner, R.M. (2009). Patterns of early adolescents' particpation in youth development programs having positive youth development goals. *Journal of Research on Adolescence, 19(2),* 249-259.

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice Hall.

Barber, B.L., Eccles, J.S., & Stone, M.R. (2001). Whatever happened to the jock, the brain, and the princess? Young adult pathways linked to adolescent activity involvement and social identity. *Journal of Adolescent Research, 16*, 429-455.

Barnes, G.M., Hoffman, J.G., Welte, J.P., Farrell, M.P., & Dintcheff, B.A. (2007). Adolescents' time use: Effects on substance use, delinquency and sexual activity. *Journal of Youth and Adolescence, 36*, 697-710.

Baron, R. M. and Kenny, D. A. (1986) The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51(6*), 1173–1182.

Bartko, W.T., & Eccles, J.S. (2003). Adolescent participation in structured and unstructured activities: A person-oriented analysis. *Journal of Youth and Adolescence, 32,* 233-241.

Bearman, P., Jones, J., & Udry, J. (1997). The national longitudinal study of adolescent health: Research design. Chapel Hill, NC: Carolina Population Center.

Berndt, T.J. (1992). Friendship and friends' influence in adolescence. *Current Directions in Psychological Science, 1,* 156-159.

Berry, J.W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology: An International Review, 46(1),* 5-68.

Bohnert, A.M., & Garber, J. (2007). Prospective relations between organized activity participation and psychopathology during adolescence. *Journal of Abnormal Child Psychology, 35,* 1021-1033.

Bohnert, A.M., Kane, P., & Garber, J. (2008). Organized activity participation and internalizing and externalizing symptoms: Reciprocal relations during adolescence. *Journal of Youth and Adolescence, 37,* 239-250.

Broh, B.A. (2002). Linking extracurricular programming to academic achievement: Who benefits and why? *Sociology of Education, 75,* 69-91.

Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.

Brown, B.B., Kohrs, D., & Lazarro, C. (1991, April). *The academic costs and consequences of extracurricular participation in high school*. Paper presented at the meeting of the American Educational Research Association, Chicago, IL.

Carnegie Council (1992). *A matter of time: Risk and opportunity in the out-of-school-hours*. New York: Carnegie Corporation.

Carnegie Council on Adolescent Development. (1995). Great transitions: Preparing adolescents
for the new century. New York: Author.

Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24,* 386-396.

Cohen, J. (1988) Statistical power analysis for the behavioral scientist. Lawrence Erlbaum Associates.

Cooley, V.E., Henriksen, L.W., Van Nelson, C., & Thompson, J.C., Jr. (1995). A study to determine the effect of extracurricular participation on student alcohol and drug use in secondary schools. *Journal of Alcohol and Drug Education, 40,* 71-87.

Cooper, H., Valentine, J.C., Nye, B., & Lindsay, J.J. (1999). Relationships between five after-school activities and academic achievement. *Journal of Educational Psychology, 91(2),* 369-378.

Coleman, J.S., (1961). *The adolescent society*. New York: Free Press.

Crosnoe, R. (2001). The social world of male and female athletes in high school. *Sociological Studies of Children and Youth, 8,* 87-108.

Crosnoe, R. (2002). Academic and health-related trajectories in adolescence: The intersection of gender and athletics. *Journal of Health and Social Behavior, 43,* 317-336.

Csikszentmihalyi, M., Rathunde, K., & Whalen, S. (1993). *Talented teenagers: The roots of success and failure.* New York: Cambridge University Press.

Darling, N. (2005). Participation in extracurricular activities and adolescent adjustment: Cross-sectional and longitudinal findings. *Journal of Youth and Adolescence, 34(5),* 493-505.

Davalos, D.B., Chavez, E.L., & Guardiola, R.J. (1999). The effects of extracurricular activity, ethnic identification, and perception of school on student dropout rates. *Hispanic Journal of Behavioral Sciences, 21,* 61-77.

Deleire, T., & Kalil, A. (2002). Good things come in threes: Single-parent multigenerational family structure and adolescent adjustment. *Demography, 39,* 393-413.

Denault, A., & Poulin, F. (2009). Intensity and breadth of participation in organized activities during the adolescent years: Multiple associations with youth outcomes. *Journal of Youth and Adolescence, 38,* 1199-1213.

Denault, A., & Poulin, F. (2009). Predictors of adolescent participation in organized activities: A five-year longitudinal study. *Journal of Research on Adolescence, 19(2),* 287-311.

Dishion, T.J., McCord, J., & Poulin, F. (1999). When interventions harm: Peer groups and problem behavior. *American Psychologist, 54,* 755-764.

Dobson, K. S., Hollon, S. D., Dimidjian, S., Schmaling, K. B., Kohlenberg, et al. (2008). Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the prevention of relapse and recurrence in major depression. *Journal of Consulting and Clinical Psychology*, 76(3), 468-477.

Dotterer, A.M., McHale, S.M., & Crouter, A.C. (2007). Implications of out-of-school activities for school engagement in African American adolescents. *Journal of Youth and Adolescence, 36,* 391-401.

Dornbusch, S., Carlsmith, J., Bushwall, S., Ritter, P., Leiderman, H., et. al. (1985). Single parents, extended households, and the control of adolescents. *Child Development*, *56*, 326–41.

Dryfoos, J.G. (1990). *Adolescents at Risk: Prevalence and Prevention.* Oxford University Press, New York.

Eccles, J.S., & Barber, B.L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research, 14,* 10-43.

Eccles, J.S., & Gootman, J.A. (Eds.). (2002). *Community programs to promote youth development.* Washington, DC: National Academy Press.

Eccles, J. S. (2005). The present and future of research on activity settings as developmental contexts. In J. L. Mahoney, R. W. Larson, & J. S. Eccles (Eds.), Organized activities as contexts of development: Extracurricular activities, after-school and community programs (pp. 353–372). Mahwah, NJ: Lawrence Erlbaum Associates.

Eder, D. & Parker, S. (1987). The cultural production and reproduction of gender: The effect of extracurricular activities on peer-group culture. *Sociology of Education, 60,* 200-214.

Elliot, D.S., Huizinga, D., and Ageton, S. (1985). *Explaining Delinquency and Drug Use.* Sage, Beverly Hills, CA

Erickson, E.H. (1968). *Identity: Youth and crisis.* New York: Norton.

Fauth, R.C., Roth, J.L., & Brooks-Gunn, J. (2007). Does the neighborhood context alther the link between youth's after-school time activities and developmental outcomes? A multilevel analysis. *Developmental Psychology, 43,* 760-777.

Feldman, A.F. & Matjasko, J.L. (2005). The role of school-based extracurricular activities in adolescent development: A comprehensive review and future directions. *Review of Educational Research, 75 (2),* 159-210.

Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research, 59,* 117-142.

Fredricks, J.A., & Eccles, J.S. (2005). Developmental benefits of extracurricular involvement: Do peer characteristics mediate the link between activities and youth outcomes? *Journal of Youth and Adolescence, 34(6),* 507-520.

Fredricks, J.A., & Eccles, J.S. (2006). Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relations. *Developmental Psychology, 42, (4),* 698-713.

Fredricks, J.A., & Eccles, J.S. (2008). Participation in extracurricular activities in the middle school years: Are there developmental benefits for African American and European American youth? *Journal of Youth and Adolescence, 37,* 1029-1043.

Fredricks, J.A., & Eccles, J.S. (2010). Breadth of extracurricular participation and adolescent adjustment among African-American and European-American youth. *Journal of Research on Adolescence, 20(2),* 307-333.

Gardner, M., Roth, J., & Brooks-Gunn, J. (2009). Sports participation and juvenile delinquency: The role of the peer context among adolescent boys and girls with varied histories of problem behavior. *Developmental Psychology, 45(2),* 341-353.

Garton, A.F., & Pratt, C. (1991). Leisure activities of adolescent school students: Predictors of participation. *Journal of Adolescence, 14,* 305-321.

Guest, A.M., & McRee, N. (2009). A school-level analysis of adolescent extracurricular activity, delinquency, and depression: The importance of situational context. *Journal of Youth and Adolescence, 38,* 51-62.

Gutman, L.M., Sameroff, A.J., & Eccles, J.S. (2002). The academic achievement of African American students during early adolescence: An examination of multiple risk, promotive, and protective factors. *American Journal of Community Psychology, 30,* 367-399.

Hetherington, E.M., and Clingempeel, W. (1992). Coping with marital transitions: A family systems perspective. *Monographs of the Society for Research in Child Development 57,* 2–3.

Hirschi, T. (1969). Causes of delinquency. Berkeley: University of California Press.

Holland, A., & Andre, T. (1987). Participation in extracurricular activities in secondary school: What is known, what needs to be known? *Review of Educational Research, 57,* 437-466.

Hollingshead, A.B. (1949). *Elmstown's youth: The impact of social classes on adolescents.* New York: Wiley.

Jacobs, L.C., & Chase, C.I. (1989). Student participation in and attitudes toward high school activities: Findings from a national study. *The High School Journal, 72,* 175-181.

King, A.C., Taylor, C.B., Haskell, W.L., and DeBusk, R.F. (1989). Influence of regular aerobic exercise on psychological health.. *Health Psychology, 8,* 305-324.

Kinney, D.A. (1993). From nerds to normals: The recovery of identity among adolescents from middle school to high school. *Sociology of Education, 66,* 21-40.

Larson, R.W., Dworkin, J., & Gilman, S. (2001). Facilitating adolescents' constructive use of time in one-parent families. *Applied Developmental Science, 5,* 143-157.

Larson, R.W., Hansen, D.M., & Moneta, G. (2006). Differing profiles of developmental experiences across types of organized youth activities. *Developmental Psychology, 42(5),* 849-863.

Lipsey, M.W., and Derzon, J.H. (1998). Predictors of violent or serious delinquency in adolescence and early adulthood: A synthesis of longitudinal research. In Loeber, R., and Farrington, D.P. (eds.), *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Sage, Thousand Oaks, CA, pp. 86-105.

Linville, D.C., & Huebner, A.J. (2005). The analysis of extracurricular activities and their relationship to youth violence. *Journal of Youth and Adolescence, 34(5),* 483-492.

Lisella, L.C., & Serwatka, T.S., (1996). Extracurricular participation and academic achievement in minority students in urban schools. *The Urban Review, 28(1),* 63-80.

Luthar, S.S., Shoum, K.A., & Brown, P.J. (2006). Extracurricular involvement among affluent youth: A scapegoat for "ubiquitous achievement pressures"? *Developmental Psychology, 42,* 583-597.

Mackey, E.R., & La Greca, A.M. (2007). Adolescents' eating, exercise, and weight control behaviors: Does peer crowd affiliation play a role? *Journal of Pediatric Psychology, 32(1),* 13-23.

Mahoney, J.L., & Cairns, R.B. (1997). Do extracurricular activities protect against early school dropout? *Developmental Psychology, 33,* 241-253.

Mahoney, J.L., Larson, R.W., Eccles, J.S., and Lord, H. (eds.) (2005). *Organized Activities as Contexts of Development: Extracurricular Activities, After-School and Community Programs.* Erlbaum, Mahwah, NJ.

Mahoney, J.L., & Stattin, H. (2000). Leisure activities and adolescent antisocial behavior: The role of structure and social context. *Journal of Adolescence, 23,* 113-127.

Mahoney, J.L., & Stattin, H., & Lord, H. (2004). Unstructured youth recreation center participation and antisocial behaviour development: Selection influences and the moderating role of antisocial peers. *International Journal of Behavioral Development, 28,* 553-560.

Marsh, H.W. (1992). Extracurricular activities: Beneficial extension of the traditional curriculum or subversion of academic goals? *Journal of Educational Psychology, 84,* 553-562.

Marsh, H.W., & Kleitman, S. (2003). School athletic participation: Mostly gain with little pain. *Journal of Sport and Exercise Psychology, 25,* 205-229.

McLanahan, S.S., and Sandefur, G. (1994). *Growing up in a single-parent family: What hurts, what helps*. Cambridge, MA: Harvard University Press.

McNeal, R.B., Jr. (1995). Extracurricular activities and high school dropouts. *Sociaology of Education, 68,* 62-81.

McNeal, R.B., Jr. (1988). High school extracurricular activities: Closed structures and stratifying patterns of participation. *Journal of Educational Research, 91,* 183-191.

Mordkowitz, E. R., & Ginsberg, H. P. (1987). Early academic socialization of successful Asian- American college students. *Quarterly Newsletter of the Laboratory of Comparative Human Cognition, 9,* 85–91.

Nelson, I.A., & Gastic, B. (2009). Street ball, swim team and the sour cream machine: A cluster analysis of out of school time participation portfolios. *Journal of Youth and Adolescence, 38,* 1172-1186.

Newman, S., Fox, J.A., Flynn, E.A., & Christeson, W. (2000). *America's after-school choice: The prime time for juvenile crime, or youth enrichment and achievement.* Washington, DC: Fight Crime: Invest in Kids.

Newman, J., Bidjerano, T., Ozdogru, A.A., Kao,C., Biyik, C.O., et. al. (2007). What do they usually do after school? A comparative analysis of fourth-grade children in Bulgaria, Taiwan, and the United States. *Journal of Early Adolescence, 24(4),* 431-456.

Orfield, G., Losen, D., Wald, J., & Swanson, C., (2004). *Losing Our Future: How Minority Youth are Being Left Behind by the Graduation Rate Crisis*, Cambridge, MA: The Civil Rights Project at Harvard University. Contributors: Advocates for Children of New York, The Civil Society Institute.

Peck, S.C., Roeser, R.W., Zarrett, N., & Eccles, J.S. (2008). Exploring the roles of extracurricular activity quantity and quality in the education resilience of vulnerable adolescents: Variable- and pattern-centered approaches. *Journal of Social Issues, 64(1),* 135-155.

Pedersen, S., & Seidman, E. (2004). Team sports achievement and self-esteem development among urban adolescent girls. *Psychology of Women Quarterly, 28(4),* 412-423.

Persson, A., Kerr, M., & Stattin, H. (2007). Staying in or moving away from structured activities: Explanations involving parents and peers. *Developmental Psychology, 43(1),* 197-207.

Quiroz, P., Gonzalez, N., & Frank, K. (1996). Carving a niche in the high school social structure: Formal and informal constraints on particpation in the extra curriculum. In A. Pallas (Ed.), *Research in sociology of education and socialization* (Vol. 11, pp. 93-120). Greenwich, CT: JAI Press.

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. Applied Psychological Measurement, 1, 385-401.

Rolf, J., & Johnson, J. (1990). Protected or vulnerable: The challenges of AIDS to developmental psychopathology. In J. Rolf, A. S. Masten, D. Cicchetti, K. H. Nuechterlein, & S. Weintraub (Eds.), Risk and protective factors in the development of psychopathology (pp. 384–404). Cambridge, England: Cambridge University Press.

Schafer W.E. (1972).Participation in interscholastic athletics and delinquency: A preliminary
study. In K. Polk & W.E. Schafer (Eds.). Schools and delinquency (pp.91-101). Englewood
Cliffs, NJ: Prentice-Hall.

Seidman, E., Allen, L., Aber, J. L., Mitchell, C., & Feinman, J. (1994). The impact of school transitions in early adolescence on the self-system and perceived social context of poor urban youth. Child Development, 65, 507–522.

Silbereisen, R.K., and Eyferth, K. (1986). Development as action in context. In Silbereisen, R.K., Eyferth, K., and Rudinger, G. (eds.), *Development as Action in Context: Problem Behavior and Normal Youth Development*. Springer-Verlag, Berlin, pp. 3-16.

Simmons, T. and O'Neil, G. (2001). Households and families: 2000. *Census 2000 Brief*. Washington, DC: U.S. Bureau of the Census.

Simpkins, S.D., Eccles, J.S., & Becnel, J.N. (2008). The meditational role of adolescents' friends in relations between activity breadth and adjustment. *Developmental Psychology, 44(4),* 1081-1094.

Steele, C. M. (1992). Race and the schooling of Black Americans. The Atlantic Monthly, 269, 68–78.

Sue, S., and Okazaki, S. (2009). Asian-American educational achievements: A phenomenon in search of an explanation. *Asian American Journal of Psychology, S(1),* 45–55.

Udry JR: The National Longitudinal Study of Adolescent Health (Add Health), Waves I & II, 1994–1996. Chapel Hill, NC: Carolina Population Center, University of North Carolina at Chapel Hill, 1998.

U.S. Department of Health, Education, and Welfare. (1975). *Dropout prevention.* Washington, DC: Author. (ERIC Document Reproduction Service No. ED 105 354).

U.S. Department of Education, National Center for Education Statistics (1992). Extracurricular participation and student engagement. National Education Longitudinal Study, Second Follow-up. Retrieved on June 6, 2011 from http://nces.ed.gov/pubs95/web/95741.asp.

Velez, W. (1989). High school attrition among Hispanic and non-Hispanic white youths. *Sociology of Education, 62,* 119-133.

Wells, R. (1997). *The Native American Experience in Higher Education: Turning Around the Cycle of Failure II.* ERIC/CRESS, Las Cruces, New Mexico.

Zarrett, N., Fay, K., Li, Y., Carrano, J., Phelps, E., et.al. (2009). More than child's play: Variable- and pattern-centered approaches for examining effects of sports participation on youth development. *Developmental Psychology, 45(2),* 368-382.

Zill, N., and Peterson, J.L. (1986). Marital disruption, parent-child relationships, and behavior problems in children. *Journal of Marriage and the Family 48,* 295–307.