



2008-08-06

# Patterns of Social Participation: Assessing the Long-Term Effects of Creating Social Capital

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PATTERNS OF SOCIAL PARTICIPATION: ASSESSING THE LONG-  
TERM EFFECTS OF CREATING SOCIAL CAPITAL

by

Camille Miller

A thesis submitted to the faculty of

Brigham Young University

in partial fulfillment of the requirements for the degree of

Master of Science

Department of Sociology

Brigham Young University

December 2008

BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a thesis submitted by

Camille Miller

This thesis has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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As chair of the candidate's graduate committee, I have read the thesis of Camille Miller in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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## ABSTRACT

### PATTERNS OF SOCIAL PARTICIPATION: ASSESSING THE LONG-TERM EFFECTS OF CREATING SOCIAL CAPITAL

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Master of Science

Given the numerous benefits noted in academic research from having social capital, investigators may now turn to looking at what makes a person likely to create it. In this study I examine whether building social capital in high school through participation in religious, athletic, and volunteer activities makes individuals more likely to continue to create it as adults through participation in similar activities. Using data from the National Education Longitudinal Study, I employ both multilevel and seemingly unrelated regression models. I find that early participation in religious and athletic activities increases the likelihood of doing two out of three social activities as adults, and that volunteering in high school increases the likelihood of doing all three activities in adulthood. This suggests that one way of maintaining high social capital levels in this country is by promoting teenagers' participation in religious, athletic, and especially volunteer activities while in high school.

## ACKNOWLEDGEMENTS

I would like to express my appreciation to all those who helped me complete this project during the last two years. I am grateful to Dr. Mikaela Dufur who helped me begin this project two years ago in two of her undergraduate sociology courses. I am also grateful to Dr. Renata Forste who helped me during my undergraduate career continue the project for the Mary Lou Fulton Mentored Research Conference. I am especially grateful for both their encouragement to pursue a Master's Degree and to continue this project for my graduate thesis. I am also grateful for my newer committee member, Dr. Tim Heaton, for his valuable help and insight along the way. I would not have completed this project and my degree nor learned nearly so much were it not for all of their continued help and encouragement throughout the past two years. I am also grateful to my husband who read numerous drafts, sustained me when I wanted to quit, and cheered me on throughout the entire process.

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## INTRODUCTION

Historically, Americans have been distinguished for being highly integrated in public life. During his well-known visit to America in 1831, Alexis de Tocqueville was impressed by the pattern of voluntarism he found and the way that Americans participated in civil society ([1835, 1840] 1990). However, with the changes that have occurred in American society since that nineteenth century assessment, some scholars are now concerned that Americans are less socially connected and participate less in formal social organizations (Putnam 1995, 2000). The surge of research on social capital in the past two decades has examined Americans' social connections, focusing specifically on what social capital is, whether or not it is declining, and how it benefits individuals, communities, and nations.

Amidst all this research, one area that remains underexplored is what types of people are highly socially integrated and creators of social capital. Given the numerous benefits noted in this research from having social capital (see, for example, Foley & Edwards 1999; Paxton 1999; Putnam 1995), investigators may now turn to looking at what makes a person likely to create it. In this study I examine whether being involved in activities that build social capital in high school makes a person more likely to create social capital as an adult. My primary question is whether individuals merely maintain their interests and stay involved in the same activities throughout their lives, or whether building social capital in high school makes individuals more likely to continue to create it through participation in other social capital building activities in adulthood.

## WHAT IS SOCIAL CAPITAL?

Capital is a widely used concept that dates back to the nineteenth century.

Following Marx's successful use of the term in reference to financial assets (Marx [1867] 1996), in 1964 Becker applied it to a person's knowledge, skills, and training and called it human capital (Becker 1964). Recently the idea has expanded even further to include social capital, a concept currently popular in academic dialogue.

One of the first scholars to introduce the concept of social capital was Bourdieu (1986). He defines it as the "aggregate of actual or potential resources" which are linked to membership in a group (p. 248). Coleman (1988) is the theory's other foremost proponent. He argues that unlike physical and human capital, social capital exists in the relations among persons. According to Coleman, the function of social capital is in its value to actors "as resources that they can use to achieve their interests" (p. S101). Thus, when ties exist between individuals and groups the resources or goods gained from those relationships are social capital.

In defining the forms social capital takes, Coleman's (1988) focus is on three particular resources or goods that are gleaned from social relations. These are the spread of information, the maintenance of social norms, and the creation of trust and obligations. All social relationships, ranging from informal social networks to more formal voluntary group memberships, can foster these resources and goods. In other words, any social relation produces social capital if the product of that relation is shared information, reinforced social norms, higher levels of trust, or any other resource or good that the individuals experience as a result of their taking part in that relation.

When studying social capital, scholars often use indirect measures that indicate whether an individual, community, or nation has capital. These indicators vary and range

from how frequently individuals informally socialize, to how often they participate in organized group activities, to what rate they join voluntary associations (Paxton 2002; Putnam 1995). In order to explore whether creating social capital in high school makes building it as an adult more likely, I use participation in religious, athletic, and volunteer activities as my primary social capital indicator.

### YOUTH SOCIAL CAPITAL

Just as participating in formal, organized social activities helps adults build social capital, participating in such activities helps youth build capital in similar ways. Here I describe how involvement in these activities—specifically religious, athletic, and volunteer activities—provides youth with the three resources outlined by Coleman (1988) and therefore can be used as an indicator that an individual has social capital.

Formal, organized social activities help youth build social capital by connecting them to the larger society, a function fulfilled for adults by participating in adult voluntary associations (Hanks & Eckland 1976). Participating in these activities helps youth form networks with other teens and adults, including coaches, teachers, civic and religious leaders, and other parents. These relationships build the youth's social capital because they create shared information, trust and obligations, and effective social norms. For instance, participating in sports may allow coaches and leaders to share information with youth and their families about attaining college admittance. Also, being involved in religious activities or volunteering can make community resources and information more available to youth (Shanahan 2000). The adults who lead these activities provide academic, physical, and spiritual encouragement and support and often act as mentors to the youth they interact with in these capacities. This support and guidance facilitates the

creation of expectations and obligations (Coleman 1988) and helps teens build trust with constructive members of society.

Involvement in these types of activities also facilitates the maintenance of social norms among adolescents, such as performing well in school and avoiding delinquency. This may be because formal social groups, like religious and community groups, often value achievement and encourage teens to conform to the conventional opportunity structure (Brewster, Billy, & Grady 1993). School athletic teams frequently set academic requirements for student athletes and make the costs of misbehavior severe. Religious groups, too, frequently possess behavioral codes or expectations. In addition to such behavior requirements, the relationships teens form in these groups act as constraints against impulses to engage in non-normative behavior (South & Baumer 2000).

Numerous studies have documented how having social capital makes teens more likely to conform to constructive social norms. For example, social capital reduces the risk of youth unemployment (Caspi, Wright, Moffitt, & Silva 1998) and the odds of drug use and delinquency (Nagasawa, Qian, Wong 2001). Scholars attribute this to the fact that socially integrated communities are better able to prevent youth from embracing values that are conducive to delinquency, which is especially important during the transitional phases teenagers undergo (Hagan, Merkens, & Boehnke 1995; Hagan, Hefler, Classen, Boehnke, & Merkens 1998). Adolescents are also more likely to postpone sexual activity when they experience strong ties within the community, which reduces the odds they will experience a teenage pregnancy (Upchurch, Aneshensel, Sucoff, Levy-Storms 1999). Again, this may be because teens who are not integrated into the

conventional opportunity structure feel less constraint against such behavior because they have little to lose (Thornberry, Smith, & Howard 1997).

Participation in organized social activities, such as religious, sport, and volunteer activities, provides teens with the three resources outlined by Coleman. While it is these resources themselves that constitute the teen's social capital, taking part in these activities can be used as an indicator that the youth has that capital. Adult participation in these activities can be used as an indicator of adult social capital because their participation provides them with the same types of resources.

#### WHY IS SOCIAL CAPITAL IMPORTANT?

Knowing who is likely to create social capital and how to facilitate its creation is important because scholars have found that having social capital brings many benefits to individuals, communities, and nations. One of the ways social capital benefits individuals is by helping build their human capital. Coleman (1988) argues that social capital is necessary in order for parents to transfer their human capital to their child. Social capital also helps build human capital because it facilitates positive educational outcomes in both high school and college (Hanks & Eckland 1976) and reduces the probability that students will drop out of school (Croninger & Lee 2001). Troutman & Dufur (2007) found that sports participation builds teens social ties and Broh (2002) states that these ties are "advantageous to students' educational pursuits" (p. 86; Fejgin 1994). Involvement in pro-social activities like church and volunteer activities has also been connected with positive educational trajectories (Eccles & Barber 1999). Social capital's utility in creating human capital is important because increases in human capital improve individuals' overall life chances (Teachman, Paasch, & Carver 1997, Yan 1999).

Other benefits of social capital to individuals are described by Bourdieu (1986). He suggests that social capital can be a resource for economic gain, by networking, for example (see also Granovetter 1974).

While having social capital benefits individuals in many ways, learning who builds it and how to foster its creation can also bring many benefits to groups. Social capital can benefit both individuals and groups simultaneously, for instance through trust and ties among neighbors. Paxton (2002) argues that when trust and connectedness in a community exist, individuals benefit by being able to walk the streets freely and the community as a whole benefits by reduced crime rates (p. 256). This example is consistent with findings that correlate connectedness to spouse, work, or community with reduced levels of crime (Sampson, Laub, & Wimmer 2006) and lower homicide rates (Rosenfeld, Messner, & Baumer 2001). Granovetter (1983) emphasizes that communities which have members who are connected to each other are better able to mobilize effectively for collective action.

Learning how to foster high levels of social capital can also have national level benefits. For instance, high levels of trust and connectedness in a country are correlated with more successful democracies (Paxton 1999, 2002) and better government performance (Knack 2002, Putnam 1993). In a study on the government performance in various regions of Italy, Putnam (1994) found that neither party politics, affluence, social stability, nor political harmony could explain the stark differences in regional success. Rather, he concluded that high levels of social capital built through a strong tradition of civic engagement—such as membership in social and cultural associations like athletic clubs, choral societies, and literary circles—were the hallmark of a successful region.

The governmental institutions in these regions efficiently managed the public's business and satisfied their constituents. Citizens were engaged in public issues, leaders were committed to equality, and democracy flourished. On the other hand, in regions where social capital levels were low governments proved to be corrupt, indolent, and inefficient (Putnam 1994).

Given the numerous benefits noted from having social capital, some scholars are concerned that its levels may be declining in the United States. One of the foremost proponents of the demise of social capital argument is Putnam (1995, 2000). His publications have largely been a springboard for debate which has lead many social scientists to examine variations in levels of social capital (Szreter 2002). Putnam's theses are based on what he describes as decreased levels of trust, informal socializing, and group membership. Individuals who lack these types of ties often lack trust in their leaders (Granovetter 1983) and are less likely to participate in the democratic process (Putnam 1994). Societies lacking these ties are often fragmented and incoherent (Granovetter 1983). Thus, Putnam and other scholars argue that declines in social capital threaten democracy and individuals' quality of life.

However, many scholars do not agree with all of Putnam's conclusions (Rich 1999; Smith 1997). Paxton (1999), for instance, accedes that individual-level trust has declined during the past few decades, but counters Putnam's argument that trust in institutions is also falling. While scholars are not unanimous regarding current social capital levels, they do tend to agree that a decline would have negative consequences for individuals and society. Therefore, it is important to begin to expand current research in order to learn what differentiates individuals who have high social capital from those who

do not. Such information may have implications for learning how to stimulate the creation of social capital among individuals who lack it.

#### PRIMARY RESEARCH QUESTION

One area that is important to explore, then, concerns the characteristics of those who build social capital. A question that has gone understudied thus far is whether those who create social capital have a pattern of doing so throughout their lives. Currently no study exists that examines whether teens who build social capital continue to do so in adulthood, or whether building capital as a teenager affects the post-secondary creation of social capital.

Yet scholars have examined other long-term effects of youth social capital. Most of these studies focus on post-secondary outcomes, such as college entrance, performance, and graduation (Hanks & Eckland 1976). Of the recent longitudinal studies that examine the relationship between youth social capital and long-term outcomes, most focus on only one social capital indicator: high school athletics. These studies evidence a correlation with college attendance for whites and Hispanics (Sabo, Melnick, & Vanfossen 1993) as well as positive correlations with educational performance and wages, even after controlling for ability (Barron, Ewing, & Waddell 2000). One study also found evidence that females who played high school sports are more likely to graduate from college than their non-athlete counterparts (Troutman & Dufur 2007).

Beyond college graduation, however, scholars are generally left to speculate about the consequences of teens creating social capital. For instance, Hanks and Eckland (1976) surmise that because educational attainment, especially in college, is highly indicative of occupational success, then participation in extracurricular activities is an



“important stepping stone in the more general socioeconomic achievement process” (p. 292). However, while scholars suggest the need to examine how different types of youth social capital are related to various arenas of adult life (Furstenberg & Hughes 1995), few studies examining such outcomes exist.

Currently, longitudinal studies addressing the effects of social capital beyond educational outcomes are limited. Therefore, in this study I explore whether other long-term, non-educational effects of teen social capital exist. The specific outcome that I examine is the adult creation of social capital. It seems likely that individuals who are highly socially connected and involved early in their lives will also be when they are adults. However, it is important to distinguish between whether individuals merely maintain their interests and participate in the same activities throughout their lives, or whether being involved in activities that build social capital early in life makes an individual more likely to create it as an adult. The first pattern would suggest that people merely take part in activities throughout their lives in which they are talented or particularly enjoy, such that athletic people play sports across the life course and religious people take part in religious activities. However, if participation in any social activity as a teenager makes involvement in other social activities as an adult more likely, it may be that early social capital creation is indeed indicative of adult social capital creation.

In this study my indicators of social capital are participation in three types of formal, organized social activities: religious activities, sports and recreation, and volunteering. Using two points in time, I explore whether involvement in these activities in high school is correlated with participation in the same activities at age twenty-six. If taking part in one activity, such as sports, only makes participation in sports as an adult

more likely, and not involvement in religious activities or volunteering, then perhaps social capital is less involved and individuals merely maintain their interests over time. On the other hand, if sports participation in high school makes involvement in any of the three activities as an adult more likely, then it seems that individuals who create social capital in high school (through participating in sports) may be more likely to create it as adults (through participation in any of the three activities). This primary model is depicted in Figure 1.

I hypothesize that teens who accrue more social capital than their peers will continue to create it in adulthood, or in other words that patterns of social participation exist over time. Given that this is one of the first studies examining patterns of social participation across the life-course, I focus specifically on social capital created through three types of formal, organized social activities in both high school and adulthood<sup>1</sup>.

Given my sample, I chose to examine social capital built through formal associations for several reasons. Participating in formal social groups provides teenagers the opportunity to interact with other youth and members of society who they might not have interacted with otherwise. These individuals are more likely than those in the teen's immediate social circle to be different from them (Granovetter 1983) which increases the chances of new information being shared. These interactions can also help teens conform to social norms held community-wide and not just within their immediate peer group. They can also help adolescents build trust and obligations with adults in their school and community, individuals not likely to have been members of the teenager's informal social network. For these reasons, participation in formal social organizations may be a more reliable indicator of social capital, for teenagers specifically.

Knowing the benefits for individuals, communities, and nations that have high levels of social capital, it is important to explore how these levels can be maintained. This study will help illuminate whether high school is an appropriate time to effect change. If social capital building patterns that begin in high school continue throughout adulthood, then the encouragement parents and teachers give teens to engage in these types of activities may have long-lasting impacts and help maintain high levels of social capital in this country.

### CONTROLS

There are many factors that are likely to affect who creates social capital in both high school and adulthood. It is necessary, therefore, to include these as controls in the model. These factors include basic demographics, such as gender, race/ethnicity, marital status, parental status, and education level, as well as the respondent's parents' marital status and education level. I also include some characteristics of the student's high school, including school location, country region, enrollment size, and whether it was a public or a private school.

Gender is an important indicator of adolescent time use (Shanahan & Flaherty 2001) and is a predictor of teen involvement in extracurricular activities (Gager, Cooney, & Call 1999) including sports (Videon 2002) and religious participation (Wagener et al. 2003; Miller & Hoffman 1995; Huebner & Mancini 2003). While most studies examining the influence of gender on adult social capital focus on access to job opportunities and wages, it is clear that gender is important in terms of individuals' access to and use of social capital in adulthood (Marsden 1987,1988; McPherson & Smith-Lovin 1982; Lin 2000).

Differences in social capital are also evident along racial and ethnic lines (Lin 2000). Race is important in understanding time spent in extracurricular (Eitle & Eitle 2002) and religious activities (Huebner & Mancini 2003) as well as understanding teen social networks (Giordano, Cernkovich, & DeMaris 1993). Race affects levels of adult social capital (James 2000) and, like gender, is often used when studying social capital and the labor market (Sanders, Nee, & Sernau 2002). Because it may serve as a predictor of teen and adult involvement I also include it as a control.

Both the respondent's marital and parental statuses are likely to impact the activities they engage in and in turn their social capital. For instance, married people are more likely to volunteer than single people and parents with older children than parents with young children (Damico 1998; Sundeen 1990). Religious participation, too, is affected by marriage and parenting. Studies suggest that upon marriage religious participation is dependent on the religious affiliation of the spouses and that having children increases participation in religious activities (Wilson & Sandomirsky 1991). Additionally, some evidence suggests that the "complex cross-cutting social networks" that characterize family life may facilitate social capital, whereas divorced people may experience decreased levels of social capital due to the social ties that dissolve with marital breakdown (Shah 1998: 478). Because marriage and parenting impact the types of activities individuals engage in and their time-use they are included as controls in the model (Gauthier & Furstenberg 2002; Sanchez & Thomson 1997).

Another important factor that may influence the creation of adult social capital is the respondent's educational attainment. While education level is one of the most consistent predictors of certain indicators of social capital, such as volunteering (Wilson

2000), some find that educated individuals have weaker ties, especially among some minority groups (Montero 1981). Education is also negatively associated with religiosity. This, too, however, can be an ambiguous relationship, because within denominations there is a positive relationship between education and church attendance (Albrecht & Heaton 1984). Nonetheless, it is clear that education is likely to affect the types of activities that individuals engage in, and thus I also include it as a control in my model.

The marital status of the respondent's parents when the respondent was in high school and the parents' education level are also important controls to include in the model. However, the relationship between parental marital status and social capital is unclear. While studies suggest that adolescents from single parent or stepparent headed families have less social capital (Yan 1999) the effect may not be the same for all activities youth participate in and may vary by age. While some studies conclude that parents' marital status is correlated with teens' time use (Gager et al. 1999), others find no association between parental marital status and the time use of younger children (Bianchi & Robinson 1997). Marital status is correlated with participation in some extracurricular activities such as interscholastic sports, with children from intact homes 24 percent more likely to participate than kids from homes without resident, biological parents (Videon 2002). I include parental marital status as a control because it may affect the likelihood of youth being exposed to certain activities and thus indirectly affect the likelihood that they will participate in similar activities as adults.

Parental education and income are commonly used as indicators of socioeconomic status. Research suggests that both of these indicators are correlated with activities children engage in (Bianchi & Robinson 1997) as well as participation in extracurricular

activities. For instance, the higher the educational attainment of the parents, the greater the likelihood youth have of participating in sports (Videon 2002). Whereas children from working class families often cannot afford to participate in out-of-school activities (Yan 1999), more affluent families have larger social networks in their communities (Lareau 1987, 2002) and generally are more likely to have high levels of social capital (Yan 1999). Lacking opportunities to create social capital as a teenager may affect the likelihood of creating it as an adult because exposure to such activities has been minimal.

School location, country region, enrollment size, and attendance of a public or private school are commonly used controls when assessing students' participation in extracurricular activities because they are thought to influence students' access to these activities (Broh 2002, Berk & Goebel 1987, Holland & Andre 1987, Lindsay 1982). Again, because exposure to activities as a teenager may influence the likelihood of adult participation, I include these as controls.

## METHOD

### **Data**

The data source for my analysis is the National Education Longitudinal Study (NELS), conducted by the National Center for Education Statistics of the U.S. Department of Education. Data collection was initiated in 1988, using a stratified, clustered national probability sample of 1,052 public and private eighth grade schools and a nationally representative cohort of 24,599 eighth-grade students. The same students were followed over time and resurveyed two and four years later in the tenth and twelfth grades. Waves four and five of the NELS were conducted using a subsample of the original cohort two and eight years after high school graduation, in 1994 and 2000, respectively. The NELS is particularly suited for this analysis because they follow

respondents past high school and college settings into early adulthood, and thus allow for analysis of long-term social capital patterns. The NELS include a variety of specific measures of students' participation in formal, organized social activities as well as measures of adult participation in similar activities.

In this study I use the second wave of the NELS, which was conducted when the students were in tenth grade. Over 99% of the original cohort was traced and the sample was freshened to provide a nationally representative sample of high school sophomores. The tenth grade wave provides a better representation of participation in extracurricular activities because students have already been integrated into high school for a year and because high schools generally offer more activities than junior high schools. Because students are generally in their mid-teens during the tenth grade, and my goal is to assess teenage levels of social capital, I use the tenth grade wave instead of the twelfth grade. Being that many students turn eighteen during the twelfth grade and therefore could be considered young adults, the tenth grade proves to be a less ambiguous point in time to study teen social capital. In order to assess patterns in early adulthood I use the fifth wave of this study, conducted in 2000. This follow-up included a subsample of 12,144 respondents and followed the students eight years after their class graduated from high school when they were approximately 26 years old.

The final sample for this analysis includes those who participated in both the second and fifth waves and have complete information on all variables. Regression models were run both with the missing cases mean substituted and the mean substituted cases flagged, and with the missing cases dropped. However, because the results were similar for both models the missing data were deleted for simplification<sup>2</sup>. About thirty

percent of the cases from my original sample of 12,144 were dropped, reducing my final sample to 8,491. The data for this analysis is unweighted because controls are included which account for the oversampling of certain policy-relevant subgroups, including minority status and private school students.

## **Measures**

### *Dependent Variables*

My dependent variables were created using data from the 2000 wave, the fourth follow-up of this study. This wave took place eight years after the original 1988 cohort had graduated from high school. According to the National Center for Education Statistics (2002), by this time many of the participants had completed college or graduate programs, begun marital relationships, had children of their own, and started or even changed careers. Previously studies have been limited to examining only the short-term impact of teen social capital because data sources ranging beyond the teen years (up to two years post-high school) have been limited. However, the fifth wave of the NELS makes them particularly well-suited for more long-term analyses.

My dependent variables for this analysis are based on three indicators of adult social capital. These are participation in organized religious activities, participation in group or team sports and recreation, and volunteering in youth, civic, or community organizations. The first two dependent variables were created from an item asking how many days the respondent did each of several activities in a typical thirty-day month. I use two of the activities listed: (1) “participate in organized religious activities,” and (2) “participate in group or team sports and recreation.” The response categories for these questions are zero through thirty days, and therefore the range of each variable is zero to thirty.



Volunteerism is drawn from a measure asking the respondent to indicate yes or no if they did any of the following activities within the past twelve months. I use two of the activities listed in the question: (1) “volunteer in a youth organization,” and (2) “volunteer in a civic or community organization.” A yes response was coded one and a no response was coded zero. These two items were added together to create a composite measure indicating how many of the organizations the respondent volunteered in. This variable ranges from zero to two<sup>3</sup>.

### *Independent Variables*

My primary independent variables are based on three indicators of teen social capital similar to those used for adult social capital. The first of these is participation in religious activities. This variable is drawn from a question that asks the student how often they spend time on a number of activities outside of school. Included in the list is attending religious activities. There are four response categories for this item which are coded from one to four. Rarely or never participating is coded one, participating less than once a week is coded two, once or twice a week is coded three, and participating every day or almost every day is coded four.

My second youth social capital indicator is participation in sports. This includes participation that school year when the students were in tenth grade in interscholastic and/or intramural activities. The composite measure includes nine items: baseball or softball, basketball, football, swimming, soccer, individual sports (such as tennis, golf or wrestling), other team sports (such as volleyball or hockey), cheerleading, and pom-pom or drill team. I coded “School Does Not Have” and “Did Not Participate” as zero and any level of participation (freshman, junior varsity, senior varsity, or as a captain or co-

captain) as one for each of the nine items. All participation was coded the same because any level of involvement indicates social engagement and increased connections with other teens and adults. Therefore, teens might build social capital whether they play on the freshman team or serve as the captain of the varsity team. The nine items were added together to create a composite measure indicating how many of the sports the respondent participated in. This variable ranges from zero to nine.

My last youth social capital indicator is volunteering. This variable is drawn from the same question as teen religious participation, wherein the student is asked to indicate how often they spend time on a number of activities outside of school. The activity used is “volunteering or performing community service.” Coding for this variable is identical to teen religious participation. The range is from one to four.

### *Control Variables*

As controls in the model I include factors that are thought to affect both teen and adult levels of social capital. These include basic demographics, such as gender, race/ethnicity, marital status, parental status, and education level, as well as the respondent’s parents’ marital status and education level. I also include some characteristics of the student’s high school, such as school location, country region, enrollment size, and whether it was a public or a private school.

Gender is a dichotomous variable with female coded zero, male coded one. Race/ethnicity, parents’ marital status, parental education level, and respondent’s education level are dummy variables. Race/ethnicity has four categories—white, Hispanic, black, and other race—with white as the reference category. The other race category includes Asian, Pacific Islander, American Indian, and Alaska Native. Based on

the way the NELLS is coded and the small number of cases in these categories, these racial groups cannot be looked at separately. The next control variable, respondent's marital status at age 26, is a dichotomous variable with married coded one, unmarried coded zero. Due to the small number of cases in the divorced, widowed, separated statuses, these were combined with those who were single, never married. Respondent's childbearing by age 26 is also a dichotomous variable. One or more children is coded one, no children is coded zero.

Parents' marital status has three categories. The first is married, the second is divorced, widowed, or separated, and the third is single, never married. Married is the reference category. Parental education level is the education level of the parent with the highest education since this serves as a good indicator of the financial resources available to the teen (see for example Muller 1995). It and respondent's highest education level each have five categories: less than high school, high school degree, some college, four-year degree, and graduate degree. The reference category for both is high school degree.

School location and country region are dummy variables. School location has three categories—urban, suburban, and rural—with suburban as the reference category. Country region has four categories—northeast, north central, south, and west—with north central the reference category. Public versus private is a dichotomous variable with public schools coded one, private coded zero. School enrollment is an ordinal variable on a scale from one to nine. One ranges from 1 to 399 students, nine is 2,500 or more students.

## **Estimation**

In order to assess whether students who participate in social capital building activities in high school are more likely to be involved in similar activities as adults, two different measurement models are used. Multilevel regression models are used because the data is structured so that students are nested within schools. This nesting violates the assumption of ordinary least squares regression that observations be statistically independent of one another. Multilevel models take into account that students are more likely to be similar to students from their same high school than to students who attended other schools. They also alleviate the problems caused by correlated error terms, such as biased standard errors (Hoffman 2004). Multilevel models are used to estimate the impact of school characteristics (level 2), teen social capital (level 1), and other explanatory variables on adult social capital.

Additionally, seemingly unrelated regression analysis is used in order to allow correlation among the dependent variables (SUR; see, for example, Godwin 1985). Instead of running separate regression models, SUR analysis solves the regression equations simultaneously in order to take into account the interdependence among the dependent variables and covariances in the error terms. Using SUR analysis improves the efficiency of the estimates and reduces the bias in interpreting the effects of the independent variables on the dependent variables. However, SUR analysis does not take into account nesting. Therefore, all models were run twice, once using multilevel regression and once using SUR analysis. All analyses were run using STATA and results for both models were very similar. Therefore, only the results from the seemingly unrelated regression models are presented<sup>4</sup>.

## RESULTS

Table 1 describes the variables used in the analyses. Adult participation in religious activities as well as sports and recreation are measured on a scale indicating how many days in a typical month the respondent engaged in these activities. Of all adults in the sample, about 43% did not participate in any religious activities. Of those who reported any participation, the average number of days of involvement per month was 4.5, or 2.5 days overall. In terms of sports and recreation, of all the adults in the sample, about 55% reported no participation. The mean for those who reported playing any sports during the month was 5.5 days, or 2.5 days overall.

Adult volunteerism is measured on a scale indicating how many organizations (out of 2) the respondent volunteered in during the past twelve months. Of all adults in the sample, 66% reported no volunteer participation. Of those who indicated that they had volunteered during the past year, the mean number of organizations volunteered in was 1.3, or .4 organizations for the entire sample.

Teen religious participation and volunteering are measured on a scale indicating how often teens engaged in these activities. Forty-nine percent of teens reported rarely or never participating in religious activities. Of those teens who reported that they had participated in religious activities, the average amount of participation fell between less than once a week and once or twice a week. In terms of volunteering or performing community service, about 78% of teens reported no involvement. Of those who reported that they had volunteered, the average amount of volunteering also fell between less than once a week and once or twice a week. While more teens are involved in religious activities than in volunteering, the average amounts of participation among those who do participate are quite similar<sup>5</sup>.

My other primary independent variable, teen sports, is measured on a scale indicating how many school sports out of nine the student participated in. Of all the teen social capital indicators, school sports had the highest involvement rate, with 56% of teens reporting participation in at least one sport. Of those who reported playing school sports, about half played only one sport, close to one-third played two sports, and the remainder played three or more.

It is also interesting to consider how participation rates in these three activities changed over time. Rates of religious participation saw a minor increase. Around 51% of the respondents reported participating in religious activities when they were teenagers, whereas 57% reported participating when they were adults. Rates of sport participation, on the other hand, declined across the life-course, with 56% of respondents reporting participation as teenagers and only 45% reporting participation as adults. This decline is not surprising given that opportunities for playing school-sponsored sports during high school are fairly high, whereas other avenues must be found for participating in sports and recreation during adulthood. Of all three activities, volunteer participation increased the most over time. While only 22% of respondents reported volunteering in the tenth grade, 34% reported volunteering at age 26.

Table 1 also describes basic demographic characteristics of the sample as well as characteristics of the respondents' high schools. About 73% of the sample is white and about 27% are minorities. Forty percent of the sample were married at age 26 and 34% had one or more children. Most of the respondent's parents were married when they were in the tenth grade and most of their parents had attended some college but not attained a four-year degree. Respondents were more likely than their parents to have

completed at least some college or a four-year degree. Eighty-seven percent of the participants attended public schools and most of these schools had mid-sized enrollments, with about 1,000 students. These demographics are in keeping with other work using the NELS (Johnson & Hoffman 2000; Cheng & Starks 2002).

Seemingly unrelated regression models were run separately for each dependent variable to determine the various effects of teen social capital on adult social capital. The coefficients presented in the tables for these models are unstandardized. Therefore, in order to compare the effects of the independent variables on the dependent variables, standardized coefficients were also calculated for teen religious, sport, and volunteer participation and presented in the text.

Results for the effect of teen social capital on adult participation in organized religious activities are displayed in Table 2. Both teen religious participation and teen volunteering have significant positive effects. Teen religious participation had the largest effect (.253 standardized); yet volunteering in high school also increased the likelihood of engaging in religious activities as an adult (.031 standardized). Playing sports as a teen has no significant effect on adult religious participation. Men are less involved in religious activities as adults than women, blacks participate more than whites, and those who are married and have children participate more than those who are single and childless at age 26. Respondents with more than high school degrees are more religious as adults than those with less education. This contradicts previous literature (Albrecht & Heaton 1984) as well as the negative effect that having a highly educated parent has on adult religious participation<sup>6</sup>. Finally, respondents who attended high school in the south are more involved than students from the north central region of the U.S. All of the other

school characteristics, including school size, school location, and whether it was public or private, have no significant effect on adult religious participation.

Results for the effect of teen social capital on adult participation in group or team sports and recreation are displayed in Table 3. The coefficients indicate that again two of the high school social capital variables had significant positive effects: playing sports in high school and volunteering. While playing sports in high school had the largest effect (.124), volunteering as a teenager also made sport participation as an adult more likely (.028). Teen religious participation has no significant effect on adult sport participation. As adults, men play more sports than women, those who are married play less than those who are not, and those with children play more than those without. Additionally, participants who attended schools in rural areas play more than those who attended in the suburbs. Parents' marital status, school region, school size, and public or private schools all have no significant effect on adult sport participation.

Results for the effect of teen social capital on the final dependent variable, adult volunteerism in youth, civic, or community organizations, are displayed in Table 4. All three teen social capital indicators positively affected this variable. Yet, again, the most similar independent variable had the largest impact; in this case teen volunteering had the largest effect of all three independent variables on adult volunteering (.104). However, playing sports (.043) and joining in religious activities (.068) in high school also make an individual more likely to volunteer as an adult. Men volunteer less as adults than women, blacks more than whites, and respondents whose parents had high education levels and who themselves had high education levels volunteered more than others with less education. This is the only adult social capital indicator that is affected by two of the



school controls. Attending a larger high school decreases the likelihood of volunteering as an adult, whereas attending a public school increases it. Parents' marital status, respondent's number of children, and school location have no significant effect on adult voluntarism.

Overall, the coefficients indicate that participation in religious, sport, or volunteer activities in high school makes participation in that same type of activity as an adult more likely. Doing one activity in high school has a bigger effect on the likelihood of doing it as an adult than does participating in the other activities in high school. These links suggest that individuals maintain their interests over time; for instance, playing sports in high school makes playing them as an adult more likely. If these connections were the only ones present, then personality characteristics might be the key factor explaining social participation across the life-course. The pattern so far suggests that athletic people play sports throughout their lives, religious people participate in religion, and certain other people volunteer in the community.

However, the primary question of interest is whether participation in any formal, organized social activity in high school makes participation in other social activities as an adult more likely. This trend would indicate that individuals who begin building social capital early in life continue to do so into adulthood. Teen religious participation did positively affect two of the dependent variables, yet its effect on adult volunteerism (.068) was much smaller than its effect on adult religious participation (.253). The same holds true for teen sport participation: its effect on adult sport participation (.124) is much greater than its effect on adult volunteerism (.043). Among the three indicators of youth social capital, volunteering is the only indicator which positively affected

participation in all three adult activities. This suggests that building social capital during high school through volunteering in the community increases the likelihood that social capital will be built as an adult through participation in any organized social activity. It may be that the connections students form and the resources gleaned from volunteering differ from those gained from religious and athletic activities.

## DISCUSSION

In this study I sought to determine whether individuals who possess social capital exhibit a pattern of building it throughout their lives. Results from this sample indicate that early participation in religious, sport, or volunteer activities does increase the likelihood of participating in that same type of activity as an adult. This pattern provides evidence that individuals maintain their interests over time and engage in the same activities across the life-course.

However, the results of these analyses also indicate that engaging in these activities in high school makes creating social capital as an adult more likely. Perhaps this is because early participation helps teens learn skills that make social participation easier throughout the life course. Or maybe for some the relationships formed in high school persist into adulthood and social capital continues to be built through them. It also may be that early participation helps teens learn to value social involvement and this motivates participation later in life.

The results of this study suggest that the encouragement given to teenagers by parents and teachers to participate in religious, sport, or volunteer activities may have long-lasting impacts and help maintain high social capital levels in this country. Yet, given that religious and sport participation do not affect all three dependent variables,

continued involvement in these activities across the life-course may also be the result of maintained interests (see figure 1b). Further research is needed to explore the role of high school sport and religious participation in the long-term creation of social capital.

Volunteering in high school was unique among the three activities in that participation in it increased the likelihood of doing any of the activities as an adult. This suggests that there may be something unique about volunteering in the community compared to engaging in religious or athletic activities. Perhaps volunteer work helps teens build what Putnam refers to as bridging social capital, or capital that links individuals “across various lines of social cleavage” (Helliwell & Putnam 2004: 1437). For instance, it seems that volunteering is more likely than the other two activities to bring adolescents in contact with individuals who differ from themselves and who aren’t already members of their social network. This might facilitate new information being shared as well as trust being created with individuals whom they may not have learned to trust otherwise. Religious and sport participation, on the other hand, may be more likely to foster bonding social capital, or links among people who are similar in age, ethnicity, and social class (Helliwell & Putnam 2004). Perhaps it is learning to build these more difficult bridging relationships early in life that makes a difference for establishing a long-term pattern of social capital creation.

Those who volunteer in community agencies may also experience norms of social involvement more strongly than those who engage in religious or sport activities because taking part in volunteer work may require greater initiative. Perhaps witnessing the impact their participation had on others in the community helps instill values of social

involvement more strongly than participating in religious or sports activities. These values may in turn impact teens' decisions to get involved as adults.

Future research might explore whether different types of social capital are created through volunteer work compared to religious and sport participation. Scholars could also investigate whether bridging and bonding social capital have different impacts on long-term patterns of social capital creation. It may also be interesting to explore whether the size of the effects found in this study vary if level of involvement is taken into consideration. For instance, researchers might examine whether high levels of involvement throughout the teen years and early adulthood has a larger effect on adult involvement than brief or sporadic participation during high school. It may also be interesting to explore social capital later in adulthood when the respondents are more settled into adult life and experiencing fewer changes in their families and careers, which may disrupt their social involvement. This may be possible with the NELS if another follow-up is performed.

The positive effects of engaging in religious, athletic, and especially volunteer activities in high school on the adult creation of social capital have policy implications for those interested in maintaining high social capital levels in this country. For instance, results from the third model suggest that encouraging teenagers to volunteer in the community may be an effective mechanism for increasing social capital among adults. For several decades teenagers have been encouraged to volunteer by their schools. School-based volunteer programs have been promoted by multiple federal and state programs during the past two decades (Skinner & Chapman 1999). The many rationales given by scholars for such programs include the development of personal growth and

self-esteem, social responsibility, skill and leadership development, and democratic citizenship (Battistoni 1997; Raskoff & Sundeen 1999). However, the current study indicates that fostering adult social participation and high levels of social capital can also be added to this list.

The most recent estimates of how many students participate in community service and the number of schools that provide community service programs were gathered in 1999 by the National Center for Education Statistics (NCES; see Skinner and Chapman 1999). They report that 83% of public high schools had students engaged in community service and that 71% of high schools organize community-service activities for their students. However, these estimates are for participation at all during the academic year and also include school-wide, one-time service activities. While the numbers provided by the NCES suggest that in 1999 students were widely involved in community service, volunteering only once a year is not likely to increase a person's social capital. In contrast, the indicator used in the current study was based on individual-level volunteering done on a more regular basis. Of the 1990 tenth grade cohort used in this study, 78% of students reported rarely or never volunteering and only 22% reported volunteering on at least a somewhat regular basis. These percentages indicate room for improvement in the number of high school students who volunteer on a more frequent level. Additionally, this study suggests that volunteering on a regular basis particularly impacts adult social capital. The low percentage of students who volunteer at this rate and the benefits associated with such volunteering indicates that this type of volunteering still remains to be encouraged.

The NCES (2001) did find that students were more likely to participate in community service when their schools arranged it than when their school did not. This suggests the importance of socializing young people into community service roles (Raskoff & Sundeen 1999). In a national survey of teenagers, Raskoff and Sundeen (1999) found that the strongest predictor of volunteering was attending a school that encouraged or required community service. This predictive variable was stronger than the roles played by families and churches in shaping volunteer behavior. In order to combat the many social factors which may be threatening current social capital levels (Putnam 1995), individuals need to be encouraged to start building social capital when they are young. School initiatives to promote both sports and volunteer work on a regular basis may be an effective way to foster high social capital levels among both teens and adults. Additionally, educating parents about the benefits associated with their children's social participation may be an effective mechanism for increasing teen social involvement.

Although this study provides valuable insight on the long-term effects of participating in religious, athletic, and volunteer activities, some important limitations exist which might be addressed in future research. Chief among these is that the NELS does not allow for direct measurement of the resources that actually comprise social capital, as delineated by social capital theory (see Broh 2002). Because of this limitation I used participation in formal, organized social activities as my indicator that an individual has social capital. Future research might utilize data that measures social capital more directly. Additionally, future studies should explore whether other sources of capital, besides membership in formal groups, have similar long-term effects. Some of

these sources might include informal social networks, work, or family. Though the NELS is one of the best sources available on the activities teenagers participate in, they are limited in their measures of these types of capital, especially for adults. However, it is important to consider that adults, in particular, may be more likely to possess capital from these sources than from voluntary group memberships.

There are several other limitations to the current study. Differences in question wording across waves in the NELS do not allow for exact comparisons. Additionally, the results may have been affected by selectivity in the sample. For instance, those who dropped out of school before the eighth grade were not included in the sample. This may have biased it against more low income and delinquent students. On the other hand, the sample does include students who dropped out of high school in grades eight through twelve. Further, dropping the missing cases may have introduced some bias into the sample. For instance, in the mean substituted model for adult sport participation, the flagged variable indicating missing cases on teen sport participation is positive (1.017) and statistically significant ( $p < .001$ ). This suggests that those who were missing data on teen sport participation are more likely to play sports as adults than those who were not missing. Similar results occurred with the flagged variable indicating missing cases on teen volunteering for the adult volunteerism regression model<sup>7</sup>.

Another limitation of the current study is that some of the measures were somewhat crude and did not indicate the degree to which the individual was involved. This was true of teen sports, for instance. Students could have participated in intramural and interscholastic sports, but these types of activities may vary both in their levels of organization and involvement. These variations might have impacted the degree to

which the activity provided the student with social capital. Future research may benefit by using measures that indicate how involved the person was in the activity. Scholars should explore whether the differences found between volunteering and sports/religious activities in this study are due to these types of measurement errors. By utilizing more direct measures, future studies may further define the role of religious, sport, and volunteer participation in the long-term creation of social capital.



## NOTES

<sup>1</sup> Informal social networks can also serve as valuable sources of social capital and these as well as other domains that facilitate its creation remain to be explored.

<sup>2</sup> Missing data on the dependent variables, totaling 260 cases, as well as 930 cases that were legitimate skips on the independent variables were dropped for the mean substituted models, reducing the original sample size of 12,144 to 10,954.

<sup>3</sup> Residual plots for adult voluntarism were examined and there is no indication that the assumptions of linearity are not being met. Additionally, a Poisson model was run for this dependent variable in order to take into account that it is not normally distributed. The results were very similar to those in the SUR model. Therefore, SUR was used in order to allow all three models to be run simultaneously.

<sup>4</sup> Adult voluntarism was coded as a dichotomous variable (either the participant did or did not volunteer that year) for the multilevel model because it was highly skewed. A logistic model was run for this dependent variable instead of regression. The intraclass correlation generated by the adult religion regression model is 17.8%. In the adult sport regression it is 4.3% and in the adult volunteerism logistic model it is 2.1%. This indicates that respondents who attended the same high school are much more similar to each other in their religious participation than in their sport or volunteer participation.

<sup>5</sup> Crosstabs were run to determine whether the same students were highly involved in both religious and volunteer activities. Results indicated that of those who volunteer once a week or more, about half engaged in equal rates of religious participation. However, of those who participate in religious activities at this rate, only around 12% engage in equally high rates of volunteering. Further, only about 4% of teens reported participating in both religious activities and volunteering once a week or more.

<sup>6</sup> The model was rerun without parental education and the respondent's graduate degree coefficient remained positive and significant. The model was also rerun with the respondent's education removed and parental education retained and the coefficients for highly educated parents became insignificant. This suggests that a multicollinearity problem between parental and respondent education accounts for the negative impact on adult religious participation of having a highly educated parent. However, contrary to previous literature, the coefficients continue to indicate that respondents who are themselves highly educated participate in more religious activities as adults. Because multicollinearity did not appear to be a problem in the models for the other two dependent variables, both parental and respondent education were left in those models. Their effects in the adult religious participation model, however, should be interpreted with caution.

<sup>7</sup> In the mean substituted model for adult volunteering, the coefficient for teen volunteering is negative (-.169) and statistically significant ( $p < .01$ ).

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Figure 1a. Conceptual Model for the Effects of Teen Social Capital on Adult Social Capital\*

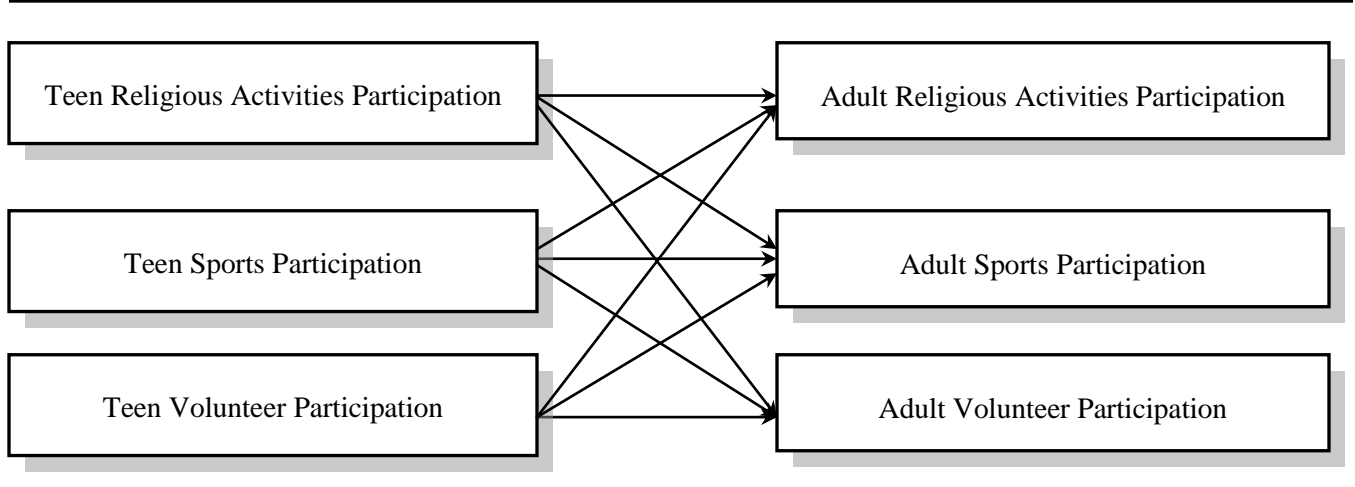
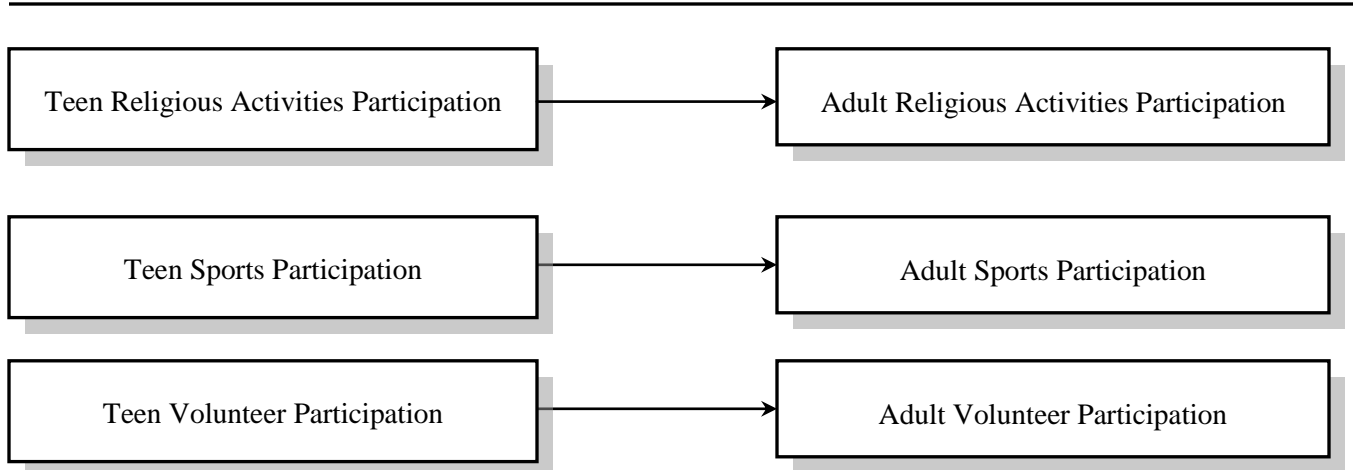


Figure 1b. Conceptual Model for Activity Participation Based on Maintained Interests



\*Figures 1a and 1b are only conceptual models; only one model will actually be run. A significant coefficient for the effect of teen religious participation on adult religious participation and non-significant coefficients for its effect on adult sports and volunteering, for instance, would indicate that participation follows the pattern outlined in figure 1b.



Table 1. Descriptive Statistics of Social Capital and Control Variables

	M	SD	Ranges
<b>Dependent Variables</b>			
Adult Participation in Organized Religious Activities	2.530	3.978	0-30
Adult Participation in Group or Team Sports and Recreation	2.459	4.712	0-30
Adult Volunteering in Youth, Civic, or Community Organizations	.442	.674	0-2
<b>Independent Variables</b>			
Teen religious participation	1.866	.937	1-4
Teen sport participation	1.078	1.327	0-9
Teen volunteer participation	1.306	.632	1-4
<b>Controls</b>			
Male	.458	.498	0-1
Race & Ethnicity			
White	.727	.445	0-1
Hispanic	.112	.315	0-1
Black	.084	.277	0-1
Other race	.077	.267	0-1
Marital Status	.408	.491	0-1
Parental Status	.340	.474	0-1
Respondent's Highest Education Level			
Less than high school	.023	.150	0-1
High school degree	.144	.351	0-1
Some college	.450	.498	0-1
4-year degree	.323	.470	0-1
Graduate degree	.044	.205	0-1
Parents' Marital Status			
Married	.833	.373	0-1
Divorced, Widowed, Separated	.149	.356	0-1
Single, never married	.018	.132	0-1
Parental Education Level			
Less than high school	.086	.281	0-1
High school degree	.190	.392	0-1
Some college	.418	.493	0-1
4-year degree	.157	.364	0-1
Graduate degree	.148	.355	0-1
School Location			
Suburban	.404	.491	0-1
Urban	.265	.441	0-1
Rural	.331	.470	0-1
Region			
North central	.290	.454	0-1

Northeast	.180	.384	0-1
South	.340	.474	0-1
West	.191	.393	0-1
School enrollment	4.59	2.394	1-9
Public school	.872	.334	0-1

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Source: Second and fifth waves of the National Education Longitudinal Study of 1988.

Table 2. The Effects of Teen Social Capital on Adult Participation in Organized Religious Activities

	Coefficients	Standard Errors
<b>Social Capital</b>		
Teen religious participation	1.074***	.046
Teen sport participation	-.029	.032
Teen volunteer participation	.192 **	.066
<b>Controls</b>		
Male	-.306 ***	.084
Race & Ethnicity		
White	---	---
Hispanic	.375 **	.144
Black	1.713 ***	.163
Other race	.162	.161
Respondent's Marital Status		
Married	.930 ***	.091
Not married	---	---
Respondent's Parental Status		
No children	---	---
One or more children	.292 **	.102
Respondent's Highest Education Level		
Less than high school	-.331	.287
High school degree	---	---
Some college	.245 *	.124
4-year degree	.297 *	.146
Graduate degree	.803 ***	.236
Parents' Marital Status		
Married	---	---
Divorced, Widowed, Separated	-.188	.116
Single, never married	-.047	.320
Parental Education Level		
Less than high school	-.167	.172
High school degree	---	---
Some college	-.072	.114
College graduate	-.222	.147
Graduate school	-.328 *	.156
School Location		
Suburban	---	---
Urban	-.152	.111
Rural	.155	.105
Region		
North central	---	---
Northeast	-.086	.123
South	.676 ***	.107
West	-.044	.128

School enrollment	-0.028	.023
Public school	-.094	.156
R Square	0.1271	
[N]	8491	

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Source: Second and fifth waves of the National Education Longitudinal Study of 1988.

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

Table 3. The Effects of Teen Social Capital on Adult Participation in Group or Team Sports and Recreation

	Coefficients	Standard Errors
<b>Social Capital</b>		
Teen religious participation	.029	.056
Teen sport participation	.441 ***	.039
Teen volunteer participation	.209 **	.082
<b>Controls</b>		
Male	1.564 ***	.103
Race & Ethnicity		
White	---	---
Hispanic	.152	.178
Black	.248	.201
Other race	.203	.198
Respondent's Marital Status		
Married	-.492 ***	.112
Not married	---	---
Respondent's Parental Status		
No children	---	---
One or more children	.250 *	.126
Respondent's Highest Education Level		
Less than high school	-.266	.354
High school degree	---	---
Some college	.342 *	.153
4-year degree	.258	.180
Graduate degree	.206	.291
Parents' Marital Status		
Married	---	---
Divorced, Widowed, Separated	.084	.143
Single, never married	.184	.395
Parental Education Level		
Less than high school	.117	.212
High school degree	---	---
Some college	-.231	.140
College graduate	-.253	.181
Graduate school	-.524 **	.193
School Location		
Suburban	---	---
Urban	.218	.138
Rural	.398 **	.130
Region		
North central	---	---
Northeast	-.224	.152
South	-.004	.132
West	-.075	.158

School enrollment	.027	.028
Public school	.339	.192
R Square	0.0531	
[N]	8491	

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Source: Second and fifth waves of the National Education Longitudinal Study of 1988.

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

Table 4. The Effects of Teen Social Capital on Adult Volunteerism in Youth, Civic, or Community Organizations

	Coefficients	Standard Errors
<b>Social Capital</b>		
Teen religious participation	.049 ***	.008
Teen sport participation	.022 ***	.006
Teen volunteer participation	.111 ***	.012
<b>Controls</b>		
Male	-.059 ***	.015
Race & Ethnicity		
White	---	---
Hispanic	.025	.025
Black	.125 ***	.029
Other race	.033	.028
Respondent's Marital Status		
Married	.034 *	.016
Not married	---	---
Respondent's Parental Status		
No children	---	---
One or more children	.000	.018
Respondent's Highest Education Level		
Less than high school	-.072	.050
High school degree	---	---
Some college	.078 ***	.022
4-year degree	.216 ***	.026
Graduate degree	.275 ***	.041
Parents' Marital Status		
Married	---	---
Divorced, Widowed, Separated	.018	.020
Single, never married	.073	.056
Parental Education Level		
Less than high school	.014	.030
High school degree	---	---
Some college	.037	.020
College graduate	.059 *	.026
Graduate school	.108 ***	.027
School Location		
Suburban	---	---
Urban	.021	.020
Rural	.032	.018
Region		
North central	---	---
Northeast	-.069 ***	.022
South	.053 **	.019
West	-.005	.022

School enrollment	-.010 *	.004
Public school	.077 **	.027
R Square	0.0648	
[N]	8491	

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Source: Second and fifth waves of the National Education Longitudinal Study of 1988.  
p < .05 \*\* p < .01 \*\*\* p < .001