

**Bowling Young II: How Youth Voluntary Associations Affect Voting in Early
Adulthood**

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Abstract

The great majority of Americans who are eligible to vote eventually become habitual voters, if they live long enough. But making the transition into voting while young, in the first few elections of one's eligibility, is more problematic. The speed of this transition is highly correlated with socioeconomic background, reproducing political inequalities across generations, but experiences outside of the family can affect it as well. Using two nationally representative longitudinal datasets, we explore the effects of extracurricular participation in high school on voting in young adulthood, controlling for a host of other factors like family background and school achievement, as well as controlling for propensity to participate in these extracurriculars. Many high school activities are related to increased voting as young adults, though some show a negative effect. These relationships illustrate that the voluntary associations of high school play a roll in the political socialization of youth as they become adult citizens.

The Transition into Voting

The single biggest predictor of whether or not an eligible citizen will vote in any given election is whether or not that citizen voted in previous such elections. Voting is a behavior best characterized as habitual (Verba and Nie 1972, Milbrath 1965, Miller and Shanks 1996, Plutzer 2002), dividing citizens into the rough categories of those who vote, and those who don't. But as Plutzer (2002) notes, all voters begin their lives as non-voters, ineligible to vote before coming of legal age, and must overcome the inertia of non-voting to become habitual voters. And yet almost all who live long enough do overcome that inertia eventually, so that by old age almost all eligible citizens have made the transition into habitual voters. Becoming a voter is not really a question of if, but a question of when.

From this life-course perspective on voting, the perpetually low turnout of young adults and the high turnout of senior citizens is unsurprising. For the young to become regular voters, they first need to develop political knowledge, connections, and commitment (Verba, Schlozman, and Brady 1995); the old have already had a lifetime to accumulate these. Political knowledge includes both the practical know-how to navigate the voting bureaucracies (of voter registration, polling places, deadlines, etc), but also sufficient knowledge of politics (of candidates, offices, issues, etc) so that the potential voter can feel they have some handle on the importance of their vote (imagine asking someone to bet on football without even the most rudimentary knowledge of the game). Political connections brings the influence of others to bear on voting behavior; this includes not only the peer pressure of politically involved friends and peers, but also connections to political candidate, offices and organizations, and recruitment by political

parties. And political commitment comes from both attachment to political parties, issues, and identities, developed over the lifetime, as well as developing tangible stakes in the political process, possibly through business or property ownership, community involvement, and so on. All of these tend to accrue as adults age, but more quickly as youth become young adults. Thus the sharpest increases in non-voters becoming voters occurs during young adulthood, with more gradual increases afterward.

The rate at which people transition into voting is not, however, evenly distributed across all segments of society. The strongest predictors of how quickly a young adult makes this transition relate to their parents; in particular, their parents education and political engagement (Plutzer 2002). More educated, politically connected and committed parents can and do speed the acquisition of these attributes by their offspring. To a large extent, voting behavior is another example of social reproduction. But in addition, a youth's own political engagement, knowledge, and educational achievements all contribute to a faster transition into voting. To some extent, one could argue that this is also about social reproduction: the young who most closely emulate their educated and politically involved parents vote most quickly. But the effects of youths' achievement and engagement on voting independent of parental characteristics suggest that non-family factors can lead the children of non-voters, or late-in-life voters, to take a different path from their parents, and become early voters.

We propose that meaningful political socialization also occurs outside of the home, and can make tangible differences in political outcomes like voting. In particular, we believe the voluntary associations of high school can be significant in the transition to political adulthood.

Voluntary Organizations

Voluntary associations are a crucial part of the functioning of American democracy; this has been recognized, and part of the national identity, since Alexis de Tocqueville's famous characterization of Americans as a nation of joiners ([1848] 1988). The voluntary organizations of high school, extracurricular activities, occupy a crucial place in the life course of American citizens: they are the focus of civic participation just before youth enter adulthood, and just before minors become citizens with full voting rights. As inertia and habit can be said to characterize much of human behavior, the extracurriculars of youth can be seen as important switches that place students onto different tracks into adulthood. Those that get in the habit of participating and engaging in their high school community tend to continue those behaviors and kinds of associations into adulthood. Those that find themselves on the track of uninvolved and detachment tend to remain detached as their lives progress.

Previous research has linked extracurricular participation to later adult civic and political behavior (McFarland and Thomas 2006, Frisco, Muller, and Dodson 2004, Zaff et al 2003, Marks and Kuss 2001, Kirlin 2001, Glanville 1999, Verba, Schlozman, and Brady 1995), but other research has doubted the long term effects of extracurriculars in this regard (Plutzer 2002). The results below will show more evidence that extracurriculars do have an impact on adult political behavior, specifically in shortening the onset of voting.

DATA AND MEASURES

Data

We use two nationally representative datasets to explore this question: the National Educational Longitudinal Study (NELS, U.S. Department of Education 1996) and the National Longitudinal Study of Adolescent Health (Add Health, Udry 2003).

The first of these, NELS, followed a cohort of students from their eighth grade year in 1988 into young adulthood, with the last followup in the year 2000. Intervening followups in 1990, 1992, and 1994 saw these students typically in their 10th grade year, 12th grade year, and two years after high school graduation. The sample of respondents that participated in all five waves included 10,827 students from 1476 schools.

The second dataset we used, Add Health, followed a national sample of 7th-12th graders from Wave 1 in 1994-95 to Wave 3 in 2001-02, when they were between 18 and 26 years old (Wave 2 did not contain the membership questions, so we do not include it). We use the sample of 11,024 students from 154 schools who participated in both Waves 1 and 3. What Add Health lacks in longitudinal length compared to NELS it makes up for in within-school depth: in many of the schools that participated in Add Health, responses were obtained from most of their students, and some had complete coverage in Wave 1.

Measures

See Table A for a summary of the construction and univariate statistics of all measures used in this paper.

Dependent Variable: Voting in Presidential Elections

While voting in general is of interest, we focused on the elections in which youth are by far the most likely to participate: presidential elections. The NELS data captured self-reported voting behavior for two presidential elections, 1992 and 1996.

Unfortunately, respondents were not asked about the 1992 election until 1994, and about the 1996 election in 2000. Looking at the averages reported in Table A, we see that 48% of the NELS sample said they voted in 1992, as did 57% in 1996, both well above the means for their age group for those elections. Addhealth respondents were asked if they voted in the 2000 presidential election in either 2001 or 2002 (a little better than the NELS survey), and 46% of them reported voting in that election. Actual turnout from 18-24 year olds was an estimated 50% in 1992, but then dropped to 35% in 1996 and 37% in 2000 (compared to 55.1%, 49.1%, and 51.3% of all eligible voters (FEC 2006)). At first glance this suggests that the 1992 responses are most accurate, except that most of the NELS respondents were 18 in 1992, the least likely age among the 18-24 year olds to vote. All of these self-reports should be viewed as inflated, but this doesn't necessarily render them useless. If the error of inflation is random with respect to the variables of interest, or is uniform across all subsets of students, then there is little threat to the validity of the findings. On the other hand, if the error is related to the memberships that are the explanatory variables here, then we have a problem. If people who go to church in high school, for instance, are more likely to misreport voting, then the effect from church attendance may be purely from this. Or, if people who aren't involved in anything are more likely to misreport voting, then we may be missing effects that should be statistically significant for a more accurate voting variable. As we don't have a way to

measure propensity to misreport voting, these alternative explanations can be considered when reviewing any findings using the NELS voting variables.

The 1992 election in particular was an unusual one, as turnout among young adults was exceptionally high(CITE).

Membership Variables

In general, the Add Health surveyed student's extracurricular involvements in more depth than did NELS, allowing us to analyze effects from a greater range of specific types of clubs. NELS asks about participation in larger categories of clubs, but we constructed similar categorical participation measures from Add Health for direct comparison.

Service clubs, however, such as the Key club, are measured explicitly in the NELS questionnaire, but not by AddHealth. Instead, we suspect that the effects of the "Other club\organization" variable in Addhealth is really capturing the effect of the service clubs inclusion in that broader category. Also note that the Performing Arts category includes the subcategory Music.

While NELS captures extracurriculars in broader strokes than Add Health, it does so at more time points, typically students 8th, 10th, and 12th grade years. The current analysis does not fully explore differences between students who participate in some but not all years of their schooling; instead, we focused on comparing those who participated in a group at all to those who never did. When calculating propensity scores for each activity (see below), however, we used the un-dichotomized participation variables, ranging from 0 to 3, to maximize the variance of the membership as a dependent variable, hoping to maximally draw out differences in the propensities to participate.

A few other membership variables were included that aren't exactly school extracurricular activities. The first of these is church attendance. We could have included many different out-of-school activities, but none garner the attention for their role in political socialization like church attendance. Church attendance is also the only out-of-school activity we have good information about into high school in both studies. We also included a variable indicating whether the respondent had any classes specifically about government or civics. The knowledge and experience obtained from such classes are considered important for politically socializing students (Niemi and Smith 2001), so we decided to compare their effects to those of less pointedly-political and structured extracurriculars. Finally, we also included an indicator of whether the student participated in any extracurricular activities at all, to determine if voluntary participation in a group has an effect regardless of its form.

Control Variables

There are a plethora of factors that are related to voting, and any attempt to isolate the effects of a group membership on voting needs to control for these, to make certain that comparisons are between similar individuals. Ideally, comparisons should only be made between individuals who are similar on every dimension except the factor in question (the group membership). To attempt to approach this ideal, we include a variety of measures of family background, parental involvement, student achievement, student friendships, school characteristics, etc. As explained in the methods section below, we use these measures to account for self-selection of students into different extracurricular

groups, so we can only compare similarly inclined students who do and do not participate.

METHODS

By comparing two groups of students, those who received the “treatment” of participating in the extracurricular activity(ies) in question, and those who did not (the “control” group), we are mimicking the classical experimental design, but without the random assignment of subjects to control and treatment groups. The heart of voluntary associations, even in adolescence, is self-selection. Separating out how much of the differences in outcomes between these two groups is due to a transformative effect of the treatment, and how much is due to differences in the kinds of people who choose to participate in the treatment, can probably never be fully achieved. Nonetheless, much of this self-selection bias can be controlled by only comparing students between these groups who are also similar on all of the pre-existing factors that may influence their decision to participate. Traditional regression techniques can accomplish this task, but propensity score matching, a more recent methodological development, controls for even more of this bias.

A propensity score (Rosenbaum & Rubin 1983,1984) is a composite predictor of all of the available factors that influence whether a subject is in the treatment versus the control group. In this study, we used multi-level regression models, with a host of control variables to predict whether each student participated in each extracurricular activity (or

category of activities). For the NELS data, we had membership information from 3 different time points in school (typically students' 8th, 10th, & 12th grade years), so the propensity score predicts the number of times they said they were involved in the activity (0-3). In the Addhealth data, detailed membership information was only gathered at one timepoint, so the prediction there is binary. Propensity score matching then assigns cases for comparison between the treatment and control groups, based on their similarity. We used kernel based matches, so treated cases were compared to an average of the outcome variable for all control cases near it in propensity score, weighted inversely by that distance. This overcomes matching problems of some cases having no close neighbors in propensity score and others having many. After cases have been matched, the resulting comparison bears a great deal of resemblance to a simple T-test of differences in means. For instance, to determine if high school band membership influences presidential voting in early adulthood, this method would first use a regression model to predict whether each student was in the band, then match students who actually were in the band with those who actually were not but had a similar predicted propensity to be in the band, and then compare the rate of presidential voting across those matches.

Both datasets contain enough data missing not at random to cause us concern. To alleviate this, we used a multiple imputation technique (Allison 2002:27) that predicts missing values from regressions using all of the other available variables. We imputed five versions of each dataset to eliminate any bias from random fluctuations in the predictions, and then ran the propensity score models separately for each imputation. We then averaged the resulting propensity scores across imputations before matching and hypotheses testing.

RESULTS & DISCUSSION

For an initial point of comparison for the propensity score results, we first ran multi-level regression models predicting presidential voting in adulthood by adolescent variables, which are summarized in Tables 1a and 1b. Each extracurricular activity was modeled separately from the rest, to avoid issues of multi-collinearity; the coefficients for the control variables are reported from a separate model that included no extracurricular variables. Tables 2 and 3 then show the differences in presidential voting between groups of students who did and did not participate in the specified extracurriculars, matched on their propensity to have been in those activities. Tables 4-7 show these differences when only comparing within certain subpopulations of the data. In all of these tables, we include significance levels that are only at 90% confidence more as a suggestion of effects that may exist in better data or models than to make a strong argument for those effects.

First, we note that the general similarity in effects predicted by both the multi-level regression models and the propensity matching models. We take this to be evidence of the robustness of the effects of extracurriculars on adult voting, even as more stringent self-selection controls are introduced. Nonetheless, there are some non-trivial differences, particularly in the Add Health data on individual clubs such as spanish club and some of the sports, with the propensity models less likely to show effects as significant than the traditional regression models. This suggests that the propensity matching method is providing us with more conservative estimates of effects.

The biggest and most robust effect for a category of activities is for the performing arts: in all of models, participation in high school performing arts was related to a 2 to almost 5 percent higher probability of voting for president in early adulthood. Music groups, which are also included within performing arts, also mostly have positive significant effects, though the effect is shy of the 95% threshold for 1992. Individually, drama club consistently has a sizeable effect, as much as 5.5% in the Addhealth data for the 2000 election. Band also has a significant positive effect on 2000 voting, 3.7%, and orchestra is almost significant with a 8.2% effect.

Service clubs, only really measurable in NELS, shows even larger positive effects: 3.7% in 1992, and 5.4% in 1996. But we suspect that the 4.1% effect of “Other Club or Organization” in the AddHealth data for the 2000 election is driven by the inclusion of service clubs in that category.

Academic clubs are an activity we shouldn't be surprised to find an effect for, but what is surprising is that their effect is lower than that for performing arts clubs (which we also found for predicting adult civic engagement, McFarland & Thomas 2006), and that none of the individual academic clubs have an effect, save for the debate club/team. In the 2000 election, former debate team members voted at 9.6% higher rate than their similarly predisposed peers in the Addhealth data. But in the NELS data, debate team membership showed no relation to voting in 1992 or 1996, while academic club memberships did.

The largest overall effect for a category of extracurriculars was a negative effect, for sports: in the NELS data, 5.5% fewer high school athletes voted in 1992 than did their similar peers. The negative effect of sports participation appears in all of the models,

but to varying degrees, as little as a 1.8% drop in the Addhealth's 2000 election data. The individual sports data in Addhealth are probably too finely sliced to pick up significant effects, but only some of them suggest a negative effect, leaving us to wonder if only some of the sports have an effect that is pulling the whole category down. The unmatched results from Table 1a point to volleyball, swimming, and basketball as possible culprits for the overall negative effect, while the almost significant positive coefficient for "Other sport" suggests that some sports may be positive incubators of future voters. Turning ahead to the results for subpopulations, we see that again, where significant, that sports seem to discourage voting early in life, with a few interesting exceptions. First, for lower income respondents, and for the 1996 election only, having played sports has a 4% positive effect. And for hispanic respondents in 2000, the coefficient is almost significant, with a 3.7% effect. The results for the rural subsample of the Addhealth data is the most interesting: big positive effects for football (9.7%) and wrestling (17.6%!), but negative for basketball (-5.2%). Whether this represents a difference in cultures between different sports, or their different places of importance in communities, is unclear from just this small peak. But this does suggest that some sports can serve as pathways into political involvement, and others away from it.

Among other clubs, honor society membership had a significant positive effect in both studies and all elections, with a big 7.6% difference in 1992 and 6.3% in 2000, but only 2.7% in 1996. Student council, on the other hand, had its biggest effect in the 1996 election, a 4.8% difference, while it made a 2.7% difference in 1992, and no significant difference in 2000. Membership on the school newspaper is associated with a 6.2 % difference in 2000 voting in the Addhealth data, while the 4% difference for yearbook

staff is shy of significance there. Journalism clubs overall were not associated with a difference for 1992, but made a 2.9% difference in 1996. And surprisingly, membership on student council, the youthful model of political participation, has no effect in the Addhealth data, but does account for a 2.7% difference in 1992, and 4.8% in 1996 in the NELS data.

The effect of church attendance in adolescence on adult voting is one of the most consistent findings in all of the models. Given that religiosity is already controlled for, this is a strong testament to the effectiveness of churches in politically engaging youth. The difference between church goers and non-church goers may only be a few percentage points, but if church attendance does anything to encourage religiosity among its members, then this effect is compounded. Nonetheless, these results can also be read as a cautious note against overestimating churches as political socializers: given the generous attention politics gives to church, it is somewhat surprising that many high school clubs are often better predictors of adult voting than church membership. Church attendance in high school, however, may not be truly voluntary for adolescents, and the voluntary nature of participation may be key to the memberships' effects.

Though government and civics classes are not voluntary associations, we included it as such in the NELS models as a comparison, and another test of their effectiveness in turning adolescents into citizens. While we found no effect in our previous research (McFarland & Thomas 2006), there is a significant effect here for the 1992 election, an increase of voting by 4%. This makes having had such classes one of the better membership predictors for that election, behind performing arts clubs.

The variable “Not Involved in Any School Club” serves to measure whether participation at all in any extracurriculars makes a difference. In the NELS data it unequivocally does; members of any club show 6.5% more voting compared to the completely uninvolved in 1992, and 5.4% more in 1996. But in the Addhealth data, not participating in anything seems to make no difference.

But it is dangerous to assume that all populations of students respond to extracurriculars the same way, as it is to assume that these clubs have the same cultures or mean the same thing in different communities. Tables 4 and 6 take a look at the memberships that showed significant effects when comparing students only of the same ethnicity. Many of these effects are similar to those for the larger sample, but with a different magnitude, but there are some curious differences. Asian respondents bear particular attention, as they show the lowest overall tendency to vote in youth. This difference holds controlling for language minority status, which we believe should capture most or all of the citizenship differences, but perhaps not the citizenship of parents, or the level of political experience within families. Church, drama, performing arts, honor society, and student council improve asian students voting, just as they do for the overall population, but somehow government\civics class suggests a negative effect. This may be due to a tendency for schools with higher immigrant populations to emphasize these classes more, while such schools still may have less youth voting due to citizenship issues. Another curious difference is the negative effect of history and computer clubs on voting among asians. Computer clubs show a negative coefficient for everyone, actually, but is only significant among the asian subsample. While we may think of these two clubs as potentially socially isolating, and note that the clubs with the

most positive effects are typically very social and outgoing, this does not explain the negative effect of sports in general, and of cheerleading in particular among asians for the 2000 elections (though not quite significant).

The black respondents in these samples show less voting than similar white students in 1992, but more voting in 2000. Among them, the negative effect for sports in general is even stronger in the NELS data (1992 and 1996 elections), but not significant in Addhealth and the 2000 election, where one particular sport, cheerleading, makes a positive difference on voting, by a whopping 10.8%. Thus there is a large and opposite effect of cheerleading on presidential voting between black and asian cheerleaders in the Addhealth data, suggesting again that a sport's effect is more dependent on its culture or place in the community than on anything intrinsic to the sport itself. The effect of church membership among black respondents also shows a contradictory effect: negative for the 1992 election (-8.6%) and positive for the 2000 election (12.8%). Here, the communities and culture may have been the same for both, but the context of the election, the mobilization of those communities, and the energy and excitement within them before the elections, may have been the crucial factors in mobilizing young voters.

Hispanic respondents, like asian respondents, are less likely to vote in the 1992 election, but this difference becomes insignificant in the next two elections, controlling for minority language status, among other factors. While government or civics classes had a negative effect for asian respondents, it shows a positive effect for hispanics for 1996 voting, calling into question our immigrant-focused school explanation we presented above. Vocational clubs has a larger effect among Hispanics than the general population in 1996, making a 15.1 % difference in voting. And in the Addhealth sample,

sports made a positive difference for hispanic students, in particular football (7.5%), which may be driving the overall sports effect. What makes the effect of football similar for both the hispanic and rural subsamples bears further scrutiny.

The white subsample generally mirrors the overall samples effects, but with a couple more surprising sports effects in 2000 that were almost significant. Among whites, soccer seems to be a path to earlier voting, while basketball seems to lead to later voting. Comparing the culture of these two sports seems to beg an explanation of a social class divide in American sports, conjuring up images of baggy shorted bad-boy ballers and clean-cut suburban soccer elites. Given that this comparison is controlling for crucial social class variables like family income, parent education, and so on, this difference would have to come not from the social class of the students who enter it, but of the kind (or class) of citizens it produces. Though the same privileged suburban kid may take up either soccer or basketaball, the one may wrap him in a culture that encourages attention to the political sphere, while the other may focus his attention away from it.

Female respondents to NELS outvoted males by 2.7% in 1996 (the election with the lowest overall youth turnout), but otherwise both genders voted to a similar degree. Effects for just the female subsamples were generally similar to those of the overall sample, though some extracurriculars had a larger impact on voting for women than men, such as debate clubs in the Add Health sample, or being involved at all in the NELS sample.

The general differences between coefficients from the 1992 and 1996 elections in NELS may stem from two effects: one of respondent aging, the other of general election turnout. As discussed earlier, the older an eligible voter becomes, the more likely she is to

slip into a habit of voting. As such, memberships that show an effect for 1992 may be better at channeling youth into a voting habit more quickly. If that effect lessens in the 1996 election (as it did for honor society), that may simply be because the former members' similar peers, who weren't members, finally started their lifelong voting habit. The memberships that did not have an effect in 1992, but did in 1996, may be good at habituating voters earlier than their peers, but those peers generally are later-in-life voters, so early for them means voting in 1996, not 1992 (or around age 22 instead of age 18, for the NELS sample). Conversely, the decreasing negative effect of sports over time may be due to a delaying effect. By this reasoning, some of the effects that seem consistent over the two elections (like academic clubs) should diminish in later elections, and all should disappear as old age approaches and almost everyone finally becomes a habitual voter.

These differences between elections may also be due to the overall youth turnout specific to these elections. As mentioned earlier, about half of eligible 18-24 year olds voted in 1992, compared to a little more than a third in 1996. In the surge of youth voting in 1992, many things that normally would have distinguished voters from non-voters among similar youth may not have been as statistically apparent, as the whole crowd of similar youth went to the polls together. If turnout is high enough, there are no distinguishing factors, because there isn't enough variance in voting. While it certainly wasn't high to that extreme, the much lower turnout in 1996 may have brought out differences in voting potential we just couldn't see before, but were there all along, lurking among the large wave of voting youth.

CONCLUSION

The general finding of this research is that a number of high school extracurricular activities are positively related to voting in early adulthood, even after self-selection factors are controlled for. Support is found for the thesis that these activities play a role in the political socialization of young citizens. But the results show that not all extracurriculars are equal in this role, with some showing little or no effect, and some even seem to be counterproductive.

Many of these effects are not huge, in the range of a few to several percentage points of difference in voting, some are surprising large, a few near ten percent for the overall sample, and some account for around a twenty percent difference within some of the groups that are less likely to vote. In terms of voter turnout, however, even a few percentage points difference can change elections, and a twenty percent difference is phenomenal. These are thus strong and politically significant differences between participants and non-participants in their transition into voting. We do not mean to suggest, however, that one could increase the voter turnout among low income 18-24 year olds by 24% by merely enrolling them all in vocational clubs. We suspect that part of what makes these clubs effective channels of socialization is their voluntary nature. And yet, as the positive effect of government and civics classes shows, there can still be some gains from mandatory youth activities. So while we wouldn't predict a huge gain above from universal participation, we do think that increases in participation would result in quicker transitions into habitual voting.

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Table 1a - Multilevel Model Coefficients for Adolescent Extracurricular Activities Predicting Voting in Presidential Elections in Adulthood

	NELS 1992		NELS 1996		AH 2000	
	Est	SE	Est	SE	Est	SE
<i>Clubs by Category</i>						
Academic	.025	(.006) ***	.021	(.006) ***	.003	(.012)
Vocational	.007	(.009)	.027	(.009) **	.065	(.034) +
Performing Arts	.022	(.005) ***	.024	(.005) ***	.033	(.011) **
Sports	.000	(.005)	-.009	(.005) +	-.018	(.010) +
Journalism	.020	(.007) **	.025	(.007) ***	.003	(.015)
Music	.019	(.005) ***	.020	(.005) ***	.033	(.012) **
Service	.018	(.010) +	.021	(.010) *		
<i>Specific Clubs</i>						
French Club					-.018	(.025)
German Club					.037	(.043)
Latin Club					.023	(.041)
Spanish Club					-.052	(.018) **
Book Club					.042	(.047)
Computer Club					-.048	(.030)
Debate Team	.031	(.022)	.019	(.022)	.032	(.033)
Drama Club	.015	(.007) *	.021	(.007) **	.045	(.018) *
Future Farmers of America					.065	(.034) +
History Club					.021	(.043)
Math Club					.010	(.260)
Science Club					-.032	(.026)
Band					.035	(.014) *
Cheerleading\Dance Team					-.034	(.017) *
Chorus\Choir					.015	(.015)
Orchestra					.093	(.035) **
Other Club or Organization					.024	(.013) +
Baseball\Softball					-.005	(.012)
Basketball					-.024	(.012) *
Field Hockey					-.017	(.045)
Football					.009	(.015)
Ice Hockey					.017	(.030)
Soccer					-.017	(.017)
Swimming					-.043	(.020) *
Tennis					-.023	(.023)
Track					.006	(.014)
Volleyball					-.066	(.017) ***
Wrestling					.011	(.023)
Other Sport					.028	(.016) +
Newspaper					.017	(.022)
Honor Society	.037	(.008) ***	.015	(.008) +	.013	(.017)
Student Council	.020	(.008) *	.031	(.008) ***	.005	(.017)
Yearbook					-.011	(.017)
<i>Other</i>						
Church	.019	(.007) **	.035	(.007) ***	.025	(.012) *
Had a Government\Civics Class	.002	(.008)	-.001	(.008)		
Not Involved in Any School Club	-.089	(.019) ***	-.075	(.019) ***	-.018	(.014)

Note: Each activity run in a separate model to avoid multicollinearity; see Table 1b for controls

*** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .1$

Table 1b - Multilevel Model Coefficients for Control Variables Predicting Voting in Presidential Elections in Adulthood

	NELS 1992		NELS 1996		AH 2000	
	Est	SE	Est	SE	Est	SE
<i>School Features</i>						
Public school	.022	(.023)	.005	(.023)	-.072	(.034) *
#Clubs school offers	.005	(.004)	-.002	(.004)	.007	(.003) *
Urban school	.019	(.017)	.040	(.017) *	-.012	(.032)
Rural school	-.009	(.018)	-.007	(.017)	-.045	(.027)
<i>Student Attributes</i>						
Age (years)	.050	(.010) ***	.009	(.010)	.023	(.004) ***
Female	-.004	(.011)	.027	(.011) *	-.014	(.010)
Black	-.087	(.020) ***	.011	(.019)	.089	(.017) ***
Asian	-.217	(.028) ***	-.179	(.028) ***	-.150	(.029) ***
Hispanic	-.068	(.022) **	-.015	(.022)	-.024	(.018)
Native American	-.028	(.053)	-.019	(.052)	-.009	(.042)
Other multi-race					.001	(.018)
Language Minority	-.051	(.021) *	-.036	(.021) +	-.067	(.024) **
<i>Parental Resources</i>						
Parents' education	.035	(.005) ***	.018	(.005) ***	.041	(.006) ***
Log of Family income	.012	(.007)	.011	(.006) +	.000	(.000) ***
Parents' highest occupation					.001	.000
<i>Parent Presence, Attitudes, and Behavior</i>						
No resident mom					-.007	(.022) *
No resident dad					-.023	(.011)
Parental closure					.003	(.003) ***
Range of talk with parents	.066	(.016) ***	.093	(.016) ***	.012	(.003) **
Parents' civic involvement	.020	(.005) ***	.019	(.005) ***	.021	(.007) ***
<i>Student Attitudes/Values</i>						
Importance of religion	.012	(.009)	.034	(.009) ***	.026	(.007) ***
High self-esteem	.002	(.011)	.028	(.011) *	.034	(.008)
High Locus of Control	-.001	(.001)	-.002	(.001) **		***
Educational expectations	.026	(.005) ***	.030	(.005) ***	.011	(.003)
Liking of teachers	.002	(.012)	.028	(.012) *	.008	(.008)
Liking of school					.003	(.002)
Liking of neighborhood					.003	(.002) ***
Achieved grades	.027	(.010) **	.006	(.010)	.044	(.008)
Delinquency composite	-.004	(.001) ***	-.004	(.001) ***	.001	(.001) +
Use of Illegal Drugs					-.028	(.015)
Educational Track in H.S.	.044	(.009) ***	.051	(.008) ***		
Years at particular school	.006	(.005)	.003	(.006)	.004	(.004)
<i>Friends in High School</i>						
Friends Achieved Grades	-.017	(.015)	-.008	(.016)	.013	(.013) **
Friends Extracurriculars					.037	(.011)

*** p < .001, ** p < .01, * p < .05, + p < .1

Table 2 - Percent Voted in Presidential Elections Comparison of NELS Respondents Matched on their Propensity to Belong to Each High School Extra-Curricular Activity

	Member	Not a Member	Difference Est SE
Voted in the 1992 Presidential Election			
<i>Clubs by Category</i>			
Academic	.554	.522	.032 (.015) ***
Performing Arts	.559	.512	.047 (.016) ***
Service	.585	.548	.037 (.015) *
Journalism	.564	.547	.017 (.014)
Vocational	.502	.483	.020 (.016)
Sports	.536	.591	-.055 (.023) ***
Music	.560	.540	.020 (.015) +
<i>Specific Clubs</i>			
Student Council	.594	.567	.027 (.014) *
Drama	.567	.533	.034 (.012) **
Debate	.565	.543	.022 (.026)
Honor Society	.601	.525	.076 (.022) ***
<i>Other</i>			
Church	.539	.501	.038 (.024) ***
Had a Government\Civics Class	.512	.472	.040 (.025) **
Not Involved in Any School Club	.369	.434	-.065 (.020) **
Voted in the 1996 Presidential Election			
<i>Clubs by Category</i>			
Academic	.635	.602	.033 (.015) ***
Performing Arts	.639	.607	.032 (.017) ***
Service	.676	.622	.054 (.015) ***
Journalism	.656	.627	.029 (.013) *
Vocational	.604	.551	.053 (.016) ***
Sports	.616	.644	-.028 (.023) ***
Music	.646	.623	.023 (.015) *
<i>Specific Clubs</i>			
Student Council	.695	.647	.048 (.013) ***
Drama	.643	.619	.024 (.012) *
Debate	.666	.626	.040 (.025)
Honor Society	.671	.644	.027 (.022) *
<i>Other</i>			
Church	.632	.585	.047 (.024) ***
Had a Government\Civics Class	.612	.592	.020 (.025)
Not Involved in Any School Club	.449	.503	-.054 (.020) *

*** p < .001, ** p < .01, * p < .05, + p < .1

Table 3 - Percent Voted in 2000 Presidential Election Comparison of Add Health Respondents Matched on their Propensity to Belong to Each High School Extra-Curricular Activity

	Member	Not a Member	Difference	
			Est	SE
<i>Clubs by Category</i>				
Academic	.519	.485	.035	(.013) *
Vocational	.491	.450	.040	(.035)
Performing Arts	.535	.499	.036	(.013) **
Sports	.480	.498	-.018	(.013) *
Journalism	.526	.481	.045	(.016) *
Music	.534	.495	.039	.013 **
<i>Specific Clubs</i>				
French Club	.510	.462	.048	(.025)
German Club	.511	.467	.044	(.043)
Latin Club	.511	.461	.050	(.038)
Spanish Club	.485	.477	.008	(.019)
Book Club	.523	.461	.062	(.048)
Computer Club	.400	.463	-.063	(.029)
Debate Team	.604	.508	.096	(.031) *
Drama Club	.570	.515	.055	(.019) *
Future Farmers of America	.491	.450	.041	(.035)
History Club	.514	.456	.059	(.044)
Math Club	.504	.470	.034	(.026)
Science Club	.512	.475	.037	(.026)
Band	.542	.505	.037	(.015) *
Cheerleading\Dance Team	.474	.476	-.002	(.017)
Chorus\Choir	.522	.496	.026	(.017)
Orchestra	.570	.488	.082	(.035) +
Other Club or Organization	.548	.507	.041	(.014) **
Baseball\Softball	.468	.471	-.003	(.013)
Basketball	.461	.483	-.022	(.013)
Field Hockey	.426	.456	-.030	(.045)
Football	.464	.463	.001	(.017)
Ice Hockey	.478	.469	.009	(.035)
Soccer	.495	.478	.017	(.019)
Swimming	.447	.477	-.030	(.022)
Tennis	.493	.492	.001	(.023)
Track	.497	.482	.015	(.015)
Volleyball	.442	.474	-.032	(.020)
Wrestling	.458	.434	.024	(.026)
Other Sport	.516	.492	.024	(.018)
Newspaper	.565	.503	.062	(.023) *
Honor Society	.591	.528	.063	(.018) **
Student Council	.544	.518	.026	(.018)
Yearbook	.504	.464	.040	(.018) +
<i>Other</i>				
Church	.497	.421	.076	(.015) ***
Not Involved in Any School Club	.376	.390	-.014	(.014)

*** p < .001, ** p < .01, * p < .05, + p < .1

Table 4 - Significant Differences within Ethnic Subpopulations of NELS Data for voting in the 2000 Presidential Election, Matched on Propensity to Belong to Extra-Curricular Activity

	Member	Not a Member	Difference
			Est SE
Black, Voted in the 1992 Presidential Election			
Performing Arts	.461	.391	.070 (.048) *
Vocational	.439	.365	.074 (.048) +
Sports	.420	.509	-.089 (.056) **
Church	.422	.508	-.086 (.066) **
Black, Voted in the 1996 Presidential Election			
Service	.744	.630	.114 (.045) *
Sports	.587	.667	-.080 (.057) **
Hispanic, Voted in the 1992 Presidential Election			
Performing Arts	.460	.400	.060 (.038) *
Honor Society	.496	.426	.070 (.044) +
Hispanic, Voted in the 1996 Presidential Election			
Vocational	.557	.406	.151 (.042) ***
Had a Government\Civics Class	.550	.413	.138 (.077) **
Asian, Voted in the 1992 Presidential Election			
Performing Arts	.385	.323	.062 (.041) +
Vocational	.273	.389	-.116 (.049) +
Drama	.394	.327	.067 (.039) +
Church	.375	.282	.093 (.063) **
Asian, Voted in the 1996 Presidential Election			
Student Council	.554	.420	.134 (.046) **
Church	.466	.382	.084 (.067) *
Had a Government\Civics Class	.409	.517	-.108 (.072) +
Not Involved in Any School Club	.245	.413	-.168 (.071) +
White, Voted in the 1992 Presidential Election			
Academic	.611	.590	.021 (.018) +
Performing Arts	.601	.565	.036 (.020) ***
Service	.653	.611	.042 (.019) *
Sports	.583	.634	-.051 (.029) ***
Drama	.612	.577	.035 (.014) **
Honor Society	.670	.616	.054 (.028) ***
Church	.592	.544	.048 (.030) ***
Had a Government\Civics Class	.560	.528	.032 (.035) *
Not Involved in Any School Club	.402	.495	-.093 (.026) **
White, Voted in the 1996 Presidential Election			
Academic	.668	.642	.026 (.017) *
Performing Arts	.661	.634	.027 (.020) **
Service	.715	.666	.049 (.018) **
Journalism	.688	.649	.039 (.017) **
Vocational	.624	.583	.041 (.019) *
Sports	.641	.669	-.028 (.028) **
Music	.668	.649	.019 (.019) +
Student Council	.724	.682	.042 (.016) **
Drama	.668	.637	.031 (.014) *
Honor Society	.718	.682	.036 (.028) *
Church	.662	.644	.018 (.034) +
Not Involved in Any School Club	.471	.536	-.065 (.026) *

*** p < .001, ** p < .01, * p < .05, + p < .1

Table 5 - Significant Differences within Selected Subpopulations of NELS Data for voting in the 2000 Presidential Election, Matched on Propensity to Belong to Extra-Curricular Activity

	Member	Not a Member	Difference	
			Est	SE
Female, Voted in the 1992 Presidential Election				
Academic	.553	.529	.024 (.020)	+
Performing Arts	.548	.512	.036 (.024)	**
Sports	.543	.577	-.034 (.028)	**
Drama	.567	.541	.026 (.017)	+
Church	.534	.510	.024 (.033)	+
Not Involved in Any School Club	.348	.418	-.070 (.030)	*
Female, Voted in the 1996 Presidential Election				
Academic	.652	.620	.032 (.019)	*
Service	.691	.632	.059 (.021)	**
Journalism	.664	.631	.033 (.018)	*
Vocational	.617	.574	.043 (.020)	*
Sports	.638	.675	-.037 (.028)	**
Student Council	.704	.670	.034 (.018)	*
Church	.646	.623	.023 (.032)	*
Lowest Quartile of Family Income, Voted in the 1992 Presidential Election				
Academic	.451	.385	.066 (.027)	**
Performing Arts	.457	.356	.101 (.033)	***
Vocational	.429	.370	.059 (.031)	*
Music	.469	.386	.083 (.032)	***
Not Involved in Any School Club	.271	.358	-.087 (.037)	*
Lowest Quartile of Family Income, Voted in the 1996 Presidential Election				
Academic	.563	.480	.083 (.028)	***
Performing Arts	.549	.498	.051 (.034)	*
Vocational	.533	.476	.057 (.032)	*
Sports	.519	.477	.042 (.039)	*
Music	.572	.496	.076 (.033)	**
Student Council	.638	.531	.107 (.030)	**
Church	.548	.474	.074 (.038)	***
Had a Government\Civics Class	.527	.474	.053 (.045)	+
Not Involved in Any School Club	.342	.426	-.084 (.039)	+
Rural, Voted in the 1992 Presidential Election				
Performing Arts	.554	.481	.073 (.032)	***
Journalism	.579	.531	.048 (.025)	*
Sports	.521	.591	-.070 (.041)	***
Honor Society	.591	.545	.046 (.039)	+
Rural, Voted in the 1996 Presidential Election				
Performing Arts	.615	.586	.029 (.033)	+
Service	.678	.597	.081 (.028)	**
Journalism	.659	.583	.076 (.025)	***
Honor Society	.671	.615	.056 (.039)	*

*** p < .001, ** p < .01, * p < .05, + p < .1

Table 6 - Significant Differences within Ethnic Subpopulations of Addhealth Data for voting in the 2000 Presidential Election, Matched on Propensity to Belong to Extra-Curricular Activity

	Member	Not a Member	Difference
			Est SE
Hispanic			
Academic	.493	.392	.101 (.029) **
Sports	.421	.384	.037 (.026) +
Football	.442	.367	.075 (.041) +
Black			
Academic	.654	.577	.077 (.030) **
Debate Team	.867	.632	.235 (.047) **
Cheerleading\Dance Team	.677	.569	.108 (.034) *
Church	.605	.477	.128 (.039) ***
Asian			
Computer Club	.140	.354	-.215 (.057) *
History Club	.000	.346	-.346 (.021) +
Cheerleading\Dance Team	.254	.398	-.144 (.061) +
Honor Society	.510	.327	.183 (.050) **
White			
Performing Arts	.547	.500	.047 (.019) **
Sports	.490	.519	-.029 (.020) *
Music	.543	.494	.049 (.020) **
Debate Team	.638	.510	.128 (.050) +
Drama Club	.608	.528	.080 (.026) *
Band	.553	.509	.044 (.021) +
Cheerleading\Dance Team	.445	.465	-.020 (.027)
Orchestra	.644	.503	.141 (.052) +
Other Club or Organization	.583	.527	.056 (.019) *
Basketball	.454	.492	-.038 (.020) +
Soccer	.559	.512	.047 (.024) +
Church	.510	.443	.067 (.026) ***

*** p < .001, ** p < .01, * p < .05, + p < .1

Table 7 - Significant Differences within Select Subpopulations of Addhealth Data for voting in the 2000 Presidential Election, Matched on Propensity to Belong to Extra-Curricular Activity

	Member	Not a Member	Difference	
			Est	SE
Female				
Performing Arts	.529	.501	.028	(.016) +
Sports	.490	.512	-.022	(.016) +
Journalism	.538	.489	.049	(.019) *
Music	.531	.497	.034	(.017) *
Debate Team	.648	.526	.122	(.038) *
Drama Club	.568	.515	.053	(.023) +
Orchestra	.614	.502	.112	(.044) +
Other Club or Organization	.560	.512	.048	(.017) **
Newspaper	.592	.514	.078	(.028) *
Honor Society	.600	.539	.061	(.023) *
Church	.504	.476	.028	(.023) **
Lowest Quartile of Family Income (in high school)				
Vocational	.600	.362	.238	(.081) *
Performing Arts	.474	.411	.063	(.030) +
Drama Club	.535	.414	.121	(.052) +
Future Farmers of America	.600	.362	.238	(.081) *
Other Club or Organization	.482	.403	.079	(.032) *
Swimming	.274	.400	-.126	(.048) +
Church	.428	.378	.050	(.029) +
Rural				
Academic	.536	.445	.091	(.029) **
Vocational	.623	.439	.184	(.059) *
Performing Arts	.530	.456	.074	(.031) *
Journalism	.539	.429	.110	(.036) *
Music	.531	.464	.067	(.033) *
Debate Team	.676	.451	.225	(.082) +
Drama Club	.580	.465	.115	(.045) +
Future Farmers of America	.623	.439	.184	(.059) *
Band	.602	.480	.122	(.035) **
Basketball	.413	.465	-.052	(.030) +
Football	.487	.390	.097	(.041) *
Wrestling	.537	.361	.176	(.059) *
Newspaper	.653	.458	.195	(.057) *
Student Council	.566	.454	.112	(.042) *
Yearbook	.508	.419	.089	(.039) +
Church	.488	.379	.109	(.040) ***

*** p < .001, ** p < .01, * p < .05, + p < .1

A1. Variable Definitions, with Means and Standard Deviations

Variable Name	Add Health Variable Description	NELS Variable Description	
Dependent Variable			
Voted for President			
1992		Voted in the 1992 presidential elections (0,1)	.48 (.5)
1996		Voted in the 1996 presidential elections (0,1)	.57 (.5)
2000	Voted in the 2000 presidential election (0,1)	.46 (.50)	
In-School Affiliations			
Not involved	R reports they did not participate in any in-school extra-curricular activities (0,1)	.15 (.36)	If all possible in-school clubs = 0, then this = 1 .11 (.31)
National Honor Society	R participated in national honor society in 1994 (0,1)	.10 (.31)	R participated in national honor society in 90, 92 (0,1) .22 (.42)
Service clubs	R participated in "other" club in 1994 (deduced to be service and ethnic pride clubs) (0,1)	.19 (.39)	R participated in service club (key club, AFS, etc) in 90, 92 (0,1) .21 (.41)
Student council	R participated in student council in 1994 (0,1)	.08 (.28)	R participated in student council in 90, 92 (0,1) .18 (.39)
Drama clubs	R participated in drama club in 1994 (0,1)	.07 (.26)	R participated in drama clubs in 90, 92 (0,1) .20 (.40)
Music groups	R participated in a musical school activity (band, orchestra, choir) in 1994 (0,1)	.23 (.42)	R participated in a musical school activity (band, orchestra, choir) in 90, 92 (0,1) .28 (.45)
Journalism clubs	R participated in student newspaper or yearbook in 1994 (0,1)	.11 (.32)	R participated in student newspaper or yearbook in 90, 92 (0,1) .23 (.43)
Academic clubs	R participated in academic club (language club, computer, math, etc) in 1994 (0,1)	.20 (.40)	R participated in academic club (language, debate, computer, math, etc) in 90, 92 (0,1) .41 (.49)

(continued)

Table A1. Continued

Variable Name	Add Health Variable Description	NELS Variable Description	
In-School Affiliations (cont.)			
Vocational clubs	R participated in Future Farmers of America in 1994 (0,1)	R participated in vocational club (Future Farmers of America, Future Homemakers of America, Future Teachers of America, etc) in 90, 92 (0,1)	
		.02	.21
		(.14)	(.41)
Sports teams	R participated in a school sport in 1994 (0,1)	R participated in a school sport (includes cheerleading) in 90, 92 (0,1)	
		.58	.61
		(.49)	(.49)
Out-of-School Affiliations			
Religious attendance	R attended religious services at least once a month in 1994 (0,1)	R attended religious services at least once a month in 90, 92 (0,1)	
		.68	.61
		(.46)	(.49)
Attend local youth center	R participated in local Y at least once in 1994 (0,1)	Not applicable	
		.20	
		(.40)	
Non-school sport	Not applicable	R participated in non-school sports team in 90, 92 (0,1)	
			.74
			(.44)
Community service	Not applicable	R did community volunteer work in 90, 92 (0,1)	
			.38
			(.49)
Political volunteer	Not applicable	R volunteered with political group in 90, 92 (0,1)	
			.12
			(.32)
Environmental volunteer	Not applicable	R volunteered with environmental group in 90, 92 (0,1)	
			.09
			(.29)
Student Attributes			
Age	Age in 1994 (10-19)	Age in 1988 (13-16)	
		14.93	14.38
		(1.73)	(.56)
Born in USA	R was born in the United States (0,1)	R was born in the United States (0,1)	
		.90	.93
		(.31)	(.25)
Language minority	R's native language is not English (0,1)	R's native language is not English (0,1)	
		.11	.16
		(.31)	(.33)
Female	R is female (0,1)	R is female (0,1)	
		.54	.53
		(.50)	(.46)
Race (white = baseline)			
Black	R is Black-only racially, and non-Hispanic (0,1)	R is Black-only racially, and non-Hispanic (0,1)	
		.18	.10
		(.39)	(.27)
Hispanic	R is Hispanic, and can be of any race (0,1)	R is Hispanic, and can be of any race (0,1)	
		.18	.13
		(.39)	(.31)
Asian	R is Asian-only racially, and non-Hispanic (0,1)	R is Asian-only racially, and non-Hispanic (0,1)	
		.07	.07
		(.25)	(.23)

Table A1. Continued

Variable Name	Add Health Variable Description	NELS Variable Description	
<i>Student Attributes (cont.)</i>			
<i>Race (cont.)</i>			
Native American	R is Native American-only racially, and non-Hispanic (0,1)	.01 (.10)	R is Native American-only racially, and non-Hispanic (0,1) .01 (.10)
Other multi-racial	R is other racially or multi-racial, but non-Hispanic (0,1)	.07 (.26)	Not applicable
Parents' education	6 pt scale (1-6) of parent's education (no hs diploma, hs grad or ged, some college, college grad, ma, phd)	3.81 (1.23)	6 pt scale (1-6) of parent's education (no hs, attended hs but no diploma, hs grad or ged, some college, college grad, grad school) 3.05 (1.16)
Parents' income	Family's total income in 1994, from 0 to \$999,000 and up (we divide by 100)	.46 (.52)	Family's total income in 1990, from 0 to 200,000 and up (we divide by 100) .33 (.29)
Parent's occupational prestige	Duncan SEI value for highest parent's occupation.	50.75 (20.28)	Duncan SEI value for highest parent's occupation. 46.35 (20.65)
<i>Parent Practices</i>			
No resident mother	No mother\step-mother\etc in R's household	.05 (.21)	No mother\step-mother\etc in R's household .04 (.17)
No resident father	No father\step-father\etc in R's household	.27 (.44)	No father\step-father\etc in R's household .17 (.35)
Parental closure (Parents talk with peers' parents)	Number of R's friends parents R's parent talked to in the last four days (0 to 6 or more)	2.13 (1.93)	Number of parents of R's friends R's parent knows, max of 5, averaged from 8 th and 12 th grades (alpha .88) 2.98 (1.32)
Parents range of talk w/ child	Additive scale of whether R has talked to Mother and Father about school, personal problems, and dating\parties in last month (1 to 6, alpha .62)	2.02 (1.55)	Average of 16 items from 1990 and 1992 of how often R talks to parents about various topics, ranging from 1 (never) to 3 (often) (alpha .87) 1.99 (.37)
Parents' civic involvement	A 3-item additive index of parental membership in the (1) PTA; (2) hobby or sports groups; and (3) civic or social organizations. (alpha .38)	.64 (.81)	A 4-item additive index composed of whether R's parents attended (1) any school events and (2) any school meetings, in 1988 and 90 (alpha .63) 1.70 (1.18)
Parental college expectations	Composite of R's report of how disappointed parents of R would be if R did not graduate from college and high school (4 questions, alpha .80).	2.33 (.71)	Composite of whether parents talked to R about college, and whether they encouraged R to take the SAT (alpha .52). 3.07 (.74)

(continued)

Table A1. Continued

Variable Name	Add Health Variable Description	NELS Variable Description	
<i>Parent Practices (cont.)</i>			
Parents' want brilliant child	Parents' report wanting child to be a brilliant student (0,1)	.56 (.50)	Not applicable
Parents' want leader	Parents' report wanting child to be a leader (0,1)	.20 (.40)	Not applicable
Parents' want athletic child	Parents' report wanting child to be an athletic star (0,1)	.03 (.17)	Not applicable
Parents' want popular child	Parents' report wanting child to be popular (0,1)	.01 (.10)	Not applicable
<i>Student-Peer Practices</i>			
Self esteem	Average of answers to 4 questions in 1994, "You have a lot to be proud of," "You have a lot of good qualities," "You like yourself just the way you are," (1=Strongly Disagree, 5=Strongly Agree, alpha .79)	4.08 (.63)	Average of 8 th , 10 th , and 12 th grade NELS composites of self esteem, constructed from 7 questions (alpha .93) (.55)
Leadership Experience	Not applicable		R was in a leadership position in any club or organization in 8 th -12 th grades. (.49)
Government Class	Not applicable		Number of years of government or civics courses during high school (1-4) (.84)
Course Track-Level	Not applicable		Within-high-school education track (1 = vocational, 2 = general, 3 = college prep) (.63)
Achieved Grades	Composite of R's grades in English, History, Science, and Math, on a 4 pt scale (A = 4, D or less = 1), for 1994	2.79 (.73)	Composite of R's grades in English, History, Science, and Math, on a 4 pt scale (A = 4, D or less = 1), for 1988 and 90. Where grades for all subjects not available, averages were made from those that were (.62)
Delinquent behavior	Index of 15 delinquent behaviors engaged in the past 12 months, such as graffiti, property damage, shoplifted, ran away from home, theft, public rowdiness, sold drugs, group fights, & burglary (alpha .84)	4.03 (4.91)	Index of 8 delinquent behaviors engaged in the first half of the school year, from 1990 and 1992, such as skipping class, suspension from school, probation, arrested, & sent to juvenile detention center (alpha .63). (6.33)

Table A1. Continued

Variable Name	Add Health Variable Description	NELS Variable Description	
<i>Student-Peer Practices (cont.)</i>			
Importance of religion	How important religion is to R, on a 4 pt scale	3.37 (.72)	How important religion is to R, on a 3 pt scale 1.84 (.52)
Educational expectations	R's 1994 perceived likelihood of graduating from college on a 9 pt scale (0 = no chance, 8 = certainty)	6.39 (2.24)	6 pt scale of R's furthest post-secondary education plans in 1988 (1 = won't finish hs, hs grad, post-hs vocational school, attend college, finish college, or 6 = attend grad school) 4.60 (1.18)
Occupational expectations	Not applicable		Duncan SEI value for occupation R expects to have at 30, combined from 1990 and 1992 (alpha .52). 60.21 (13.54)
Teacher attachment	Average of attitudes about whether teachers care about R, whether teachers treat students fairly, and how often R has trouble getting along with teachers (reverse coded) (1 to 5, alpha .61)	3.74 (.74)	Average of 8 th , 10 th , & 12 th attitudes of whether teacher's care about students, and whether teachers and students get along. (1 = Strongly Disagree, 4 = Strongly Agree) (alpha .44) 2.80 (.48)
School attachment	Composite of how close R feels to people at school, how much R feels a part of the school, and how happy R is to be at school (3 to 15, alpha .78)	11.33 (2.56)	Not applicable
Neighborhood attachment	Composite of whether R knows most people in the neighborhood, whether R has stopped and talked to neighbors in the past month, whether R feels neighbors look out for each other, how happy R is living in the neighborhood, and how unhappy R would be to move away (alpha .57)	9.72 (2.35)	Not applicable
Importance of future family	Not applicable		Factor entailing items on happy family life, strong friendships, providing for children, and leisure (eigen=3.0, variance = .23) .00 (1.00)
Importance of future success	Not applicable		Factor entailing items about success, money, and work (eigen = 1.7, variance = .13) .00 (1.00)

(continued)

Table A1. Continued

Variable Name	Add Health Variable Description		NELS Variable Description	
<i>Student-Peer Practices (cont.)</i>				
Importance of future independence	Not applicable		Factor entailing items about leaving community, getting away from parents (eigen = 1.3, variance = .10)	.00 (1.00)
Popularity	Number of friendship selections student receives in 1994 (indegree).	5.40 (3.75)	Not applicable	
Friends' club involvement	Average number of affiliations (broadly categorized) of R's friends (0 to 4)	.64 (.55)	Not applicable	
Friends' achievement level	Mean of friends' achieved grades.	2.80 (.53)	Reported average GPA of friends.	2.49 (.38)
<i>School Level Variables</i>				
Private School	This school is private (0,1), or not public.	.09 (.28)	This school is private (0,1), or not public.	.18 (.38)
#Clubs Offered by School	Number of activities in school, by reports of membership by students.	31.38 (3.44)	Number of activities reported by students as available in their school.	16.21 (2.23)
Suburban School (baseline)	Area surrounding a central city within a county constituting the MSA. (0,1)	.55 (.50)	Area surrounding a central city within a county constituting the MSA. (0,1)	.42 (.49)
Urban School	Central city (0,1)	.30 (.46)	Central city (0,1)	.34 (.47)
Rural School	Based on U.S. Census classifications: Outside of an MSA (Metropolitan Statistical Area) (0,1)	.24 (.43)	Based on U.S. Census classifications: Outside of an MSA (Metropolitan Statistical Area) (0,1)	.24 (.43)
<i>Other Variables</i>				
Sample Weights	Gswgt3_2 – normalized, cross-sectional weight for wave 3		f4pnlwt – normalized weight for students responding in all 5 waves	

