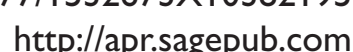
The Social Origins of Adult Political Behavior

American Politics Research
39(2) 239–263
© The Author(s) 2011
Reprints and permission: http://www.sagepub.com/journalsPermissions.nav
DOI: 10.1177/1532673X10382195
http://apr.sagepub.com


Jaime E. Settle[1], Robert Bond[1], and Justin Levitt[1]

Abstract

Political socialization research has focused on the role of parents, extracurricular activities, and the school curriculum during adolescence on shaping early adult political behavior (Beck & Jennings, 1982; Flanagan, Syvertsen, & Stout, 2007; Torney-Purta, Richardson, & Barber, 2004). However, no study to date has examined how properties of adolescents' social networks affect the development of adult political outcomes. Using social network analysis, we find that both a respondent's social integration in high school and his friends' perceptions of their own social integration affect the respondent's later political behavior as a young adult. Peer and network effects are at work in political socialization. This has important implications for our understanding of the development of social capital, political trust, and political participation, as well as our general understanding about how one's social network influences one's own attitudes and behavior.

Keywords

social networks, political socialization, Add Health, political behavior, political trust, political participation

[1]University of California, San Diego

Corresponding Author:
Jaime E. Settle, University of California, San Diego, Department of Political Science, Social Sciences Building 301, 9500 Gilman Drive, Dept. 0521, La Jolla, CA 92093-0521
Email: jsettle@ucsd.edu

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Social influences affect political behavior. The Columbia School first suggested that individual political choice is in part dependent on information interactions in the social environment (Berelson, Lazarsfeld, & McPhee, 1954; Lazarsfeld, Berelson, & Gaudet, 1944). Recent literature has elaborated on this finding and suggests not only that voting is strongly correlated between friends, family members, and coworkers, even when controlling for socioeconomic status and selection effects (Beck, Dalton, Greene, & Huckfeldt, 2002; Campbell, Gurin, & Miller, 1954; Glaser, 1959; Huckfeldt & Sprague, 1995; Kenny, 1992, 1993; Knack, 1992; Mutz & Mondak, 1998; Straits, 1991) but also that people influence each other through discussion and social interactions. Opinion change and participation can effectively "ripple" through a social network (Fowler, 2005; Huckfeldt, 1979; Huckfeldt, Johnson, & Sprague, 2002; Huckfeldt, Plutzer, & Sprague, 1993; Huckfeldt & Sprague, 2006). Psychologists have also begun to take more seriously the impact of processes within social networks on individual attitudes and behaviors; the attitudinal composition of a person's social network affects the strength of her own attitudes (Levitan & Visser, 2008; Visser & Mirabile, 2004) and those embedded in diverse networks exhibit less resistant to attitude change and show decreased attitude stability (Levitan & Visser, 2009). We also know that cooperative norms in the larger community can help explain political participation (Knack & Kropf, 1998).

Yet these insights and methodologies have not made significant contributions to the classic paradigm in political socialization. For 50 years, the dominant explanation for political socialization has focused on families, schools, and extracurricular activities. Some scholars elaborate that these factors contribute toward attitudinal orientations, such as an adolescent's sense of efficacy and orientation toward civic engagement (Sherrod, Flanagan, & Youniss, 2002), which in turn serve to mediate between experiences in adolescence and participation in the political world (Beck & Jennings, 1982). However, the socialization literature simply does not take into account the potential role of adolescents' social networks. Based on our understanding of the importance of social network influences on adults' political behavior, it seems plausible that the attitudes within adolescent social networks could also have an effect.

In part due to methodological limitations, no study to date has explicitly examined or quantified the influence of peers' attitudinal orientations as a contributing factor to a student's later political behavior and attitudes. Employing social network data and a large longitudinal study that probes both high school social integration and later political outcomes, we find that one's own perception of social integration in high school, and the perceptions of one's peers,

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

are associated with increased trust in government, increased volunteering, increased partisan identification, and increased voter turnout in early adulthood. This finding is consistent with existing literature which finds that attitudinal perspectives mediate the effects of socialization on later political outcomes (Beck & Jennings, 1982; Flanagan & Van Horn, 2001; Sherrod et al., 2002; Youniss & Yates, 1997) but expands to argue that the attitudinal perspectives reported by one's friends also have a significant and substantive effect on later political outcomes. This finding remains robust to the inclusion of other variables in the model that capture the effects of the school environment, socioeconomic indicators of the student's parents, and the respondent's socioeconomic status in early adulthood.

This finding implies that being situated in a network of friends with high levels of perceived social integration matters for later political outcomes, perhaps because prosocial attitudes motivate the development of political participation and civic engagement. We cannot attribute the development of a person's political behavior entirely to the influences of the family or one's activities as an adolescent. We must also consider how the larger social environment in which one is embedded affects one's orientation toward the political world.

Political Socialization

The concept of *political socialization* was first introduced by Herbert Hyman in his landmark 1959 book by that name. The conventional wisdom about political socialization points to three primary categories of influence. First, parents and family are critical to shaping worldview and political behaviors; initial research emphasized the importance of parental socioeconomic influences (Davies, 1965; Dawson & Prewitt, 1969; Easton & Dennis, 1965, 1967, 1969; Greenstein, 1965; Hyman, 1959; Jennings & Niemi, 1974; Langton & Jennings, 1968; Merelman, 1980) whereas later studies pointed to the importance of parental civic engagement, political knowledge, and political participation (Andolina, Jenkins, Zukin, & Keeter, 2003; Beck & Jennings, 1982; McIntosh, Hart, & Youniss, 2007; Meirick & Wackman, 2004; Torney-Purta, Lehmann, Oswald, & Schulz, 2001).

A second focus in the literature emphasizes students' activities and engagement within the school and subsequent effects on efficacy, participation, and civic skills. Student extracurricular involvement is thought to affect voting during early adulthood (Hanks, 1981, McFarland & Thomas, 2006; Youniss, McLellan, & Yates, 1997), political participation more broadly (Beck & Jennings, 1982; Hanks, 1981; McFarland & Thomas, 2006; Smith, 1999),

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

volunteering (Hanks, 1981; McFarland & Thomas, 2006; Zukin, 2006), civic engagement (Brady, Verba, & Schlozman, 1995; Smith, 1999; Youniss et al., 1997; Zukin, 2006), and civic knowledge and information (Hanks, 1981). The last major area of research focused on formal institutions within the high school, such as civics curriculum or teacher knowledge and experience, which are thought primarily to affect outcomes of civic knowledge (Ehman, 1980; Hess & Easton, 1962; Ichilov, 1991; Langton & Jennings, 1968; Wegner, 1991).

Although the studies of student engagement and school institutions recognize the importance of the high school experience outside the home, the emphasis has been on the student's acquisition of skills and efficacy, not on the development of attitudes related to participation or social engagement. Those studies which have suggested that civic attitudes mediate experiences in adolescence and participation in the political world (Beck & Jennings, 1982; Sherrod et al., 2002) do not take into account the effects of the attitudes of respondents' peers, a contextual effect that social network scholars know is important for the development of social capital and political participation in adults (Huckfeldt et al., 1993; La Due Lake & Huckfeldt, 1998; McClurg, 2003). Finally, we are aware of no study to date that has used social network analysis to study adolescent political socialization.

The Importance of Social Connectedness

Previous research has paid little attention to how early perceptions of feeling connected to one's community affect later political behavior. Political socialization was initially granted an important spot in the discipline because scholars recognized that adolescence is a critical time period for the development of attitudes related to one's role in society. More recent insights from the psychology literature also bolster the case for why adolescence is an important time for developing orientations toward the social world. Identity consolidation, coupled with the exposure to and resolution of salient social issues, are critical during adolescence for shaping the transition to adulthood (Flanagan & Sherrod, 1998; Stewart & Healy, 1989). During adolescence, one examines one's membership in society and the legitimacy of authority figures (Keniston, 1968). Adolescence also seems to be the key time of life in developing a person's trust capacity (Crystal & DeBell, 2002; Rahn & Transue, 1998).

We suggest that there is an important role for these prosocial attitudes related to civic identity and social orientation, which we label *social integration*. Perceptions of social integration in high school are important because the underlying mechanism for socialization—whether from parents, extracurricular activities, or civics classes—may be mediated through the development

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

of a civic identity (Youniss et al., 1997) and feelings of being connected to others in the community. Social integration in high school may be an important precursor to feelings of civic orientation and social capital later in life, as civic orientations increase the psychological benefits of and the attitudinal resources for participation (Beck & Jennings, 1982).

We hypothesize that an individual's self-perceived social integration and connection to the school community influences later political orientations. These perceptions of being connected to one's community have an independent effect from the contributions *to* those perceptions, such as activity participation, because social integration orients an adolescent toward connection with the broader social and political community in adulthood. Other factors such as activity participation or parental influences may provide students with the resources to become politically engaged, but if she has not developed a prosocial orientation toward the world, these resources will not be employed.

Furthermore, the social network literature leads us to believe that we must look beyond an individual's own attributes to understand how the social environment may influence behavior; social networks can help foster the development of social norms and capital in adulthood (La Due Lake & Huckfeldt, 1998) and the same mechanism may be at work in adolescence. Thus, we also predict that being embedded in a network of people who feel similarly socially integrated has important effects on political outcomes. A friendship network with high levels of social integration should have positive effects on early adult political attitudes and behavior by situating a respondent in a social environment that promotes norms consistent with the development of elevated levels of social capital and political participation.

Adolescents learn about their relationship to the social world and what the standard norms of behavior are for engaging within that world. An adolescent who is embedded within a network of people who feel connected to their environment will likely become more invested in that community and will develop positive attitudes that prosocial behavior contributes to the good of that community. Thus, being integrated in a network of people who feel socially integrated likely reinforces one's own perception of integration and may create an environment conducive to the development of social norms that foster civic and political participation later in life. This is consistent with previous findings that the civic norms within an adolescent's broad social environment have an effect on civic participation beyond adolescence (Campbell, 2006). Just as the broader political environment can affect the development of norms of participation, the cues one receives from one's peers about the social acceptability of community participation and engagement likely have residual effects on behavior in adulthood.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Data and Method

Data from the National Longitudinal Study of Adolescent Health (Add Health) is especially suited to examine the influence of perceptions of social integration on later political behavior. Add Health is a large publicly available study started in 1994-1995 that explores the causes of health-related behavior of adolescents in Grades 7 through 12 and their outcomes in young adulthood. However, in addition to health-related information, a large amount of information has been collected about the attitudes, relationships, civic activities, and political beliefs and behaviors of the respondents. The initial wave of the study used a sampling design that resulted in a nationally representative study; women comprise 49% of the study's participants, Hispanics 12.2%, Blacks 16.0%, Asians 3.3%, and Native Americans 2.2%. Participants in Add Health also represent all regions of the country: the Northeast makes up 17% of the sample, the South 27%, the Midwest 19%, and the West 17%. Wave I included participation from 145 middle, junior high, and high schools; from those schools, 90,118 students completed a 45-minute questionnaire. This process generated descriptive information about each student, and additional surveys with school administrators provided information about the educational setting and the environment of the school.

Critical for the analysis in this article is the information gathered in Wave I about a participant's social network and in Wave III about his political behavior. Students were allowed to nominate up to five female and five male friends and were then asked more specific details about those friendships. This information can be used to create a variety of different measures about the respondent's social network, including information about the attitudes and perceptions of a respondent's friends. In Wave III of the study (2001-2002), Add Health conducted an in-home interview of 15,170 Wave I participants. By this point, the participants were young adults (age 18-26) and were asked several questions about their political behavior and civic activity, including the dependent variables of interest in this study—political trust, adult volunteering, identification as a partisan, and voting. In total, there are 12,766 respondents who answered both the social network questionnaire and the political behavior questionnaire. However, there was significant missingness in the data on alters' attitudes which substantially reduced our number of complete cases (see the appendix for information about sample characteristics).

Explanatory and Dependent Variables

The four dependent variables in this study are dichotomous measures of trust in local government, volunteer activity in the 12 months prior to the survey,

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

identification as a partisan, and voting in the 2000 presidential election. These four measures capture different aspects of civic engagement (volunteering), formal political participation (voting), identification within the polity (partisanship), and orientation toward government (trust).

To test the role of integration attitudes within the social environment on these four political outcomes, we measure perceived social integration on two levels. The first is the respondent's answer to the question "I feel like I am a part of this school." This is an ordinal variable with values from 1 to 5, with a score of 5 indicating that *the respondent strongly agrees with the statement*. This measure is similar to questions frequently used to study social capital that seek to capture connection to one's environment and the people within it. Although a question of this form would not necessarily be appropriate for measuring the integration of adults into their communities, when dealing with high school students, this wording adequately addresses the perception of feeling integrated into the relevant community, the school. For a more thorough descriptive analysis of the social integration measure, please see the appendix.

We then use social network methodology to capture the effects of friends' responses on the same question. Each respondent in the study is labeled an "ego" and each friend that the ego nominated in the study is considered an "alter." Each respondent was able to nominate up to 10 friends, and data were collected about the friends' perceptions of their own social integration. In the primary analysis, we model the average effect of a friend's perception of social integration, whereas in the secondary analysis (found in the appendix), we calculate the proportion of the network that reports feeling socially integrated. We do not expect that the social integration variables will be the only significant variables in the model, as previous literature finds relatively consistent effects for the influence of parents, student behavior, and school institutions. Although we find previous explanations convincing, we seek to show that they are incomplete in capturing the variety of influences that explain the development of political attitudes and behaviors in adolescence.

Control Variables

We control for a standard set of demographic variables to rule out the possibility that the results are being driven by differences in respondent perceptions that are attributable to systematic differences in age, gender, race, or ethnicity. We also include covariates that could conflate the relationship of our measure of social integration with adult participation and attitudes. To capture effects of the socioeconomic status of the student, we include measurements about the respondent's employment and income at Wave III, when the data about

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

political outcomes were collected. The income control may also be important as adolescent self-attitudes have been shown to be negatively related to adult political participation but that this relationship is mediated through adult status (Peck & Kaplan, 1995)

To weigh the social integration-social network story against contending hypotheses, we also include measures that have had explanatory power in past explanations of political socialization. It could be argued that it is not feelings of social integration per se that drive findings about later political behavior but rather some underlying propensity or predisposition of the respondent to be engaged and connected to the community. Thus, we include two measures, one each of engagement (extracurricular activity participation) and motivation (trying hard on schoolwork), to rule out the possibility that our findings about social integration are not merely an artifact of students' general tendency toward being involved with their community.

To account for the role that parents and the adolescent socioeconomic environment might have on later political engagement, we include measures that capture the parents' income level, education level, and a self-report of civic engagement. These variables are not an exhaustive list of the potential influences of parents but capture the most consistent findings in the literature.

Results

The unit of observation in the data is the "friendship dyad" which allows us to model the influence of each individual friend's response, although it requires that the model account for the fact that there are multiple observations for each respondent. We estimate our model using a generalized estimating equation for logistic regression (logit-gee model). The results from the regression analyses confirm the hypothesis that a respondent's social integration and that of his friendship network contribute to the development of political behavior in early adulthood.

The results from the fully specified logit-gee model regressions are shown in Table 1. As expected, the control variables are significant, indicating that age, sex, and race have effects on political outcomes. There is also evidence in support of the role of student engagement and parental influence. However, even after controlling for these effects, the network of social integration in which a respondent is embedded has a significant and substantial effect on the four political outcomes in early adulthood.

Because coefficients from logistic models are difficult to interpret, we ran simulations of the effects of the key explanatory variables to estimate their effects on respondent political trust, partisanship, voting, and volunteering.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Table 1. Effects of Respondent and Friend Social Integration on Early Adult Reports of Political Behavior

	Trust	Volunteer	Partisan	Vote
Intercept	−0.041 (.153)	−0.886 (.164)***	−3.291 (.160)***	−3.244 (.158)***
Explanatory variable				
Ego social integration	0.147 (.012)***	0.129 (.013)***	0.132 (.012)***	0.076 (.012)***
Alter social integration	0.034 (.011)**	0.053 (.012)***	0.047 (.011)***	0.041 (.011)***
Controls				
Age	0.002 (.008)	−0.058 (.009)***	0.118 (.008)***	0.142 (.008)***
Sex	−0.134 (.025)***	0.061 (.027)*	0.078 (.026)**	0.016 (.026)
Hispanic	−0.189 (.040)***	−0.182 (.045)***	0.037 (.042)	0.011 (.041)
Black	−0.577 (.034)***	−0.114 (.037)**	0.622 (.034)***	0.601 (.035)***
Asian	0.040 (.052)	−0.062 (.055)	−0.300 (.054)***	−0.469 (.053)***
Native American	−0.268 (.055)***	0.034 (.061)	−0.041 (.057)	−0.152 (.056)**
Individual characteristics				
Try hard	−0.200 (.020)***	−0.225 (.022)***	−0.095 (.021)***	−0.199 (.020)***
Activity nonparticipation	−0.239 (.041)***	−0.706 (.052)***	−0.306 (.044)***	−0.305 (.042)***
Employed	0.172 (.030)***	−0.160 (.031)***	−0.010 (.030)***	0.158 (.030)***
Income	−0.046 (.004)***	−0.035 (.005)***	−0.016 (.005)***	−0.034 (.005)***
Parent characteristics				
Education	0.008 (.006)	0.150 (.007)***	0.080 (.006)***	0.130 (.006)***
Civic activity	0.104 (.034)**	0.204 (.035)**	0.054 (.034)	0.196 (.035)***
Income	0.002 (.000)***	0.002 (.000)***	0.002 (.000)***	0.003 (.000)***
N (Dyads)	30,426	30,473	30,283	30,424
N (Respondents)	6,005	6,014	5,972	6,000
AIC (Akaike Information Criterion)	36,907	33,217	35,704	36,192

Note: Logit regression coefficients with robust standard errors in parentheses.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Table 2. First Difference Estimates for the Effects of Ego Social Integration and Alter Social Integration on Political Behaviors, Using Dyadic Data

	First difference estimate	Lower bound of CI	Upper bound of CI
Trust (43.9%)			
Ego's social integration	3.94	3.37	4.53
Alters' social integration	0.94	0.31	1.55
Volunteer (28.1%)			
Ego's social integration	3.09	2.48	3.69
Alters' social integration	1.30	0.73	1.92
Partisan (34.8%)			
Ego's social integration	3.47	2.87	4.09
Alters' social integration	1.26	0.62	1.90
Vote (44.0%)			
Ego's social integration	2.07	1.45	2.73
Alters' social integration	1.15	0.06	1.75

Note: CI = confidence interval. Values are reported in percentages. First differences were calculated from the mean value of the explanatory value to one standard deviation above the mean. Baseline percentages of the sample that engaged in the behavior or attitude are in parentheses.

We simulated first difference estimates, calculating the effect on the dependent variables of a one standard deviation increase from the mean value on the Social Integration Scale for the ego and alter's responses. The results are shown in Table 2 and Figure 1. The specifications of the logit-gee model, which account for the fact that an ego had more than one friend, model the effect of the alter coefficient as the average effect of having a friend who reports being socially integrated.

We can be confident that the influence of social integration perceptions of the ego and alter are all substantial and significantly different from zero. The estimates for the four political outcomes measure range from approximately 2% to 4% for the effect of the respondent's attitudes and from 1% to 2% for the alter's attitudes. Although these effect sizes are not huge, these are estimates for the effects of social integration after other causal effects have been controlled.

One potential explanation for our result is that respondents who are integrated themselves are simply more likely to be friends with other students who feel integrated, so we are not capturing an independent effect of friend attitudes. As a check against this form of homophily (the tendency for people to choose relationships with people who have similar attributes as themselves),

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

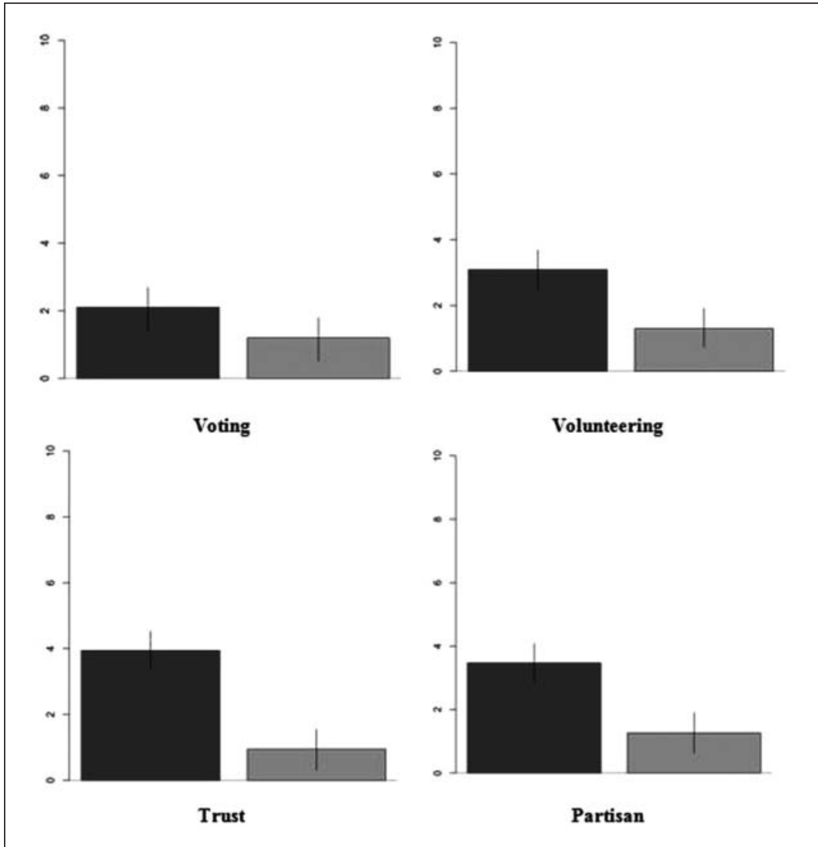


Figure 1. The simulated effects of social integration of the respondent and friend network on respondent's early adult political behavior

Figures show simulated first differences for a change from the mean value of the explanatory variable to one standard deviation above the mean and were generated using the Zelig statistical package (Imai, King, & Lau, 2007). The dark gray bars show the effect of the respondent's level of social integration and the light gray bars show the average effect of a friend in the respondent's network who reports feeling integrated. Vertical lines represent the 95% confidence intervals of the estimate.

we also ran the model separately on students who did not report being socially integrated. Our results hold for the partisanship and trust outcomes and is very close ($p = .053$) for voting. Even among those students who do not feel socially connected themselves, having friends who report being socially integrated has a positive effect on their adult political engagement.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

We verified our results by using a different model specification. Instead of modeling the influence of individual friends, we measure the proportion of a respondent's friends who report being socially integrated. The advantage of this approach is that we can use fixed effects for each school to capture the idiosyncratic influences associated with the school environment that might affect social integration or political behavior. The results of these models are substantively similar: the effects of both the ego's social integration and that of his or her friends affect later political behavior. The only difference is that the influence of social integration within the friendship network does not meet the conventional standard for significance for the voting outcome in the second model specification. These results can be found in the appendix. Additional model specifications which incorporated specific measures of the school environment did not change the significance or magnitude of our results.

Discussion

Perceptions of social integration have positive implications for political and civic engagement as a young adult, as measured by trust in government, volunteering, voting, and partisan identification. Critically, not only does a respondent's integration matter but also that of her friends. Students who are surrounded by peers who feel integrated are affected by this environment in the form of an additional, independent effect on political outcomes. This article demonstrates that the influence of attitudes within friendship networks, as distinct from larger contextual influences within a school environment, affects the process of political socialization. This finding is not washed out when proxies that capture the socioeconomic status and civic engagement of the adolescent's parents, as well as the respondent's contemporary socioeconomic status are included in the model.

Although we are not the first to make the suggestion that the adolescent social environment matters, this is the first empirical test that directly measures the attitudes of high school peers on an ego's political behaviors and outcomes. As Ehman (1980) foreshadows, referring to factors of the school environment such as its racial composition,

> the overall context of schooling is worth study as a part of the political socialization process. Although it may be difficult to fit into a neat theoretical conception . . . it is still important to consider these factors as potential shapers of attitudes or as intervening variables which impinge on some of the other relationships studied previously (pp. 112).

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

We cannot fully understand political socialization without looking at how peer relationships and the social environment of the school complement other forms of socialization.

Social integration is likely related to other concepts that have been found to be influential in shaping students' participation and attitudes. Social integration is related to the concept of citizenship, which has recently inspired a literature examining the relationship between certain concepts of citizenship and civic engagement (Sherrod et al., 2002). A concern for others and a feeling of connectedness to a group are relevant for citizenship as is the ability to move beyond pure self-interest and commit to the well-being of one's group (Sherrod et al., 2002).

Previous studies have attributed much of this "collective group identity" to the result of participating in youth activities. For example, Flanagan (2003) argues that young people align their goals with the goals of the group when they participate in local community organizations. However, the findings of the current study suggest that perceptions of social integration and group identity play a separate role from activity participation per se and that there is a significant contribution of the perception of identification itself. Other, more informal processes within the social environment of the school may reinforce student connections to their community. Perceptions of peer solidarity are associated with adolescents' commitment to public interest goals (Flanagan, Bowes, Jonsson, Csapo, & Sheblanova, 1998) and identification with a group may make people more likely to act on behalf of the group (Klandermans, Sabucedo, Rodriguez, & de Weerd, 2002). Feeling integrated within one's school and connected to other students can create an environment in which this identification with a group is extended to identification with the community. This story is consistent with Ziblatt's (1965) finding that high school activities do not matter directly on political outcomes but have an influence on students through their perception of being integrated in the school. Similarly, in this analysis, activity participation is significant in explaining later political outcomes but does not eliminate the independent effect of social integration.

Of course, it is possible that what our social integration measure captures is actually an underlying propensity toward being socially and politically engaged and connected, essentially a personality trait that drives both adolescent attitudes and adult political behavior. We include two other measures in our analysis that may capture part of this tendency—trying hard at school work and participating in extracurricular activities—and our measure of social integration remains significant and positive. However, these controls cannot rule out the explanation of an underlying disposition. Second, some may argue that homophily is at the root of our story and that because we are drawn

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

to those similar to ourselves (McPherson, Smith-Lovin, & Cook, 2001), the effects of integration within the friendship network is merely a reflection of one's own tendencies toward feeling integrated. This may be the case, but the ego and alter's perceptions of social integration are correlated at a rate much lower than we would expect if homophily were entirely responsible for our result ($r = .138$). Furthermore, friends' social integration has an effect even among those respondents that do not report being socially integrated themselves.

This finding reinforces the importance of studying the context outside the family that has influences on the development of political attitudes and behaviors. A critical next step is to examine the relationship between friendship networks, schools, and the broader political contextual environment. The political environment in which an adolescent is raised has important implications for his or her civic participation, knowledge, and efficacy during high school (Campbell, 2006; Gimpel, Lay, & Schuknecht, 2003), and the effects of the adolescent political context can have lasting effects on voting (Campbell, 2006; Pacheco, 2008). It will be important to keep the social network as an important part of these models. Those that are closest to us have strong effects on us. We cannot study the context without understanding how it is mediated through our immediate social network. Political socialization is still relevant for understanding the development of political behavior, but we must broaden our perspective to include the study of social processes within social networks to more fully understand the antecedents of adult political behavior.

Appendix

Table A1. Sample and Network Characteristics

Variable	Statistic
Male	54%
Age	21.96
White	56%
Mean number of friends (In)	4.26
Mean number of friends (Out)	4.39
Mean number of mutual friends (Bi)	7.23
Proportion of network that reports being integrated	62%
Median parental income	US$40,000
Median respondent income	3
Employed	75%

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Table A2. Key Variables

Variable name	Description or question wording	Number of observations
Ego social integration	"I feel like I am a part of this school." (1-5 scale, with 5 indicating that the respondent *strongly agrees* with the statement)	10,246
Alter social integration	"I feel like I am a part of this school." (1-5 scale, with 5 indicating that the respondent *strongly agrees* with the statement)	24,733
Proportion of network that is socially integrated	Of the respondents' friends (alters) for whom data are available on the social integration measure, the proportion who report *agree* or *strongly agree* to the statement "I feel like I am a part of this school."	12,501
Try hard	"In general, how hard do you try to do your school work well?" (1-4 scale, with 1 indicating *I try very hard to do my best*)	10,879
Activity nonparticipation	"I do not participate in any clubs, organizations, or teams at this school."	11,280
Employed	Are you currently working for pay for at least 10 hr a week?	14,203
Income (respondent)	Including all the income sources you reported above, what was your total personal income before taxes in [2000/2001]? Please include all of the income sources you identified in the previous question.	14,871
Education (parent)	"How far did you go in school?" (0 indicates *no formal schooling* and 9 indicates *postgraduate training*)	13,035
Civic activity (parent)	"Are you a member of a civic or social organization, such as Junior League, Rotary, or Knights of Columbus?"	12,926
Income (parent)	"About how much total income, before taxes did your family receive in 1994? Include your own income, the income of everyone else in your household, and income from welfare benefits, dividends, and all other sources."	11,485
Partisan	"Do you identify with a specific political party?" Respondents could answer *yes* or *no*.	14,978

(continued)

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Table A2. (continued)

Variable name	Description or question wording	Number of observations
Trust	"I trust my local government." Respondents could indicate agreement with this statement on a 1-5 scale with 1 indicating *strong agreement*. This variable was recoded to be binary to maintain consistency with the other three dependent variables.	15,051
Volunteer	"During the last 12 months, did you perform any unpaid volunteer or community service work?" Respondents indicated *yes* or *no*.	15,127
Vote	"Did you vote in the most recent presidential election?" Respondents could indicate *yes* or *no*.	15,016

There is a significant amount of missingness in the data for several reasons. First, the data were collected at three different points in time, meaning that the missingness is often nonoverlapping and we therefore lose more cases in the analysis. Second, the 24,733 alters for whom we have a measure of social integration represent only 70.7% of the total 34,990 unique alters named in the study. Thus, although there are data for many of the named alters in the study, not all of the respondents named friends for whom the social integration measure is available. Therefore, we lose a substantial number of cases because we exclude from our analysis any egos that did not indicate friends for whom we have network data available. For example, although we have data on social integration for 10,246 of the 15,170 respondent pool, there are only 9,570 respondents who reported both their social integration and named friends participating in the study.

Exploring the Construct of Social Integration

To understand what controls would be meaningful in our analysis of early adult participation, we did a variety of descriptive statistics and regression analyses to get a better understanding of our key explanatory variable, perceptions of social integration. We divided our sample into those respondents who report being socially integrated and those who do not and then compared the mean values on variables that could be contributing to social integration.

There are some differences between students who report high integration and those who report low integration. Integrated students are slightly younger and more likely to be White. Integrated students are more central within their

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Table A3. Differences Between High and Low Integrated Students

	High integration		Low integration		
	M	*SD*	*M*	*SD*	Diff P
Male	0.46	0.50	0.45	0.50	0.42
Age	14.90	1.71	15.22	1.63	0.00
White	0.60	0.49	0.54	0.50	0.00
In degree friends	5.06	4.22	3.88	3.47	0.00
Out degree friends	5.96	3.33	4.75	3.33	0.00
Mutual friends	1.78	1.91	1.23	1.58	0.00
Eigenvector centrality	0.31	1.32	–0.04	0.91	0.00
Activity nonparticipation	0.10	0.30	0.23	0.42	0.00
School integration	0.18	0.04	0.19	0.04	0.00
Proportion of friend network that reports being integrated	0.67	0.24	0.56	0.28	0.00

social networks and have more friends than nonintegrated students, and they are more likely to participate in school extracurricular activities. Finally, they are more likely to attend schools that are highly integrated. However, the significance of these differences is a reflection of the large sample size and not all of the differences are meaningful. We do not consider the magnitude of the differences for the degree of school integration, age, or race, to be meaningfully different, and account for the other potential contributions to social integration in our models to isolate the effect of social integration holding these other factors constant.

Logit Model With Fixed Effects for School

The advantage of this approach is that we can capture the effects of the unique school environment. The results from the logistic regression show that both a respondent's social integration and the proportion of his friends who report being socially integrated have an effect on the respondent's later political behavior and orientations. The results from the fully specified models are shown in Table A1, with the set of control variables and random effects for each school. As expected, several of the control variables are significant, indicating that race and gender do have outcomes on political outcomes. There is also some evidence in support of the role of student engagement and parental influence. However, even after controlling for these effects, the network of social integration in which a respondent is embedded has a significant and substantial effect on three of the four political outcomes in early adulthood.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Table A4. Effects of Respondent and Friends' Social Integration on Early Adult Reports of Political Behavior

	Trust	Volunteer	Partisan	Vote
Intercept	−1.156 (.388)***	−0.704 (.413)	−3.417 (.448)***	−3.646 (.424)***
Explanatory variable				
Ego social integration	0.338 (.103)***	0.121 (.025)***	0.114 (.024)***	0.081 (.023)***
Proportion of network that is socially integrated	0.158 (.023)***	0.352 (.114)**	0.254 (.11)***	0.120 (.023)
Controls				
Age	0.044 (.017)	−0.045 (.018)*	0.093 (.019)***	0.122 (.018)***
Sex	0.109 (.051)*	−0.041 (.056)	−0.127 (.054)*	−0.078 (.052)
Hispanic	0.031 (.087)***	−0.116 (.096)	−0.021 (.1)	0.076 (.094)
Black	−0.568 (.072)	−0.105 (.075)	0.513 (.079)***	0.462 (.077)***
Asian	−0.079 (.124)	0.164 (.135)	−0.151 (.138)	−0.192 (.129)
Native American	0.188 (.108)***	−0.026 (.115)	−0.427 (.128)***	−0.598 (.120)***
Individual characteristics				
Try hard	−0.118 (.038)	−0.234 (.043)***	−0.063 (.041)	−0.127 (.039)**
Activity nonparticipation	−0.166 (.075)	−0.577 (.094)***	−0.358 (.083)***	−0.326 (.078)***
Employed	−0.069 (.059)	−0.144 (.063)*	−0.011 (.062)	0.170 (.061)***
Income	−0.023 (.01)*	−0.034 (.011)**	−0.021 (.01)	−0.036 (.010)***
Parent characteristics				
Education	−0.001 (.012)	0.136 (.014)***	0.070 (.013)***	0.099 (.013)***
Civic activity	0.075 (.071)	0.237 (.074)**	0.099 (.074)	0.196 (.073)**
Income	0.000 (.000)	0.002 (.000)***	0.001 (.001)*	0.003 (.001)***
Random effects				
School (intercept)[a]	0.039 (.199)	0.025 (.159)	0.224 (.473)	0.131 (.362)
N	6,748	6,756	6,709	6,742
AIC	9,102	7,954	8,496	8,866

Note: Logit regression coefficients with robust standard errors in parentheses.
a. The report for the school intercept is the variance and standard deviation.
*$p < .05$. **$p < .01$. ***$p < .001$.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

As coefficients from logistic models are difficult to interpret, we ran simulations of the effects of the key explanatory variables to estimate their effects on respondent political behavior. We simulated first difference estimates, calculating the effect on the dependent variables of a move from the mean to one standard deviation above the mean for the proportion of the ego's social network that reports being socially integrated. These first difference estimates are almost identical to those calculated using the dyadic data, substituting the proportion of friends who report being socially integrated for the mean value of the respondent's friends' responses to the social integration question. The results are shown in Table A2 and Figure A1.

Table A5. First Difference Estimates for the Effects of Ego Social Integration and Proportion of Friends Who are Social Integrated on Political Behaviors

	First difference estimate	Lower bound of CI	Upper bound of CI
Trust (43.9%)			
Ego's social integration	4.63	3.30	5.98
Proportion of friends that are socially integrated	2.40	1.00	3.81
Volunteer (28.1%)			
Ego's social integration	2.99	1.73	4.26
Proportion of friends that are socially integrated	2.08	0.73	3.44
Partisan (34.8%)			
Ego's social integration	3.17	1.85	4.53
Proportion of friends that are socially integrated	1.68	0.25	3.12
Vote (44.0%)			
Ego's social integration	2.37	1.06	3.73
Proportion of friends that are socially integrated	0.84	−0.64	2.30

Note: CI = confidence interval. Values are reported in percentages. First differences were calculated from the mean value of the explanatory value to one standard deviation above the mean. Baseline percentages of the sample that engaged in the behavior or attitude are in parentheses.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

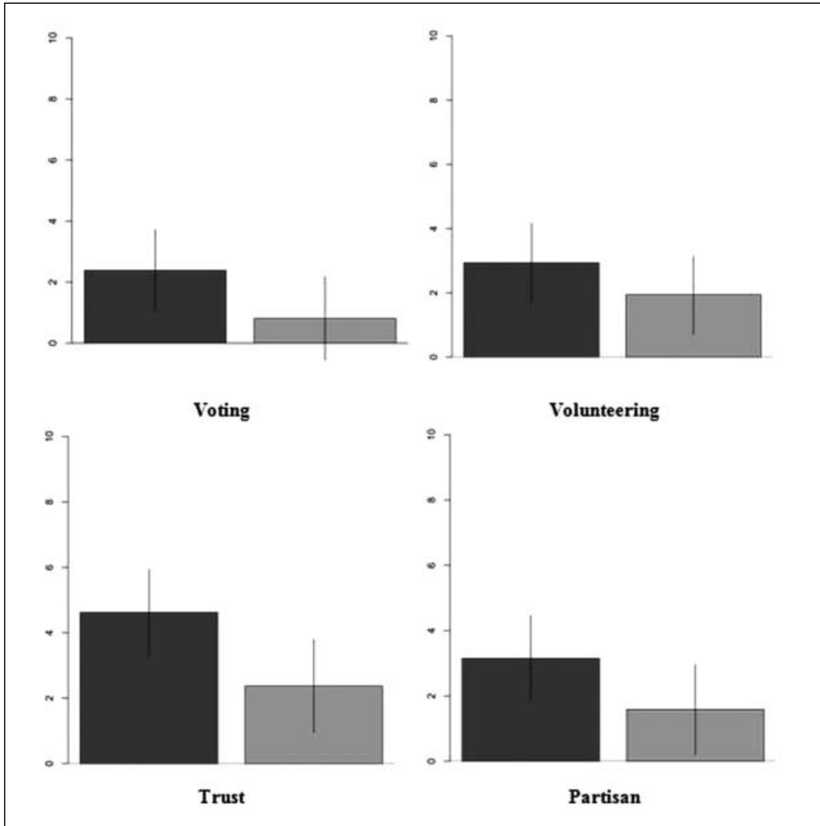


Figure A1. The simulated effects of social integration of the respondent and friend network on respondent's early adult political behavior
Note: Figures show simulated first differences for a change from the mean value of the explanatory variable to one standard deviation above the mean and were generated using the Zelig statistical package (Imai et al., 2007). The dark gray bars show the effect of the respondent's level of social integration and the light gray bars show the effect of the proportion of the respondent's social network who reports feeling integrated. Vertical lines represent the 95% confidence intervals of the estimate.

Acknowledgment

The authors would like to thank James Fowler, the members of the UCSD Human Nature Group, and participants in the Fall 2008 Special Topics in Methodology: Social Networks seminar for their feedback and comments on earlier drafts and the National Science Foundation (Grant SES-0719404) for generous research support.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors disclosed that they received the following support for their research and/or authorship of this article: The National Science Foundation (Grant SES-0719404).

References

Andolina, M. W., Jenkins, K., Zukin, C., & Keeter, S. (2003). Habits from home, lessons from school: Influences on youth civic development. *PS: Political Science and Politics, 36*, 275-280.

Beck, P., Dalton, R. J., Greene, S., & Huckfeldt, R. (2002). The social calculus of voting: Interpersonal, media, and organizational influences on presidential choices. *American Political Science Review, 96*, 57-73.

Beck, P., & Jennings, M. K. (1982). Pathways to participation. *American Political Science Review, 76*, 94-108.

Berelson, B., Lazarsfeld, P., & McPhee, W. (1954). *Voting: A study of opinion formation in a presidential campaign*. Chicago: University of Chicago Press.

Brady, H. E., Verba, S., & Schlozman, K. L. (1995). Beyond SES: A resource model of political participation. *American Political Science Review, 89*, 271-294.

Campbell, D. E. (2006). *Why we vote: How schools and communities shape our civic life*. Princeton, NJ: Princeton University Press.

Campbell, A., Gurin, G., & Miller, W. E. (1954). *The voter decides*. Evanston, IL: Row, Peterson.

Crystal, D. S., & DeBell, M. (2002). Sources of civic orientation among American youth: Trust, religious valuation, and attributions of responsibility. *Political Psychology, 23*, 113-132.

Davies, J. C. (1965). The family's role in political socialization. *Annals of the American Academy of Political and Social Science, 361*, 10-19.

Dawson, R. E., & Prewitt, K. (1969). *Political socialization*. Boston: Little Brown.

Easton, D., & Dennis, J. (1965). The child's image of government. *Annals of the American Academy of Political and Social Science, 361*, 40-57.

Easton, D., & Dennis, J. (1967). The child's acquisition of regime norms: Political efficacy. *American Political Science Review, 61*, 25-38.

Easton, D., & Dennis, J. (1969). *Children and the political system: Origins of political legitimacy*. New York: McGraw-Hill.

Ehman, L. H. (1980). The American school in the political socialization process. *Review of Educational Research, 50*, 99-119.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Flanagan, C. (2003). Developmental roots of political engagement. *PS: Political Science and Politics, 36*, 257-261.

Flanagan, C., Bowes, J., Jonsson, B., Csapo, B., & Sheblanova, E. (1998). Ties that bind: Correlates of male and female adolescents' civic commitments in seven countries. *Journal of Social Issues, 54*, 457-476.

Flanagan, C., & Sherrod, L. (1998). Youth political development: An introduction. *Journal of Social Issues, 54*, 447-456.

Flanagan, C., Syvertsen, A., & Stout, M. (2007). *Civic measurement models: Tapping adolescents' civic engagement* (CIRCLE Working Paper 55). Available from http://eric.ed.gov

Flanagan, C., & Van Horn, B. (2001). Youth civic engagement: Membership and mattering in local communities. In *Focus* (pp. 1-11). Davis: 4-HCenter for Youth Development, University of California.

Fowler, J. (2005). Turnout in a small world. In A. Zuckerman (Ed.), *Social logic of politics* (pp. 269-287). Philadelphia: Temple University Press.

Gimpel, J., Lay, J. C., & Schuknecht, J. (2003). *Cultivating democracy: Civic environments and political socialization in America*. Washington, DC: Brookings Institution Press.

Glaser, W. A. (1959). The family and voter turnout. *Public Opinion Quarterly, 23*, 563-570.

Greenstein, F. (1965). *Children and politics*. New Haven, CT: Yale University Press.

Hanks, M. (1981). Youth, voluntary associations and political socialization. *Social Forces, 60*, 211-223.

Hess, R. D., & Easton, D. (1962). The role of the elementary school in political socialization. *School Review, 70*, 257-265.

Huckfeldt, R. (1979). Political participation and the neighborhood social context. *American Journal of Political Science, 23*, 579-592.

Huckfeldt, R., Johnson, P., & Sprague, J. (2002). Political environments, political dynamics, and the survival of disagreement. *Journal of Politics, 64*, 1-21.

Huckfeldt, R., Plutzer, E., & Sprague, J. (1993). Alternative contexts of political behavior: Churches, neighborhoods, and individuals. *Journal of Politics, 55*, 365-381.

Huckfeldt, R., & Sprague, J. (1995). *Citizens, politics, and social communication: Information and influence in an election campaign*. New York: Cambridge University Press.

Huckfeldt, R., & Sprague, J. (2006). *Citizens, politics and social communication*. New York: Cambridge University Press.

Hyman, H. (1959). *Political socialization.* Glencoe, IL: Free Press.

Ichilov, O. (1991). Political socialization and schooling effects among Israeli adolescents. *Comparative Education Review, 35*, 430-446.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Imai, K., King, G., & Lau, O. (2007). *Zelig: Everyone's statistical software*. Retrieved October 11, 2009, from http://GKing.harvard.edu/zelig

Jennings, M. K, & Niemi, R. (1974). *The political character of adolescents*. Princeton, NJ: Princeton University Press.

Keniston, K. (1968). *Young radicals, notes on committed youth*. New York: Harcourt, Brace, and World.

Kenny, C. (1992). Political participation and effects from the social environment. *American Journal of Political Science, 36*, 259-267.

Kenny, C. (1993). The microenvironment of political participation. *American Politics Quarterly, 21*, 223-238.

Klandermans, B., Sabucedo, J. M., Rodriguez, M., & de Weerd, M. (2002). Identity processes in collective action participation: Farmers' identity and farmers' protest in the Netherlands and Spain. *Political Psychology, 23*, 235-251.

Knack, S. (1992). Civic norms, social sanctions, and voter turnout. *Rationality and Society, 4*, 133-156.

Knack, S., & Kropf, M. (1998). For shame! The effect of community cooperative context on the probability of voting. *Political Psychology, 19*, 585-598.

La Due Lake, R., & Huckfeldt, R. (1998). Social capital, social networks, and political participation. *Political Psychology, 19*, 567-584.

Langton, K., & Jennings, M. K. (1968). Political socialization and the high school civics curriculum in the United States. *American Political Science Review, 62*, 852-867.

Lazarsfeld, P., Berelson, B., & Gaudet, H. (1944). *The people's choice: How the voter makes up his mind in a presidential campaign*. New York: Columbia University Press.

Levitan, L., & Visser, P. (2008). The impact of the social context on resistance to persuasion: Effortful versus effortless responses to counter-attitudinal information. *Journal of Experimental Social Psychology, 44*, 640-649.

Levitan, L., & Visser, P. (2009). Social network composition and attitude strength: Exploring the dynamics within newly formed social networks. *Journal of Experimental Social Psychology, 45*, 1057-1067.

McClurg, S. (2003). Social networks and political participation: The role of social interaction in explaining political participation. *Political Research Quarterly, 56*, 449-464.

McFarland, D., & Thomas, R. (2006). Bowling young: How youth voluntary associations influence adult political participation. *American Sociological Review, 71*, 401-425.

McIntosh, H., Hart, D., & Youniss, J. (2007). The influence of family political discussion on youth civic development: Which parent qualities matter? *PS: Political Science and Politics, 40*, 495-499.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology, 27*, 415-444.

Meirick, P., & Wackman, D. (2004). Kids voting and political knowledge: Narrowing gaps, informing votes. *Social Science Quarterly, 85*, 1161-1177.

Merelman, R. M. (1980). The family and political socialization: Toward a theory of exchange. *Journal of Politics, 42*, 461-486.

Mutz, D., & Mondak, J. (1998, April). *Democracy at work: Contributions of the workplace toward a public sphere.* Paper presented at the annual meeting of the Midwest Political Science Association, Chicago.

Pacheco, J. (2008). Political socialization in context: The effect of political competition on youth voter turnout. *Political Behavior, 30*, 415-436.

Peck, B. M., & Kaplan, H. B. (1995). Adolescent self-rejection and adult political activity: The mediating influence of achieved social status. *Social Psychology Quarterly, 58*, 284-297.

Rahn, W., & Transue, J. (1998). Social trust and value change: The decline of social capital in American youth, 1976-1995. *Political Psychology, 19*, 545-565.

Sherrod, L., Flanagan, C., & Youniss, J. (2002). Dimensions of citizenship and opportunities for youth development: The *what, why, when, where,* and *who* of citizenship development. *Applied Developmental Science, 6*, 264-272.

Smith, E. S. (1999). The effects of investments in the social capital of youth on political and civic behavior in young adulthood: A longitudinal analysis. *Political Psychology, 20*, 553-580.

Stewart, A., & Healy, J. M. (1989). Linking individual development and social changes. *American Psychologist, 44*, 30-42.

Straits, B. (1991). Bringing strong ties back in: Interpersonal gateways to political information and influence. *Public Opinion Quarterly, 55*, 432-448.

Torney-Purta, J., Lehmann, R., Oswald, H., & Schulz, W. (2001). *Citizenship and education in twenty-eight countries: Civic knowledge and engagement at age 14*. Amsterdam: International Association for the Evaluation of Educational Achievement. Retrieved October 11, 2009, from http://terpconnect.umd.edu/~jtpurta/Original%20Documents/FINAL%20RELEASE.doc

Torney-Purta, J., Richardson, W., & Barber, C. (2004, August). *Government-related institutions and civic engagement among adolescents: Analysis of five countries from the IEA civic education study* (CIRCLE Working Paper 17). Medford, MA: Center for Information and Research on Civic Learning and Engagement.

Visser, P., & Mirabile, R. (2004). Attitudes in the social context: The impact of social network composition on individual-level attitude strength. *Journal of Personality and Social Psychology, 87*, 779-795.

Wegner, G. (1991). Review: Political socialization and schooling. *History of Education Quarterly, 31*, 389-391.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016

Youniss, J., McLellan, J., & Yates, M. (1997). What we know about engendering civic identity. *American Behavioral Scientist, 40*, 620-631.
Youniss, J., & Yates, M. (1997). *Community service and social responsibility in youth*. Chicago: University of Chicago Press.
Ziblatt, D. (1965). High school extracurricular activities and political socialization. *Annals of the American Academy of Political and Social Science, 361*, 20-31.
Zukin, C. (2006). *A new engagement? Political participation, civic life, and the changing American citizen*. Oxford, UK: Oxford University Press.

Bios

Jaime Settle is a Ph.D. student at the University of California, San Diego. Her research focuses on how individual differences and the sociopolitical environment interact to affect political behaviors and attitudes.

Robert Bond is a Ph.D. student at the University of California, San Diego. His research interests include political engagement, voting behavior, and social networks.

Justin Levitt is a Ph.D. student at the University of California, San Diego. His research interests include issues of representation and redisticting, particularly at the state and local level.

Downloaded from apr.sagepub.com at PENNSYLVANIA STATE UNIV on May 9, 2016