Understanding Political Involvement Among Disadvantaged Adolescents

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UNDERSTANDING POLITICAL INVOLVEMENT AMONG DISADVANTAGED ADOLESCENTS

by

Suzanne Pritzker, MSW, MEd

A dissertation presented to the Graduate School of Arts and Sciences of Washington University in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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ABSTRACT OF THE DISSERTATION

Understanding Political Involvement Among Disadvantaged Adolescents

by

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Doctor of Philosophy in Social Work

Washington University in St. Louis, 2009

Professor Amanda Moore McBride, Chairperson

Following substantial concern in recent years about youth disengagement from the political arena, 2008 Presidential election data indicate that youth political participation is now on the rise. However, low-income and some ethnic minority youth are substantially less likely to participate and to hold positive attitudes about politics and government than their wealthier and/or White counterparts. This suggests a possible disconnect between ethnic minority or economically disadvantaged youth and the larger U.S. society, and may signal potential life-long disassociation from civic processes.

Using four years of 12th grade data from Monitoring the Future: A Continuing Study of American Youth, this dissertation sought to assess differential impacts of economic status and racial/ethnic identification on adolescent political development, to inform civic interventions that seek to counter this possible disconnect. Bivariate analyses tested previous findings of racial and socio-economic differences in political attitudes and behaviors. Confirmatory factor analyses assessed whether adolescents of different socio-economic status or races/ethnicities similarly interpret political attitude and behavioral measures. Finally, structural equation modeling analyses tested whether
socio-economic status or race/ethnicity moderate paths between political attitudes and behaviors.

Results indicated that low-income, Black, and Hispanic adolescents held more negative political attitudes and lower levels of political behavior. While adolescents of different socio-economic status interpreted attitudinal and behavioral items and constructs similarly, important differences were identified across racial/ethnic groups. Specifically, Black adolescents interpreted political attitudes differently than other adolescents, suggesting caution in interpreting cross-group analyses of adolescent attitudes and perceptions towards government. Finally, path analyses indicated that White adolescents and adolescents across socio-economic status who are interested in government and hold political preferences and beliefs were more likely to engage in non-traditional political activities, while these attitudes did not predict electoral behavior. For these subgroups, positive views of how government acts predict electoral activity, while negative views of how government behaves predict non-traditional political activity. These paths were not all significant for Black, Hispanic, and Asian adolescents, however, suggesting that adolescent paths between political attitudes and behaviors may operate differently across races/ethnicities. Implications of these findings for youth development practice, future research, and civic education and civic development policy are presented.
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CHAPTER I: INTRODUCTION: AIMS AND SIGNIFICANCE

The 2008 presidential campaign defied previous scholarly and conventional wisdom about youth participation in politics. In the November 2008 general election, approximately 23 million youth ages 18-29 voted. This reflects an increase of about 4-5% over the 2004 general election youth turnout and at least 11% over the 2000 turnout. This increased youth vote accounted for over 60% of the overall national voter turnout increase (Center for Information and Research on Civic Learning and Engagement [CIRCLE], 2008c). Similar trends were apparent during the primary season. In all but one of the 17 primary or caucus states\(^1\) for which a comparison year is available, youth ages 18-29 voted at higher rates than in 2000, in some cases tripling or quadrupling turnout. Rates of youth participation ranged from a low of 5% in Nevada’s caucuses to 43% in New Hampshire’s primary (CIRCLE, 2008a; Kirby, Marcelo, Gillerman, & Linkins, 2008). Youth interest in the 2008 campaigns was evident not just in increased voting rates, but also in the substantial attention to candidates and the campaign on internet social networking sites young people frequent such as My Space and Facebook. This growing political attention counters the widespread notion that today’s youth are disengaged from the political arena (e.g., Galston, 2004; Keeter, Zukin, Andolina, & Jenkins, 2002a).

Yet, despite these positive youth participation trends, questions remain. Who are these youth participants, or perhaps more importantly, who are the non-participants? Analyses of the overall racial and ethnic or socio-economic demographics of this increased youth participation have not yet been conducted. However, if previous trends

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\(^1\) The one exception is New York, where youth participation remained steady. Interestingly, contrary to the pattern in other states, overall primary voting in New York was lower in 2008 than in 2000 (CIRCLE, 2008).
are maintained, then we can expect to see that White youth vote more than non-Whites, and that Black youth vote more than any other minority group (Lopez & Kirby, 2005; Marcelo, Lopez, & Kirby, 2007). Lower-income youth similarly may vote at lower rates than wealthier youth (Lopez, Kirby, Sagoff, & Kolaczkowski, 2005). Such disparities are not limited to voting. Racial and ethnic differences have been found across an array of political attitudes and behaviors (Lopez & Kirby, 2005; Lopez, et al., 2006a), and socio-economic status and educational levels have been found to significantly predict civic knowledge and participation (Corporation for National and Community Service, 2006; Torney-Purta, et al., 2001).

These data not only suggest a possible disconnect between youth who are ethnic minorities or economically disadvantaged and the larger U.S. society, but also signal potential life-long disassociation from civic processes. Adolescence may be a particularly crucial time for intervention to counter this disconnect. Theoretical links between adolescent engagement with politics and adult political behavior have long been an element of political science thought (Berti, 2005; Dudley & Gitelson, 2003; Searing, Schwartz, & Lind, 1973; Searing, Wright, & Rabinowitz, 1976), with substantial support for claims that early patterns of political behavior are repeated into adulthood (Hooghe, 2004). Developmental research also emphasizes the role of adolescent civic experiences in shaping adult political engagement (Flanagan, 2003; Youniss, McLellan, & Yates, 1997). The development of civic identity is understood to be a key task of early and

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2 In the 2004 Presidential election, for example, among 18-24 year olds, voting rates were as follows: 49.8% of white youth, 47.3% of black youth, 36.6% of Native-American youth, 35.5% of Asian-American youth, and 33.0% of Latino youth (Lopez & Kirby, 2005).

3 Generally, citizens are understood to behave politically when they participate in activities through which they can make their wishes known to politicians and government officials (Verba, Schlozman, & Brady, 1995). This goes beyond voting to include a wide range of behaviors that directly or indirectly affect government action. Additional political behaviors are identified and discussed in depth in Chapter 3.
middle adolescence (Erikson, 1968; Sherrod, 2006; Youniss & Yates, 1997). Through learning, observation, and participation in various civic experiences, adolescents are expected to absorb messages about the civic activity required of them as citizens, developing attitudes and values that can shape their civic behaviors both in adolescence and into adulthood (Flanagan, 2003; Syvertsen & Flanagan, 2005; Youniss, et al., 1997).

One aspect of civic identity adolescents may develop consists of attitudes towards politics and government. In this study, links between these political attitudes and adolescents' political behavior are examined. It is posited that the experience of belonging to a group that historically has been disadvantaged in terms of political processes impacts the process by which adolescents become political actors (e.g., Sanchez-Jankowski, 2002). By understanding more about relationships between attitudes and behaviors and how these may be affected by disadvantage or marginalization, we can better design interventions to target relevant outcomes in adolescent participants. In this introductory chapter, the importance of this research to the broader policy arena is presented, and the aims of the dissertation are described.

Why Political Engagement?

Participation in political activities is an important way that citizens can affect the circumstances in which they live and the resources to which they have access. It entails making viewpoints heard in such a way that politicians and others involved in policy-making can become aware of these perspectives and transfer them into policy. Citizens who participate politically can make their voices heard on issues close to home such as the location of neighborhood bus stops or placement of landfills, and on broader issues

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4 The development of civic identity also may be influenced by other sources such as family and peers.
with national and international impact such as whether funding is needed for social service programs or military activities.

Widespread citizen engagement with a democratic polity may result in policies that are responsive to the interests and needs of a diverse national population. When participation is unequal across the populus, however, policies that are unresponsive, perhaps socially unjust, may result. For example, although some scholars have found little difference between non-voters and voters on certain policy issues (Bennett & Resnick, 1990; Teixera, 1992, as cited in Lijphart, 1997); others have found that class inequalities in political participation can impact policy outcomes. For example, studies analyzing relationships between voter turnout and tax and welfare policy outcomes have found that states with a disproportionately wealthy electorate grant lower welfare benefits to their citizens (Hill & Leighley, 1992; Hill, Leighley, & Hinton-Anderson, 1995), thus demonstrating a possible negative relationship between non-participation by low-income citizens and access to needed services.

Although non-voters and voters may share similar opinions on a given set of policy issues, the issues that they would prefer policy-makers to address may differ. Verba, et al. (1997) found that economically disadvantaged citizens were more likely to discuss issues related to basic human needs, while those with more resources were more interested in discussing economic or social issues. Disadvantaged adults have been found to send to public officials on average fewer than one-fourth of the number of political messages sent by more advantaged adults (Verba, et al., 1997). Accordingly, politicians may be more likely to focus attention on issues of concern to advantaged citizens.

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Verba, et al. (1997) make these conclusions based on a comparison between citizens with no education beyond high school and family incomes below $20,000 in 1990, and citizens with at least some college education and family incomes above $50,000.
citizens, leaving the most disadvantaged citizens with institutions insufficiently responsive to their interests and needs (Verba, et al., 1997). Race and ethnicity, too, have been linked to differing policy preferences. For example, African-American and Latino adults may be more likely than Whites to be interested in promoting such issues as those involving civil rights, crime, and the needs of children and youth (Schlozman, Page, Verba, & Fiorina, 2004).

On an intuitive level, one might expect that people with a direct, personal stake in policy outcomes would be more likely to participate in political processes (Rosenstone & Hansen, 1993); however, many of those who are direct recipients of government social welfare policies are not political participants. Accordingly, they are less likely to have their political concerns communicated to public officials than more advantaged citizens (Verba, et al., 1997). Non-participation in the political sphere may have individual-level impacts as well. Citizens who do not participate in the civic lives of their community or nation may perceive that they have fewer rights than others. They may feel disempowered and disengaged from the larger society, perhaps less concerned with preserving the well-being of their communities than other citizens.

Adolescent political engagement may be not only an avenue for countering this adult non-participation; it also may serve purposes intrinsic to adolescence. The scholarship of Barry Checkoway and colleagues is particularly influential in this regard.

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6 It is important to clearly note that non-participation cannot be overcome just through increased attention to adolescent civic development. Rather, institutional structures may limit participation among disadvantaged groups. For example, although such policies are increasingly changing across the nation, one-day on-site voting or caucus structures may exclude low-income individuals working multiple jobs or with inflexible work schedules. Recent legislation calling for the use of voter identification, particularly photo identification, in some states has been found to exclude minority citizens, immigrants, and low-income citizens from voting (Barreto, Nuño, & Sanchez, 2007). The declining levels of civic education in schools (CIRCLE, 2003; U.S. Department of Education, 2001) may also contribute to non-participation, as citizens may not feel they have sufficient knowledge to participate in political activities.
Checkoway, et al. (2003) argue that youth are “competent citizens” who can be assets to their communities and critical players in civic life. This perspective suggests that youth are legitimate political actors in their own right, who have the capacity to affect the environment in which they live (Alparone & Rissotto, 2001) and to engage in public decision-making (O'Donoghue, Kirshner, & McLaughlin, 2002). It is expected that through participation in political activities, youth can both gain civic skills and improve the well-being of their communities (Finn & Checkoway, 1998).

An emphasis on adolescent political participation not just as a predictor of adult participation but also as a desired outcome in and of itself is relatively new in civic engagement scholarship. However, it is consistent with international scholarship and policy work, including the 1989 United Nations’ Convention on the Rights of the Child7, that has sought recognition of children and adolescents under 18 as citizens with agency (Sapiro, 2004). Grassroots attention in some parts of the U.S. also has called attention to political participation during adolescence. Some activists have lobbied for the reduction of the voting age, and legislation to do so has been considered in a number of U.S. localities and states (National Youth Rights Association, 2007).

Before proceeding with this analysis, however, it should be noted that increased political engagement is not universally supported. For example, a subset of political theorists have long argued that expansive political participation could bring about democratic instability (Pateman, 1970). Such arguments suggest that average, i.e., non-elite, citizens do not have the interest, realistic perspectives, or expertise necessary to impact policy decisions (Pateman, 1970). Is it possible that less-educated, less politically-savvy citizens could be particularly susceptible to “bad” influences of

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7 Interestingly, only two countries -- the United States and Somalia -- have not ratified the CRC.
particular politicians or political movements? Mid-20th century political theorists like Robert Dahl certainly thought so, arguing that increased participation among low-income Americans could threaten democracy due to their supposed “authoritarian” personalities (Pateman, 1970). Fiorina (1999) offers a different critique of increased political participation, that higher levels of political participation can lead to more negative policy outcomes. He argues that in previous eras, when U.S. citizens were less involved in political processes, citizens were happier with government. As policy and politics has become more accessible to the citizenry as a whole, however, Fiorina (1999) believes that this has led to political polarization, and to the disproportionate power of “extreme voices” relative to the moderate views of the majority of Americans.

Research Aims

The ultimate aim of this dissertation research is to inform how social workers, educators, and other professionals who work with adolescents can increase political behaviors on the part of low-income and racial and ethnic minority adolescents. While aspects of disadvantage may reduce the civic resources accessible for engagement (Verba, et al., 1995), civic interventions may counter these negative impacts of disadvantage on youth civic engagement (Checkoway, et al., 2003; Cohen, 2006; Ginwright, 2006; Kirshner, Strobel, & Fernandez, 2003; Sherrod, Flanagan, & Youniss, 2002; Watts & Guessous, 2006). Of interest then is strengthening our knowledge base in order to design civic interventions to most effectively meet goals of increasing political participation. Interventions such as service-learning, extracurricular activities, and classroom civic education have shown some potential for increasing civic identity and the
corresponding attitudes that may lead to future political behavior (Flanagan, 2003; Pritzker & McBride, 2006b; Yates & Youniss, 1998).

To inform effective interventions for diverse groups of youth, it is necessary first to identify variables that can be targeted and manipulated in order to elicit increased political participation. Given the emphasis on civic identity in youth development research (e.g., Sherrod, et al., 2002; Youniss & Yates, 1997), this dissertation is interested in mutable outcomes related to civic identity; that is, how youth see themselves in relation to the broader society and polity (Flanagan, 2003; Youniss, et al., 1997). An analysis of civic interventions finds that interventions regularly seek to impact aspects of civic identity including social attitudes such as social trust and social responsibility; and political attitudes such as interest in government, political efficacy, and perceptions of government responsiveness (Pritzker & McBride, 2006b). Increased understanding of relationships between these attitudes and different forms of adolescent political participation will help inform modification of interventions to better target those aspects of identity most likely to further political participation. This dissertation also assesses whether these relationships differ across race, ethnicity, and class, to inform civic programming specifically with minority and low-SES adolescents.

Specific aims are as follows:

1. To test relationships between political attitudes and political behaviors among adolescents.

2. To assess differential impacts, based on economic status and racial/ethnic identification, of political attitudes on political behaviors.
CHAPTER II: RACE, SOCIO-ECONOMIC STATUS, AND ADOLESCENT POLITICAL PARTICIPATION

As noted in Chapter 1, eschewal of political involvement tends to be prevalent among low-income and minority adolescents. The participation of diverse youth in political processes – relevant in its own right – is increasingly worthy of attention as income inequalities continue to increase and demographic shifts in the United States result in growing representation of non-Whites and immigrants among the youth population. Among 18 to 25 year olds, for example, the percentage of Whites has dropped, while the percentages of African-American, Hispanic, and immigrant youth are growing\(^8\) (Corporation for National and Community Service, 2006; Lopez & Marcelo, 2006; Marcelo & Lopez, 2006).

Given the apparent marginalization of some low-income and minority adolescents from political processes, effective interventions to increase political participation should take into account ways in which disadvantage may affect political engagement. Although this analysis places particular emphasis on ethnic and economic disadvantage, it should be noted that other adolescent circumstances also may negatively impact political engagement. For example, the very nature of being an adolescent may be politically marginalizing, as those under the age of 18 are unable to participate in certain forms of electoral activity; females also may feel outside of political processes (Jenkins, 2005; Taft, 2006), as was commonly discussed during the 2008 Democratic primary campaign. Additionally, youth with disabilities (Skelton & Valentine, 2003), homosexual youth

\(^{8}\)The percentage of youth ages 15-25 that is non-White has increased from 22% to 28% over the last 30 years (Marcelo, et al., 2007).
(Russell, 2002), and immigrant youth (Stepick & Stepick, 2002) may all find themselves at times outside of mainstream political processes in the United States.

The context for this dissertation study is established in this chapter through an analysis of current knowledge about political engagement among low-income, minority adolescents. It is important to acknowledge that race and socio-economic status in and of themselves likely are insufficient to explain these adolescents’ political disengagement. Rather, low-income and minority adolescents may be disproportionately likely to live in communities where few civic resources are available and to experience marginalization or discrimination that may leave them feeling excluded from political processes. Key contextual factors that may contribute to their generally low rates of political participation and may limit their access to civic interventions are discussed.

Political Participation Among Racial and Ethnic Minority Youth

When investigating racial and ethnic differences, political participation scholarship has typically focused exclusively on White and Black citizens (Leighley & Vedlitz, 1999; Marschall, 2001). As a result, much less is known about political behaviors among non-Black minorities. For example, Torney-Purta, et al. (2007) note that there is particular lack of understanding about the political development of Hispanic youth. Likewise, Asian-American youth are rarely included in surveys of youth civic engagement (Lopez, et al., 2006a).

When political engagement has been compared across youth of different races and ethnicities, some differences consistently have been identified. Although Black youth ages 15-25 report greater involvement than other ethnic groups in an array of political activities such as voting, donating money to campaigns, canvassing for a candidate, and
contacting media (Lopez, et al., 2006a), White youth were most likely to vote in the 2004 Presidential election\(^9\) (Lopez & Kirby, 2005). Political disengagement is particularly prevalent among Hispanic 15-25 year-olds, who report the lowest levels of participation in political activities such as signing petitions, participation in political groups, and boycotting (Lopez, et al., 2006a; Torney-Purta, Barber, & Wilkenfeld, 2006; Torney-Purta, et al., 2007). On the other hand, Hispanic and immigrant youth and youth who are children of immigrants report greater involvement in political protests than other youth (Lopez, et al., 2006a).

White youth generally appear to hold more positive attitudes toward politics and government than Black youth\(^10\). When other ethnic groups are included in analyses, they also exhibit less positive attitudes regarding politics than Whites, and often than Black youth as well. This pattern is present even as young as age 14 (Fridkin, et al., 2006). While 57% of White youth consider voting an important activity, less than half of African-American and Hispanic youth do (Lopez & Kirby, 2005). African-American and Hispanic youth also are less likely than Whites to feel they can make a difference in their communities (Lopez & Kirby, 2005). Data indicate particularly low trust in government among Blacks, Hispanics, and Native-Americans, with minority youth more likely than

\(^9\) All racial and ethnic groups and non-college attending youth increased their rate of voting between the 2000 and 2004 Presidential elections (Lopez & Kirby, 2005). This, plus the overall increases in youth voting in the 2006 midterm election may signal a growing interest among youth across populations in political participation. Youth turnout data by racial groups has not yet been published for the 2008 election; however, preliminary analyses suggest that Hispanic and Black youth voted at a greater rate than their distribution in the overall electorate (CIRCLE, 2008).

\(^10\) Likewise, Black and Latino adults historically have exhibited more negative views about politics and government than White adults (e.g., Guterbock & London, 1983; Shingles, 1981; Tate, 1991; Verba, et al., 1995).
Whites to feel government excludes them\(^{11}\) (Flanagan & Faison, 2001; Fridkin, et al., 2006; Lopez, 2003), although Baldi, Perie, Skidmore, Greenberg, and Hahn (2001) found insignificant differences in trust between ethnic minority youth. Where Asian-American youth have been included in studies, though, they appear more likely than other minorities to view the political system as responsive (Lopez, et al., 2006a). For Hispanics, low levels of engagement may be attributable in part to immigrant status, due either to being an immigrant or to the recency of family immigration (Stepick & Stepick, 2002; Torney-Purta, et al., 2006).

Data on civic knowledge also reflect these racial and ethnic patterns, with Whites reporting the highest average civic knowledge scores at 4\(^{th}\), 8\(^{th}\), and 12\(^{th}\) grades on the National Assessment of Educational Progress [NAEP] study of civic competency. A substantial knowledge gap exists between White students and Black and Hispanic students. Though narrower for 4\(^{th}\) graders than when the study was previously administered in 1998, the gap between White and Hispanic students at all three grade levels is at least 24 points on a 300-point scale. The gap between White and Black students, statistically unchanged since 1998, is at least 25 points at all three grade levels (Lutkus & Weiss, 2007). Among 9\(^{th}\) graders, Baldi, et al. (2001) found White youth scored higher than Black and Hispanic students in terms of civic knowledge and skills; Asians consistently exhibited higher knowledge and skills than Black students, and in some cases, than Hispanic students as well. Other studies suggest that civic knowledge may be particularly low among Hispanic adolescents compared to non-Hispanics (Torney-Purta, et al., 2007).

\(^{11}\) It remains to be seen whether the election of the first minority U.S. president will impact any of these attitudinal dynamics among minority youth.
Political Participation Among Low-SES Youth

Less is known about differential patterns of political engagement across socio-economic status. With educational attainment as a proxy for SES, non college-attending 18-25 year olds are less likely than those who have attended college to vote, to identify voting as important, or to discuss politics with their parents (Lopez, et al., 2005). A socio-economic gap also seems evident in terms of the civic knowledge that may precede political participation. Across 4th, 8th, and 12th grades, students eligible for free or reduced school lunches, another proxy for poverty, had lower civic knowledge scores than wealthier students on the NAEP study of civic knowledge (Lutkus & Weiss, 2007)\(^\text{12}\). A similar civic knowledge gap and lower willingness to vote was found among U.S. 14-year olds living in high-poverty areas with few books in their home and low educational aspirations, as compared to other American students (Torney-Purta, 2001). Among adults, data indicate class gaps in terms of political behaviors and attitudes (Verba, et al., 1995). For example, Verba, et al. (1995) find a strong positive relationship between income and internal political efficacy.

There is some debate as to whether the availability of resources made possible by one’s socio-economic class may provide a stronger explanation for differences in political behaviors than the racial differences described in the previous section (Verba, Schlozman, Brady, & Nie, 1993a). In a nutshell, Verba’s resource theory suggests that the resources – time, money, and civic skills – believed to be necessary for political participation are more likely to be present among individuals of higher socio-economic

\(^\text{12}\) Among 8th graders, for example, 48% of students qualifying for free lunches met the test’s “basic” level, as compared to 82% of students too wealthy to be eligible for free or reduced lunches. Among 12th graders, 35% of students whose parents did not graduate high school met the “basic” level, in contrast with 77% of students with at least one college graduate parent (Lutkus & Weiss, 2007).
status (Brady, Verba, & Schlozman, 1995; Verba, et al., 1995; Verba, et al., 1993a). The effects of low socio-economic status are expected to accumulate, resulting in low levels of political participation among adults with low levels of education and income (Marschall, 2000; Verba, et al., 1997). In fact, when SES is taken into account, some studies have found that the racial differences described above do not hold; instead, Black adults may participate in political activities at a higher rate than Whites (Marschall, 2001) and Hispanics may vote at approximately the same rate as the general population (Michelson, 2000).

Adolescent participation may well be impacted by family resources (Fridkin, et al., 2006; Verba, Burns, & Schlozman, 2003). Educated parents may be better equipped to transmit political skills to their children, and parental income may increase the likelihood of political information being available to adolescents in their homes. However, as noted previously, little is known about the degree to which civic attitudes and behaviors differ for adolescents across income levels.

Disadvantage in Context

Although race and socio-economic status are consistently linked to political participation, they do not exist in isolation, and may be insufficient in and of themselves to explain differences in political participation (Piven & Cloward, 1988). Rather, there are broader group, community, and societal factors that may serve to increase low-income and minority adolescents’ marginalization from political processes. This may be especially relevant in the case of political behaviors which, other than the vote, often do not take place in isolation (Frasure, 2003). In the following sections, aspects of institutional context that may limit the civic resources available to disadvantaged
adolescents and factors that may shape how low-income and minority adolescents experience political processes are discussed.

**Institutional Context**

The community environment can serve as a political stimulus or as a barrier to political participation. For example, Gimpel, et al. (2003) suggest that minority youth who live in heterogeneous neighborhoods in proximity to other racial or ethnic groups are more likely to discuss politics and be politically efficacious, although Putnam (2007) finds that living in areas of greater diversity may be associated with lower levels of trust and civic participation.

Of particular relevance for disadvantaged adolescents is how neighborhood poverty may impact political engagement for low-income or minority adolescents. Cohen (2006) and Ginwright (2006) argue that adolescents exposed to poverty and concomitant social problems may engage politically in ways different from other youth. Interactions with government entities such as public education systems and the police may yield strong opinions on the part of adolescents about their communities, government, and the political system (Cohen, 2006; Ginwright, 2006). High ratios of adolescents to adults (Hart, Atkins, Markey, & Youniss, 2004) and a lack of social interactions (Bolland & McCallum, 2002; Lay, 2006) in poor urban neighborhoods may contribute to low civic knowledge and participation. Interestingly, low-income rural adolescents exhibit higher levels of political knowledge than low-income urban adolescents (Lay, 2006).

High-poverty urban communities may lack institutions that can connect citizens with the larger community or polity (Kirshner, et al., 2003; Marschall, 2000).
Community institutions offer opportunities for mobilizing citizens into civic activity or for transmitting skills that are key to political activity (Verba, et al., 2003), but may be more available to advantaged adolescents (Hart, Atkins, & Ford, 1998). With few civic institutions, youth living in poverty may have insufficient support for civic and political development, limited opportunities to develop civic competence, and few adult role models who are actively engaged with the community or the polity (CIRCLE, 2003; Flanagan & Faison, 2001; Hart & Atkins, 2002; Kirshner, et al., 2003).

Urban schools in high-poverty areas may be particularly likely to lack the financial resources and time to devote to the development of civic and democratic skills that may exist in more advantaged communities (Hart & Atkins, 2002; O'Donoghue & Kirshner, 2003), contributing to a “civic achievement gap” (Levinson, 2007). Schools serving poor and working-class minority youth may even educate students “away from these ‘obligations of citizenship’ and toward civic alienation” (Fine, Burns, Payne, & Torre, 2004, p. 2212). However, while some research finds that urban schools offer fewer civic development opportunities (O'Donoghue & Kirshner, 2003), a recent national survey of public school principals indicates that high-poverty urban schools may be particularly likely to embrace service-learning, a potential tool for increasing civic engagement (Pritzker & McBride, 2006a).

Marginalization and Group Identity

Racial or ethnic group identity and experience with societal discrimination and marginalization also may impact minority adolescent political participation (e.g., Fridkin, et al., 2006). Among adolescents who are racial and ethnic minorities and have limited access to financial resources, “some young people already feel that they are on the
margins of democratic life” (Fridkin, et al., 2006, p. 606) or that government acts against them in some way (Bedolla, 2000; Taft, 2006). The data presented earlier in this chapter provides some evidence for this argument, finding lower participation and more negative attitudes toward government among adolescents who are low-income or members of certain minority groups.

Sanchez-Jankowski (2002) suggests that group histories of racial exclusion in the United States may play a central role in shaping how minority adolescents respond to civic institutions and engage with their communities. Minority youth may receive conflicting messages about civic engagement: while formal institutions, such as schools, media, and the government, prioritize traditional forms of civic and political participation, local informal institutions may encourage group-focused forms of engagement. Because of historical exclusion from formal institutions, Sanchez-Jankowski (2002) suggests that some minority youth may be more likely to respond to civic messages from local, informal institutions and thus engage primarily in efforts to help their own communities. This theory seems to play out in terms of some Black youth who lack faith in the broader political system and instead actively advocate for quality of life issues in their own communities (Ginwright, 2006) and working-class Hispanic youth who may prioritize solving local community problems over engaging in traditional political processes (Bedolla, 2000). Sanchez-Jankowski (2002) notes, however, that some Asian youth may engage with civic institutions differently than Blacks and Hispanics; for example, they may hold more positive attitudes about the national government. He attributes this to an experience of “racial inclusion” in the U.S., in
which Asians may have been discriminated against initially, but now are fully integrated into society.

Marginalization may shape political participation in other ways as well. With their social domination theory, Sidanius, Pratto, van Laar and Levin (2004) suggest that youth experiences of civic socialization are affected by membership in a “subordinate” group. A national study found that as Black and White adolescents took more civics classes in school, they increasingly defined citizenship differently from each other, mirroring societal structures (Sidanius, et al., 2004). Marginalization may also contribute to feelings of stigma that can impact how individuals perceive politics, thus determining whether they become politically alienated or politically active (Schur, Shields, & Schriner, 2003).

Summary

Adolescents who are low-income or belong to a racial or ethnic minority group are less likely than other youth to engage in political activities or to possess the kinds of knowledge and attitudes that encourage future participation. Those living in high-poverty communities face a particular deficit in exposure to opportunities for civic socialization that could promote their engagement. Given these predilections away from political engagement, it is important to examine how political participation can be engendered among low-income and minority adolescents. In the next chapter, ways that race, ethnicity, and socio-economic status can shape how adolescents become politically engaged are examined.
CHAPTER III: THEORETICAL AND EMPIRICAL BACKGROUND: LINKING POLITICAL ATTITUDES WITH BEHAVIORS

The aspects of disadvantage discussed in Chapter 2 appear influential in terms of who participates politically and who does not. Among those low-income and minority adolescents who data suggest may be less likely to participate, how can political participation be increased? Through civic activities, adolescents can develop political knowledge and skills and a civic identity that can lead to political participation (Flanagan, 2003; Sherrod, et al., 2002; Youniss, et al., 1997). Political knowledge specifically refers to literacy regarding politics, current events, and processes of bringing about political change, as well as the capacity to make knowledgeable political choices. Knowledge is closely tied to political skills, which are capabilities to engage in democratic processes, such as the ability to engage constructively in processes of debate and negotiation.

Empirical findings of association between measures of adolescent political knowledge and skills and political participation are fairly common (Galston, 2001; Kirlin, 2003; Verba, et al., 1995). But do particular attitudinal elements of identity also have strong links with political participation? In order to strengthen civic interventions, we must first identify whether particular aspects of civic identity do in fact precede political participation, and the extent to which this is the case for low-income and ethnic minority adolescents. In this chapter, the theoretical and empirical work that informs this study is examined, focusing primarily on potential attitudinal predictors of adolescent political behaviors.

The chapter begins with an examination of the set of behaviors that constitute adolescent political participation. Particular attention is paid to scholarly distinctions
between participation that is “electoral” and that defined as “political voice” activity.

Then, attitudinal factors that are commonly theorized to precede political participation are explored. Links between civic attitudes and participation are discussed in regard to adolescents in general and specifically in regard to low-income and minority adolescents.

Adolescent Political Participation

Political participation is one component of “civic engagement,” a broad concept that encompasses a multitude of ways that citizens can connect with the larger society. Civic engagement may refer to both “social” and “political” forms of activity (McBride, 2003). Broadly, social forms of engagement are connected to a general public good outside the policy arena, while political forms are connected to politics and policy (McBride, 2003). Although disagreements over the boundaries of what is considered “civic engagement” are widespread in the scholarship (Gibson, 2001; Obradovic & Masten, 2007; Sherrod, et al., 2002; Westheimer & Kahne, 2004; Youniss, et al., 2002), scholars and public officials generally share a concern over the degree to which youth do – or do not – connect with the larger society.

This dissertation research is limited to those behaviors that take place directly in the political sphere, where concern over low levels of engagement has been particularly prevalent. This is because of the close relationship between political activity and possible policy change. As noted in Chapter 1, the policy consequences of non-engagement in political activities may be substantial. This is a particular concern in regard to today’s adolescents, for whom there has been some evidence that socially-oriented engagement is a substitute for, rather than a complement to, political activity (Galston, 2001; Theiss-Morse & Hibbing, 2005; Walker, 2002).
The parameters of what constitutes political activity can be quite contentious, with adolescent political engagement taking many forms (Beaumont, Colby, Ehrlich, & Torney-Purta, 2006). Adolescents may be treated differently in the political sphere due to their age, and certain traditional aspects of political participation may feel too removed from their current life experiences. Accordingly, in measuring adolescent political behavior, many scholars incorporate a broader set of activities into their definition, including some like boycotting and “buycotting”\(^{13}\) that may be more social in nature (e.g., Jenkins, et al., 2003; Sherrod, 2003). As a result of such conceptual disagreement, the set of political behaviors measured differs across studies, with few efforts to create standardized measures of political behavior\(^{14}\). Additionally, because adolescents under 18 are too young to vote, measures of behavioral intent are common to approximate behavior. Furthermore, among those behaviors that are explicitly political in nature, some recent scholarship subdivides the political participation of youth into two categories of behaviors, those directly tied to government action, and more expressive means that are indirect in nature. These two categories are differentially labeled in the literature in such ways as “conventional” and “unconventional” (Brady, 1999; Youniss, et al., 1997), “conventional” and “social cause” (Torney-Purta, Richardson, & Barber, 2004), or “electoral activity” and “political voice” (Keeter, et al., 2002a; Zukin, et al., 2006). The use of the latter terms to distinguish types of political behaviors has been promoted by Scott Keeter and colleagues, who have conducted recent work defining and testing

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\(^{13}\) “Buycotting” is a variation on boycotting. To buycott is to intentionally purchase a product because one agrees with or approves of the actions or policies of the company producing or selling it.

\(^{14}\) Scott Keeter and colleagues (e.g., Andolina, Keeter, Zukin, & Jenkins, 2003; Jenkins, et al., 2003; Keeter, Jenkins, Zukin, & Andolina, 2003; Zukin, Keeter, Andolina, Jenkins, & Delli Carpini, 2006) are a prominent exception, engaging in a multi-year study to identify core indicators of engagement.
measures of corresponding behavioral indicators. Rather than lumping together substantively distinct forms of political behavior, this analysis acknowledges this distinction and investigates whether differences exist in how adolescents come to each of the two forms of behaviors. The “electoral” and “political voice” terminology is used; each is detailed in the sections that follow.

Electoral Behaviors

Traditional understandings of political participation have focused primarily on the vote (Verba, et al., 1995), typically considered the easiest and most accessible form of activity through which citizens can communicate their preferences to politicians\(^\text{15}\). In research on youth engagement, however, measures of electoral participation often logically extend beyond the vote to include other direct means of influencing policy decisions that relate to campaigns and elections.

Common indicators of electoral behaviors include: voting (or intent to vote), contributing money to political campaigns or organizations, displaying political paraphernalia, persuading others how to vote, and volunteering for political candidates or organizations (e.g., Zukan, et al., 2006). Recent surveys of pre-voting age youth have included measures of these activities, as well as measures of membership in political organizations and interest in future political candidacy (e.g., Andolina, Keeter, Zukan, & Jenkins, 2002a; CIRCLE, et al., 2002; NASS, 1998). Cluster analyses find that citizens who participate in one form of electoral activity are more likely to participate in other electoral activities (Keeter, et al., 2002a; Zukan, et al., 2006). Approximately one-third

\(^{15}\) A parent working multiple jobs and facing transportation obstacles may disagree, given the limited hours in which voting can take place in some states. Other obstacles to voting may also exist, as exemplified by the difficulties some low-income, minority St. Louis City residents faced in voting during the 2000 Presidential Election.
(36%) of U.S. adults and one-fourth (26%) of youth ages 15-25 participate in two or more electoral activities (Zukin, et al., 2006).

**Political Voice**

Electoral activity is the most direct way to impact policy and the actions of politicians; however, increasing attention is being paid to other ways in which citizens can express their political views and communicate their preferences to politicians. Expressive political voice activities may be particularly relevant for understanding adolescent engagement because they are not age-limited. Also, they may appeal to disadvantaged youth who may feel excluded from traditional politics (e.g., Bedolla, 2000; Cohen, 2006; Gauthier, 2003; Ginwright, 2006; Jones & O'Toole, 2001; Kirshner, et al., 2003; O'Toole, 2003; Sanchez-Jankowski, 2002; Sherrod, et al., 2002).

Within the last few years, non-electoral means of expressing political opinions in the public sphere have been integrated into empirical research as measures of youth political behavior, whether or not these communications are directly targeted to politicians. These “political voice” behaviors represent indirect ways of affecting government action, accessible to adolescents (Andolina, Jenkins, Zukin, & Keeter, 2003; Keeter, et al., 2002a; Zukin, et al., 2006). Commonly measured indicators of political voice include contacting officials or the media, signing various types of petitions, calling in to talk shows to express a political opinion, demonstrating and protesting, and certain forms of market-based activism (Andolina, et al., 2002a; Andolina, Keeter, Zukin, & Jenkins, 2002b; CIRCLE & CDC, 2004; CIRCLE, et al., 2002). Recent surveys have also measured expressing views at a public meeting and online political discussion.
Americans are more likely to participate in multiple political voice activities than in multiple electoral activities, with 42% of surveyed Americans participating in at least two political voice activities (Zukin, et al., 2006). Interestingly, despite the claims that youth may be more likely to engage in political voice activities, participation in these forms of activities remains low. For example, fewer than 20% of youth ages 15-25 report contacting public officials or newspapers, participating in protests, marches, or demonstrations, or canvassing for a political cause or candidate (Olander, 2003).

Attitudinal Pathways to Political Participation

A central assumption here is that adolescent civic experiences have the potential to increase adolescent, and later, adult, political behavior. To strengthen the impact of adolescent civic programs and curricula on behavior, we need to better understand adolescent precursors to political behavior. Civic interventions commonly seek to impact attitudinal aspects of civic identity, including social trust, political interest, political efficacy, and trust in government (Pritzker & McBride, 2006b). These attitudes may operate independently, or in conjunction with political knowledge, to set the stage for adolescent and adult political behaviors (Crystal & DeBell, 2002; Krampen, 2000).

Increased understanding of relationships between civic attitudes and political behaviors can help scholars and practitioners to create and implement interventions that can better target those attitudes most likely to lead to increased political participation. Attitudes toward one’s own role as a citizen as well as toward the roles of other community and political actors may provide some indication of whether an individual
youth will become an active political participant, or remain on the sidelines. It even may be that different sets of perspectives, motivations, and values may precede different forms of participation (e.g., Metzger & Smetana, 2008). However, few studies have directly examined links between attitudinal factors and youth civic behavior in order to determine whether specific attitudes are associated with specific forms of political behavior among adolescents (Crystal & DeBell, 2002). Furthermore, although research has suggested that racial and economic disadvantage may impact political attitudes and behaviors and possibly the relationship between the two (Cohen, 2006; Fridkin, et al., 2006; Leighley & Vedlitz, 1999; Verba, et al., 1995), little is known about how this takes place among adolescents.

In the following sections, relationships between civic attitudes and political behaviors are explored. Three broad categories of civic attitudes adolescents may hold are discussed in relation to political participation: social attitudes towards one’s community, political attitudes about one’s own ability to impact government and politics, and political attitudes relating to perceptions of government and politicians’ responsiveness to citizens. Key attitudes that fit within each of these categories are identified and defined, and links between these constructs and political participation are explored.

**Social Attitudes**

Adolescents, like their adult counterparts, live in and are members of communities. These communities can be local and geographically-based, reflect shared interests of some sort, or may even be global in nature. Adolescents develop perceptions about these communities and their members, as well as about their roles in them.
Although attitudes such as attachment to a community, trust in fellow community members, and social responsibility involve social relationships outside the political sphere, there is some indication that these may be important prerequisites for politically engaged citizens.

By developing an attachment to their community, adolescents can be integrated into civic life; when they feel a sense of connectedness and community attachment, they are more likely to act on behalf of their community (Syvertsen & Flanagan, 2005). A similar dynamic has been found among adults. For example, residents of a public housing project who felt a sense of community were more likely to participate in informal political discussions, work with others to solve a neighborhood problem, and contact elected officials (Bolland & McCallum, 2002).

Social trust, or a positive connection between community members, has been widely theorized as a precursor to political participation, although social trust may suffer in communities with large income gaps between citizens (Uslaner & Brown, 2005). Links between citizen trust and political engagement are a cornerstone of the social capital perspective espoused by Putnam (2000). When citizens have opportunities to build trust among each other, the social capital perspective posits that they will be more inclined to engage in political activities. In fact, Putnam (2000) argues that overall declines in political participation in the U.S. can be attributed to the lack of social trust among citizens. Empirical support for this claim is less clear, however. Trust may not work the same way across all forms of civic engagement (Torney-Purta, et al., 2004; Uslaner & Brown, 2005). Instead, Uslaner and Brown (2005) find links between social trust and social forms of engagement like volunteerism, but not between social trust and political
participation; among adolescents, Crystal and DeBell (2002) similarly find that social trust predicts some forms of civic involvement, but not their “public citizenship” measure that most closely gauges electoral participation.

Social trust is prominent in some youth civic engagement scholarship, although the link between social trust and political participation may not be direct. Flanagan, et al.’s (1998) social contract theory suggests that youth gain social trust through participation in group activities. This trust then paves the way for a concern for the common good, which may lead to increased political participation. Other youth civic engagement scholars concur with Flanagan, finding that positive interpersonal relationships among peers precede concern for one’s community and country (Torney-Purta, et al., 2001; Zaff, Malanchuk, Michelsen, & Eccles, 2003).

A feeling of social responsibility to the needs of others in one’s community may also precede political participation indirectly. Through engagement in civic activities, youth are expected to develop social responsibility, which in turn is expected to stimulate their interest in how political involvement can address social needs (Morgan & Streb, 2001; Yates & Youniss, 1998).

**Political Attitudes**

Political attitudes and perceptions may be particularly relevant to adolescent political participation; given the direct political nature of these attitudes, they are a key focus of this dissertation analysis. Whether as a result of program participation, family, peers, or a particular political moment, individuals develop a range of attitudes related to government and policy. These perceptions may be focused internally, towards one’s own ability to impact government, or externally, on views about the responsiveness of
government to citizens. It is not uncommon for these internally- and externally-focused attitudes to be conflated into one larger category of political attitudes; however, there is some precedent for distinguishing these two types of attitudes into two distinct constructs.

For example, political efficacy had long been treated as one unified construct, until scholars began differentiating between internal and external political efficacy (e.g., Niemi, Craig, & Mattei, 1991). When these two forms of efficacy have been examined distinctively, there is some indication that they may have different relationships to citizen’s political participation (Kahne & Westheimer, 2006). Although this distinction between “internal” and “external” attitudes is generally applied specifically to efficacy, here this distinction is applied to a larger array of political attitudes and perceptions. Just as “internal efficacy” refers to one’s own perceptions of his or her competence to understand politics, and “external efficacy” refers to beliefs about government’s responsiveness to citizens, a similar substantive distinction can be made between a larger group of “internal” political attitudes and a larger group of “external” attitudes. Attitudes representative of each category and their posited links with political participation are discussed in the following sections.

“Internal” political attitudes: Self as political actor

This category of political attitudes, referred to in this analysis as measures of “self as political actor” deals with how citizens view themselves relative to politics and government. Are they interested in politics and government? Do they hold political opinions? Do they feel that they can understand and influence political issues?

Conceptually, the link between these internal political attitudes and political participation
is strong – if adolescents feel connected to politics and believe they can make a
difference in the actions of government, then it is logical that they may be inclined to
participate in political action.

A common measure of citizens’ perceptions of themselves as political actors is
internal political efficacy, or a citizen’s positive perceptions of his or her own capability
to impact the actions of government. Internal political efficacy is commonly posited to
precede political participation\textsuperscript{16}. This construct is really about agency – do adolescents
see themselves as having the agency to effect political change? Scholarship consistently
finds a positive link between internal efficacy and participation, both among adults (e.g.,
Marschall, 2001; Shingles, 1981) and adolescents (Kahne & Westheimer, 2006).

High levels of internal efficacy generally are linked with minority political
participation (see discussion in Marschall, 2001), although Leighley and Velditz (1999)
find discrepancies across minority groups. While Leighley and Velditz (1999) found this
relationship to be significant for Whites and Hispanics, they found nonsignificance for
Blacks and Asian-Americans. In general, though, links between internal efficacy and
participation raise a potential point of concern for participation among minority
adolescents, given that Black and Hispanic adolescents report lower levels of internal
political efficacy and civic efficacy than their White peers (Fridkin, et al., 2006; Lopez &
Kirby, 2005; Woodly, n.d.)

Another important component of a positive view of one’s self as political actor is
a citizen’s desire to pay attention to or follow activities related to government and
politics. Research on adult participation consistently finds positive relationships between

\textsuperscript{16} Often, even when the literature refers just to “political efficacy,” without the modifier, it uses measures
that gauge one’s own perceived ability to effect political change.
this political interest and political participation (Leighley & Velditz, 1999; Rosenstone & Hansen, 1993; Verba, et al., 1997). Leighley and Velditz (1999) note that this relationship has been tested less in regard to minority political behavior, but find political interest positively related to political participation for Black, Hispanic, and Asian-American adults.

“External” political attitudes: Government as political actor

This category of political attitudes, referred to as “government as political actor” in this analysis, deals with how citizens view government, namely whether citizens trust government or view government and politicians as being responsive to attempts to influence them. Here, the links with participation are somewhat less consistent. Negative views toward government may in fact be a deterrent to participation for some, while spurring the participation of others.

External political efficacy is a key external political attitude, concerned with whether citizens perceive government to be responsive to citizens. Higher levels of external efficacy may not consistently produce greater political participation among adolescents (Kahne & Westheimer, 2006). In fact, Kahne and Westheimer argue that efforts to increase external efficacy may negatively impact political participation among some adolescents, particularly when they experience limits to governmental responsiveness; awareness of these limits may actually be an important precursor of adolescent participation.\(^\text{17}\)

Another key external political attitude, political trust, can be distinguished from the social, or interpersonal, trust discussed earlier in this chapter (Newton, 2001).

\(^{17}\) From a programmatic perspective, Kahne and Westheimer suggest that interventions should seek to expose students to the (potentially negative) realities of government, while simultaneously attempting to increase their internal efficacy.
Political trust is specifically concerned with citizens’ evaluations of government and governmental representatives. Political trust may well be a key foundational element for some forms of political participation, including intentions to vote, write letters, and join a political party, and may provide youth with a reason to believe that their participation is not a waste of time (Torney-Purta, et al., 2004). Yet, little research has examined how political trust may play a role in the development of adolescent political engagement (Torney-Purta, et al., 2004). A common theoretical claim in political socialization literature has been that high levels of political trust are generally necessary for political participation (as discussed in Marschall, 2001); yet, like external efficacy, some scholars suggest that it may actually be a lack of political trust that leads to political engagement (Uslaner & Brown, 2005). In terms of adolescents, Kahne and Westheimer (2006) suggest that a degree of mistrust in government may actually increase political participation among adolescents and young adults, particularly when combined with positive feelings of one’s own ability to effect political change. Whether this, in fact, is the case is thus far unclear. In a review of literature on youth participants of the peace movement in the 1960s and 1970s, Haste (2004) found that movement participants were those who exhibited a high level of internal efficacy and a low level of trust in government. However, at least among 14 year olds, however, Torney-Purta, et al. (2004) did not find that political mistrust was enough to motivate political involvement, and suggest instead that a minimum threshold of political trust may be necessary.

The relationship between external political attitudes and participation may be particularly relevant for understanding participation among disadvantaged adolescents.

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18 It should be noted, however, that despite this hypothesis, Uslaner and Brown (2005) did not find a significant relationship, positive or negative, between political trust and participation.
Given the political and social experiences discussed in Chapter 2, it might make sense for low-income and minority adolescents to hold more negative external political attitudes, viewing government as unresponsive or lacking trust in government. Data supports this: White adolescents exhibit higher levels of political trust, satisfaction with the political system, and perceptions of government as responsive than minority adolescents (Fridkin, et al., 2006; Woodly, n.d.).

This lack of political trust has been linked to higher levels of political participation for Black adults. The ethnic community theory, which received consistent empirical support in the 1970s and early 1980s, posited that high internal political efficacy and low political trust explained Blacks’ unexpectedly high rates of voting. The theory suggested that members of an ethnic group respond to others by developing strong cohesiveness, and in turn high levels of internal efficacy; at the same time, because political officials tend to belong to the outside group, group members have low levels of political trust (see discussion in Marschall, 2001). Some scholars have since questioned whether this rationale is still applicable among Blacks or other minorities given changes in race relations in the United States since the theory’s origination (Bobo & Gilliam, 1990; Marschall, 2001).

Summary

The political participation literature suggests links political attitudes and political behaviors are linked. Social attitudes and internal political attitudes are generally positively associated with political behaviors, but the direction of the relationship between external political attitudes and behaviors is less clear, particularly when minority status is taken into account. Whether political attitudes differentially predict different
forms of political behavior is also still unclear (Crystal & DeBell, 2002); no clear pattern is evident from the literature.

More research is needed on the degree to which attitude-behavior relationships hold across racial and ethnic minority groups or socio-economic status. As Sanchez-Jankowski (2002) notes, the unique historical and cultural experiences of each minority group may differentially impact political participation on the part of group members; thus, it may in fact be the case that attitudinal pathways to participation differ across racial and ethnic groups. There is some evidence of this in the adult participation literature, where the weights of various variables in predicting political participation have been found to vary across race and ethnicity (Fuchs, Minnite, & Shapiro, 1998; Marschall, 2001; Martinez, 2005), but we do not yet know if this is the case among adolescents.

In terms of socio-economic status, even less is known. Given the many ways that economic disadvantage may serve to marginalize youth from traditional political processes, there is some reason to posit that low-income adolescents will, like minority adolescents, exhibit more negative political attitudes towards government and/or political processes, and that these negative attitudes combined with a high sense of internal efficacy may encourage political participation. In terms of adolescents of different socio-economic status, we do not know if there are differences in the types of political activities in which they participate, much less whether attitudes differentially predict participation.
CHAPTER IV: THEORETICAL MODEL, RESEARCH QUESTIONS, AND HYPOTHESES

In the 1960s and early 1970s, the consensus among political socialization scholars was that White and Black children exhibited distinctly different levels of political efficacy (Woodly, n.d.). At all education levels, Black children consistently reported lower levels of internal political efficacy and higher levels of negativity about government, viewing government as “crooked” (Woodly, n.d.). This gap was found to grow in adolescence, with negative attitudes highest among Black males. When Black youth were at higher socio-economic levels or were exposed to more civics classes, studies found increased internal political efficacy, and increased negativity towards government. Political scientists attributed this attitudinal gap to the discrimination and poverty within which Black children tended to be raised (Woodly, n.d.).

Recent research discussed in earlier chapters suggests that such attitudinal gaps persist today, not only between White and Black adolescents, but also with adolescents of other ethnic minority groups, including Hispanics and Native Americans, and in some cases Asian-Americans (Fridkin, et al., 2006; Lopez & Kirby, 2005). Hispanic youth are particularly unlikely to report trust in government (Lopez, et al., 2006a). Similar patterns seem to exist in terms of adolescent political participation, with some minority adolescents participating in political behaviors, particularly electoral activity, at lower rates than Whites (Fridkin, et al., 2006; Lopez, et al., 2006a).

This dissertation tests whether these adolescent attitudinal and behavioral patterns are maintained across racial groups and socio-economic status. It is expected based on the historical persistence of these findings that these patterns will exist: that White
adolescents will exhibit more positive internally and externally-focused political attitudes than minority adolescents, and will participate at higher rates. Although prior research addresses this only minimally with adolescents, a similar pattern is expected in terms of socio-economic status. Adolescents from wealthier families are expected to hold more positive political attitudes than poorer adolescents and to participate at higher rates.

While participation overall is expected to be highest among White and more well-off adolescents, distinct patterns of participation are also expected across racial and socio-economic groups. Given scholarship suggesting that youth who may feel marginalized from traditional political processes seek out more expressive forms of political behavior in lieu of traditional electoral behavior (Cohen, 2006; Ginwright, 2006; Sherrod, et al., 2002), it is also expected that minority and lower-income adolescents exhibit higher levels of participation in political voice behaviors than other adolescents, but lower levels of electoral participation. Previous research, for example, has found that Hispanic youth are most likely to engage in protest activity (Lopez, et al., 2006a).

In addition, this dissertation is concerned primarily with testing possible predictive relationships between political attitudes and political behaviors among adolescents, and examining the extent to which these relationships are moderated by race and socio-economic status. Different sets of attitudes may well be linked to different forms of political participation (Crystal & DeBell, 2002; Metzger & Smetana, 2008), and across different populations. There is some indication that different patterns of attitudes may be associated with distinct forms of participation among Black and White adults (Fuchs, et al., 1998; Marschall, 2001; Shingles, 1981). Preliminary research suggests this may also be the case across Hispanic and Asian ethnic groups, at least for some forms of
participation (Marschall, 2001; Martinez, 2005). As Leighley and Vedlitz (1999) notes in terms of adults, “to assume that the same factors that account for the participation of patterns of Blacks [as Whites] is dubious.” In particular, a more skeptical, less trusting outlook on government may be more closely linked to participation among disadvantaged adolescents who may feel marginalized from larger political processes (e.g., Kahne & Westheimer, 2006).

Theoretical Model

As noted in Chapter 3, many factors can contribute to adolescent political participation, or lack thereof. For example, family, peers, and triggers such as the September 11, 2001 terrorist attacks or a political candidate with strong youth appeal may be relevant, as may participation in a variety of school or community activities. Socio-economic status and the related civic resources that accrue also may be relevant (Verba, et al., 1995). Of particular interest in informing interventions, however, are manipulatable variables that may precede political behaviors, e.g., civic knowledge and attitudes. Recent findings of links between civic knowledge and political participation are generally consistent (e.g., Galston, 2001), but less is known about relationships between attitudes or perceptions and participation.

Thus, this dissertation tests whether political attitudes or perceptions predict political behaviors, and whether this relationship may be affected by disadvantage. Figure 4-1 depicts the theoretical model. The two types of attitudes of interest are believed to reflect two distinct attitudinal constructs, as discussed in Chapter 3; however, covariance between these two types of attitudes is expected. Internal political attitudes, referred to here more descriptively as views of one’s “self as political actor”, and external
political attitudes, referred to as views of “government as political actor”, are each expected to predict political behavior. These relationships are expected to be moderated by racial and socio-economic disadvantage, meaning that the strength and direction of the attitude-behavior relationship is expected to differ across subgroups.

Figure 4-1: Theoretical model: The effect of disadvantage on the relationship between adolescent political attitudes and behaviors

![Theoretical Model Diagram](image)

Figure 4-2 depicts the theoretical model with the latent and observed variables expected to measure these constructs\(^\text{19}\). Of note is the distinction between electoral and political voice behaviors. Given the differential weight of the different forms of political participation in influencing policy makers (Verba, et al., 1995), the relationship between the less conventional forms of political voice behaviors and electoral behaviors is also

\(^{19}\) Not included in the model depicted in Figures 4-1 and 4-2 are other variables that may well affect the model’s strength. Social attitudes, in particular, also may be an important aspect of identity; however, social identity measures are not included in Form 2 of the Monitoring the Future data used in the proposed analysis. Also relevant are community-level measures of disadvantage, which may not be captured fully by the race and socio-economic status variables used here.
relevant. Jenkins, et al. (2003) find that Americans tend to be “specialists” in one or another form of political behavior; however, among adolescents, it may be that political voice behaviors provide an entrée to electoral behavior. An overall positive, but weak, relationship is posited between the two forms of political participation.

The strength and direction of the relationships outlined above are expected to differ across race and socio-economic status. Building on the literature described in Chapters 2 and 3, disadvantage is expected to play a role in shaping adolescent civic development (e.g., Sanchez-Jankowski, 2002). As such, relationships between attitudes and behaviors are expected to differ by race/ethnicity and socio-economic status. For example, the combination of positive internal attitudes and negative external attitudes have been found in the past to predict political participation among African-Americans (e.g., Shingles, 1981). Recent scholarship suggests that a similar pattern may hold true for minority adolescents (Kahne & Westheimer, 2006). Arguments that disadvantaged adolescents may be more likely to seek out non-traditional forms of engagement (Cohen, 2006; Ginwright, 2006) suggest that minority and low SES adolescents may seek out political voice activities in lieu of electoral activity, thus resulting in a non-significant relationship between the two forms of behaviors.

Testing the Model: Research Questions and Hypotheses

Of ultimate interest here is whether attitudinal pathways to political behaviors are moderated by race/ethnicity and SES. Research Question 3 seeks to test this directly.

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20 As discussed in previous chapters, disadvantage is expected to be significantly related both to attitudes and behaviors; that is, political attitudes and behaviors are expected to differ across racial, ethnic, and socio-economic groups. However, in this study, disadvantage is examined as a moderator of the relationship between attitudes and behaviors. This is an intentional decision; of interest in informing interventions is what and how specific attitudes should be targeted among different populations. For example, even if Black students are more likely to hold negative views of government, what is of interest here is whether negative attitudes towards government are positively or negatively linked with political behaviors among this population.
Figure 4-2: Theoretical model with observed variables

Self as Political Actor
- Interest in govt
- Strength of political preference
- Strength of political belief

Government as Political Actor
- People running govt are crooked or dishonest
- Trust govt in Washington
- Govt is run for big interests
- Govt wastes tax money
- Govt is run by smart people

Political Behavior
- Political Voice
  - Write to public officials
  - Demonstrate
  - Boycott
- Electorale
  - Vote
  - Give money to candidate

Disadvantage
- Race/ethnicity
- SES
Two research questions are necessary substantive precursors to this analysis; all three, along with corresponding hypotheses, are described below in analytical sequence.

**Differences in Attitudes and Behaviors Across Subgroups**

Before testing the proposed theoretical model, it is important to determine whether the data matches previous patterns of adolescent political attitudes and behaviors found in the literature, and also to strengthen our knowledge about the state of political engagement among disadvantaged groups (e.g., Hispanic, Asian, and low-income youth) who are rarely studied in civic engagement scholarship. Whether differential patterns exist across racial and socio-economic groups provides important background for understanding the analyses that follow.

As discussed in Chapter 2, Hispanic and Asian-American adolescents are less likely to be subjects of youth civic engagement scholarship than Black and White adolescents (Lopez, et al., 2006a; Torney-Purta, et al., 2007). Existing analyses suggest that minority adolescents exhibit less positive political attitudes than White adolescents. Behavioral patterns are a little less clear; in general, White and African-American youth seem more likely to engage in electoral behaviors, while Asian-American and Hispanic youth seem more inclined to engage in political voice behaviors. Little is known about the attitudes and participation of low-income adolescents compared to more advantaged adolescents, although it is hypothesized here that low-income adolescents may be less inclined to hold positive political attitudes and to engage in political behaviors.

**Research Question 1:** Do adolescents’ attitudes about themselves or government as political actors and their political voice and electoral behaviors differ by socio-economic status and/or race/ethnicity?
1a. There are significant differences by socio-economic status across both political attitude constructs, with low-income adolescents exhibiting more negative political attitudes about both themselves and government as political actors.

1b. There are significant differences by race/ethnicity across both political attitude constructs, with minority adolescents exhibiting more negative political attitudes about both themselves and government as political actors.

1c. There are significant differences by socio-economic status across both political behavior constructs, with low-income adolescents exhibiting the lowest rates of participation.

1d. There are significant differences by race across both political behavior constructs, with Hispanic adolescents exhibiting the lowest rates of participation.

**Between-Group Differences in Interpreting Items**

Prior to testing pathways between political attitudes and behaviors, it also is necessary to evaluate whether youth of different races/ethnicities and socio-economic status similarly interpret attitudinal and behavioral items. As discussed in Chapters 2 and 3, a number of scholars suggest that how youth understand their relationships with political processes may differ across groups. Sanchez-Jankowski (2002), in particular, argues that minority youth receive distinct messages about their civic roles and about local and national civic institutions. Research Question 2 builds on such claims by examining whether differences exist in how youth subgroups interpret questions about attitudes and behaviors; i.e., do the items mean different things to different groups? This
is an important and relevant substantive question on its own, but also serves as an important precursor to subsequent analyses. In order for path comparisons across groups to be valid, we must assume that the latent constructs being measured are constituted similarly across subgroups (MacCallum & Austin, 2000).

This question is also important because wide divergences in how political engagement is conceptualized and studied, as discussed in Chapter 3, have resulted in inconsistent measurement of political engagement constructs. Little scholarship has focused on the measurement of adolescent political behavior (Pritzker, 2008), resulting in a lack of a clear consensus as to which behavioral or attitudinal indicators best measure specific political engagement constructs. Accordingly, determining how well the particular set of observed variables measured in this analysis captures the meaning of the attitudinal and behavioral constructs under study is a crucial step in testing the theoretical model. If the observed variables are not found to be sufficiently strong measures of the latent constructs, then findings about the strength of the overall model may lack substantive meaning.

Thus, the second research question examines whether the four racial/ethnic groups and two socio-economic groups similarly interpret the latent constructs in the theoretical model.

**Research Question 2:** Do youth of different socio-economic statuses or races/ethnicities interpret the political attitudes and behaviors of interest in similar ways?

**2a.** Each latent attitudinal and behavioral construct of interest fits the observed variables hypothesized to correspond to it.
2b. All socio-economic groups under study similarly interpret the attitudinal and behavioral constructs; that is, each construct is similarly composed of the corresponding observed variables across groups.

2c. All racial/ethnic groups under study similarly interpret the attitudinal and behavioral constructs.

**Moderating an Attitude-Behavior Relationship**

As the overall theoretical model specifies, internally- and externally-focused political attitudes are expected to positively predict all forms of actual political behaviors, among adolescents in general. Positive feelings of one’s self as an interested citizen, in combination with a general view of government as responsive and trustworthy is expected to increase the likelihood that an adolescent will engage – or plan to engage – in a variety of forms of political behaviors. Furthermore, adolescent participation in political voice activity, a more accessible form of political behavior during adolescence, is expected to be associated with participation in electoral activity.

As the literature discussed in previous chapters suggests, however, the general relationship between positive political attitudes and positive political participation may not hold equivalently for adolescents who belong to groups that may perceive themselves as marginalized from political processes. This question is the primary focus of this dissertation. It is expected that race, ethnicity, and socio-economic status moderate the relationships between political attitudes and behaviors, and even between kinds of political participation. In particular, more negative perceptions of government are expected to bolster the political participation of minority and low-income adolescents, when they exist concurrently with positive levels of interest and connection to politics.
The relationship between political voice and electoral participation, is expected to be non-significant among marginalized adolescents who may see political voice activities as more plausible and accessible than electoral activity. Research Question 3 examines whether race and socio-economic status moderate pathways to political participation.

**Research Question 3:** Do socio-economic status and race/ethnicity status moderate a relationship between adolescent political attitudes and behaviors?

3a. Positive perceptions of self as political actor and government as political actor positively predict political behaviors across the sample as a whole. Political voice behaviors positively predict electoral behaviors.

3b. Relationships between attitudes and behaviors, and between forms of participation, differ across the two socio-economic groups examined in this study. For lower SES adolescents, higher levels of self as political actor and lower levels of government as political actor predict positive political behaviors. Additionally, political voice behaviors and electoral behaviors are not expected to be significantly related.

3c. Relationships between attitudes and behaviors and between forms of participation, differ across the four racial/ethnic groups examined in this study. For minority adolescents, higher levels of self as political actor and lower levels of government as political actor predict positive levels of political behaviors. Additionally, political voice behaviors and electoral behaviors are not expected to be significantly related.
CHAPTER V: RESEARCH METHODS

The research questions and corresponding hypotheses described in the previous chapter are tested using data from a national survey of 12th grade youth. In the following sections, this survey, Monitoring the Future: A Continuing Study of American Youth (MTF), is described, and the strategy used to identify the unweighted sample of 9,807 used in this analysis is presented. The variables of interest in this study are then identified and operationalized. The chapter concludes with a discussion of the bivariate and structural equation modeling procedures that were used to test the research questions presented in Chapter 4.

Data and Sampling Procedures

Survey Description

While a number of survey datasets measure adolescent political attitudes and behaviors (Andolina, et al., 2002a, 2002b; CIRCLE & CDC, 2004; Center for the Study of Race Politics and Culture, 2006; Lopez, et al., 2006b), the Monitoring the Future survey is particularly well-suited to the research questions posed here. MTF is a national survey of 8th, 10th, and 12th graders, and has been administered annually since 1975 by the Survey Research Center (SRC) at the University of Michigan’s Institute for Social Research. It yields a nationally-representative dataset that offers a substantially larger sample size than these other datasets, allowing for greater power. The annual administration of this dataset also allows for the combining of multiple years of data in order to generate sufficiently large samples to conduct analyses across racial/ethnic groups and across socio-economic levels. Access to a private-use version of this dataset further strengthens its utility; access to Hispanic and Asian-American ethnic identifiers,
two groups of adolescents whose civic engagement is rarely studied, was made available for this analysis (Lopez, et al., 2006a; Torney-Purta, et al., 2007). Thus, this dataset enables cross-sectional analysis of the strength of race/ethnicity and SES as moderating variables.

The 12th grade survey is the focus of this analysis. It is administered during the spring semester in approximately 130 public and private high schools within the contiguous 48 states. Students complete the survey in written form in their classrooms, under the supervision of SRC staff and/or representatives. The entire survey typically is completed in a 45-minute class period (Johnston, Bachman, O'Malley, & Schulenberg, 2005).

Approximately 1,400 variables are included annually (Johnston, Bachman, et al., 2005). The majority of these items deal with substance abuse; however, an array of other items dealing with the values, lifestyles, and behaviors of adolescents also are incorporated into the survey. Content areas include items measuring confidence in major social institutions, religious affiliations and practices, and values, attitudes, and expectations related to marriage and family structure. Of particular interest here are items related to political attitudes and behaviors that are uniquely included within the 12th grade administration of the survey.

The 12th grade survey is administered in six different questionnaire forms, which are distributed in an ordered manner to respondents, creating six distinct subsamples (Johnston, Bachman, et al., 2005). Approximately one-third of each form consists of “core” variables, which are the same across all six forms. “Core” variables include demographic items and many substance use items. Items related to additional content
areas are dispersed across forms. Unfortunately, not all variables of possible interest to this dissertation are included in the same form; for example, several social attitudes but no political participation measures are included on Form 1. Form 2 was ultimately selected for this analysis because it has the broadest coverage of relevant political attitude and political participation variables.

MTF Sampling Strategy

MTF survey respondents are selected annually using a stratified clustered sampling procedure (Johnston, Bachman, et al., 2005). Sample selection takes place in three stages. First, geographic areas are selected for study. These geographic areas are selected by SRC for use in multiple national studies the Center conducts, facilitating survey administration by SRC staff. Second, within these geographic areas, high schools are selected for inclusion. The probability of selecting a high school within a given geographic area is proportionate to the number of 12th graders enrolled in the school. Approximately 120-130 public and private schools are selected annually. Schools may opt not to participate, in which case a different school with similar characteristics in the same geographic area is selected. High schools are selected for a two-year participation period, resulting in the selection of new schools for half of the sample each year.21

Third, 12th-grade students within each selected high school are chosen to take the survey. Up to approximately 400 students may be selected within each high school, with participation voluntary. In schools with fewer than 400 seniors, all 12th graders typically are selected for participation; in larger schools, participants may be selected on the basis

21 For further discussion of this process, see Johnston, et al. (2005). Analyses have been conducted of this half-sampling process with drug prevalence data, and have found data at the repeat schools to match data based on the whole sample.
of randomly sampling classrooms, or by other random methods convenient to the school (Johnston, Bachman, et al., 2005). Each respondent is assigned a sampling weight to account for variations in sample size across schools and in selection probabilities.

**Sampling Strategy for the Current Analysis**

For the analyses conducted here, the sampling frame is limited to a four-year period between 2002 and 2005. This time period was intentionally chosen to include only years following the terrorist attacks of September 11, 2001. The events of September 11 have been attributed with effects on youth political attitudes, including attitudes towards national government, interest in government-related news, and trust in government (CIRCLE & Pew Research Center, 2002). Analysis is limited to data collected after this date in order to not confound the analysis.

As Table 5-1 indicates, the MTF sampling strategy resulted in approximately 13,500 to 15,500 12th grade students completing the MTF survey each year between 2002 and 2005 (Johnston, Bachman, O'Malley, & Schulenberg, 2002, 2003, 2004; Johnston, Bachman, et al., 2005). Each year, approximately 1/5 to 1/4 of the students selected for the sample do not complete questionnaires, resulting in a response rate between 82 and 83 percent over the four years under study. Form 2 was completed by between 2,200 and 2,600 students annually during this time period, for a total sample of 9,883 12th grade students. After accounting for missing data, discussed in detail later in this chapter, the total unweighted sample size used for the analyses here is 9,807.

**Measures**

Variables that measure adolescent attitudes related to political institutions, political beliefs, and politics in general were selected for this analysis, as well as items
measuring respondents’ participation in activities within the political sphere. In addition, a number of demographic exogenous variables were used in this analysis. Table 5-2 lists each of the variables used in the analysis and the corresponding variable names assigned by the SRC. The moderating and control demographic variables, namely minority status, socio-economic status, gender, age, and geographic residence were measured within the “core” set of variables, and thus were included in all six forms of the MTF survey. All variables in this analysis that measure political attitudes and behaviors were included specifically in Form 2.

### Table 5-1: MTF survey 12th grade sample

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of Schools</th>
<th>Total Number of Students (unweighted)</th>
<th>Student Response Rate</th>
<th>Total Number of Students Receiving Form 2 (unweighted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>120</td>
<td>13,544</td>
<td>83%</td>
<td>2,267</td>
</tr>
<tr>
<td>2003</td>
<td>122</td>
<td>15,200</td>
<td>83%</td>
<td>2,516</td>
</tr>
<tr>
<td>2004</td>
<td>128</td>
<td>15,222</td>
<td>82%</td>
<td>2,521</td>
</tr>
<tr>
<td>2005</td>
<td>129</td>
<td>15,378</td>
<td>82%</td>
<td>2,579</td>
</tr>
</tbody>
</table>


In the following sections, the operationalization and measurement of each variable used in this study are explained. Attitudinal items are measured with both categorical measures and 5-pt. Likert scales, treated here as continuous variables, while behavioral items and all but one demographic item are measured categorically. Appendix A provides additional detail on each variable, listing each latent construct, the variables hypothesized to measure it, and the response options provided to respondents. Also listed are the recoded response options and resulting levels of measurement.
Table 5-2: Variable list

**Construct: Self as political actor**

**Political interest:** How much interest taken in government and current events (INTEREST IN GOVT)

**Strongly held views:** Description of political preference (R’S POLTL PRFNC)
Description of political beliefs (R’POL BLF RADCL)

**Construct: Government as political actor**

**Trust in government:** Think people running government are dishonest (GOVT PPL-DSHNST)
Trust government to do what is right (NEVER TRUST GOVT)

**Evaluation of government:** Government run for big interests (GOVT RUN FOR PPL)
Government wastes tax money (GOVT DSNT WASTE$)
Government run by smart people (GVT PPL DK DOING)

**Constructs: Electoral behavior**

**Electoral behavior:** Plan to/have voted (DO OR PLN VOTE)
Plan to/have given money to political candidate, cause (DO OR PLN GIVE $)
Plan to/have worked in political campaign (DO OR PLN WK CPG)

**Constructs: Political voice behavior**

**Political voice behavior:** Plan to/have written to public officials (DO OR PLN WRITE)
Plan to/have participated in lawful demonstration (DO OR PLN DEMONST)
Plan to/have boycotted certain products or stores (DO OR PLN BOYCOTT)

**Moderating Variables**

**Minority status:** Race (R’S RACE)

**Socio-economic status:** Parents’ average education (PARENTS-AVG EDUC)

**Exogenous Variables**

**Geographic Residence:** Where respondent grew up (R SPD > TIM R-URB)

**Gender:** Gender (R’S SEX)

**Age:** Under or over 18 (AGE <>18 DICHOTOMY)
Independent Variables

Self as Political Actor

The concepts and variables posited to measure this latent construct are as follows:

Political interest. Political interest refers to the degree of interest adolescents have in the political arena and current events. It is measured in this dataset with one variable that specifically asks youth to self-report their level of interest in what government does along a 5 pt. Likert scale.

Political views. Political views are conceptualized in this study as the possession of political opinions; i.e., whether the youth hold political stances. Two variables in the MTF dataset measure youth’s political preferences and beliefs on an ordinal scale, ranging from strong attachments to the Republican party or conservative beliefs to strong attachments to the Democratic party or liberal beliefs. Each of these two variables was recoded to a dichotomous variable, measuring whether youth hold political opinions. Youth selecting a political preference, reporting “strongly Republican”, “strongly Democrat”, “mildly Republican”, “mildly Democrat”, “Independent”, or “Other” on the political preference scale were considered to have political opinions, while youth reporting either “no preference” or that they “don’t know” or “haven’t decided” are considered not to hold political opinions. Youth reporting “very conservative,” “very liberal,” “conservative”, “liberal”, “moderate”, or “radical” on the political belief scale likewise were recoded as having political opinions, while youth reporting ”none of the above” or “don’t know” were considered not to hold political opinions.

Government as Political Actor

The concepts and variables posited to measure this latent construct are as follows:
**Trust in government.** This concept refers to adolescents’ beliefs that government acts in a trustworthy manner, based on two variables measuring whether youth perceive government officials to be “crooked or dishonest” and whether government can be trusted to “do what is right”. Both are Likert-level measures using 5 pt. scales. The “do what is right” measure was reverse-coded.

**Evaluation of government.** Adolescents’ judgments of whether government acts in an appropriate way may be measured in multiple ways. The MTF dataset includes three variables that were expected to measure this concept. The three variables gauge respondents’ evaluations of whether government is run for big interests, wastes tax money, or is run by people “who usually know what they are doing”. Each is measured by a distinct set of response options using 5-pt. Likert scales. The “know what they are doing” item was reverse-coded.

**Dependent Variables**

The above-mentioned attitudinal measures were hypothesized to predict measures of political behaviors within two distinct domains: electoral and political voice. Unlike other surveys of adolescent civic engagement and despite substantive reasons not to do so (Pritzker, 2008), intentions and actual behaviors are measured simultaneously within each of the observed variable measures. This means that respondents could respond either about their intentions or actual participation, but not both. Because intentions are not direct measures of behaviors and may not in fact signal actual participation, each variable was recoded specifically to measure actual behaviors dichotomously. This precludes measuring both intent and actual behaviors in the same model.
Political Voice

This construct measures political behavior that is not necessarily tied to campaigns and electoral processes, and through which political messages may be communicated in more indirect ways. Three variables in the MTF survey were believed to measure political voice: measures of writing to public officials, participating in lawful demonstrations, and boycotting of products or stores. The original response options for each of these three variables consist of four categorical choices in which adolescents could respond in regard to either actual behaviors or future intentions, but not both. Accordingly, in order to measure only past behaviors, the variables were recoded to create dichotomous measures. For each variable, youth reporting “I probably won’t do this,” “don’t know,” or “I probably will do this” were recoded as having not participated in the activity; in contrast to youth reporting “I have already done this.”

Electoral Behaviors

As discussed in Chapter 3, electoral behaviors refer to activities directly related to campaigns and electoral processes. Electoral behavior was believed to be measured by three variables in the MTF survey: measures of whether youth have voted in a public election, have given money to a political candidate or cause, and have worked in a political campaign. The original response options for each of these items consist of four categorical choices. Like the political voice items discussed above, the response options were recoded, resulting in three dichotomous measures of the latent “electoral behavior” construct.
Moderating Variables

Minority Status

Minority status is determined based on a categorical race/ethnicity variable, with four categories: Black, White, Hispanic, and Asian. Students self-identifying as Black, Hispanic, or Asian are considered to have minority status, with each minority status analyzed independently. Public-use data for MTF differentiates only between White and Black adolescents (and starting in 2005, Hispanic adolescents), given the small proportion of other minorities in the sample; however, a special data request resulted in access also to ethnic identifiers for Asian and Hispanic adolescents. In analyses where minority status was not a moderator, but rather included as a covariate (discussed in the next section), a fifth race category was included: Other/Missing. This is due to the way in which MTF provides racial/ethnic data to its users, and is explained in the Missing Data Analysis section later in this chapter.

Socio-economic Status

The MTF dataset does not include any direct measures of the socio-economic status of adolescents’ families. However, a six-point continuous measure of the average highest level of education completed by respondents’ parents22 was used as a proxy measure for socio-economic status. Parental educational achievement is a common proxy measure of SES in adolescent studies (Johnston, O'Malley, Bachman, & Schulenberg, 2005); for example, in a study of youth civic engagement, Flanagan, et al. (2007) use maternal educational achievement as a proxy for socio-economic status. To facilitate multiple-group comparisons, this variable was recoded into a dichotomous socio-

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22 If educational information was provided for only one parent, then only the level of education completed by that parent was used.
economic status variable. Adolescents for whom the average parental education level is completion of high school or less were recoded as low-income; average parental completion of at least some post-secondary education was recoded as non-low-income.

**Exogenous (Covariate) Variables**

Three demographic variables were each expected to have an independent effect on both political attitudes and behaviors in the proposed theoretical model, and thus were included as statistical controls: gender, age, and geographic residence.

**Gender**

Gender may play a substantial role in shaping how adolescents become political actors (Taft, 2006). Gender differences consistently appear in terms of political knowledge, attitudes, and behaviors. Historically, men have been found to be more informed about and to express greater interest in political issues than women (Barrett, 1995). Women may be more likely to be efficacious, seeing that their vote can have an influence, but also are more likely to distrust government and hold negative views about government (Barrett, 1995). Overall, adult and adolescent males participate in more electoral behaviors (Marcelo, et al., 2007; Schlozman, Burns, & Verba, 1994; Verba, et al., 2003). In terms of political voice behavior, male adults participate more than females, while significant differences have not been found by gender among adolescents (Marcelo, et al., 2007; Schlozman, et al., 1994; Verba, et al., 2003). Gender was measured by a dichotomous male/female variable.

**Age**

Age was expected to carry particular weight in the models examined here, given the prominence of age 18 as the age in which the civic rights and responsibilities
associated with the most prominent political behavior (Verba, et al., 1995) are gained. Given that MTF is administered to 12\textsuperscript{th} grade students who often cross this threshold by turning 18 during the course of the school year, age 18 may be a particularly important demarcation line. Thus, in this study, age was conceived of as a dichotomous variable, with two categories: under 18, and 18 and over.

**Geographic Residence**

While specific information about respondents’ geographic location is not available in the MTF dataset, we can determine by self-report the kind of geographic environment each respondent grew up in. The nature of the geographic environment in which one lives may have important effects on political engagement. As discussed in Chapter 2, the neighborhood environment can be a source of political stimuli for adolescents. Lay (2003; 2006), for example, has noted that the experience of growing up poor in an urban or rural community may differentially impact one’s political knowledge. Access to quality service-learning, a potential civic intervention, may also differ by geographic residence, though degree of poverty is also relevant (Pritzker & McBride, 2006a). Urban communities, particularly poor ones, may lack the types of social institutions necessary to encourage adolescent political development.

MTF measures geographic residence with nine categorical response options to the question, “Where did you grow up mostly?” These response options were recoded into three groups as follows. On a farm, in the country, and in a small city or town were all labeled “rural”. Growing up in a medium, large, or very large city was considered “urban”. Growing up in a suburb of a medium, large, or very large city was considered “suburban”.

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Data Management and Analytic Methods

MTF data was managed using two statistical packages, *Stata 10.0* and *Mplus 5.2*. *Stata* was used for cleaning data, conducting analyses of missing data, imputing data, and running descriptive and bivariate analyses. Because of its particular ability to handle both continuous and categorical data (Muthen & Muthen, 2007), *Mplus* was selected for conducting the analyses involved in testing both the measurement and structural models. Consistent with the three research questions outlined in Chapter 4, the dissertation analysis was conducted in three stages of analysis: bivariate, measurement, and structural.

*Sample Weights*

Each respondent in the MTF dataset was assigned a sampling weight. Weights for Form 2 (M=1.39, SD=.84) range from .15 to 5.90. This sampling weight was accounted for in all analyses. Univariate sample descriptions and bivariate analyses were performed using *Stata* survey procedures. All *Mplus* analyses accounted for sampling weights by including a WEIGHT IS statement in the Data command. Results of this study are presented using percentage estimates for the U.S. population.

*Bivariate Analyses*

Research Question 1 asks whether adolescents’ political attitudes and behaviors differ by race/ethnicity and socio-economic status. This question examines whether the MTF data are consistent with prior analyses in the literature, and to further the knowledge base about political engagement among disadvantaged adolescents.

Using *Stata 10.0* survey procedures, differences in each political attitude and political behavior were assessed separately across the four racial/ethnic groups and the two SES groups. Bivariate analysis procedures were selected based on the level of
measurement of each moderator and each variable of interest. Thus, to analyze the
difference in categorical variables based on the dichotomous SES variable, chi-square
analyses were tested for significance using the design-based F test. Dichotomous
variables across the four race/ethnic groups were assessed using logistic regression,
followed by a post-hoc Wald test between pairs of groups. Analyses of categorical
variables across the four race/ethnic groups used multinomial logistic regression with a
post-hoc Wald test. To identify mean differences across groups, regression analyses were
conducted, followed by the post-hoc Wald test.

Measurement Analyses

Research Questions 2 and 3, as well as the nature of the MTF data, lend
themselves well to analysis through a two-step structural equation modeling (SEM)
procedure (Schumaker & Lomax, 2004). In the first step, confirmatory factor analysis
was used to test the fit of the observed variables to the proposed latent constructs. The
second step, structural analysis, tested relationships between the constructs.

Confirmatory factor analysis is an essential precursor to structural analysis for
two primary reasons. First, substantial measurement issues surround the study of
adolescent political attitudes and behaviors. The latent attitudinal constructs in this
analysis cannot be directly observed, and encompass a number of different concepts that
are measured in inconsistent ways in empirical research. While the behavioral constructs
here often are considered to be directly observable in empirical research, e.g., voting is
commonly used as a single measure of electoral behavior, there is substantial conceptual
ambiguity as to what behaviors actually constitute distinct forms of political activity
(Jenkins, et al., 2003; Keeter, Zukin, Andolina, & Jenkins, 2002b; Zukin, et al., 2006).
Delineations between behaviors that are considered electoral and those that are considered to be expressions of political voice are not consistent across the literature. The ability of SEM confirmatory factor methods to model latent constructs based on observed variables and to take into account errors associated with the measurement of these observed variables can help to address these concerns.

Second, little is known about the applicability of attitudinal and behavioral measures across adolescents of different races or socio-economic status. Where measures are tested for reliability and/or validity, it is often for a general youth population, without examining whether measures are interpreted differently across subgroups of adolescents. Claims that ethnic minorities or those exposed to poverty may perceive politics differently than other adolescents (e.g., Cohen, 2006; Ginwright, 2006; Sanchez-Jankowski, 2002) suggest that different interpretations of measures are at least a possibility. Through tests of measurement invariance, SEM confirmatory factor analysis procedures enable determination of whether the latent constructs are similarly formed from the observed variables across each racial/ethnic group and SES status. Without such a determination, one cannot glean meaning from a between-group comparison in a structural model; findings of differences across groups might be attributable to inconsistencies in measuring constructs across groups rather than true differences (Cheung & Rensvold, 2002; MacCallum & Austin, 2000).

**Testing the measurement model**

SEM confirmatory factor analysis incorporates five distinct steps: model specification, identification, estimation, testing, and modification (Schumaker & Lomax, 2004). Model specification involves specifying the baseline factor models to be tested.
In this study, seven baseline models were initially specified as depicted in Figure 5-1:

1) a model incorporating the full sample; 2) a low-income and 3) non-low-income model; 4) White, 5) Black, 6) Hispanic, and 7) Asian models. Based on the theoretical literature discussed in Chapter 3, for each model, eight observed variables were hypothesized to measure the two proposed latent attitude constructs. Six observed variables were hypothesized to measure the two latent behavior constructs. The attitudinal constructs were expected to covary, as were the behavioral constructs.

Identification of a model refers to the ability to identify unique estimates for each parameter, meaning that there must be more fixed (“known”) parameters than free (“unknown”) parameters (Harrington, 2009). Because measurement models must be over-identified, factor loadings were fixed to 1 for the first indicator for each latent construct; leaving the other parameters to be freely estimated (Schumaker & Lomax, 2004).

In selecting an estimation technique, sample size can be an issue; however, in this case, the sample size is sufficiently large for all common estimation techniques. The selection of an estimation technique was instead influenced by the presence of dichotomous variables in the MTF dataset. Weighted least squares (WLS) estimation has been commonly used as an estimation procedure for dichotomous and ordinal variables and when assumptions of normality are not met (Raines-Eudy, 2000). Recent research suggests, however, that the robust weighted least squares estimator (WLSMV in Mplus) used here is better suited to analyzing categorical data (Flora & Curran, 2004).

These 7 models, and the subsequent measurement analyses, establish the baseline model for the structural analyses to test the conceptual model presented in Chapter 4.
Figure 5-1: Measurement model

Mplus uses probit regression techniques to model CFA analyses with categorical observed variables; linear regression is used when observed variables are continuous. To test a measurement model with a large sample size, Cheung and Rensvold (2002) advise
the use of multiple goodness-of-fit indices. A $X^2$ test of model fit is the most common
goodness-of-fit index used in confirmatory factor analysis; however, the chi-square test is
substantially vulnerable to Type I error when large sample sizes are present (Hox &
Bechger, 1998). Given the very large sample size ($N=9,807$) here, the $X^2$ test was not
used as determinant of model fit$^{24}$. Other fit indices are less sensitive to sample size
(Hox & Bechger, 1998), four of which were examined for each model: CFI, TLI,
RMSEA, and WRMR. Both the comparative fit index (CFI) and the Tucker-Lewis Index
(TLI) are types of comparative fit indices, evaluating a model's fit in comparison to a
more restrictive baseline model. For both CFI and TLI, a value greater than .90 suggests
acceptable fit, and a value greater than .95 suggests good fit (Hox & Bechger, 1998;
Harrington, 2009). The root mean square error of approximation (RMSEA) statistic is a
commonly used model fit statistic, with a value below .08 reflecting acceptable fit, and
below .05 reflecting good fit. RMSEA is a type of parsimony correction index, meaning
that it favors parsimonious models, but is fairly insensitive to sample size (Harrington,
2009). Like $X^2$, the weighted root mean square residual (WRMR) statistic is a type of
absolute fit index; however, it has been recommended for use with categorical observed
variables, with values less than 1.0 suggesting good model fit (Flora & Curran, 2004; Yu,
2002). WRMR is a relatively new statistic, and its research base is minimal (e.g., Yu,
2002); accordingly, the WRMR statistic was evaluated cautiously here, as it is not yet
known how sensitive WRMR is to large sample sizes.

Based on the model fit statistics and modification indices provided by Mplus,
models were then modified as needed. Modification indices are used to make decisions

$^{24}$The chi-square statistic is reported for all model testing, even though not of primary interest. Consistent
with the literature (e.g., Cheung & Rensvold, 2002), even when all other model fit statistics showed good
fit, the chi-square test was almost always strongly significant (in most cases, $p=.0000$).
about which additional parameters could be freed to improve model fit, based on an expected decrease in the chi-square test of model fit. It is not uncommon for researchers to free parameters without regard to theory, in search of a stronger model (Hox & Bechger, 1998); however only modifications consistent with the theoretical framework presented in Chapter 4 are made here\(^{25}\). Nonsignificant parameters were not dropped from models, in order to facilitate comparison across groups.

_Tests of measurement invariance_

Once each of the baseline measurement models are modified and tested again as necessary, Research Question 2 can be addressed, i.e., whether the attitudinal and behavioral constructs are similarly interpreted by students of different races/ethnicities and socio-economic statuses. This question is best answered through tests of measurement invariance. If measurement invariance is not found, this calls into question any findings of between-group difference in the structural model (Cheung & Rensvold, 2002; MacCallum & Austin, 2000).

Testing measurement invariance is a multiple-step process, in which increasingly restrictive models are run, goodness-of-fit is assessed for each model, and each model is evaluated for statistical similarity or difference from a less restrictive model. When a more restrictive model is found to be equivalent to a less restrictive model, the more restrictive model is accepted. Partial measurement invariance also can be assessed, when equivalence is found after freeing a small proportion of parameters. If full or partial invariance is not found, further comparative analyses cannot be conducted.

\(^{25}\) For example, modification indices for the full confirmatory factor analysis suggest a stronger model if the measure of writing to public officials was loaded onto the Government as Political Actor construct. As writing to public officials is considered theoretically to be a measure of political behavior, not attitudes, this modification was not made.
First, it is necessary to determine dimensional invariance, whether the same common factors hold across groups. This is determined by examining the separate model fitted for each subsample of interest, as discussed above: Black, White, Hispanic, and Asian, as well as low-income and non-low-income. Gregorich (2006) notes that theory plays an important part in this assessment of dimensional invariance, and that determination of a model should not be based solely on empirical findings. Accordingly, each group was fitted to the four-factor theoretically-based model described in Figure 5-1. Small factor structure differences between subsamples were accounted for by constraining individual parameters for specific subsamples.

Once dimensional invariance is established, increasingly restrictive levels of measurement invariance are tested simultaneously across all subsamples (racial and SES analyses were conducted separately)\textsuperscript{26}. First, configural invariance tests whether each factor is associated with the identical observed variables across groups, in essence measuring whether all groups cognitively interpret the items the same way. Using \textit{Mplus}' theta parameterization, configural invariance is tested by fixing factor means to zero in all groups, fixing residual variances to one in all groups, and freeing thresholds (for categorical variables), intercepts (for continuous variables), and factor loadings across all groups. Comprehensive model fit statistics assess how well this constrained model fit the data. As in other measurement model tests, CFI, TLI, RMSEA, and WRMR model fit statistics were evaluated.

\textsuperscript{26} Additional levels of measurement invariance could be tested. Cheung and Rensvold (2002), for example, identify seven levels. However, there does not appear to be a consensus on the number of levels of measurement invariance that should be tested before proceeding to multiple-group structural analyses. Steenkamp and Baumgartner (1998) identify a slightly different set of seven levels, but note that which levels are selected should be based on the types of subsequent analyses expected. For example, a finding of scalar invariance is necessary prior to comparing the means of latent factors across groups. The three levels of invariance measured here are consistent with Campbell, Barry, Joe, & Finney (2008).
Positive findings of configural invariance are followed by tests of metric invariance. Metric invariance tests whether the strength of the relationship between observed variables and the associated constructs is the same across groups, i.e., whether factors have common meaning across groups. The primary difference in constraints between the metric and configural invariance tests is that factor loading constraints are added across groups. In addition, factor means are fixed at zero in all groups, residual variances are fixed to one for all categorical variables and freed for continuous variables, and thresholds and intercepts are freed across groups. The overall goodness-of-fit for the metric invariance model is examined, and then the fit of the metric model is compared to the less-restrictive configural invariance model. The most common statistic to assess change across levels of invariance is the $\Delta \chi^2$ difference test. However, as Cheung and Rensvold (2002) point out, the sample size sensitivity of the $\chi^2$ test of model fit is shared by the $\Delta \chi^2$ test, and thus a trivial difference between groups could result in a false finding of significance. Instead, for large sample sizes, Cheung and Rensvold (2002) suggest using $\Delta$CFI (Comparative Fit Index), at a value of $\Delta$CFI $\leq$\.01\. If full metric invariance is not found, partial metric invariance can be assessed. Partial metric invariance indicates that some, but not all, factor loadings differ across groups. In this analysis, partial metric invariance was identified by referring back to the configural invariance model, and using z-tests to identify whether corresponding factor loadings were significantly different using a critical value of |1.96|, or p<.05. Marker loadings (those set at 1) were switched, so that each loading could be compared across groups.

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$^{27}$ Z-tests were calculated here across two groups at a time, e.g., Blacks were compared to Whites, Hispanics to Whites, and Asians to Whites.
Factor loadings that were metrically non-invariant across groups were then freed and model fit reassessed.

Positive tests of full and partial metric invariance are followed by tests of scalar invariance. Scalar invariance tests whether different groups use the items in a similar way, i.e., do different groups of students with the same viewpoints or behaviors select the same answer? In addition to constraining factor loadings, as in metric invariance, thresholds and intercepts are constrained to be equal across groups. Factor means are fixed at zero in one group, and freed in the others, and residual variances are fixed to one for all categorical variables and freed for continuous variables. Moreover, any findings of partial metric invariance are accounted for by relaxing the noninvariant factor loadings and the corresponding threshold/intercepts across groups. Scalar invariance is then determined by comparing the fit of the scalar model to the less-restrictive metric invariance model, again using $\Delta \text{CFI} \leq |.01|$. To test for partial scalar invariance, intercepts with large modification index values are freed, and model fit reassessed.

*Structural Analyses*

In the second step of the SEM procedure, structural analysis is used to test the hypothesized relationships between latent constructs. SEM is particularly well-suited to the analysis of structural models when the above-mentioned measurement issues need to be taken into account. SEM also can account for variables external to the data that may affect the variables in the model to be tested, even if they are not included in the model. For example, a covariance term can be included in the model between the independent latent constructs to account for an unmeasured latent construct posited to influence political attitudes; that is, SEM can account for covariance between two independent
variables due to a mutual influence from an external variable (Schumaker & Lomax, 2004). SEM also is well-suited for multiple-group model analyses, the ultimate focus of this dissertation. In order to compare the strength of the path model across racial/ethnic groups and SES status, SEM allows for the performance of tests of differences in path coefficients across groups.

Testing the structural model

After fitting the measurement models discussed above, the seven structural models to be tested were specified. A structural model tests the hypothesized relationships between latent constructs; here, the structural models tested the relationships called for by the theoretical model in Chapter 4 and shown with covariates in Figure 5-2. However, due to findings in the measurement step of the analysis, the structural models were slightly modified. The modified structural models used in this study are presented visually in the discussion of results in Chapter 6.

Like the CFA process, five steps apply to the analysis of structural models (Schumaker & Lomax, 2004). In the measurement analyses specified above, only variables related to the key latent constructs were included. However, at this stage, covariate demographic variables were introduced into the structural model: gender, age, geographic residence, income, and race. It was determined that the substantive need to identify whether group differences existed across measurement of political constructs necessitated fitting a measurement model without covariates, and then adding covariates in the structural analysis. The downside to adding covariates in at the structural stage is that the measurement model may no longer fit, depending on the effect of the covariates.
Figure 5-2: Structural model
Structural model identification involves determining which parameters will be free or fixed. Fixed parameters were set at 1, and free parameters were estimated using the robust weighted least squares (WLSMV) estimation. *Mplus* uses multiple linear regression techniques to model SEM analyses with continuous latent factors. To test the structural models, multiple goodness-of-fit indices, CFI, TLI, RMSEA, and WRMR, were evaluated at the thresholds listed previously. Model modification through adding or deleting paths typically is considered based on the model fit statistics and modification indices (Schumaker & Lomax, 2004). However, in this study, modification was done cautiously, given the conceptual bases for initial specification of the model in this study.

**Multiple-group modeling**

Separate structural models, including covariates, were specified for each subgroup of interest: low-income, non-low-income, Black, White, Hispanic, and Asian. Once these structural models were established, the third research question could be addressed. In SEM, tests of moderation typically are conducted using multiple group modeling. Multiple-group modeling takes place through two stages: the tests of measurement invariance described above, and tests of structural invariance. Between-group analyses cannot be conducted if there is not full or partial measurement invariance; with partial measurement invariance, differences between groups must be accounted for through constraining or relaxing individual parameters.

Tests of structural path invariance can then be conducted in order to determine whether there are group differences in path coefficients, when controlling for the various demographic covariates. In this study, path invariance was tested across pairs of subsamples in order to accurately capture sources of invariance; for the race/ethnicity
comparison, the White subsample was used as the reference group for each analysis. To determine path invariance, path coefficients were constrained equal across groups. Each path invariant model was compared to a baseline multiple-group structural model, using $\Delta CFI \leq .01^{28}$. The multiple-group baseline incorporated the baseline structural model, plus the cross-group constraints accepted in the full or partial scalar invariant model.

To assess partial path invariance, individual path coefficients in a baseline model can be compared across groups by using $z$-test calculations. In this study, path differences with a critical value greater than $|1.96|$, $p<.05$, were identified as non-invariant. These path coefficients were then freed and model fit reassessed.

**Missing Data Analysis and Multiple Imputation**

The *Stata* add-on code mdesc was used to assess the extent of missing data on the relevant independent, dependent, and exogenous variables in the MTF sample. Among the sample as a whole, missing value percentages range from 1.7% (for interest in government) to 10.5% (for geographical residence). The relatively low rate of missing data means that multiple imputation procedures can be used to replace the missing values (Little & Rubin, 2002).

An initial mdesc analysis also indicated that 10.7% of respondents did not report their race; however, after referring back to the MTF survey codebook, it was determined that responses including “American Indian (Native American)” and “Other” had been collapsed into the “missing” data category in the released data (Johnston, et al., 2004b). It is not possible to parcel out those who had provided race/ethnicity data from those who had not, nor to identify how prevalent actual responses are among the missing group. It

$^{28}$ $\Delta X^2$ (in *Mplus*, using the DIFFTEST command) was also examined, since it is the most well-known and commonly-used difference statistic. Concerns about the effect of large sample sizes on $X^2$ remain, however, and suggest caution in interpreting the $\Delta X^2$. 

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was determined that it would be misleading to impute new race values to respondents who had indicated races other than White, Black, Hispanic, or Asian. As a result, the “missing” race responses are instead treated as a separate fifth category, used in analyses involving the full sample, but not in racial/ethnic subgroup analyses⁵⁹.

Before proceeding with multiple imputation, patterns of missing data for all variables other than race were inspected (Saunders, Morrow-Howell, Spitznagel, Dore, Proctor, & Pescarino, 2006; Schafer & Graham, 2002), using the Stata add-on code mvpatterns. Mvpatterns provides an analysis of missing data patterns and the frequency with which these patterns occurred. Seventy-nine percent (n=7778) of respondents provided answers to all of the 18 (pre-recoding) survey items used in the study. An additional 15% (n=1438) were missing answers on only one or two items. On the other hand, for 76 respondents (<1%), less than 20% of the data was provided; each of these respondents was dropped from the sample, resulting in an unweighted sample size of N=9807. Of the 76 respondents removed, two were Hispanic, and the remainder were all in the Missing/Other race category.

Systematic patterns of missing data were examined by looking at whether students who skipped questions are demographically different than those who did not skip the items. Across all variables of interest, White students are significantly less likely to skip items than some, if not all, of the other races/ethnicities in the sample. As presented in Table 5-3, Black students and Other/Missing students are most likely to skip

⁵⁹ Table 5-4 provides some indication that a substantial portion of the data in the Other/Missing category likely is not actually “missing”. Demographic data is substantially more likely to be missing from those in the Other/Missing group, with over 25% of Other/Missing race category respondents skipping questions related to parental education (the proxy for income), gender, geographic residence, and age. However, among all but two of the political attitudes and behaviors measured, only a small portion of responses (3.04% or below) are missing from the Other/Missing group.
Table 5-3: Missing data analysis (percent missing), by race and income

<table>
<thead>
<tr>
<th>Race/missing</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian</th>
<th>Other race/missing</th>
<th>Low-income</th>
<th>Non-low-income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>1.42***</td>
<td>5.42</td>
<td>7.33</td>
<td>13.35</td>
<td>26.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1.11***</td>
<td>2.71</td>
<td>2.75</td>
<td>2.94</td>
<td>28.06</td>
<td>2.63*</td>
<td>1.87</td>
</tr>
<tr>
<td>Geographic residence</td>
<td>5.95***</td>
<td>9.62</td>
<td>10.63</td>
<td>9.05</td>
<td>33.33</td>
<td>9.25***</td>
<td>6.38</td>
</tr>
<tr>
<td>Age</td>
<td>.43***</td>
<td>.37</td>
<td>.92</td>
<td>.23</td>
<td>26.04</td>
<td>1.08</td>
<td>.82</td>
</tr>
<tr>
<td>Political preference</td>
<td>3.33***</td>
<td>14.19</td>
<td>10.08</td>
<td>5.88</td>
<td>27.56</td>
<td>6.95***</td>
<td>4.09</td>
</tr>
<tr>
<td>Political belief</td>
<td>1.29***</td>
<td>4.20</td>
<td>4.58</td>
<td>1.81</td>
<td>23.91</td>
<td>2.12***</td>
<td>1.11</td>
</tr>
<tr>
<td>Interest in government</td>
<td>.79*</td>
<td>1.68</td>
<td>1.10</td>
<td>.90</td>
<td>1.52</td>
<td>1.51***</td>
<td>.77</td>
</tr>
<tr>
<td>Government is honest</td>
<td>.92**</td>
<td>1.96</td>
<td>1.47</td>
<td>.90</td>
<td>1.82</td>
<td>1.73***</td>
<td>.94</td>
</tr>
<tr>
<td>Tax money is not wasted</td>
<td>1.17*</td>
<td>1.87</td>
<td>1.56</td>
<td>.90</td>
<td>2.33</td>
<td>1.66</td>
<td>1.28</td>
</tr>
<tr>
<td>Trust in government</td>
<td>1.03**</td>
<td>1.87</td>
<td>1.19</td>
<td>.90</td>
<td>2.33</td>
<td>1.69*</td>
<td>1.08</td>
</tr>
<tr>
<td>Government knows what it is doing</td>
<td>1.08***</td>
<td>2.24</td>
<td>1.19</td>
<td>1.13</td>
<td>2.53</td>
<td>1.62</td>
<td>1.19</td>
</tr>
<tr>
<td>Government is run for the people</td>
<td>1.42***</td>
<td>3.36</td>
<td>1.65</td>
<td>1.13</td>
<td>3.04</td>
<td>2.20*</td>
<td>1.59</td>
</tr>
<tr>
<td>Do or plan vote</td>
<td>.85***</td>
<td>2.15</td>
<td>1.19</td>
<td>1.13</td>
<td>2.03</td>
<td>1.44*</td>
<td>.91</td>
</tr>
<tr>
<td>Do or plan write</td>
<td>.82***</td>
<td>2.05</td>
<td>1.37</td>
<td>.90</td>
<td>2.13</td>
<td>1.30</td>
<td>.96</td>
</tr>
<tr>
<td>Do or plan give money</td>
<td>.95***</td>
<td>2.80</td>
<td>1.65</td>
<td>1.36</td>
<td>2.33</td>
<td>1.58</td>
<td>1.16</td>
</tr>
<tr>
<td>Do or plan campaign</td>
<td>1.01***</td>
<td>2.33</td>
<td>1.65</td>
<td>1.58</td>
<td>2.84</td>
<td>1.66*</td>
<td>1.13</td>
</tr>
<tr>
<td>Do or plan demonstrate</td>
<td>.92***</td>
<td>2.43</td>
<td>1.28</td>
<td>1.13</td>
<td>2.23</td>
<td>1.51*</td>
<td>1.02</td>
</tr>
<tr>
<td>Do or plan boycott</td>
<td>.82***</td>
<td>2.33</td>
<td>1.56</td>
<td>1.13</td>
<td>2.23</td>
<td>1.55**</td>
<td>.93</td>
</tr>
</tbody>
</table>

Note: The significance of differences in missing data is indicated in the column belonging to the first group of each demographic. *p<.05, **p<.01, ***p<.001

questions measuring political attitudes and behaviors, although with only one exception (political preference), no more than 4.6% of any racial/ethnic group skipped an attitude or behavior item. Income differences in skipped data patterns are also evident. For all measured variables, a larger percentage of low-income students skipped the item, in many cases at a statistically significant level. The demographic patterns in missing data
are less clear and consistent for gender, age, and geographic status than across races and income levels, as presented in Table 5-4. Where significant differences are present, it appears that males are more likely to skip demographic items, while females seem somewhat more likely to skip some of the political questions. Only two variables exhibit different missing patterns between those 17 years old and younger, and those 18 and older, and only three variables show different patterns across geographic location. Overall, while patterns seem to exist across race and income status, with minority and low-income students most likely to have missing data, the data can be considered to be missing at random (Schafer & Graham, 2002).

To account for this missing data, a multiple imputation procedure was used. The ice (imputation by chained equations) add-on procedure in *Stata* was used to create 5 different imputed datasets. The ice procedure simultaneously imputes missing data for all selected variables, based on all other specified variables (Royston, 2005). Prediction of continuous variables is done through multiple regression methods, and categorical variables are predicted through either logistic or multinomial regression, depending on the number of categories. In this case, all variables to be used in subsequent analyses were used as predictors, as well as selected variables in the dataset not used in subsequent analyses but believed to be likely to help predict the imputed values. These additional variables are listed in Table 5-5.

Five data sets were generated, using a different random seed at the beginning of each imputation pass. It was originally intended that all five imputed data sets would be combined, or “rolled-up”, for the various analyses in this study. However, during the course of conducting analyses, it was discovered that rolling-up the datasets presented
Table 5-4: Missing data analysis (percent missing), by gender, age, and geographic residence

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>17 and under</th>
<th>18 and over</th>
<th>Rural</th>
<th>Urban</th>
<th>Suburban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>4.1***</td>
<td>2.74</td>
<td>2.79**</td>
<td>3.97</td>
<td>2.43***</td>
<td>4.54</td>
<td>1.60</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td>1.57</td>
<td>1.83</td>
<td>1.99</td>
<td>2.20</td>
<td></td>
<td>2.11</td>
</tr>
<tr>
<td>Geographic residence</td>
<td>7.5</td>
<td>7.94</td>
<td>8.21</td>
<td>7.34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.66***</td>
<td>.29</td>
<td>.75</td>
<td>.87</td>
<td>1.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political preference</td>
<td>5.98</td>
<td>5.22</td>
<td>5.30</td>
<td>6.14</td>
<td>5.23***</td>
<td>7.51</td>
<td>3.46</td>
</tr>
<tr>
<td>Political belief</td>
<td>2.81***</td>
<td>1.53</td>
<td>1.74**</td>
<td>2.55</td>
<td>1.60*</td>
<td>2.44</td>
<td>1.82</td>
</tr>
<tr>
<td>Interest in government</td>
<td>.90</td>
<td>1.08</td>
<td>.94</td>
<td>.99</td>
<td>1.05</td>
<td>.91</td>
<td>.84</td>
</tr>
<tr>
<td>Government is honest</td>
<td>1.01</td>
<td>1.35</td>
<td>1.15</td>
<td>1.20</td>
<td>1.19</td>
<td>1.22</td>
<td>.97</td>
</tr>
<tr>
<td>Tax money is not wasted</td>
<td>1.12*</td>
<td>1.64</td>
<td>1.36</td>
<td>1.41</td>
<td>1.44</td>
<td>1.33</td>
<td>1.14</td>
</tr>
<tr>
<td>Trust in government</td>
<td>.99*</td>
<td>1.49</td>
<td>1.22</td>
<td>1.30</td>
<td>1.22</td>
<td>1.26</td>
<td>1.01</td>
</tr>
<tr>
<td>Government knows what it is doing</td>
<td>1.18</td>
<td>1.39</td>
<td>1.22</td>
<td>1.37</td>
<td>1.33</td>
<td>1.33</td>
<td>1.10</td>
</tr>
<tr>
<td>Government is run for the people</td>
<td>1.42</td>
<td>2.03</td>
<td>1.71</td>
<td>1.75</td>
<td>1.69</td>
<td>2.03</td>
<td>1.35</td>
</tr>
<tr>
<td>Do or plan vote</td>
<td>.85</td>
<td>1.26</td>
<td>1.08</td>
<td>1.07</td>
<td>1.13</td>
<td>1.12</td>
<td>.84</td>
</tr>
<tr>
<td>Do or plan write</td>
<td>.90</td>
<td>1.22</td>
<td>.99</td>
<td>1.11</td>
<td>1.08</td>
<td>1.08</td>
<td>.97</td>
</tr>
<tr>
<td>Do or plan give money</td>
<td>1.21</td>
<td>1.39</td>
<td>1.20</td>
<td>1.39</td>
<td>1.33</td>
<td>1.43</td>
<td>1.10</td>
</tr>
<tr>
<td>Do or plan campaign</td>
<td>1.01**</td>
<td>1.62</td>
<td>1.38</td>
<td>1.24</td>
<td>1.36</td>
<td>1.50</td>
<td>1.01</td>
</tr>
<tr>
<td>Do or plan demonstrate</td>
<td>1.01</td>
<td>1.33</td>
<td>1.03</td>
<td>1.26</td>
<td>1.22</td>
<td>1.19</td>
<td>1.01</td>
</tr>
<tr>
<td>Do or plan boycott</td>
<td>.92</td>
<td>1.31</td>
<td>1.13</td>
<td>1.12</td>
<td>1.16</td>
<td>1.29</td>
<td>.84</td>
</tr>
</tbody>
</table>

Note: The significance of differences in missing data is indicated in the column belonging to the first group of each demographic.  *p<.05, **p<.01, ***p<.001

substantial barriers to analysis. First, in *Stata*, using a combination of rolled-up data and survey methods substantially limits the range of bivariate analyses that can be conducted. In *Mplus*, the use of rolled-up data also causes multiple problems. While *Mplus* has the capacity to handle multiple imputed datasets, $\chi^2$ statistics cannot be computed on combined datasets. Furthermore, a number of key *Mplus* options for interpreting models
Table 5-5: Additional MTF variables used to predict imputed data

<table>
<thead>
<tr>
<th>Type of variable</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td>Region of the country</td>
</tr>
<tr>
<td></td>
<td>School located in large MSA</td>
</tr>
<tr>
<td>Religious participation</td>
<td>School located in MSA with city population &gt; 50,000</td>
</tr>
<tr>
<td></td>
<td>Attendance at religious services</td>
</tr>
<tr>
<td></td>
<td>Importance of religion</td>
</tr>
<tr>
<td>Education/career</td>
<td>Type of high school program (college preparatory, general, vocational)</td>
</tr>
<tr>
<td></td>
<td>Average grade so far in school</td>
</tr>
<tr>
<td></td>
<td>Likelihood of attending vocational/technical school</td>
</tr>
<tr>
<td></td>
<td>Likelihood of serving in the armed forces</td>
</tr>
<tr>
<td></td>
<td>Likelihood of graduating from 2-year college</td>
</tr>
<tr>
<td></td>
<td>Likelihood of graduating from 4-year college</td>
</tr>
<tr>
<td></td>
<td>Likelihood of attending graduate/professional school</td>
</tr>
<tr>
<td>Financial situation</td>
<td>On average, hours per week in paid or unpaid job</td>
</tr>
<tr>
<td></td>
<td>Average weekly money from job or other work</td>
</tr>
<tr>
<td></td>
<td>Average weekly money from other sources (allowances, etc.)</td>
</tr>
<tr>
<td>Social and community engagement</td>
<td>Number of evenings go out for fun and recreation in typical week</td>
</tr>
<tr>
<td>Policy opinions</td>
<td>Participate in community affairs or volunteer work</td>
</tr>
<tr>
<td></td>
<td>Influence students have on how school is run</td>
</tr>
<tr>
<td></td>
<td>Too much emphasis on making profits in US</td>
</tr>
<tr>
<td></td>
<td>US should begin gradual program of disarming whether other countries do or not</td>
</tr>
<tr>
<td></td>
<td>US should go to war to protect the rights of other countries</td>
</tr>
<tr>
<td></td>
<td>US should be willing to go to war to protect its own economic interests</td>
</tr>
<tr>
<td></td>
<td>Only good reason for US to go to war is to defend against an attack on the US</td>
</tr>
<tr>
<td></td>
<td>US does not need to have greater military power than Russia</td>
</tr>
<tr>
<td></td>
<td>US ought to have much more military power than any other nation</td>
</tr>
<tr>
<td></td>
<td>Present foreign policy is based on narrow economic and power interests</td>
</tr>
</tbody>
</table>

are not available with rolled-up data, e.g., the RESIDUAL, MODINDICES, and TECH4 options. While use of multiple implicates is the strongest method for imputing missing data, a single implicate can also produce accurate data (Saunders, et al., 2006). As a result, one imputed dataset was selected in order to effectively conduct the analyses called for by this study; the imputed data produced by the first pass was chosen.

---

30 The MODINDICES option, in particular, is an important component of model analysis and interpretation. It is used to request modification indices that provide information about which fixed parameters could be freed to improve a model. TECH4 too helps in identifying model problems, by providing estimated means, covariances, and correlations for latent variables (Muthen & Muthen, 2007).
CHAPTER VI: RESULTS

Sample Description

Table 6-1 shows the demographic breakdown of this sample of high school seniors. Shown in this table is the raw sample distribution before and after imputation, and with sampling weights taken into account. For the remainder of this study, results are described using weighted sample percentages, in order to estimate the relationships that exist across the national population of high school seniors.

Table 6-1: Sample demographics

<table>
<thead>
<tr>
<th>Category</th>
<th>Demographic</th>
<th>Sample size pre-imputation</th>
<th>Unweighted sample size post-imputation</th>
<th>Weighted sample size post-imputation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total N=9807</td>
<td>Total N=9807</td>
<td>Total N= 9828</td>
</tr>
<tr>
<td>Race</td>
<td>White</td>
<td>6216 (63.80%)</td>
<td>6216 (63.80%)</td>
<td>6378 (64.90%)</td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>1071 (10.92%)</td>
<td>1071 (10.92%)</td>
<td>1042 (10.60%)</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>1091 (11.12%)</td>
<td>1091 (11.12%)</td>
<td>1029 (10.47%)</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>442 (4.51%)</td>
<td>442 (4.51%)</td>
<td>415.1 (4.22%)</td>
</tr>
<tr>
<td></td>
<td>Other/missing</td>
<td>987 (10.06%)</td>
<td>987 (10.06%)</td>
<td>963.9 (9.81%)</td>
</tr>
<tr>
<td>Income</td>
<td>Low-income</td>
<td>2778 (28.33%)</td>
<td>2913 (29.70%)</td>
<td>3086 (31.4%)</td>
</tr>
<tr>
<td></td>
<td>Non-low-income</td>
<td>6486 (66.14%)</td>
<td>6894 (70.30%)</td>
<td>6741 (68.6%)</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>4563 (46.53%)</td>
<td>4770 (48.64%)</td>
<td>4807 (48.91%)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>4826 (49.21%)</td>
<td>5037 (51.36%)</td>
<td>5021 (51.09%)</td>
</tr>
<tr>
<td>Age</td>
<td>Under 18</td>
<td>4263 (43.47%)</td>
<td>4424 (45.1%)</td>
<td>4367 (44.44%)</td>
</tr>
<tr>
<td></td>
<td>18 and over</td>
<td>5245 (53.48%)</td>
<td>5383 (54.89%)</td>
<td>5461 (55.56%)</td>
</tr>
<tr>
<td>Geographic residence</td>
<td>Rural</td>
<td>3616 (36.87%)</td>
<td>3981 (40.59%)</td>
<td>4502 (45.81%)</td>
</tr>
<tr>
<td></td>
<td>Suburban</td>
<td>2369 (24.16%)</td>
<td>2585 (26.36%)</td>
<td>2289 (23.29%)</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>2864 (29.20%)</td>
<td>3241 (33.05%)</td>
<td>3036 (30.90%)</td>
</tr>
</tbody>
</table>

The study sample consists of slightly more females (51.09%) than males (48.91%). The sample is predominantly White (64.90%), with nearly equivalent representation of Blacks (10.60%) and Hispanics (10.47%), and a substantially smaller representation of Asians (4.22%). In addition, slightly under 10% of the sample (9.81%) either did not report their race, or identified as either “Native American” or “Other”.

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Geographically, the sample includes students from diverse types of regions, with the largest group consisting of students living in rural areas (45.81%). Urban students are 30.9% of the sample, with suburban students (23.29%) the smallest group. In terms of income, based on average parental education completion, the sample is predominantly non-low-income (68.6%), consisting of students whose parents attended schooling beyond high school. The remainder of the sample (31.4%) is identified as low-income, meaning that their parents average a high school education or less. Finally, given that this survey is administered in the spring of students’ senior year in high school, it is unsurprising that the majority of the sample (55.56%) is age 18 or older, while 44.44% are 17 or younger.

There are significant demographic differences between the key subgroups of interest. As Table 6-2 indicates, the four race/ethnicity subsamples differ in terms of gender, age, geographic residence, and income. All three minority groups appear to be younger (F(3, 26451.72)=9.20, p<.001) and more likely to live in urban areas (F(5.98, 52768.48)=147.39, p<.001) than the White subsample. In addition, Black and Hispanic students appear significantly more likely to be female (F (3, 26452.89)=5.35, p<.01) and poorer (F(3, 26440.82)=106.22, p<.001) than the White students, with Hispanic students significantly poorer than all three other groups. These data underscore the importance of including demographic controls in the structural analysis.

Likewise, as shown in Table 6-3, there are significant demographic differences between the two income groups of interest. The low-income students in this study appear to be younger (F(1, 9806)=10.441, p<.01), more likely to live in rural areas, and less likely to live in suburban areas (F(1.99, 19489.13)=76.26, p<.001) than their non-
low-income counterparts. Low-income students in the sample appear less likely to be White, and more likely to be Black or Hispanic (F(4, 39200.84)=4.09, p<.01).

Table 6-2: Demographic characteristics by race/ethnicity group

<table>
<thead>
<tr>
<th></th>
<th>Gender***</th>
<th>Age***</th>
<th>Geographic residence***</th>
<th>Income***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Under 18</td>
<td>18 and over</td>
</tr>
<tr>
<td>White</td>
<td>50.33%</td>
<td>49.67%</td>
<td>41.86%</td>
<td>58.14%</td>
</tr>
<tr>
<td>Black</td>
<td>43.05%</td>
<td>56.95%</td>
<td>46.63%</td>
<td>53.37%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>46.94%</td>
<td>53.06%</td>
<td>48.58%</td>
<td>51.42%</td>
</tr>
<tr>
<td>Asian</td>
<td>49.49%</td>
<td>50.51%</td>
<td>52.73%</td>
<td>47.27%</td>
</tr>
</tbody>
</table>

***p<.001

Table 6-3: Demographic characteristics by income group

<table>
<thead>
<tr>
<th></th>
<th>Low-income</th>
<th>Non-low-income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>47.68%</td>
<td>49.47%</td>
</tr>
<tr>
<td>Female</td>
<td>52.32%</td>
<td>50.53%</td>
</tr>
<tr>
<td>Age**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 18</td>
<td>41.58%</td>
<td>45.74%</td>
</tr>
<tr>
<td>18 and over</td>
<td>58.42%</td>
<td>54.26%</td>
</tr>
<tr>
<td>Geographic residence***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>53.08%</td>
<td>42.49%</td>
</tr>
<tr>
<td>Suburban</td>
<td>14.57%</td>
<td>27.28%</td>
</tr>
<tr>
<td>Urban</td>
<td>32.35%</td>
<td>30.23%</td>
</tr>
<tr>
<td>Race***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>13.21%</td>
<td>9.41%</td>
</tr>
<tr>
<td>White</td>
<td>54.46%</td>
<td>69.68%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>18.97%</td>
<td>6.58%</td>
</tr>
<tr>
<td>Asian</td>
<td>3.65%</td>
<td>4.45%</td>
</tr>
<tr>
<td>Other/missing</td>
<td>9.71%</td>
<td>9.85%</td>
</tr>
</tbody>
</table>

**p<.01, ***p<.001

Bivariate Findings

Research Question 1 asks whether there are differences in political attitudes and behaviors among the different race and socio-economic groupings studied here. Bivariate analyses were conducted to answer this question.
Political Attitudes

Political attitudes appear to be significantly related to income. Among political attitudes categorized as measuring “Self as Political Actor”, low-income students are significantly less likely than non-low-income students to hold an opinion about their political beliefs or about their political preferences, as illustrated in Table 6-4. Specifically, non-low-income students have 1.69 times the odds of low-income students of holding a political preference, and 1.66 times the odds of holding a political preference. Low-income students also exhibit significantly less interest in government than non-low-income students, as shown in Table 6-5. Similar differences characterize the measures of “Government as Political Actor.” Across all five measures, non-low-income students hold significantly more positive attitudes of government than low-income students. Means for non-low-income students on measures of government as political actor range from 2.34 to 3.70 on a scale of 1-5. For low-income students, the range is slightly lower, from 2.28 to 3.54.

Political attitudes also differ by race. For all attitudes hypothesized to measure the self as political actor construct, there are significant subgroup differences. As Table 6-6 shows, Black (p<.001), Hispanic (p<.001), and Asian (p=.036) students are less likely to hold a political belief than White students, with no significant differences between the three minority groups on this item. In terms of holding a political belief, Black students have .68 times the odds of White students to do so, Hispanics have .66 times the odds of White students, and Asians have .77 times the odds of White students. Black and White students are equally likely to hold a political preference. Asian students are less likely to hold a political preference than Blacks (p=.02), but not significantly less so than Whites.
Hispanics, in contrast, are less likely to hold political preferences than Blacks (p<.001), Whites (p<.001), and Asians (p=.02). Hispanic students have .59 times the odds of White students of having a political preference. Interest in government also differs, as shown in Table 6-7. All minority groups (Blacks: p<001, Hispanics: p<.01, Asians: p=.02) show less interest in government than Whites, with no differences between the minority groups.

| Table 6-4: Differences in categorical political attitudes and behaviors, by income status |
|-------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
| Low-income | Non-low-income | Total | Design-based F (1, 9806) | p-value |
| Political belief | | | | |
| Opinion | 57.10% | 68.87% | 65.18% | 90.14 | .0000 |
| No opinion | 42.90% | 31.13% | 34.82% | | |
| Political preference | | | | |
| Opinion | 50.82% | 63.63% | 59.61% | 101.02 | .0000 |
| No opinion | 49.18% | 36.37% | 40.39% | | |
| Written to public officials | | | | |
| Have | 7.83% | 12.61% | 11.11% | 29.74 | .0000 |
| Have not | 92.17% | 87.39% | 88.89% | | |
| Participated in a demonstration | | | | |
| Have | 1.78% | 4.77% | 3.83% | 45.78 | .0000 |
| Have not | 98.22% | 95.23% | 96.17% | | |
| Boycotted certain products or stores | | | | |
| Have | 5.56% | 8.61% | 7.66% | 21.63 | .0000 |
| Have not | 94.44% | 91.39% | 92.34% | | |
| Donated to candidate or cause | | | | |
| Have | 2.01% | 3.41% | 2.97% | 11.99 | .0005 |
| Have not | 97.99% | 96.59% | 97.03% | | |
| Voted in a public election | | | | |
| Have | 7.89% | 10.54% | 9.71% | 11.36 | .0008 |
| Have not | 92.11% | 89.46% | 90.29% | | |
| Worked in a public campaign | | | | |
| Have | 2.71% | 3.85% | 3.50% | 5.18 | .0228 |
| Have not | 97.29% | 96.15% | 96.5% | | |

Note: Income statistics are based on the full sample, including the Other/missing race category.

Similarly, significant racial differences exist for all attitudes believed to measure the government as political actor construct. As Table 6-7 shows, minority students (Black: p<.001, Hispanic: p<.001, Asian: p<.001) on average exhibit less trust in government than White students. Black students trust government less than Hispanic
White students are more likely on average than Hispanics (p=.017) to view government as honest. Black students show the least positive attitudes about government’s honesty, compared to Whites (p<.001), Asians (p<.001), and Hispanics (p<.001). Whites and Asians share similar views about whether government wastes taxpayer money. Hispanics believe government wastes more tax money than do Whites (p=.03) and Asians (p=.03), while Blacks have more negative views on this topic than Whites (p=<.001), Asians (p<.001), and Hispanics (p=.04). White students are more likely to believe that government knows what it is doing than Hispanics (p<.001), Asians (<.001), and Blacks (p<.001). Hispanic and Asian students share similar views about government’s competence, with both groups (Hispanics: p<.001, Asians: p<.001) more positive than Black students. Finally, White students are more likely to believe government is run on behalf of the citizenry than Hispanics (p<.001) and Blacks (p<.001). In every case, Black students hold the most negative attitudes about government. The mean attitude of Blacks towards government ranges from 2.12 to 3.36, as compared to from 2.28 to 3.60 for Hispanics, 2.35 to 3.51 for Asians, and 2.37 to 3.73 for Whites.

Table 6-5: Differences in continuous political attitudes, by income status

<table>
<thead>
<tr>
<th></th>
<th>Low-income (mean)</th>
<th>Non-low-income (mean)</th>
<th>Total (mean)</th>
<th>F-test (1, 9806)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest in government</td>
<td>2.89</td>
<td>3.10</td>
<td>3.03</td>
<td>63.92</td>
<td>.0000</td>
</tr>
<tr>
<td>Trust in government</td>
<td>3.21</td>
<td>3.34</td>
<td>3.30</td>
<td>32.22</td>
<td>.0000</td>
</tr>
<tr>
<td>Government is honest</td>
<td>2.28</td>
<td>2.34</td>
<td>2.32</td>
<td>12.52</td>
<td>.0004</td>
</tr>
<tr>
<td>Tax money is not wasted</td>
<td>2.35</td>
<td>2.51</td>
<td>2.46</td>
<td>51.98</td>
<td>.0000</td>
</tr>
<tr>
<td>Government knows what it is doing</td>
<td>3.54</td>
<td>3.70</td>
<td>3.65</td>
<td>48.62</td>
<td>.0000</td>
</tr>
<tr>
<td>Government is run for the people</td>
<td>2.69</td>
<td>2.78</td>
<td>2.75</td>
<td>12.52</td>
<td>.0004</td>
</tr>
</tbody>
</table>

Note: Income statistics are based on the full sample, including the Other/missing race category.
Table 6-6: Differences in categorical political attitudes and behaviors, by race

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian</th>
<th>Total</th>
<th>Design-based F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Political belief</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opinion</td>
<td>67.99%</td>
<td>59.04%</td>
<td>58.26%</td>
<td>62.16%</td>
<td>65.54%</td>
<td>F(3, 26443.04)=</td>
<td>.0000</td>
</tr>
<tr>
<td>No opinion</td>
<td>32.01%</td>
<td>40.96%</td>
<td>41.74%</td>
<td>37.84%</td>
<td>34.46%</td>
<td>15.63</td>
<td></td>
</tr>
<tr>
<td><strong>Political preference</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opinion</td>
<td>61.22%</td>
<td>63.73%</td>
<td>48.41%</td>
<td>56.05%</td>
<td>59.78%</td>
<td>F(3, 26452.55)=</td>
<td>.0000</td>
</tr>
<tr>
<td>No opinion</td>
<td>38.78%</td>
<td>36.27%</td>
<td>51.59%</td>
<td>43.95%</td>
<td>40.22%</td>
<td>17.53</td>
<td></td>
</tr>
<tr>
<td>Written to public officials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have</td>
<td>12.70%</td>
<td>6.23%</td>
<td>6.42%</td>
<td>9.89%</td>
<td>11.08%</td>
<td>F(2.96, 26137.43)=</td>
<td>15.71</td>
</tr>
<tr>
<td>Have not</td>
<td>87.30%</td>
<td>93.77%</td>
<td>93.58%</td>
<td>90.14%</td>
<td>88.92%</td>
<td>2.25</td>
<td>.08</td>
</tr>
<tr>
<td>Participated in a demonstration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have</td>
<td>4.03%</td>
<td>3.07%</td>
<td>2.47%</td>
<td>3.24%</td>
<td>3.70%</td>
<td>F (2.91, 26378.94)=</td>
<td>2.25</td>
</tr>
<tr>
<td>Have not</td>
<td>95.97%</td>
<td>96.93%</td>
<td>97.53%</td>
<td>96.76%</td>
<td>96.3%</td>
<td>6.96</td>
<td>.0001</td>
</tr>
<tr>
<td>Boycotted certain products or stores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have</td>
<td>8.32%</td>
<td>5.47%</td>
<td>4.81%</td>
<td>6.47%</td>
<td>7.49%</td>
<td>F (2.99, 26041.71)=</td>
<td>6.17</td>
</tr>
<tr>
<td>Have not</td>
<td>91.67%</td>
<td>94.53%</td>
<td>95.19%</td>
<td>93.53%</td>
<td>92.51%</td>
<td>2.22</td>
<td>.2222</td>
</tr>
<tr>
<td>Donated to candidate or cause</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have</td>
<td>3.03%</td>
<td>2.26%</td>
<td>1.97%</td>
<td>3.12%</td>
<td>2.82%</td>
<td>F(2.95, 25600.75)=</td>
<td>16.11</td>
</tr>
<tr>
<td>Have not</td>
<td>96.97%</td>
<td>97.74%</td>
<td>98.03%</td>
<td>96.88%</td>
<td>92.18%</td>
<td>1.47</td>
<td>.2222</td>
</tr>
<tr>
<td>Voted in a public election</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have</td>
<td>11.32%</td>
<td>8.48%</td>
<td>4.88%</td>
<td>3.28%</td>
<td>9.86%</td>
<td>F(2.9, 25600.75)=</td>
<td>.0000</td>
</tr>
<tr>
<td>Have not</td>
<td>88.68%</td>
<td>91.52%</td>
<td>95.12%</td>
<td>96.72%</td>
<td>90.14%</td>
<td>16.11</td>
<td>.0000</td>
</tr>
<tr>
<td>Worked in a public campaign</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have</td>
<td>3.46%</td>
<td>3.79%</td>
<td>3.40%</td>
<td>2.22%</td>
<td>3.44%</td>
<td>F(2.86, 25244.59)=</td>
<td>.6379</td>
</tr>
<tr>
<td>Have not</td>
<td>96.54%</td>
<td>96.21%</td>
<td>96.6%</td>
<td>97.78%</td>
<td>96.56%</td>
<td>.56</td>
<td>.6379</td>
</tr>
</tbody>
</table>

Note: Race statistics are based on a sample excluding the Other/missing race category.

Table 6-7: Differences in continuous political attitudes, by race

<table>
<thead>
<tr>
<th></th>
<th>White (mean)</th>
<th>Black (mean)</th>
<th>Hispanic (mean)</th>
<th>Asian (mean)</th>
<th>Total (mean)</th>
<th>F-statistic (3, 9804)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest in government</td>
<td>3.08</td>
<td>2.91</td>
<td>2.97</td>
<td>2.95</td>
<td>3.04</td>
<td>8.80</td>
<td>.0000</td>
</tr>
<tr>
<td>Trust in government</td>
<td>3.41</td>
<td>2.92</td>
<td>3.20</td>
<td>3.24</td>
<td>3.32</td>
<td>72.56</td>
<td>.0000</td>
</tr>
<tr>
<td>Government is honest</td>
<td>2.37</td>
<td>2.12</td>
<td>2.28</td>
<td>2.35</td>
<td>2.33</td>
<td>19.65</td>
<td>.0000</td>
</tr>
<tr>
<td>Tax money is not wasted</td>
<td>2.49</td>
<td>2.34</td>
<td>2.42</td>
<td>2.54</td>
<td>2.47</td>
<td>8.98</td>
<td>.0000</td>
</tr>
<tr>
<td>Government knows what it is doing</td>
<td>3.73</td>
<td>3.36</td>
<td>3.60</td>
<td>3.51</td>
<td>3.66</td>
<td>49.46</td>
<td>.0000</td>
</tr>
<tr>
<td>Government is run for the people</td>
<td>2.81</td>
<td>2.67</td>
<td>2.69</td>
<td>2.72</td>
<td>2.77</td>
<td>7.79</td>
<td>.0000</td>
</tr>
</tbody>
</table>

Note: Race statistics are based on a sample excluding the Other/missing race category.
Political Behaviors

The two socio-economic subsamples differ in their rates of participation in each of the six political behaviors under study, as shown in Table 6-4. Students who are non-low-income are significantly more likely than low-income students to participate in all measured political voice and electoral behaviors. Participation rates in these behaviors range from 1.78% to 7.89% for low-income students. Among students who are non-low-income, participation ranges from 3.41% to 12.61%.

As Table 6-6 shows, there are also significant racial/ethnic differences in four of the six political behaviors studied. White students have the widest range in participation rates, from 3.03% to 12.70%; for Blacks, participation rates range from 2.26% to 8.48%; for Hispanics, from 1.97% to 6.42%; and for Asians, from 2.22% to 9.89%.

Differences are most apparent in political voice behaviors. While Whites and Asians are similarly likely to write to public officials, both groups (Whites: p<.001, Asians: p=.04) are more likely to write to public officials than Blacks. Hispanics write to public officials at a similar frequency to Blacks, significantly less than Whites (p<.001).

A similar pattern exists for boycotting products or stores. Whites and Asians are equivalently likely to boycott, while Blacks (p<.01) and Hispanics (p<.001) are significantly less likely than Whites to boycott. In contrast, the overall model for participation in lawful demonstrations only approaches significance (p=.08), suggesting few meaningful differences among groups in terms of this behavior; however, Whites more likely to demonstrate than Hispanics (p=.01).

Fewer electoral behavior differences exist among groups. Racial/ethnic subgroups are equally likely to work in a public campaign or donate money to a
candidate or cause, although the difference in donating between Hispanics and Whites approaches significance (p=.06). Group differences are more apparent in terms of voting in a public election. White adolescents are more likely to vote than Blacks (p=.017), Hispanics (p<.001), and Asians (p<.001). Though less likely to vote than Whites, Blacks are more likely to vote than both Hispanics (p<.001) and Asians (p<.01)\(^{31}\).

**Measurement Findings**

Research Question 2 asks whether the proposed latent attitudinal and behavioral constructs are similar constituted across income status and race/ethnicity. To answer this question, multiple measurement models were tested. First, before comparing subgroups, a measurement model was fit for the full sample, consistent with Figure 5-1. Model fit is fair, based on three of the goodness-of-fit statistics (CFI=.937, TLI=.940, RMSEA=.037), and all factor loadings significant. However, in examining the modification indices, two particular suggested relationships called for further investigation. Namely, the two largest modification index values suggested that adding covariance terms between two pairs of political attitudes (between the measures of trust in government and government competence and between the measures of holding a political preference and holding a political belief) would result in an improvement in \( \chi^2 \). The measures of trust in government and of the competence of government officials are the two attitudinal variables that had been reverse-coded, meaning that they had originally been posed from positive (1) to negative (5), rather than from negative (1) to positive (5) like the other attitudinal variables in the dataset. This may well result in some shared measurement error between the two variables, so the covariance term was added. The measures of

\(^{31}\) For this variable, in particular, it is important to keep in mind age distribution differences across groups. As noted previously, the White subsample is older than the minority subsamples; thus, differences in actual voting activity may be attributable to greater voting eligibility among White students.
holding a political preference and holding a political belief were both recoded from items with multiple category response options to dichotomous measures of opinion/no opinion. The similar initial format of these two variables, and the similar recoding suggested possible shared measurement error. This covariance term was added, and the measurement model re-run.

These two modifications resulted in a stronger model fit (CFI=.966, TLI=.967, RMSEA=.028), so the model was accepted as the baseline measurement model for the subsample analyses. All observed variables load significantly (p<.05) on the expected latent constructs; standardized loadings are shown in Figure 6-1. The standardized loadings range from .50 to .79. These loadings range from fair to excellent (Harrington, 2009). R\textsuperscript{2} values ranging from 0.25 to 0.79 are presented for each observed variable, measuring how much of the variance of the observed variable is accounted for by the corresponding latent construct. Model fit statistics for the baseline full sample model are listed in Table 6-8.

<table>
<thead>
<tr>
<th>Model</th>
<th>N (unweighted)</th>
<th>X\textsuperscript{2}</th>
<th>df</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>WRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full sample</td>
<td>9807</td>
<td>359.842***</td>
<td>42</td>
<td>.966</td>
<td>.967</td>
<td>.028</td>
<td>1.965</td>
</tr>
<tr>
<td>Low-income</td>
<td>2913</td>
<td>123.715***</td>
<td>29</td>
<td>.946</td>
<td>.942</td>
<td>.033</td>
<td>1.424</td>
</tr>
<tr>
<td>Non-low-income</td>
<td>6894</td>
<td>252.527***</td>
<td>42</td>
<td>.969</td>
<td>.970</td>
<td>.027</td>
<td>1.634</td>
</tr>
<tr>
<td>White</td>
<td>6216</td>
<td>259.972***</td>
<td>42</td>
<td>.966</td>
<td>.966</td>
<td>.029</td>
<td>1.671</td>
</tr>
<tr>
<td>Black</td>
<td>1071</td>
<td>47.998**</td>
<td>27</td>
<td>.955</td>
<td>.951</td>
<td>.027</td>
<td>.931</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1091</td>
<td>22.845</td>
<td>16</td>
<td>.985</td>
<td>.980</td>
<td>.020</td>
<td>.822</td>
</tr>
<tr>
<td>Asian\textsuperscript{1}</td>
<td>442</td>
<td>51.541**</td>
<td>26</td>
<td>.906</td>
<td>.902</td>
<td>.047</td>
<td>.964</td>
</tr>
</tbody>
</table>

\textsuperscript{1} These goodness-of-fit statistics reflect the best fitting model for the Asian subgroup. As discussed in text, this model is similar, but not identical to the other models in this table.

***p<.001, **p<.01, *p<.05
The sample was then divided into subsamples, with model fit assessed for each subsample individually. This was followed by tests of measurement invariance across subsamples. First, these analyses were conducted across income groups, then across racial groups. Model fit statistics based on the baseline model are presented in Table 6-8 for each of the income and racial/ethnic subsamples.

**Measurement Invariance Across Income Models**

The overall model fit for the low-income subgroup is fair, but not as strong as the full sample (CFI=.946, TLI=.942, RMSEA=.033). Figure 6-2 shows this model, with
both standardized loadings and unstandardized loadings (in parentheses) provided\textsuperscript{32}. All standardized factor loadings are significant, ranging from .45 to .87, from fair to excellent (Harrington, 2009). $R^2$ values range from .20 to .75.

Figure 6-2: Low-income measurement model

On the other hand, the overall model fit for the non-low-income subgroup is stronger than the full sample (CFI=.969, TLI=.970, RMSEA=.027) – not surprising since the large majority of respondents in the full sample fall into this category. Shown in

\textsuperscript{32}While standardized coefficients are useful for comparing across loadings (or paths) in a model, unstandardized coefficients are most appropriate for interpreting across subgroups. For the CFA models, significance levels are provided for the standardized coefficients, both in figures and in text.
Figure 6-3, all factor loadings are significant, ranging from .50 to .90, from fair to excellent (Harrington, 2009). $R^2$ values range from .25 to .80.

Figure 6-3: Non-low-income measurement model

After fitting each individual subgroup model, a set of increasingly restrictive tests of measurement invariance was conducted to determine whether the attitudinal and behavioral constructs are similarly constituted across subgroups. Table 6-9 shows the goodness-of-fit statistics for the tests of each level of restriction across income subgroups. Model 1, configural invariance, tests whether each group interprets the items in a similar way, following the procedures specified in Chapter 5. The three main model fit statistics used in this study indicate a good fit for this model (CFI=.965, TLI=.963,
RMSEA=.029), suggesting that the two different groups do, in fact, interpret the observed attitudinal and behavioral items similarly. Model 2, metric invariance, tests whether factors have similar meaning across groups. The goodness-of-fit statistics again show a good fit (CFI=.964, TLI=.965, RMSEA=.028), indicating that the latent factors have similar effects on the observed variables across subgroups.

Table 6-9: Goodness-of-fit statistics for models testing invariance across income

<table>
<thead>
<tr>
<th>Model</th>
<th>X^2</th>
<th>Df</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>WRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>342.430***</td>
<td>67</td>
<td>.965</td>
<td>.963</td>
<td>.029</td>
<td>2.167</td>
</tr>
<tr>
<td>Model 2</td>
<td>352.230***</td>
<td>72</td>
<td>.964</td>
<td>.965</td>
<td>.028</td>
<td>2.225</td>
</tr>
<tr>
<td>Model 3</td>
<td>351.791***</td>
<td>72</td>
<td>.964</td>
<td>.965</td>
<td>.028</td>
<td>2.214</td>
</tr>
<tr>
<td>Model 4</td>
<td>372.093***</td>
<td>76</td>
<td>.962</td>
<td>.965</td>
<td>.028</td>
<td>2.283</td>
</tr>
<tr>
<td>Model 5</td>
<td>358.022***</td>
<td>75</td>
<td>.964</td>
<td>.966</td>
<td>.028</td>
<td>2.247</td>
</tr>
<tr>
<td>Model 6</td>
<td>874.995***</td>
<td>177</td>
<td>.934</td>
<td>.928</td>
<td>.028</td>
<td>2.274</td>
</tr>
<tr>
<td>Model 7</td>
<td>819.911***</td>
<td>183</td>
<td>.940</td>
<td>.937</td>
<td>.027</td>
<td>2.440</td>
</tr>
<tr>
<td>Model 8</td>
<td>778.977***</td>
<td>183</td>
<td>.943</td>
<td>.941</td>
<td>.026</td>
<td>3.245</td>
</tr>
</tbody>
</table>

Note: Model 1=Configural invariance, equality of overall structure; Model 2=Metric invariance, Model 1+invariant factor loadings; Model 3=Model 2, except factor loading for govwaste free to vary across groups; Model 4=Scalar invariance, Model 3+thresholds and intercepts invariant; Model 5=Model 4, except intercept for govinterest free to vary across groups; Model 6=baseline structural model, with covariates and scalar constraints; Model 7=Model 6 + invariant path coefficients; Model 8=Model 7, except non-invariant path coefficients freed across groups.

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

Part of the process of assessing measurement invariance is evaluating whether each successive more-restrictive model is significantly different from the prior less-restrictive model. If the difference between the two models is not significant, then the more restrictive model is deemed an appropriate fit. Model 2 does not appear to be significantly different than Model 1. Table 6-10 shows that the \( \Delta X^2 \) statistic is significant (24.276, df=9); however the \( \Delta CFI=.001 \) value is well below the cutoff value Cheung and Rensvold (2002) suggest for evaluating model invariance across large samples.

The metric model tests equality of factor loadings, and the overall good fit suggests that factor loadings are equivalent across both models. However, to identify whether any factor loadings differ between groups, a test of partial metric invariance was
conducted. Each individual factor loading was compared across groups using z-tests, with one coefficient found to be noninvariant: the measure of the extent to which government wastes tax money ("govwaste") loads more strongly onto government as political actor for low-income students than for non-low-income students (p<.05). This coefficient was freed in subsequent models involving income subgroups. Model 3, the partial metric invariance model, is structurally the same as Model 2, but with the coefficient for "govwaste" freed between groups. The overall goodness-of-fit is quite close to that of the full metric model (CFI=.964, TLI=.965, RMSEA=.028), and is not significantly different from that of the configural model (ΔCFI=.001).

Table 6-10: Changes in goodness-of-fit statistics across levels of invariance, by income

<table>
<thead>
<tr>
<th>Model comparison</th>
<th>ΔX²</th>
<th>Δdf</th>
<th>ΔCFI</th>
<th>ΔTLI</th>
<th>ΔRMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 versus 1</td>
<td>24.276**</td>
<td>9</td>
<td>-.001</td>
<td>.002</td>
<td>-.001</td>
</tr>
<tr>
<td>3 versus 1</td>
<td>19.246*</td>
<td>8</td>
<td>-.001</td>
<td>.002</td>
<td>-.001</td>
</tr>
<tr>
<td>4 versus 3</td>
<td>39.317***</td>
<td>8</td>
<td>-.002</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5 versus 3</td>
<td>18.880**</td>
<td>7</td>
<td>0</td>
<td>.001</td>
<td>0</td>
</tr>
<tr>
<td>7 versus 6</td>
<td>80.213***</td>
<td>29</td>
<td>.006</td>
<td>.009</td>
<td>-.001</td>
</tr>
<tr>
<td>8 versus 6</td>
<td>34.487**</td>
<td>26</td>
<td>.009</td>
<td>.013</td>
<td>.071</td>
</tr>
</tbody>
</table>

Note: Model 1=Configural invariance, equality of overall structure; Model 2=Metric invariance, Model 1+invariant factor loadings; Model 3=Model 2, except factor loading for govwaste free to vary across groups; Model 4=Scalar invariance, Model 3+thresholds and intercepts invariant; Model 5=Model 4, except intercept for govinterest free to vary across groups; Model 6=baseline structural model, with covariates and scalar constraints; Model 7=Model 6 + invariant path coefficients; Model 8=Model 7, except non-invariant path coefficients freed across groups.

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

Next, Model 4, scalar invariance, tests whether the two groups approach the survey items in a similar way. Model fit statistics show an overall good fit (CFI=.962, TFI=.965, RMSEA=.028), and the model does not appear to be significantly different from that of the modified metric model (ΔCFI=.002). It is worth noting, however, that the ΔX² is larger in this comparison and more strongly significant than in the previous model comparisons. Based on the modification indices, a partial scalar invariance model test was run (Gregorich, 2006), with the intercept for the measure of interest in
government ("govintrst") freed. The model fit for Model 5, the partial scalar invariance model (CFI=.964, TLI=.966, RMSEA=.028) is strong. Furthermore, based on the \( \Delta \text{CFI} \) value of 0, this model is not significantly different than that of the metric model. It can be determined based on these analyses of configural, metric, and scalar invariance, that there is partial measurement invariance. Only three parameters statistically differ between the two groups: the factor loading for “govwaste” and the item intercepts for “govwaste” and “gvintrst”. All other parameters are statistically equivalent.

**Measurement Invariance Across Race/Ethnicity Models**

Next, model fit is assessed for each racial subsample. Only students who self-identified as White, Black, Hispanic, or Asian are included in these analyses (n=8820). For the White subgroup (Figure 6-4), the model fit is good (CFI=.966, TLI=.966, RMSEA=.029). All standardized factor loadings are significant, ranging from a fair .45 to an excellent .88. \( R^2 \) values range from .20 to .77. For the Black subgroup, the model fit overall also is good (CFI=.955, TLI=.951, RMSEA=.027), with a significant WRMR (WRMR=.931) in addition to the other goodness-of-fit statistics. Figure 6-5 displays the measurement model for the Black subgroup. All factor loadings are significant; only the hypothesized covariate between the self as political actor construct and the government as political actor construct is not significant. Standardized factor loadings range from .31 to .84, meaning that despite significance, several of the loadings (measures of government as political actor: government officials knowing what they are doing and government run
for the benefit of the people) are considered very poor\textsuperscript{33}. R\textsuperscript{2} values range from a very low .09 to a fairly high .80.

**Figure 6-4: Measurement model for White subsample**

The model fit statistics for the Hispanic subgroup are the strongest of all of the subgroups analyzed so far. All five model statistics show good fit (CFI=.985, TLI=.980, RMSEA=.02), including a significant WRMR (WRMR=.822) and, for the first time

\textsuperscript{33} Dropping these two variables from the model did not result in stronger model fit. Testing a separate factor consisting of these two variables produced good model fit, but even lower factor loadings and R\textsuperscript{2} values, so the initial model was maintained.
among these subsamples, a nonsignificant \( \chi^2 \) value\(^{34,35} \) (\( \chi^2 \) = 22.845, df=16, \( p=.1179 \)).

The measurement model for this subgroup is displayed in Figure 6-6. All standardized factor loadings are significant\(^{36} \). Standardized factor loadings range from a low .43 to an excellent .88. \( R^2 \) values range from .19 to .99.

The measurement model for the Asian subgroup, in contrast to the other subsamples, does not fit the baseline model that was fitted to the full sample. Instead, for Asians, this model is found to be empirically under-identified. The model structure itself is over-identified, as it fits for the other subgroups, but the nature of the Asian sample data is found to be insufficient for model identification\(^{37} \). Effectively, this means that the sample data is not sufficient for estimating the unknown parameters, that some characteristic in the data leads the model to perceive that there are more free parameters than fixed parameters (Ullman, 2006). For example, errors associated with the observed variables may be correlated, observed variables may load on more than one factor, or

---

\(^{34} \)A nonsignificant \( \chi^2 \) value may be more likely for minority subgroups because of the smaller sample sizes. As noted in Chapter 5, the \( \chi^2 \) statistic is quite sensitive to sample size, with very large sample sizes rarely producing nonsignificant \( \chi^2 \) values.

\(^{35} \)When the WLSMV estimator is used, degrees of freedom are estimated in \textit{Mplus}. As a result, models which share exactly the same number of free parameters may differ in terms of degrees of freedom. For example, all models in Table 6-8 except the Asian subgroup share the identical structure, while degrees of freedom estimates range from 16 for the Hispanic model to 42 for the full sample.

\(^{36} \)Unlike the other subsample models analyzed thus far, the significance of factor loadings for several observed variables differs substantially between the standardized and unstandardized coefficients. The regressions on political voice behaviors of the measures of having written to public officials and having boycotted yield highly nonsignificant unstandardized loadings. To assess whether the unstandardized p-values signify a structural problem with the model, structural coefficients are calculated; i.e., this analysis examines whether these two variables were more strongly correlated with a different latent construct in the model (Graham, Guthrie, & Thompson, 2003). The analysis finds that these two variables are, in fact, most highly correlated with the hypothesized political voice construct. This may also indicate differences in how the Hispanic model behaves compared to the White and Black models already examined.

\(^{37} \)To test this proposition – that data characteristics are causing the under-identification of this model – the same model was run on the Asian student subgroup with data from each of the five imputed datasets. Sufficient model over-identification was achieved in two of the five datasets, thus supporting the belief that under-identification is due to characteristics of the data, not model structure.
factors may not covary (Ullman, 2006). One possible culprit in the Asian model is the near-zero correlation (r=.001) between the government as political actor attitudinal construct and the electoral activity construct. Where theoretically justified, empirical over-identification can be remedied by constraining additional parameter(s) in the model (Muthén & Muthén, 2007; Ullman, 2006). In this case, the government as political actor construct is examined first, as a potential contributor to the problem. The covariance term between the measures of trust in government (“trustgov”) and of government officials knowing what they are doing (“govtknow”), which was added previously to strengthen the fit of the full sample model, was eliminated, effectively fixing the covariance between these two items to 0 and constraining the measurement error of each of the two observed variables\(^{38}\). This change back to the initial hypothesized measurement model produces an improved, minimally acceptable, but not strong model fit (CFI=.906, TLI=.902, RMSEA=.047), as shown in Table 6-8. All standardized factor loadings in the revised Asian model are significant\(^{39}\), as displayed in Figure 6-7, ranging from .41 to a high of 1.00. The 1.00 factor loading suggests a 1-to-1 relationship between the variable measuring giving money to a political candidate or cause and the electoral behavior latent construct. \(R^2\) values range from .17 to 1.00.

\(^{38}\) A fair criticism of this modification is to ask why it is appropriate to remove this covariance for one subsample if the measurement error between two items is presumed to covary due to similar response option patterns. Why the covariance term behaves in this way is unclear; however, because removal of this term reflects a movement back to the originally hypothesized model, this was deemed to be an acceptable modification.

\(^{39}\) Like the Hispanic model, there are substantial differences in the significance of factor loadings between standardized and unstandardized coefficients. While all standardized coefficients were found to be significant, unstandardized coefficients for all variables except those measured by the government as political actor construct (notably, all of the dichotomous variables) were found to be non-significant. Analysis of structural coefficients (Graham, et al., 2003) indicates that in each case, these variables are most highly correlated with the hypothesized behavioral constructs.
Figure 6-5: Measurement model for Black subsample
Figure 6-6: Measurement model for Hispanic subsample
Figure 6-7: Measurement model for Asian subsample
After fitting these individual subsamples, increasingly restrictive tests of measurement invariance were conducted. Analyzing all four subsamples simultaneously may limit the ability to identify sources of any non-invariance that may exist. As a result, measurement invariance was first tested across pairs of racial/ethnic subgroups, with the White subsample as the reference in each comparison. Small differences in models across subgroups are acceptable for tests of partial measurement invariance, as long as the parameter(s) that differ are not constrained across groups in the tests of invariance (Byrne, 2001). As a result, analyses involving Asians do not constrain the covariance term between “trustgov” and “govtknow” across groups, and the term is fixed to 0 in the Asian student model. The model fit statistics for each level of restriction are shown in Table 6-11 for each pair of subsamples.

Invariance across the Black and White student subgroups was examined first. The configural invariance model, Model 1a, appears to have good fit (CFI=.961, TLI=.963, RMSEA=.034), suggesting that the two different subgroups interpret the observed items in a similar manner. Overall fit for the metric invariant model, Model 2a also appears to have good fit (CFI=.965, TLI=.964, RMSEA=.029), indicating that the latent constructs similarly affect observed variables across the two subgroups. The $\Delta X^2$ statistic between Model 2a and Model 1a (44.945, df=9) is significant, as shown in Table 6-12; while the $\Delta$CFI=-.003 value is well below the cutoff value that Cheung and Rensvold (2002) recommend. As a result of these split findings, each individual factor loading was compared across the two subsamples by using the z-test. Based on a critical value of $z=|1.96|$, $p<.05$, four of the five factor loadings for the government as political actor factor are non-invariant across groups (see Table 6-13), suggesting that Black
Table 6-11: Model fit statistics for models testing invariance across race

<table>
<thead>
<tr>
<th>Pairs</th>
<th>Model</th>
<th>$X^2$</th>
<th>Df</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>WRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>White-Black</td>
<td>Model 1a</td>
<td>249.473***</td>
<td>64</td>
<td>.968</td>
<td>.966</td>
<td>.028</td>
<td>1.913</td>
</tr>
<tr>
<td></td>
<td>Model 2a</td>
<td>272.453***</td>
<td>68</td>
<td>.965</td>
<td>.964</td>
<td>.029</td>
<td>2.019</td>
</tr>
<tr>
<td></td>
<td>Model 3a</td>
<td>248.116***</td>
<td>67</td>
<td>.969</td>
<td>.968</td>
<td>.027</td>
<td>1.918</td>
</tr>
<tr>
<td>White-Hispanic</td>
<td>Model 1b</td>
<td>172.614***</td>
<td>46</td>
<td>.975</td>
<td>.968</td>
<td>.027</td>
<td>1.863</td>
</tr>
<tr>
<td></td>
<td>Model 2b</td>
<td>165.305***</td>
<td>47</td>
<td>.977</td>
<td>.971</td>
<td>.026</td>
<td>1.893</td>
</tr>
<tr>
<td></td>
<td>Model 3b</td>
<td>[not run, no factor loadings freed]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Model 4b</td>
<td>176.534***</td>
<td>49</td>
<td>.975</td>
<td>.970</td>
<td>.027</td>
<td>1.978</td>
</tr>
<tr>
<td></td>
<td>Model 5b</td>
<td>434.017***</td>
<td>111</td>
<td>.951</td>
<td>.943</td>
<td>.028</td>
<td>2.057</td>
</tr>
<tr>
<td></td>
<td>Model 6b</td>
<td>414.990***</td>
<td>111</td>
<td>.954</td>
<td>.947</td>
<td>.027</td>
<td>2.221</td>
</tr>
<tr>
<td></td>
<td>Model 7b</td>
<td>390.821***</td>
<td>111</td>
<td>.957</td>
<td>.951</td>
<td>.026</td>
<td>2.105</td>
</tr>
<tr>
<td>White-Asian</td>
<td>Model 1c</td>
<td>255.490***</td>
<td>63</td>
<td>.964</td>
<td>.963</td>
<td>.030</td>
<td>1.930</td>
</tr>
<tr>
<td></td>
<td>Model 2c</td>
<td>243.544***</td>
<td>62</td>
<td>.966</td>
<td>.964</td>
<td>.030</td>
<td>2.006</td>
</tr>
<tr>
<td></td>
<td>Model 3c</td>
<td>243.168***</td>
<td>63</td>
<td>.966</td>
<td>.965</td>
<td>.029</td>
<td>1.956</td>
</tr>
<tr>
<td></td>
<td>Model 4c</td>
<td>248.815***</td>
<td>64</td>
<td>.965</td>
<td>.965</td>
<td>.029</td>
<td>2.017</td>
</tr>
<tr>
<td></td>
<td>Model 5c</td>
<td>472.913***</td>
<td>109</td>
<td>.939</td>
<td>.931</td>
<td>.032</td>
<td>2.121</td>
</tr>
<tr>
<td></td>
<td>Model 6c</td>
<td>387.625***</td>
<td>105</td>
<td>.953</td>
<td>.944</td>
<td>.028</td>
<td>2.183</td>
</tr>
<tr>
<td></td>
<td>Model 7c</td>
<td>397.653</td>
<td>107</td>
<td>.951</td>
<td>.944</td>
<td>.029</td>
<td>2.151</td>
</tr>
<tr>
<td>White-Hispanic-Asian</td>
<td>Model 1d</td>
<td>227.825***</td>
<td>72</td>
<td>.970</td>
<td>.965</td>
<td>.029</td>
<td>2.099</td>
</tr>
<tr>
<td></td>
<td>Model 2d</td>
<td>226.160***</td>
<td>75</td>
<td>.971</td>
<td>.967</td>
<td>.028</td>
<td>2.191</td>
</tr>
<tr>
<td></td>
<td>Model 3d</td>
<td>219.330***</td>
<td>74</td>
<td>.972</td>
<td>.968</td>
<td>.028</td>
<td>2.150</td>
</tr>
<tr>
<td></td>
<td>Model 4d</td>
<td>239.98***</td>
<td>78</td>
<td>.969</td>
<td>.966</td>
<td>.028</td>
<td>2.274</td>
</tr>
</tbody>
</table>

Note: Model 1=Configural invariance, equality of overall structure; Model 2=Metric invariance, Model 1+invariant factor loadings; Model 3=Model 2, except with non-invariant factor loadings freed; Model 4=Scalar invariance, Model 3+thresholds and intercepts invariant; Model 5=baseline structural model, with covariates and scalar constraints; Model 6=Model 5 + invariant path coefficients; Model 7=Model 6, except non-invariant path coefficients freed across groups.

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

students interpret this factor differently than White students. The metric invariance model was modified to free each of these non-invariant factor loadings. The model fit for this partially invariant metric model appears to be good (CFI=.969, TLI=.968, RMSEA=.027), and is found not to be statistically different from the initial configural model ($\Delta X^2=1.986$, df=5, p=.85; $\Delta$CFI=.001). Although this partially invariant model fits statistically, one full factor among the four in the model differs substantively between the two groups. While the two groups appear to interpret the observed items in a similar
manner, the government as political actor factor is not manifested in the same way across Black and White students. Thus, in practical terms, the two models are non-invariant.

Table 6-12: Changes in model fit statistics across levels of invariance, by race

<table>
<thead>
<tr>
<th>Pair</th>
<th>Model comparison</th>
<th>$\Delta X^2$</th>
<th>$\Delta df$</th>
<th>$\Delta CFI$</th>
<th>$\Delta TLI$</th>
<th>$\Delta RMSEA$</th>
</tr>
</thead>
<tbody>
<tr>
<td>White-Black</td>
<td>2a versus 1a</td>
<td>44.945***</td>
<td>9</td>
<td>-.003</td>
<td>-.002</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>3a versus 1a</td>
<td>1.986</td>
<td>5</td>
<td>.001</td>
<td>.002</td>
<td>-.001</td>
</tr>
<tr>
<td>White-Hispanic</td>
<td>2b versus 1b</td>
<td>10.839</td>
<td>9</td>
<td>.002</td>
<td>.003</td>
<td>-.001</td>
</tr>
<tr>
<td></td>
<td>4b versus 2b</td>
<td>43.507***</td>
<td>9</td>
<td>-.002</td>
<td>-.001</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>6b versus 5b</td>
<td>53.462***</td>
<td>18</td>
<td>.003</td>
<td>.004</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>7b versus 5b</td>
<td>17.112</td>
<td>15</td>
<td>.006</td>
<td>.008</td>
<td></td>
</tr>
<tr>
<td>White-Asian</td>
<td>2c versus 1c</td>
<td>23.678**</td>
<td>8</td>
<td>.002</td>
<td>.001</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3c versus 1c</td>
<td>9.706</td>
<td>7</td>
<td>.002</td>
<td>.002</td>
<td>-.001</td>
</tr>
<tr>
<td></td>
<td>4c versus 3c</td>
<td>30.559***</td>
<td>7</td>
<td>-.001</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>6c versus 5c</td>
<td>17.869</td>
<td>17</td>
<td>.014</td>
<td>.013</td>
<td>-.004</td>
</tr>
<tr>
<td></td>
<td>7c versus 5c</td>
<td>9.001</td>
<td>15</td>
<td>.012</td>
<td>.013</td>
<td>-.003</td>
</tr>
<tr>
<td>White-Hispanic-Asian</td>
<td>2d versus 1d</td>
<td>34.383**</td>
<td>17</td>
<td>.001</td>
<td>.002</td>
<td>-.001</td>
</tr>
<tr>
<td></td>
<td>3d versus 1d</td>
<td>19.400</td>
<td>15</td>
<td>.002</td>
<td>.003</td>
<td>-.001</td>
</tr>
<tr>
<td></td>
<td>4d versus 3d</td>
<td>71.473***</td>
<td>16</td>
<td>-.003</td>
<td>-.002</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: Model 1=Configural invariance, equality of overall structure; Model 2=Metric invariance, Model 1+invariant factor loadings; Model 3=Model 2, except with non-invariant factor loadings freed; Model 4=Scalar invariance, Model 3+thresholds and intercepts invariant; Model 5=baseline structural model, with covariates and scalar constraints; Model 6=Model 5 + invariant path coefficients; Model 7=Model 6, except non-invariant path coefficients freed across groups.

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

Table 6-13: Factor loadings with differences between race subgroups

<table>
<thead>
<tr>
<th>Black-White</th>
<th>Hispanic-White</th>
<th>Asian-White</th>
<th>Hispanic-Black</th>
<th>Asian-Black</th>
<th>Hispanic-Asian</th>
</tr>
</thead>
<tbody>
<tr>
<td>govtknow</td>
<td>gvintrst</td>
<td>govtknow</td>
<td>govtknow</td>
<td>govtknow</td>
<td></td>
</tr>
<tr>
<td>govhnst</td>
<td>govtpl</td>
<td>govtwaste</td>
<td>govhonest</td>
<td>govtwaste</td>
<td></td>
</tr>
<tr>
<td>govwaste</td>
<td>trustgov</td>
<td>trustgov</td>
<td>trustgov</td>
<td>havecpg</td>
<td></td>
</tr>
<tr>
<td>trustgov</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Differences across pairs of non-White subgroups are not discussed in the text, but are included here to provide support for the conclusion that the measurement model differs for Blacks as compared to the other three subgroups.
Invariance between the White and Hispanic groups was then assessed. Model 1b tests for configural invariance across these two groups, and appears to have good fit (CFI=.975, TLI=.968, RMSEA=.027). The metric invariance model, Model 2b, also shows good fit (CFI=.977, TLI=.971, RMSEA=.026). Model 2b and 1b are statistically similar to each other ($\Delta X^2=10.839$, df=9, $p=.29$; $\Delta$CFI=.002), indicating that the metric invariance model is well-suited to this data. In essence, this means that the factor loadings between the two groups are invariant. This finding is examined further by calculating z-tests across each pair of factor loadings. All differences between factor loadings for Whites and Hispanics are not significant, supporting the conclusion of invariant factor loadings. The next step was to assess scalar invariance, whether the two groups approach the survey items similarly. Model 4b shows good fit (CFI=.975, TLI=.970, RMSEA=.027), and is statistically similar to Model 2b ($\Delta$CFI=.002), although $\Delta X^2$ is significant. Modification indices did not indicate that the model would be strengthened by freeing any intercept constraints. Thus, the scalar invariance model is also well-suited to the data. It can be concluded from this analysis that White and Hispanic models are invariant.

Invariance between the White and Asian groups also was examined. Because the White model includes the covariance term between “trustgov” and “govtknow”, and the Asian model does not, this was a test of partial – not full – measurement invariance. Configural invariance, Model 1c, between these two groups shows good fit (CFI=.964, TLI=.963, RMSEA=.030). The metric invariance model, Model 2c, also shows good fit (CFI=.966, TLI=.964, RMSEA=.03), but the finding of difference between the two models is split. The $\Delta X^2$ statistic is significant, but the $\Delta$CFI=.002 suggest that there is
no statistical difference between the two groups. As a result of this split finding, individual factor loadings were compared. As shown in Table 6-13, two factor loadings are found to differ between the two groups: the measure of government being run for the benefit of the public (“govtppl”) loads more strongly onto the government as political actor construct for White students than Asian students (p<.01), and the measure of interest in government (“gvintrst”) likewise loads more strongly for White students onto the self as political actor construct (p<.01). The two loadings were freed, and the partial metric invariance model, Model 3c, was run. This model yields good fit (CFI=.966, TLI=.965, RMSEA=.029), and is found to be statistically similar to Model 1c ($\Delta \chi^2=9.706, df=7, p=.21; \Delta \text{CFI}=.002$), indicating that this partial metric invariance model is well-suited to this data. Finally, a scalar invariant model was run. This model also has good fit (CFI=.965, TLI=.965, RMSEA=.029). The $\Delta \chi^2$ statistic is significant, while the $\Delta \text{CFI}=-.001$ suggests no statistical difference between the two groups. Per Cheung and Rensvold (2002), the $\Delta \text{CFI}$ statistic is relied upon to conclude from this analysis that the White and Asian models are partially invariant.

Based on the findings of these paired analyses, further analyses involving the Black subsample were conducted individually, since the underlying measurement structure appears to differ from the White subsample. In order to determine if the remaining three racial/ethnic groups, Whites, Hispanics, and Asians, can be analyzed together, invariance across the three groups was tested. Consistent with expectations based on the paired group tests, the three groups are partially invariant and can be analyzed together, as long as the parameters which were found to differ between Asian and White students are not constrained across groups.
Structural Findings

Research Question 3 asks whether income status and race/ethnicity moderate the proposed path relationships between attitudinal and behavioral constructs. As discussed in Chapter 5, five covariates were introduced in the structural model: gender, age, geographic status. Race/ethnicity and income were also included as covariates\(^40\), except when included in the model as moderators. Before adding the covariates, a structural model without covariates, based directly on the measurement model fitted above, was tested. As illustrated in Figure 6-8, this structural model without covariates has good model fit (CFI=.966, TLI=.967, RMSEA=.028), meaning that the data is accepted as a good explanation of the relationships among latent constructs. This model explains 36% of the variance in the political voice construct, and 81% of the variance in the electoral activity construct\(^41\). For the full sample, without taking into account covariates, all but one of the hypothesized structural paths are significant. Students with more positive views of self as political actor are more likely to engage in political voice activities (\(\beta=.60\)), but the relationship between these attitudes and electoral activities (\(\beta=-.10\)) only approaches significance. On the other hand, positive views of government as political actor predict a decrease in political voice activities (\(\beta=-.19\)), but an increase in electoral

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\(^{40}\) All five racial/ethnic groups (including race=Other/Missing) were included when race was treated as a covariate. When race was analyzed as a moderator, only the four groups of interest were included in the models: White, Black, Hispanic, Asian.

\(^{41}\) In all structural models discussed here, the R\(^2\) value for the electoral behavior construct is high. This may be because, as Joreskog (2000) suggests, an R\(^2\) value calculated for a recursive structural equation overaccounts for the variance explained by the three other dependent variables in the model. However, the high correlation between the political voice and electoral factors (in this model, \(r=.89\)) suggests that the high R\(^2\) may instead be an artifact of a strong relationship between these two factors. Before concluding that this was the case, however, the latent political voice factor was regressed on the latent electoral factor in Stata, without the other variables in the model. R\(^2=.15\), suggesting that the high R\(^2\) cannot be attributed primarily to this relationship.
Figure 6-8: Structural model with no covariates
activities ($\beta = .15$). Participation in political voice activities strongly predicts participation in electoral activities ($\beta = .96$).

When covariates were introduced into the model as a group, the model fit declines to only a fair fit (CFI = .932, TLI = .927, RMSEA = .027), but the path coefficient patterns remain. Figure 6-9 depicts all significant paths in the model; Table 6-14 lists the path coefficients of each covariate and latent factor in the model. When controlling for the demographic covariates, students with more positive views of self as political actor are still more likely to engage in political voice activities ($\beta = .58$), while the relationship between self as political actor and electoral activities ($\beta = -0.08$) remains insignificant. Similarly, positive government as political actor views negatively predict political voice activities ($\beta = -.21$) and positively predict electoral activities ($\beta = .15$). In addition, political voice participation remains a strong predictor of electoral participation ($\beta = .93$).

The introduction of covariates into the model also shows several significant predictive relationships between the covariates and the latent constructs. Race significantly predicts all four constructs in the model with more negative political attitudes for all minority and other/missing groups compared to Whites, when controlling for other variables. Political voice activity is lower for Blacks and Hispanics than Whites, while electoral activity is significantly higher for Blacks than for Whites when controlling for all other variables in the model\textsuperscript{42}. Income strongly predicts all latent factors except participation in electoral activity, with non-low-income students holding more positive attitudes and engaging in more political voice activities. Geography

\textsuperscript{42} The electoral behavior finding contrasts with the bivariate findings that White adolescents vote more than Blacks and participate in other electoral behaviors at similar rates. However, it is consistent with studies that find that Black adults vote at a higher rate than Whites when controlling for SES (e.g., Marschall, 2001).
Figure 6-9: Structural model with covariates
Table 6-14: Full structural model with covariates

<table>
<thead>
<tr>
<th>Effect</th>
<th>b</th>
<th>SE</th>
<th>b/SE</th>
<th>β</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Self as Political Actor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of gender: female</td>
<td>-0.17</td>
<td>0.02</td>
<td>-7.77***</td>
<td>0.02</td>
<td>.08</td>
</tr>
<tr>
<td>Of age: 18 and over</td>
<td>0.01</td>
<td>0.02</td>
<td>.53</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Of geog: urban</td>
<td>0.08</td>
<td>0.03</td>
<td>2.99**</td>
<td>-0.03</td>
<td></td>
</tr>
<tr>
<td>Of geog: suburban</td>
<td>0.19</td>
<td>0.03</td>
<td>6.98***</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Of income: non-low-income</td>
<td>0.23</td>
<td>0.02</td>
<td>9.54***</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Of race: Black</td>
<td>-0.09</td>
<td>0.03</td>
<td>-2.73**</td>
<td>-0.09</td>
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</tr>
<tr>
<td>Of race: Hispanic</td>
<td>-0.16</td>
<td>0.04</td>
<td>-4.49***</td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td>Of race: Asian</td>
<td>-0.18</td>
<td>0.05</td>
<td>-3.23***</td>
<td>-0.01</td>
<td></td>
</tr>
<tr>
<td>Of race: Other/Miss</td>
<td>-0.13</td>
<td>0.04</td>
<td>-3.54***</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>On Govt as Political Actor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of gender: female</td>
<td>-0.02</td>
<td>0.02</td>
<td>-1.28</td>
<td>-0.02</td>
<td>.05</td>
</tr>
<tr>
<td>Of age: 18 and over</td>
<td>0.03</td>
<td>0.02</td>
<td>1.56</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Of geog: urban</td>
<td>0.05</td>
<td>0.02</td>
<td>2.29*</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Of geog: suburban</td>
<td>0.06</td>
<td>0.02</td>
<td>2.74**</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Of income: non-low-income</td>
<td>0.11</td>
<td>0.02</td>
<td>5.89***</td>
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<td></td>
</tr>
<tr>
<td>Of race: Black</td>
<td>-0.31</td>
<td>0.03</td>
<td>-12.00***</td>
<td>-0.16</td>
<td></td>
</tr>
<tr>
<td>Of race: Hispanic</td>
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<td>0.03</td>
<td>-4.58***</td>
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</tr>
<tr>
<td>Of race: Asian</td>
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<td>0.04</td>
<td>-2.69**</td>
<td>-0.04</td>
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</tr>
<tr>
<td>Of race: Other/Miss</td>
<td>-0.23</td>
<td>0.03</td>
<td>-8.78***</td>
<td>-0.11</td>
<td></td>
</tr>
<tr>
<td>On Political Voice activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of Self as Political Actor</td>
<td>1.75</td>
<td>0.21</td>
<td>8.32***</td>
<td>0.58</td>
<td>.38</td>
</tr>
<tr>
<td>Of Govt as Political Actor</td>
<td>-0.70</td>
<td>0.12</td>
<td>-6.03***</td>
<td>-0.21</td>
<td></td>
</tr>
<tr>
<td>Of gender: female</td>
<td>0.09</td>
<td>0.09</td>
<td>1.09</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Of age: 18 and over</td>
<td>0.12</td>
<td>0.08</td>
<td>1.40</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Of geog: urban</td>
<td>-0.12</td>
<td>0.10</td>
<td>-1.16</td>
<td>-0.03</td>
<td></td>
</tr>
<tr>
<td>Of geog: suburban</td>
<td>0.06</td>
<td>0.10</td>
<td>0.60</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Of income: non-low-income</td>
<td>0.32</td>
<td>0.10</td>
<td>3.03**</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Of race: Black</td>
<td>-0.56</td>
<td>0.16</td>
<td>-3.55***</td>
<td>-0.09</td>
<td></td>
</tr>
<tr>
<td>Of race: Hispanic</td>
<td>-0.31</td>
<td>0.16</td>
<td>-2.03*</td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td>Of race: Asian</td>
<td>-0.10</td>
<td>0.23</td>
<td>-0.46</td>
<td>-0.01</td>
<td></td>
</tr>
<tr>
<td>Of race: Other/Miss</td>
<td>0.18</td>
<td>0.15</td>
<td>1.25</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>On Electoral activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of Political Voice activity</td>
<td>0.56</td>
<td>0.08</td>
<td>7.01***</td>
<td>0.93</td>
<td>.84</td>
</tr>
<tr>
<td>Of Self as Political Actor</td>
<td>-0.15</td>
<td>0.09</td>
<td>-1.58</td>
<td>-0.08</td>
<td></td>
</tr>
<tr>
<td>Of Govt as Political Actor</td>
<td>0.31</td>
<td>0.07</td>
<td>4.75***</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>Of gender: female</td>
<td>-0.10</td>
<td>0.06</td>
<td>-1.65</td>
<td>-0.04</td>
<td></td>
</tr>
<tr>
<td>Of age: 18 and over</td>
<td>0.57</td>
<td>0.07</td>
<td>7.73***</td>
<td>0.23</td>
<td></td>
</tr>
<tr>
<td>Of geog: urban</td>
<td>0.11</td>
<td>0.07</td>
<td>1.44</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Of geog: suburban</td>
<td>-0.18</td>
<td>0.08</td>
<td>-2.44*</td>
<td>-0.06</td>
<td></td>
</tr>
<tr>
<td>Of income: non-low-income</td>
<td>-0.05</td>
<td>0.07</td>
<td>-0.70</td>
<td>-0.02</td>
<td></td>
</tr>
<tr>
<td>Of race: Black</td>
<td>0.26</td>
<td>0.10</td>
<td>2.51*</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Of race: Hispanic</td>
<td>0.01</td>
<td>0.12</td>
<td>0.10</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Of race: Asian</td>
<td>-0.23</td>
<td>0.17</td>
<td>-1.36</td>
<td>-0.04</td>
<td></td>
</tr>
<tr>
<td>Of race: Other/Miss</td>
<td>0.06</td>
<td>0.09</td>
<td>0.69</td>
<td>0.02</td>
<td></td>
</tr>
</tbody>
</table>

***p<.001, **p<.01, *p<.05, ^p<.08
significantly predicts all factors except for political voice activity, with urban and suburban students each holding more positive political attitudes than rural students, and suburban students participating in less electoral activity than rural students. Gender and age are significantly related to only one factor each: females have less positive views of self as political actor than males, and unsurprisingly, students age 18 and over participate in more electoral activity than students under 18. Overall, the $R^2$ for this model is slightly stronger than for the model without covariates, explaining 38% of the variance in the political voice construct, and 84% of the variance in the electoral activity construct.

The structural model was then fit separately for each subsample. This was necessary prior to conducting multiple-group analyses across the two measurement invariant income groups and those racial/ethnic groups found to be fully or partially invariant. Model fit statistics for each subsample, based on the baseline structural model with covariates, are presented in Table 6-15.

<table>
<thead>
<tr>
<th>Model</th>
<th>N (unweighted)</th>
<th>$X^2$</th>
<th>df</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>WRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full sample</td>
<td>9807</td>
<td>905.979***</td>
<td>108</td>
<td>.932</td>
<td>.927</td>
<td>.027</td>
<td>2.018</td>
</tr>
<tr>
<td>Low-income</td>
<td>2913</td>
<td>288.727***</td>
<td>78</td>
<td>.916</td>
<td>.905</td>
<td>.030</td>
<td>1.368</td>
</tr>
<tr>
<td>Non-low-income</td>
<td>6894</td>
<td>667.983***</td>
<td>101</td>
<td>.934</td>
<td>.931</td>
<td>.029</td>
<td>1.768</td>
</tr>
<tr>
<td>White</td>
<td>6216</td>
<td>532.254***</td>
<td>79</td>
<td>.939</td>
<td>.935</td>
<td>.030</td>
<td>1.787</td>
</tr>
<tr>
<td>Black(^1)</td>
<td>1071</td>
<td>96.865***</td>
<td>54</td>
<td>.934</td>
<td>.925</td>
<td>.027</td>
<td>.957</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1091</td>
<td>84.500***</td>
<td>46</td>
<td>.947</td>
<td>.940</td>
<td>.028</td>
<td>.959</td>
</tr>
<tr>
<td>Asian(^2)</td>
<td>442</td>
<td>105.015***</td>
<td>45</td>
<td>.847</td>
<td>.833</td>
<td>.055</td>
<td>1.070</td>
</tr>
</tbody>
</table>

\(^1\)There is one small deviation from the baseline for this model: the residual variance of latent variable “elect” is fixed to 0, as discussed in the text.

\(^2\)Consistent with the measurement model findings, this model deviates from the baseline by fixing the covariance term between “trustgov” and “govtknow” to 0. Model fit is also not acceptable when the covariance term is not fixed.

Multiple Group Analyses Across Income Models

The structural models for the two income subsamples were fitted with four of the five covariates – obviously, income was not included as a covariate. The overall model
fit for the low-income subgroup is in the acceptable range, but is not strong (CFI= .916, TLI=.905, RMSEA=.03). Figure 6-10 illustrates this model, with only significant paths and those approaching significance shown. As Table 6-16 indicates, the paths between the latent constructs follow the same pattern as the full model: self as political actor positively predicts political voice behaviors (β=.54, b=1.59), but not electoral activity (β=.23, b=-.42); views of government as political actor negatively predict political voice activity (β=-.30, b=-.96) and positively predict electoral activity (β=.23, b=.73); political voice activity strongly predicts electoral activity (β=1.01, b=.99). This model explains 36% of the variance in political voice behavior, and 88% of the variance in electoral behavior.

The non-low-income subgroup has stronger goodness-of-fit (CFI=.934, TLI=.931, RMSEA=.029), though slightly lower R² values for the dependent variables: 35% of the variance in the political voice construct is explained, as is 84% of the variance in the electoral activity. The significance and sign of the paths between the latent constructs in Figure 6-11 matches the low-income model: views of self as political actor predict political voice behaviors (β=.58, b=1.68), but not electoral behaviors (β=-.06, b=-.09); views of government as political actor negatively predict political voice (β=-.18, b=-.59), but positively predict electoral participation (β=.14, b=.26); and political voice behavior strongly predicts electoral behavior (β=.90, b=.50).

The primary differences between the two models involve the demographic covariates. Geographic residence is a significant positive predictor of electoral activity and views of government as political actor for non-low-income students, but not for low-
Figure 6-10: Low-income structural model
### Table 6-16: Path coefficients, by income

<table>
<thead>
<tr>
<th>Effect</th>
<th>Low-Income (n=2913)</th>
<th>Non-Low-Income (n=6894)</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Self as Political Actor</td>
<td></td>
<td></td>
<td>.04</td>
</tr>
<tr>
<td>Of gender: female</td>
<td>0.14***</td>
<td>-0.19***</td>
<td></td>
</tr>
<tr>
<td>Of age: 18 and over</td>
<td>0.07</td>
<td>-0.02</td>
<td></td>
</tr>
<tr>
<td>Of geog: urban</td>
<td>0.09*</td>
<td>0.08*</td>
<td></td>
</tr>
<tr>
<td>Of geog:suburban</td>
<td>0.13*</td>
<td>0.21***</td>
<td></td>
</tr>
<tr>
<td>Of race: Black</td>
<td>0.12*</td>
<td>-0.22***</td>
<td></td>
</tr>
<tr>
<td>Of race:Hispanic</td>
<td>-0.13*</td>
<td>-0.15**</td>
<td></td>
</tr>
<tr>
<td>Of race:Asian</td>
<td>-0.05</td>
<td>-0.23***</td>
<td></td>
</tr>
<tr>
<td>Of race:Other/Miss</td>
<td>-0.08</td>
<td>-0.15**</td>
<td></td>
</tr>
<tr>
<td>On Govt as Political Actor</td>
<td></td>
<td></td>
<td>.02</td>
</tr>
<tr>
<td>Of gender: female</td>
<td>-0.06*</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Of age: 18 and over</td>
<td>0.00</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Of geog: urban</td>
<td>0.00</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>Of geog:suburban</td>
<td>0.02</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Of race:Black</td>
<td>-0.18***</td>
<td>-0.38***</td>
<td></td>
</tr>
<tr>
<td>Of race:Hispanic</td>
<td>-0.03</td>
<td>-0.19***</td>
<td></td>
</tr>
<tr>
<td>Of race:Asian</td>
<td>-0.07</td>
<td>-0.12**</td>
<td></td>
</tr>
<tr>
<td>Of race:Other/Miss</td>
<td>-0.08^</td>
<td>-0.29***</td>
<td></td>
</tr>
<tr>
<td>On Political Voice activity</td>
<td></td>
<td></td>
<td>.36</td>
</tr>
<tr>
<td>Of Self as Political Actor</td>
<td>1.59***</td>
<td>1.68***</td>
<td></td>
</tr>
<tr>
<td>Of Govt as Political Actor</td>
<td>-0.96***</td>
<td>-0.59***</td>
<td></td>
</tr>
<tr>
<td>Of gender: female</td>
<td>0.06</td>
<td>0.11</td>
<td></td>
</tr>
<tr>
<td>Of age: 18 and over</td>
<td>0.04</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>Of geog: urban</td>
<td>0.03</td>
<td>-0.16</td>
<td></td>
</tr>
<tr>
<td>Of geog:suburban</td>
<td>0.38^</td>
<td>-0.03</td>
<td></td>
</tr>
<tr>
<td>Of race:Black</td>
<td>-0.60^</td>
<td>-0.48*</td>
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<td>Of race:Hispanic</td>
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<td>-0.23</td>
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</tr>
<tr>
<td>Of race:Other/Miss</td>
<td>0.39</td>
<td>0.10</td>
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</tr>
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<td>On Electoral activity</td>
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<td></td>
<td>.88</td>
</tr>
<tr>
<td>Of Political Voice</td>
<td>0.99***</td>
<td>0.50***</td>
<td></td>
</tr>
<tr>
<td>Of Self as Political Actor</td>
<td>-0.42</td>
<td>-0.09</td>
<td></td>
</tr>
<tr>
<td>Of Govt as Political Actor</td>
<td>0.73***</td>
<td>0.26**</td>
<td></td>
</tr>
<tr>
<td>Of gender: female</td>
<td>-0.26</td>
<td>-0.08</td>
<td></td>
</tr>
<tr>
<td>Of age: 18 and over</td>
<td>0.60**</td>
<td>0.56**</td>
<td></td>
</tr>
<tr>
<td>Of geog: urban</td>
<td>0.27</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Of geog:suburban</td>
<td>-0.28</td>
<td>-0.08</td>
<td></td>
</tr>
<tr>
<td>Of race:Black</td>
<td>0.35</td>
<td>0.23</td>
<td></td>
</tr>
<tr>
<td>Of race:Hispanic</td>
<td>-0.05</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>Of race:Asian</td>
<td>-0.32</td>
<td>-0.24</td>
<td></td>
</tr>
<tr>
<td>Of race:Other/Miss</td>
<td>-0.27</td>
<td>0.13</td>
<td></td>
</tr>
</tbody>
</table>

Note: Coefficients are for unconstrained models; each model was fit separately.

***p<.001, **p<.01, *p<.05, ^p<.08
Figure 6-11: Non-low-income structural model
income students. Suburban non-low-income students engage in less electoral activity than rural students, while suburban and urban non-low-income students hold more positive internally and externally focused attitudes than their rural counterparts. Similarly, race predicts electoral activity for non-low-income students, with Black students participating in more electoral activities, but this is not the case among low-income students. For low-income students, being female negatively predicts views of government as political actor for low-income students, but gender is not a significant predictor for wealthier students.

After fitting these two models, a multiple group analysis was conducted to test whether differences exist between the groups in terms of path coefficients, when controlling for demographic covariates. Constraints from the scalar measurement model for income were added to the model as a baseline. Path coefficients were then constrained, and this path invariance model compared to the baseline. Model fit statistics for the path invariant model, Model 7, listed in Table 6-9, show acceptable fit (CFI=.940, TLI=.937, RMSEA=.027). As indicated in Table 6-10, although $\Delta X^2$ is significant ($X^2=80.213, df=29$), the $\Delta$CFI=.009 suggests that the path invariant model may be appropriate. However, individual path differences were assessed, and four path coefficients were found to differ between the two groups: path coefficients for self as political actor on being Black (relative to White, p<.001) and for government as political actor on being Black, Hispanic, or Other/Missing (relative to White, p<.001 in each case). Freeing these four path coefficients results in an acceptable model fit (Model 8: CFI=.943, TLI=.941, RMSEA=.026), not significantly different from the baseline structural model, based on both the nonsignificant $\Delta X^2 (34.487, df=26, p=.12)$ and the
ACFI=.009. This suggests that while some path coefficients do differ across groups, overall, there is little difference in the structural model between the two income groups.

**Multiple Group Analyses Across Race/Ethnicity Models**

Comparisons of between-group model fit only can be conducted across measurement invariant models. Based on the preceding measurement analysis, the path coefficients for the Black student model were not compared to the other three models. In the following section, the model fit for the structural model with covariates for each subsample is presented separately and listed in Table 6-15. Multiple group analyses of path coefficients are conducted across pairs of samples, except the Black subgroup. Each of the structural models for the four race/ethnicity models is fitted with four of the five covariates; race/ethnicity was excluded as a covariate.

When the model for the Black student subgroup was initially run, the *Mplus* program provided a warning in its results output that the latent variable covariance matrix was not positive definite. This warning suggests several possible problems with the model, among them that one of the latent variables has a negative residual variance. Further inspection of the results indicated that this was the case: the unstandardized residual variance for the electoral behavior latent variable was -.03. Because this variance is quite small, the residual variance for this latent variable was fixed to 0 for subsequent analyses, thus overcoming the not positive definite problem\(^{44}\). With this modification, the overall model fit for the Black subgroup is in the acceptable range (CFI=.934, TLI=.925, RMSEA=.027), but explains only a small amount, 15\%, of the variance in the latent political voice construct. The \(R^2\) value suggests that this model

---

\(^{44}\) The decision to fix the residual variance to 0 was based on advice from the Muthén, authors of the *Mplus* program, on the discussion board of the *Mplus* website, www.statmodel.com.
explains 100% of the variance in the electoral behavior construct\textsuperscript{45}. The model is illustrated in Figure 6-12, with only significant paths and those approaching significance shown. Several paths between the latent constructs, listed in Table 6-17, differ substantially from the full model: like the full model, self as political actor positively predicts political voice behavior ($\beta=.35, b=1.05$), but not electoral activity ($\beta=.02, b=.04$), and political voice is a strong predictor of electoral behavior ($\beta=.92, b=.67$); government as political actor, in contrast, does not significantly predict either of the dependent latent constructs, political voice behavior ($\beta=-.18, b=-.59$) or electoral behavior ($\beta=.10, b=.24$), although it approaches significance for the former. The demographic covariates are less predictive of the latent constructs than in the full model; only two covariate paths are significant. Views of government as political actor are lower for females compared to males, and students 18 and over engage in more electoral activity than younger students.

Several fit statistics suggest that the model fit for the White subsample might be stronger than that of the Black subsample (CFI=.939, TLI=.935, RMSEA=.030), but this model still falls into only the acceptable range of fit. This model explains 39\% of the variance in the political voice construct, and 82\% of the variance in electoral activity. As displayed in Table 6-17 and Figure 6-13, more paths are significant in the White subgroup model than in the Black subgroup model. Consistent with the model for Black students, self as political actor positively predicts political voice behavior ($\beta=.60, b=1.54$), but not electoral behavior ($\beta=-.04, b=-.05$). Consistent with all the models examined so far, political voice behavior positively predicts electoral behavior ($\beta=.91, b=.52$). In contrast to the model for Black students, for White students, government as

\textsuperscript{45} This value, suggesting that all of the variance in the electoral behavior construct is explained by this model, is a result of fixing the residual variance for the factor to 0.
Figure 6-12: Structural model for Black subsample
Table 6-17: Path coefficients, by racial/ethnic group

<table>
<thead>
<tr>
<th>Effect</th>
<th>Black (n=1071)</th>
<th>White (n=6216)</th>
<th>Hispanic (n=1091)</th>
<th>R²</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>SE  β  R²</td>
<td>b</td>
<td>SE  β  R²</td>
<td>b</td>
<td>SE  β  R²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On Self as Political Actor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of gender: female</td>
<td>-0.10</td>
<td>0.06</td>
<td>-0.20***</td>
<td>0.03</td>
<td>-0.14</td>
<td>-0.06</td>
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<td>-0.06</td>
</tr>
<tr>
<td>Of age: 18 and over</td>
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<td>0.06</td>
<td>-0.02</td>
<td>0.02</td>
<td>0.03</td>
<td>0.01</td>
<td>0.06</td>
<td>0.05</td>
</tr>
<tr>
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<td>0.07</td>
<td>-0.06</td>
<td>0.06</td>
<td>0.04</td>
<td>0.03</td>
<td>0.13*</td>
<td>0.07</td>
</tr>
<tr>
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<td>0.10</td>
<td>0.01</td>
<td>0.20***</td>
<td>0.03</td>
<td>0.12</td>
<td>0.19*</td>
<td>0.08</td>
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<td>0.30***</td>
<td>0.03</td>
<td>0.18</td>
<td>0.23***</td>
<td>0.05</td>
</tr>
<tr>
<td>On Govt as Political Actor</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>0.02</td>
<td>0.01</td>
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<td>-0.00</td>
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<td>0.00</td>
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<td>0.02</td>
<td>0.12</td>
<td>0.04</td>
<td>0.04</td>
</tr>
<tr>
<td>On Political Voice activity</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of Self as Political Actor</td>
<td>1.05*</td>
<td>0.47</td>
<td>0.35</td>
<td>1.54***</td>
<td>0.23</td>
<td>0.60</td>
<td>16.47</td>
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<td>Of Govt as Political Actor</td>
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<td>0.34</td>
<td>-0.18</td>
<td>-0.76***</td>
<td>0.14</td>
<td>-0.24</td>
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<td>5.19</td>
</tr>
<tr>
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<td>0.23</td>
<td>-0.01</td>
<td>0.17^</td>
<td>0.10</td>
<td>0.05</td>
<td>0.99</td>
<td>4.20</td>
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<td>Of age: 18 and over</td>
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<td>-0.02</td>
<td>0.13</td>
<td>0.10</td>
<td>0.03</td>
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<td>-0.01</td>
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<td>0.11</td>
<td>0.38***</td>
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<td>0.09</td>
<td>0.65</td>
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<td>On Electoral activity</td>
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<td></td>
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<td></td>
</tr>
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<td>Of Political Voice</td>
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<td>0.27</td>
<td>0.92</td>
<td>0.52***</td>
<td>0.10</td>
<td>0.91</td>
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<tr>
<td>Of Self as Political Actor</td>
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<td>0.17</td>
<td>0.02</td>
<td>-0.05</td>
<td>0.10</td>
<td>-0.04</td>
<td>-1.35</td>
<td>1.28</td>
</tr>
<tr>
<td>Of Govt as a Political Actor</td>
<td>0.24</td>
<td>0.21</td>
<td>0.10</td>
<td>0.27***</td>
<td>0.08</td>
<td>0.15</td>
<td>0.55^</td>
<td>0.28</td>
</tr>
<tr>
<td>Of gender: female</td>
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<td>0.18</td>
<td>-0.04</td>
<td>-0.10</td>
<td>0.07</td>
<td>-0.04</td>
<td>-0.26</td>
<td>0.26</td>
</tr>
<tr>
<td>Of age: 18 and over</td>
<td>0.96***</td>
<td>0.23</td>
<td>0.42</td>
<td>0.46***</td>
<td>0.09</td>
<td>0.21</td>
<td>0.80*</td>
<td>0.32</td>
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<td>Of geog: urban</td>
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<td>0.19</td>
<td>-0.00</td>
<td>0.04</td>
<td>0.09</td>
<td>0.01</td>
<td>0.75^</td>
<td>0.43</td>
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<tr>
<td>Of geog: suburban</td>
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<td>0.27</td>
<td>-0.04</td>
<td>-0.17*</td>
<td>0.08</td>
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<td>Of income: non-low-income</td>
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<td>-0.10</td>
<td>0.09</td>
<td>-0.04</td>
<td>0.21</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Note: Path coefficients for the Asian subgroup cannot be interpreted because the model fit for the subgroup is not acceptable. Accordingly, statistics for this model are not provided in this table. Coefficients are for unconstrained models; each model was fit separately.

***p<.001, **p<.01, *p<.05, ^p<.08
Figure 6-13: Structural model for White subsample
political actor predicts both dependent activity constructs: views of government as political actor negatively predict political voice behavior ($\beta=-.24$, $b=-.76$) and positively predict electoral activity ($\beta=.15$, $b=.27$). The significance of demographic covariates also appears to differ between the Black and White subgroups$^{46}$. For example, gender, geography, and income are found to significantly predict views of self as political actor among White students, but not among Blacks. In terms of views of government as political actor, gender predicts these views for Blacks, while for Whites, age, geographic residence, and income are instead significant, when controlling for other variables.

Based on model fit statistics, the strongest fit among racial subgroups appears to be for the Hispanic subgroup (CFI=.947, TLI=.940, RMSEA=.028), although the fit still falls only in the acceptable range. Overall, the model is a much stronger predictor of the variance in political voice activity ($R^2=.68$) than any of the other subgroup models studied here. The model also explains a large amount of the variance in electoral activity ($R^2=.86$). Despite the stronger model fit, there are few significant path coefficients between the latent constructs. As shown in Figure 6-14, no variable in the model significantly predicts political voice behavior, suggesting that for Hispanic students, the political attitudes and demographics studied here are not significantly related to political voice behaviors. Only one variable in the model predicts electoral activity: students 18 and over participate in more electoral activity than younger youth, although the predictive relationship of

$^{46}$ It should be noted that all comparisons between these two groups discussed here are based on the direction and significance of individual path coefficients. Based on the findings of measurement non-invariance discussed previously, the value of path coefficients can not be meaningfully compared across the two groups. Apparent differences may be due not to differences in structural paths, but to differences in how each group interprets the items of interest.
Figure 6-14: Structural model for Hispanic subsample
geographic residence on electoral activity and of views of government as political actor on electoral activity approach significance\textsuperscript{47}.

Finally, the structural model with covariates was tested for Asian students. As indicated in Table 6-15, the model fit for this subgroup was poor, below not just the CFI=.95 threshold for good fit, but also below the .90 threshold for acceptable fit (CFI=.847, TLI=.833, RMSEA=.055). Nonsignificant parameters and modification indices were examined in order to identify a stronger fitting model, but a theoretically-sound stronger model could not be identified. Path coefficients are not interpreted because the model does not fit; however, if model fit had been good, the only path between latent factors that would have been interpreted as significant is the predictive relationship of self as political actor on political voice behavior. Because of the lack of model fit with covariates, the model fit was also investigated without covariates. In this case, the model fit is at the low end of the acceptable range (CFI=.906, TLI=.902, RMSEA=.047, WRMR=.964); the same path, views of self as political actor on political voice is significant, as is the path between political voice and electoral behaviors.

After fitting the individual subgroups, multiple group analyses were conducted to identify significant path coefficient differences between the race/ethnic subgroups, when controlling for demographic covariates. As discussed above, the Black subsample was excluded from this analysis. Although the overall model did not fit for the Asian subsample, this group was kept in the multiple-group comparison due to its partial measurement invariance with the White subsample.

\textsuperscript{47} It is somewhat surprising, however, that the model has a substantially high R\textsuperscript{2} for polvc, if no construct or covariate in the model predicts this variable.
Path invariance was first examined between the White and Hispanic subgroups. Model 5b (Table 6-11) added constraints from the scalar invariant model to the structural model with covariates to create a baseline model for multiple group comparisons. To test path invariance, path coefficients were constrained, resulting in a fair model fit (CFI=.954, TLI=.947, RMSEA=.027). The path invariant model, Model 6b, was then compared to the baseline. While $\Delta X^2$ is significant, the CFI=.003 suggests a nonsignificant difference between the two models. Individual path coefficients were compared, and five non-invariant path coefficients were identified: one path between latents, political voice on self as political actor ($p<.05$), and four demographic paths, electoral behavior on urban ($p<.05$), self as political actor on gender ($p<.05$), and government as political actor on gender ($p<.05$) and income ($p<.05$). White students have larger unstandardized coefficients on predictors of government as political actor, while Hispanics have larger unstandardized coefficients on the other three items. In all but one case, the direction of these noninvariant coefficients is the same. However, White females are more likely than males to have a positive view of government as political actor, while Hispanic males are more likely than females to hold this view. Model 7b, with these constraints added, is not significantly different from the baseline scalar model. Both $\Delta X^2$ and $\Delta$CFI are non-significant, indicating that the paths of these two models are partially invariant.

The same process was followed to compare path coefficients of the White and Asian subgroups; although the lack of fit of the Asian structural model suggests hesitancy in further analyses based on this model. The path invariant model finds acceptable model fit (CFI=.953, TLI=.944, RMSEA=.028). However, tests of difference between this
model, Model 6c, and the baseline model, Model 5c, are conflicting. Interestingly, in reverse of most of the prior invariance tests conducted on this data, the non-significant ΔX^2 suggests possible invariance, while the ΔCFI value of .014 suggests non-invariance\(^48\). Although the ΔX^2 is a common statistic for assessing invariance, ΔCFI has been used throughout this study as the primary goodness-of-fit statistic, due to large sample size. Based on the ΔCFI value, then, it is concluded that the path invariant model is likely not stronger than the baseline model. Partial path invariance was also assessed, with two path coefficients found to differ: electoral activity on self as political actor (p<.05) and political voice on government as political actor (p<.05). These paths were constrained, and a partial measurement invariant model, Model 7c, re-tested (CFI=.951, TLI=.944, RMSEA=.029). Again, the ΔX^2 is strongly non-significant, while the ΔCFI is above the threshold for invariance. These conflicting findings are inconclusive; the findings, plus the overall lack of model fit for the Asian subgroup, suggest that the White and Asian structural models may be non-invariant, thus limiting comparison with other racial/ethnic groups.

\(^48\) This may be partly attributable to the large differences in sample size between the two groups (White n=6216, Asian n=442).
CHAPTER VII: DISCUSSION

This dissertation study sought to increase understanding about how adolescents become engaged in political activity. Of interest was the role that civic identity, which interventions can seek to manipulate, plays in shaping adolescents’ political behaviors. This dissertation focused on attitudinal aspects of civic identity, particularly adolescents’ perceptions of themselves as interested, opinionated, or capable political actors and their perceptions of government as a trustworthy, responsive, or accountable political actor.

While some prior research has examined attitudinal pathways to political participation on the part of adolescents (Haste, 2004; Kahne & Westheimer, 2006; Metzger & Smetana, 2008; Torney-Purta, et al., 2004) and adults (e.g., Leighley & Velditz, 1999; Marschall, 2001; Shingles, 1981), little research has examined whether these pathways differ across specific youth populations.

Using a nationally-representative sample of 12th grade adolescents, this study offers insight into political participation among Hispanic, Asian, and low-income youth, three groups that have received minimal attention in civic engagement scholarship (Torney-Purta, et al. 2007; Lopez, et al., 2006a). Prior research suggests that disadvantaged youth – poor and/or some minority youth – may be less likely than other youth to hold positive political attitudes and to engage in political behaviors (e.g., Fridkin, et al., 2006; Lopez & Kirby, 2005, Lopez, et al., 2005; Lopez, et al., 2006a; Torney-Purta, et al., 2007). This study generally provides support for this prior research – with some important distinctions among racial/ethnic minority groups – finding non-low-income and White adolescents more likely to hold positive political attitudes and to engage in an array of political behaviors.
In order to inform programming to increase political participation among disadvantaged youth, this study seeks to expand knowledge about attitudinal pathways to participation for adolescents, and to test whether these patterns are maintained across youth of different races, ethnicities, and socio-economic status. It was determined that low-income and non-low-income adolescents generally interpret political measures in a similar manner, but when the sample is instead subdivided by race, differences in interpretation emerge, limiting the comparability of pathways across groups. Findings suggest that low-income and non-low-income adolescents share similar attitudinal paths to political behaviors; in fact, only the impact of race on political attitudes differs across socio-economic status. Although less conclusive, there is some evidence from this study that race/ethnicity may moderate relationships between political attitudes and behaviors, resulting in different pathways to participation across racial/ethnic groups.

In the following sections, these findings are discussed in more detail and interpreted in light of prior research. Study limitations in terms of theory, measurement, and methodology are discussed, and research, practice, and policy implications are presented.

Summary and Analysis of Findings

Research Question 1

Do adolescents’ attitudes about themselves or government as political actors and their political voice and electoral behaviors differ by socio-economic status and/or race/ethnicity?
Differences in attitudes and behaviors by socio-economic status

Prior research (Lopez, et al., 2005; Lutkus & Weiss, 2007; Torney-Purta, 2001) suggests that low-income youth possess lower levels of civic knowledge and engage in less civic activity than other youth, although little research has been conducted in regard to attitudinal differences. This study finds support for these previous behavioral findings, while also providing a more in-depth examination of the various ways low-income and non-low-income adolescents differ in terms of both political attitudes and behaviors. Across each political attitude and behavior measured in this study, low-income students show significantly less political engagement than their wealthier counterparts.

In terms of views of self as political actor, low-income youth are significantly less interested in government and less likely to hold political beliefs and preferences. On average, low-income students take less than “some interest” in government and current events, while non-low-income students report slightly more than “some interest”. Significantly fewer low-income students identify either a preference for a political party or a political belief on a liberal-conservative scale. These three variables suggest a larger personal disconnect from political processes and issues on the part of low-income adolescents.

Similar patterns exist in terms of how adolescents view government across socio-economic status. Low-income adolescents hold more negative views than non-low income adolescents regarding the honesty of people running government, government waste of tax money, and whether government is run for the public or for big interests. Across all five measures of government as political actor, only two show students reporting positive means: trusting government and identifying government leaders as
competent, in each case low-income students’ attitudes are more negative than non-low-income students. Overall, views of government are not very strong among this adolescent sample, but low-income adolescents are particularly likely to view government negatively. This is consistent with Hypothesis 1a; based on the types of political and social experiences of low-income youth described in Chapter 2, low-income adolescents were expected to view government as less unresponsive or trustworthy than wealthier adolescents.

Hypothesis 1b suggests that low-income adolescents will exhibit lower rates of political participation. The data in this study clearly support this hypothesis. Low-income students in this sample have participated at significantly lower rates in each of the six behaviors under study. No more than 7.89% of the low-income students in the sample have participated in any of the behaviors measured. In contrast, for example, 12.61% of non-low-income students have written to public officials.

Some scholarship suggests that youth who may feel marginalized from traditional political processes seek out political voice activities rather than traditional electoral activity (e.g., Cohen, 2006; Ginwright, 2006; Sherrod, et al., 2002). Thus patterns of participation within each socio-economic grouping were examined. For low-income students, the most common activities are voting and two political voice activities: writing to public officials and boycotting products or stores. The participation pattern is slightly different for non-low-income students, with more writing to public officials than voting. Low-income students are least likely to demonstrate, a political voice activity, while non-low-income students are least inclined to donate money to a candidate or cause, an electoral behavior. While there are differences in which behaviors are most and least
common across the two socio-economic groups, contrary to expectations, there is not
clear evidence that low-income students are more inclined to participate in political voice
behaviors than electoral behaviors.

*Differences in attitudes and behaviors by race/ethnicity*

Previous research finds that minority youth generally show less interest and
connection to political processes than White youth (Fridkin, et al., 2006; Lopez & Kirby,
2005; Flanagan & Faison, 2001; Lopez, 2003; Woodley, n.d.), though research is less
clear in terms of differences among minority groups. Fridkin, et al. (2006) found Black
youth to hold more positive attitudes regarding politics and government than other ethnic
groups, although Lopez, et al. (2006a) find that Asian-American youth are more likely
than other ethnic minority groups to find the political system to be responsive. Trust in
government has been found to be particularly low for Latino youth (Lopez, et al., 2006a).

Differences in political attitudes across races/ethnicities are supported by this
study’s findings, with significant cross-group differences for each attitude under study.
In terms of views of one’s self in relation to political processes, White youth (M=3.08)
show significantly more interest in government and are more likely to hold political
beliefs than minority youth. Blacks are equally as likely as Whites to hold an opinion
about their political preferences, and more likely to hold an opinion than both Asian and
Hispanic youth. Hispanics are least likely to hold a political preference, with over half of
the Hispanic students in the sample not holding an opinion about their political
preference. This data suggests that in general, minority youth are less likely to personally
show interest and connect to political processes than White youth.
This study supports previous findings that White youth hold more positive views than minority youth about the trustworthiness and responsiveness of government as political actor. While all four subgroups hold fairly negative views of the honesty of government leaders, White and Asian youth view leaders more honestly and are more positive about government use of tax money than Hispanic youth; all three groups hold more positive views than Black youth. White youth are also more likely than both Hispanic and Black youth to believe that government is run for the benefit of the public. In terms of trusting the federal government, attitudes overall are more positive. White youth are statistically more likely to trust government and to view government leaders as competent than all three minority groups; Hispanic and Asian youth hold more positive attitudes in these areas than Black youth.

The above findings are consistent with Hypothesis 1c, that differences exist in political attitudes across races/ethnicities. In all cases, as expected, Whites hold more positive political attitudes than most, if not all, of the minority groups under study. However, in terms of differences among minority groups, findings differ substantially from those of Fridkin, et al. (2006). While Fridkin, et al found that Blacks often hold more positive attitudes regarding politics than other ethnic groups, this study found Blacks to have the most negative views for all five measures of government as political actor. On the other hand, these data support some of the findings of Lopez, et al. (2006a), namely that for three out of the five measures of government as political actor, Asians’ attitudes towards government are not significantly different than Whites, and for four out of the five measures, Asians show more positive attitudes than at least one other racial/ethnic group. Overall, Hispanic and Black youth hold more negative views about
government as political actor, with Blacks holding particularly negative views. This may indicate that Black and Hispanic youth have less confidence in governmental institutions than other youth; scholars like Sanchez-Jankowski (2002), Ginwright (2006), and Bedolla (2000) provide evidence to support this conclusion.

Hypothesis 1d is partially supported, with some significant political behavior differences by race/ethnicity. Where differences exist, as hypothesized, Hispanic youth exhibit the lowest participation rates. In general, participation across all of these behaviors is low, likely due to the young age of the sample participants. No more than 12.70% of White students in the sample participate in any of the behaviors measured. Among Black students, the most common behavior is engaged in by 8.48% of the sample. Among Asian students, 9.89% participate in the most common activity, as opposed to 6.42% of Hispanics.

Differences across groups are most apparent in terms of political voice behaviors. Two of the three political voice behaviors yield a significant model. White and Asian students are most likely to write to public officials, with both groups writing more than Black students; White students also write to public officials more than Hispanic students. White and Asian students are similarly likely to boycott; White students are more likely to boycott than Black and Hispanic students. For the remaining political voice measure, White students demonstrate more than Hispanic students, in contrast to findings such as those by Lopez, et al. (2006a) that Hispanics engage in protests more than other youth.

No differences are found in terms of two of the three electoral activities: working on a public campaign and donating money to a candidate or cause. Voting does differ
between groups, however. More White students\textsuperscript{49} vote than Black students; both groups vote more than Hispanics and Asians.

Lopez, et al. (2006a) is one of few studies to have examined electoral and political voice behaviors across all four racial/ethnic groups included in this study. The comparatively low participation rate of Hispanics in most political behaviors is consistent with Lopez, et al., and others (Lopez, et al., 2006a; Torney-Purta, et al., 2006; Torney-Purta, et al., 2007). However, among 15 to 25 year-old youth, Lopez, et al. (2006a) found Blacks more likely to engage in several political activities than Whites (e.g., voting, donating money), a finding not replicated here.

Like in the socio-economic analysis described above, patterns of participation within each race/ethnicity group were examined to assess whether youth in disadvantaged groups may be more likely to engage in political voice behaviors rather than traditional electoral behaviors (e.g., Cohen, 2006; Ginwright, 2006; Sherrod, et al., 2002). As with the comparison across socio-economic groups, however, there is not clear evidence that students of any of the three minority groups are more inclined to participate in political voice behaviors than in electoral behaviors.

\textit{Research Question 2}

Do youth of different socio-economic statuses or racial/ethnic groups interpret the political attitudes and behaviors of interest in similar ways?

This question examines whether youth of different demographic subgroups interpret questions about political attitudes and behaviors in similar ways. Across the full sample, relationships between each of the observed measures of political attitudes and

\textsuperscript{49} Worth re-emphasizing here is that the White subsample is significantly older than the minority subsamples. Thus, some of the difference in voting behavior across groups may be attributable to differences in voting eligibility.
behaviors and the proposed latent constructs (self as political actor, government as political actor, political voice behavior, and electoral behavior) shown in Figure 6-1 are found to be significant. Thus, consistent with Hypothesis 2a, that the latent constructs would fit the hypothesized corresponding observed variables, the relationship between each set of observed variables and the corresponding latent constructs is confirmed for the full sample.

Measuring attitudes and behaviors across socio-economic status

Separate model tests were conducted to determine that low-income and non-low-income models share common latent factors, and that all observed variables load significantly onto the same latent factors across both groups. Through the addition of progressively restrictive constraints, the observed variable – latent construct factor structure was compared across groups. Tests of configural invariance indicate that students in both groups interpret the observed attitudinal and behavioral items similarly. Tests of metric and partial metric invariance, whether observed variables reflect underlying factors in the same way across groups, find differences in just one factor loading. Essentially, the measure of whether government wastes tax money more strongly reflects the government as political actor construct for low-income students than for non-low-income students. Finally, a scalar invariance test found that almost all MTF survey items were approached in the same way across groups; however, the two groups respond differently to the measure of interest in government. As discussed previously, low-income and non-low-income student responses to this item are significantly different; this finding of partial scalar invariance suggests that scores on this item actually may not be directly comparable.
Overall, these findings provide partial support for Hypothesis 2b, that low-income and non-low-income students similarly interpret the political attitudes and behaviors of interest in this study. These findings suggest that arguments such as those by Sanchez-Jankowski (2002) and Sidanius, et al. (2004) that aspects of racial marginalization may result in different conceptions of citizenship may not apply to socio-economic disadvantage. Across all items included in this analysis, all but two are interpreted similarly across groups. Why the measures of government wasting tax money and of interest in government in particular differ is unclear. While both groups have negative views about how much tax money is wasted, the degree to which a “waste” of tax money is reflective of government’s trustworthiness and responsiveness may differ based on one’s own economic status. One possible explanation for the difference in terms of interpreting interest in government could be attributable in part to the proxy used to measure income. Parental education may shape the degree to which government and current events are present in an adolescent’s life, and may result in different standards of what constitutes “interest”.

*Measuring attitudes and behaviors across race/ethnicity*

Separate model tests also were conducted for each race/ethnic group to determine whether common latent factors were shared. Common latent factors appear to hold across all four groups; however model fit ranges from strong for Hispanic youth to barely acceptable for Asians. In order to fit the Asian model, two parameters differ from the remaining models, meaning that the Asian model is not fully invariant from the other models. To assess whether the observed variable – latent construct factor structure is
similar across groups, progressively restrictive constraints were added to pairs of subsamples.

Based on the configural invariance model, the Black and White subsamples interpret observed items in a similar manner. However, with four of the five factor loadings for the government as political actor construct statistically different, it is concluded that the observed variables do not reflect the government as political actor construct in the same way for these two subgroups. Essentially, the government as political actor construct does not mean the same thing – and is not measuring the same concept – for Black and White students. This difference in meaning plausibly may be consistent with contentions that racial marginalization can cause youth to view government and politics in different ways (Sanchez-Jankowski, 2002; Sidanius, et al., 2002). In fact, Sidanius, et al.’s (2004) argument that youth’s civic socialization differ as a result of marginalization specifically found differences in how Black and White adolescents define citizenship.

On the other hand, the models for White and Hispanic students are fully invariant. The two groups interpret the observed items similarly, and the observed items reflect the underlying factors in the same way. There are no individual factor loadings that differ between the two groups. Furthermore, a test of scalar invariance finds that White and Hispanic students with the same viewpoints and behaviors would have selected the same response options on each variable.

A finding of full invariance was not possible based on the initial modifications needed to fit the Asian model, but partial invariance is found between the models for White and Asian adolescents. For the most part, these observed variables similarly reflect
underlying variables across the two groups, with two exceptions. The measure of whether government is run for people more strongly reflects the government as political actor construct for White students than for Asian students. Similarly, the measure of interest in government more strongly reflects the self as political actor for White students. Hypothesis 2c, that all groups similarly interpret the attitudinal and behavioral constructs, is not fully supported by this data. Specifically, the government as political actor construct is found not to have the same meaning for Blacks as it does for the other groups\(^{50}\). However, Hypothesis 2c is supported for the three other racial/ethnic groups. White and Hispanic youth fully share interpretation of the items and latent factors, and White and Asian youth interpret most items similarly. Because the White and Hispanic youth models are found to be invariant, and White and Asian youth models are partially invariant, it also can be concluded that the Asian and Hispanic models are partially invariant. These findings raise an interesting question that cannot be answered by this data: If marginalization does, in fact, play a role in impacting how youth view politics and government (e.g., Sanchez-Jankowski, 2002; Sidanius, et al., 2004), why would this be the case for Black youth, but not necessarily for Hispanics or Asians? Specifically, why is it that Black adolescents interpret the government as political actor construct differently than both Whites and other minority groups?

**Research Question 3**

Do socio-economic status and race/ethnicity moderate a relationship between adolescent political attitudes and behaviors?

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\(^{50}\) The factor loading differences between Blacks and Hispanics and between Blacks and Asians shown in Table 6-13 indicate that Blacks also interpret the government as political actor construct differently than Hispanics and Asians.
This question is the primary focus of this dissertation, examining whether the paths between attitudes and behaviors differ for adolescents of different socio-economic statuses or race/ethnicities. First, a structural model for the full sample was tested both with and without covariates. Both models fit, although the goodness-of-fit statistics are less strong for the covariate model, controlling for five demographic variables. The direction and significance of the paths between latent constructs are the same with and without the covariates, indicating that these paths are significant for the full sample even when controlling for demographic characteristics.

These findings, however, are not consistent with the paths proposed in Hypothesis 3a. While some paths are as hypothesized, two paths differ. Specifically, it was expected that positive perceptions of both self and government as political actors would predict both types of political behaviors for the full sample; but instead, positive views of government negatively predict political voice behaviors. Essentially, while youth who view government more positively engage in more electoral activity, youth who view government less positively engage in more political voice activity. Furthermore, while positively viewing one’s self as political actor predicts political voice activity, there is not a significant relationship between positive self-oriented views and electoral activity.

It is surprising that positive levels of self as political actor do not predict electoral behaviors for the full sample, particularly since two of the self as political actor measures – e.g., measures of opinions about political preferences and beliefs – are directly related to electoral activity. Furthermore, this finding is inconsistent with literature suggesting a link between attitudes such as efficacy and interest with political participation (e.g., Kahne & Westheimer, 2002; Marschall, 2001; Shingles, 1981). Additionally, while
negative views of government as political actor were expected to predict electoral activity for minority and low-income youth (e.g., Fridkin, et al., 2006; Kahne & Westheimer, 2002; Woodly, n.d.), it was unexpected to find a negative relationship between views of government and political voice behavior for the full sample. However, this is an interesting and important finding, and underscores a finding suggested by Taft’s (2006) qualitative study of female adolescents. The adolescents Taft studied felt unheard by governmental institutions, and thus sought to disengage from politics while simultaneously engaging in social change and activism. Perhaps adolescents who feel more positively about government are more inclined to participate in traditional government and politically-oriented activities, while those who feel excluded from government in some way instead seek out ways to communicate political stances outside of traditional governmental institutions.

*Socio-economic status as moderator*

The structural models yield fair, but not strong, fit for both the low-income and non-low-income student samples. This suggests that there may be stronger predictive models of political voice and electoral behavior; however no additional theoretically-sound modifications could be made to the models with the available data. For both models, a substantial portion of the variance of the electoral behavior construct is explained, with less of the variance of the political behavior construct explained.

Contrary to Hypothesis 3b, the direction and significance of each of the paths between the latent constructs are the same for low-income and non-low-income students. Thus, socio-economic status does not appear to moderate the relationships between political attitudes and political behaviors. These paths differ from the specific paths...
proposed in Hypothesis 3b. For both groups, self as political actor positively predicts political voice behaviors, but does not predict electoral behaviors; government as political actor negatively predicts political voice behaviors, but positively predicts electoral behaviors; and political voice positively predicts electoral behaviors.

Between the two models, just four paths differ, none of which is a path between latent constructs. Instead, the differing paths each involve a relationship between a race covariate and a latent attitudinal factor. These four path differences indicate that among non-low-income students, there is a larger difference between White and minority students in terms of the corresponding political attitude than among low-income students.

Race/ethnicity as moderator

For three of the four race/ethnicity groups, the goodness-of-fit statistics are acceptable, but not strong. As with the income subgroups, this suggests that there are stronger predictive models of political voice and electoral behaviors. However, for each of these three models, a substantial portion of the variance of the electoral behavior construct is explained, while the variance explained for political voice behaviors ranges widely. For the fourth group, the Asian subsample, the model fit was unacceptable, meaning that the hypothesized model does not sufficiently explain political behavior among Asian adolescents.

Based on the previously-discussed finding of measurement noninvariance, the Black subsample could not be compared to the other subgroups, as called for in Research Question 3. However, paths were examined individually for significance and direction relative to Hypotheses 3c. Only two paths between latent constructs are significant, when controlling for demographics. Self as political actor positively predicts political voice
activity, and political voice activity positively predicts electoral activity. A negative relationship between government as political actor and political voice approaches significance. The two significant paths do not differ in direction from the full model, and are not reflective of the full set of relationships hypothesized for Black adolescents. The findings of nonsignificance between government as political actor and political behaviors are contrary to suggestions in the literature that views about government’s trustworthiness and responsiveness are related to political participation, either positively or negatively (e.g., Marschall, 2001; Kahne & Westheimer, 2002).

The structural model for Asian adolescents also is identified as uncomparable to that of the other racial/ethnic groups in this study. Overall, the structural model for the Asian subsample lacks goodness-of-fit, indicating that the hypothesized attitude-behavior relationships are not explanatory when controlling for demographic covariates. For Asian adolescents, then, there is not evidence that the views of self as political actor or of government as political actor predict political behaviors, contrary to the relationships specified in Hypothesis 3c. Despite lack of fit, path invariance tests were conducted between Asian and White youth models. Mixed findings suggest a possible conclusion of path noninvariance between the two groups; however, given the mixed findings and lack of fit, these tests were determined to be inconclusive.

In contrast to these pairs, partial path invariance is found between White and Hispanic adolescents. For White youth, the same paths that are significant for the full sample and the income models are significant. For Hispanics, despite fairly good goodness-of-fit statistics, no significant paths are identified between attitudinal and behavioral constructs when controlling for demographic covariates; only a positive
relationship between views of government as political actor and electoral activity approaches significance. In fact, for Hispanics, the only significant path predictive of political behaviors finds, unsurprisingly, that when controlling for other factors, adolescents age 18 and older are more likely than younger youth to engage in electoral behaviors. For Hispanic adolescents, then, the predictive paths suggested in Hypothesis 3c are not found to be significant, suggesting that political attitudes may carry little weight in predicting political behaviors for Hispanic youth.

Despite the differences in path significance between Whites and Hispanics, only one of the attitude-behavior paths mentioned statistically differs across the two groups: the path between self as political actor and political voice. The remaining four paths that are found to differ between the two models involve covariates. This suggests small support for Hypothesis 3c in terms of a path difference between White and Hispanic adolescents: for Whites, views of self as political actor predict political voice behaviors, while for Hispanics, they do not.

Overall, then, this analysis yields mixed support for Hypothesis 3c. Black and Asian youth models could not be compared to the other groups, so we cannot be certain that race/ethnicity moderates relationships between political attitudes and behaviors. However, consistent with Leigheley & Velditz’s (1999) hypothesis that different factors account for participation across ethnic groups, there is evidence that there are differences in paths predicting political behaviors across groups. First, the significant paths identified for the Black subsample differ from those identified for either the White or Hispanic subsample, raising the possibility that there may be structural differences between the groups. Second, for Asians, the predictive model of attitudes and behaviors
does not fit the data, indicating that attitude-behavior relationships are not the same for this group as for the other three. Third, although partial path invariance was found for Whites and Hispanics, the path between self as political actor and political voice is found to differ, indicating that here, too, race in some way moderates the attitude-behavior relationships. However, despite such evidence of cross-group differences, the significance and direction of paths identified for each minority subsample do not match the relationships posited in Hypothesis 3c. Negative views of government as political actor do not appear predictive of positive political behaviors (except for among White students, for whom views of government negatively predict political voice behaviors). For Blacks, political voice behaviors are found to be predictive of electoral behaviors, contrary to the hypothesis, although this is not the case for Hispanic youth.

Limitations

The dissertation analysis, while offering potentially important contributions to the youth civic engagement literature, has several limitations. Limitations regarding the theoretical model, selection and operationalization of variables, and study methods are discussed below.

Theoretical Model

A primary limitation of this analysis centers on the developed theoretical model. In pinpointing relationships specifically between political attitudes and behaviors, it leaves out an array of other variables that may shape political engagement. Verba, et al.’s (1993b) resource model, for example, minimizes the role of attitudes in explaining racial differences in political participation, suggesting instead that participation differences stem from unequal civic resources. Certainly, a wide range of variables not included in
this model affect political participation; however, because this dissertation is concerned with how to strengthen political participation among those least likely to participate, factors alterable by youth civic interventions are the focus. As noted elsewhere in this proposal, civic knowledge and skills and social attitudes are alterable constructs which have been linked with political participation (Galston, 2001; Kirlin, 2003; Syvertsen & Flanagan, 2005), but are not included in the model tested here. While this analysis isolates the role that attitudes related to government may play in shaping political participation, an ideal analysis of the most effective ways for interventions to target adolescent civic identity would include measures of civic knowledge and social attitudes. However, Form 2 of the MTF dataset does not include variables measuring these constructs.

Another set of variables that would have strengthened this analysis are measures of institutional context. As Chapter 3 suggests, there are institutional factors that may in fact be stronger explanations of the income and racial/ethnic differences identified here than specifically race or income; inclusion of measures such as of community context, accessibility of and exposure to civic opportunities, and personal experiences with marginalization would have strengthened this analysis.

These findings may be attributable to specific characteristics of the Millennial Generation, and not generalizable to other youth cohorts. For example, could the negative attitudes about government captured in this data be reflective of youth views of the particular political administration in place at this time, e.g., the Iraq War and the contentious political election that took place during the years included in this study, or reflective of the particular national context in which the students came of age?
Furthermore, this model also does not allow for measurement of the role external political triggers may play in student responses to survey items. Would some of these findings differ if data were collected during or after the 2008 Presidential election campaign, which engaged youth more than previous elections (Keeter, Horowitz, & Tyson, 2008)? Ideally, the dataset would have allowed for cross-year analyses to identify differences in attitudes and behaviors across the four years in this sample. Syvertsen, Wray-Lake, Flanagan, Briddel, and Osgood (2008), in fact, found that trends in the MTF data over time show spikes in interest in government coinciding with high-profile national events. Spikes and decreases also occur over time for measures of trust in government (Syvertsen, et al., 2008).

Given the ultimate aim of informing interventions, it also would be helpful to be able to distinguish the degree to which adolescents’ attitudes are due to programmatic experiences. Prior experiences with civic programming are not captured, so we cannot assess the degree to which program participation may impact the attitudes and behaviors of interest. A somewhat related issue is the unidirectionality of the proposed relationship between attitudes and participation in this model. Those adolescents who already have engaged in the political behaviors measured by MTF may have changed their attitudes as a result of these activities. Thus, there is a plausible argument that the relationship between attitudes and behaviors is bidirectional. However, with a focus here on understanding whether certain attitude formulations predict greater political participation across groups, it makes sense to focus solely on testing the predictive power of attitudes, even if the relationship may be somewhat cyclical.
The unique nature of studying political engagement among adolescents who may be too young to vote and who may perceive themselves to be too young to engage in some other forms of political activity poses additional limitations for this study. Very small percentages of youth in this study have participated in political behaviors: In even the most common activity across the full sample, only 11.11% of students have written to public officials. Measures of intent may be relevant for this age group (Ajzen & Fishbein, 2005), though as Syvertsen, et al. (2008) point out, far more students in the MTF dataset express intent to vote than actually do. One way to address this concern would be to add a parameter to the models studied here testing the strength of relationships between intent and actual behavior; however, the nature of how MTF measures behavior and intent prevents simultaneous analysis of intended and actual behavior. Instead, only separate models could be run, predicting either intent or actual behavior. Because an explicit measure solely of intent was not included in the MTF survey and due to the greater accuracy of actual participation measures in gauging youth activity, only measures of actual behavior were included in this study. Additional analyses might benefit from analyzing intent data for similarities and differences as compared to the findings identified in this study. Finally, the ages of the adolescent respondents raise questions about the inclusion of a measure of voting in the model. Forty-five percent of the sample is under the age of 18, meaning that it is impossible for them to have voted. At the same time, voting is a key measure of electoral behavior for the 55% of the sample over the age of 18\textsuperscript{51}. The voting variable specifically was not used.

\textsuperscript{51} Given that this survey is administered in the spring, we do not know how many of these students were 18 prior to election day in November. It is possible that a substantially smaller percentage of the students were eligible to vote at the time of their most recent election opportunity.
as the marker variable in CFA analyses for this reason, and was found to load onto the electoral activity construct for all subgroups\textsuperscript{52}. Furthermore, age was included as a covariate in all subsample analyses. As expected, in all cases, except the non-fitting model for Asian adolescents, age significantly predicts electoral activity.

\textit{Measurement}

Several limitations are posed by the measurement of variables available for this analysis. A key set of limitations revolve around what is \textit{not} measured in the dataset. Internal and external political efficacy are important concepts in the measurement of political attitudes, but neither is explicitly included in the MTF dataset. Efficacy measures would be the most direct gauge of how adolescents view themselves and government as political actors, and are key variables in the Kahne and Westheimer (2006) theory this study sought to test. Although this study identified variables that closely approximate efficacy, the latent constructs may not be as reflective as desired of the underlying concepts without direct measures of efficacy. This may explain in part why relationships between attitudes and behaviors were not as expected.

Furthermore, only six forms of political participation are queried. There are an array of political participation items commonly included in surveys of youth civic engagement (see Pritzker, 2008). A larger set of participation variables likely would have increased the strength and accuracy of the latent construct measures. Additionally, the integration of intent and actual participation into a single item, measuring both if a student has or will participate in political activity is problematic and inconsistent with some other research on political behavior (Pritzker, 2008).

\textsuperscript{52}Furthermore, both the full sample measurement model and structural model with covariates were tested separately for each age group. In all cases, a fair or good model fit was identified, with stronger model fit for younger students.
The self-report nature of the attitudinal and behavioral measures also may raise measurement issues. While necessary in a survey of this sort, self-report items are subject to substantial influence from question wording, format, or context (Schwarz, 1999). Keeter, et al. (2002b) note substantial literature supporting the use of self-report in measures of voting and registration, but little literature on the validity and reliability of self-report for other political behaviors. Social desirability also may impact responses, although different types of attitudes and behaviors may be differentially socially desirable (Keeter, et al., 2002b).

Limitations to the multiple-group analyses may stem from issues related to the measurement of the demographic moderators and exogenous variables. For example, the validity of the proxy for low-income (average parental completion of high school or less) may be somewhat limited. While a commonly used proxy measure (Flanagan, et al., 2007; Johnston, Bachman, et al., 2005), it may not accurately capture some SES differences. For example, Syvertsen, et al. (2008), also working with the MTF dataset, instead used college aspirations as a proxy for SES differences. It is possible that the differences captured by this variable are not reflective of SES, but rather of the role that educational background may play in shaping political development.

Furthermore, the conflation into one category of youth who reported their race/ethnicity as “Native-American” or “Other” with those who skipped the item posed a difficulty in analyzing group differences. Missing data was imputed for all other variables in the dataset, but race could not be imputed, since it was deemed inappropriate to impute a race for a respondent who had in fact provided race data. Thus a large subset of the data (n=987, 10.06%) had to be excluded from analyses across racial/ethnic
groups. Additionally, no variable in the MTF dataset measures immigrant status. This may threaten the validity of findings about Hispanics in particular, where immigrant status has previously been found to explain some differences in participation by race (Stepick & Stepick, 2002; Torney-Purta, et al., 2006). Neighborhood context has been linked to political participation (e.g., Gimpel, et al., 2003; Hart & Atkins, 2002; Hart, et al., 2004), however, the measure of geographic residence in this analysis is not an objective measure of geographic location. Instead, this item is a subjective question asking respondents, “Where did you grow up mostly?” Responses to this item do not allow for the depth of analysis necessary to ascertain the degree to which the context in which one lives may impact pathways to participation.

**Methodology**

Because of the cross-sectional nature of this study, it only can be determined whether relationships between political attitudes and behaviors exist at one point in time, during the spring semester of a student’s senior year of high school. For example, we cannot determine whether adolescent political attitudes lead to political behavior post-adolescence; nor can we determine whether a change in political attitudes predicts a change in political behaviors. To conduct this cross-sectional analysis, four years of data were collapsed together. A year of administration variable was not provided by SRC; thus it cannot be determined if there are relevant cross-year differences. For example, the 2005 survey administration may have reflected greater political activity, because it took place soon after a Presidential election; likewise, the 2002 administration may have reflected more positive attitudes toward government because it took place soon after the September 11, 2001 terrorist attacks.
Johnston, et al. (2005) argue that the exclusion from the sample of 15-20% of each cohort due to school drop-out does not cause substantial concern for generalizability both because of similarities between the dropped-out and enrolled students on key variables and because the dropped-out students are a small proportion of the overall cohort. However, the exclusion of dropouts may be of concern to this particular study, as Pacheco and Plutzer (Pacheco & Plutzer, 2007) find that dropping out of high school can have lasting negative effects on political participation. Similarly, students who were absent from school on the day the MTF survey was administered were excluded from the sample. It cannot be concluded that these are students that frequently miss classes, but it raises concerns about their engagement with school. To design and strengthen interventions to increase participation among those least likely to participate politically, students who are regularly absent or who have dropped out of school would be important populations to include in the sample.

Additionally, the small sample sizes of minority students and the stratified clustered nature of the study sample may limit the reliability of analyses involving racial comparisons (Johnston, Bachman, et al., 2005). For example, Black males are underrepresented in the sample (Johnston, Bachman, et al., 2005). Analysis of data from four years sought to reduce the sampling error and increase the sample sizes among minority adolescents, although representation of minority students may still be a concern. Overall, this study identified greater problems fitting the data to the model for the ethnic minority subsamples, e.g., inconsistencies between the significance of standardized and unstandardized factor loadings were found for the Hispanic and Asian subsamples. This is particularly relevant in the case of the Asian subsample. The comparatively small
subgroup (n=442) was consistently the hardest group to fit to the hypothesized model. Because of the large sample size differential, it is not certain whether this lack of fit is attributable to a difference in how political attitudes and behaviors function for Asian youth, or is due to a difference in statistical power between groups.

A number of methodological limitations emerged during the analysis. First, while it is preferable to have four observed indicators per latent construct (Schumaker & Lomax, 2004), this was not possible here, given the limited variables available in the MTF dataset. Practically, this meant that nonsignificant variables could not be dropped from the analysis without resulting in an under-identified model. Furthermore, the limited number of variables allowed for little flexibility in handling problems that arose in the structural equation modeling analyses. For example, based on calculations of both pattern and structure coefficients (Graham, et al., 2003) and modification indices, a stronger model may have been produced by cross-loading some observed variables onto an additional factor. However, adding an additional parameter(s) in this analysis resulted in model under-identification. Thus, no cross-loadings were tested. This may be particularly relevant for political behaviors. Although CFA analyses supported the two separate political behavior factors specified here, cross-loadings of specific activities are a strong possibility based on the pattern and structure coefficient analysis. This may help explain the strong predictive value of political voice behaviors on electoral behaviors in most models.

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53 For example, for the full sample, the three measures of political voice behaviors correlate most strongly with the political voice construct. However, one of these measures, the measure of participation in demonstrations also showed a high correlation with the electoral behavior construct; this variable was more strongly correlated with the electoral behavior construct than some of the variables that were actually linked with that construct in this analysis.
Second, although the research plan called for rolling up five different imputed datasets for the analyses here, $X^2$ statistics could not be computed in *Mplus* with rolled-up data, and several key *Mplus* options for interpreting models are not available. As a result only one of the five imputed datasets was used for these analyses. It is possible that some of the findings might differ slightly had the five datasets been rolled-up.

Finally, two methodological limitations involved the cross-group comparisons. First, while the statistic most commonly used to assess group differences in structural equation modeling is $\Delta X^2$, it has been found to be highly sensitive to large sample sizes. Instead, $\Delta$CFI (and two other statistics not provided in *Mplus*) has been suggested as an appropriate replacement when large sample sizes are involved (Cheung & Rensvold, 2002). In some of the cross-group analyses conducted in this study, the two statistics yielded conflicting evidence of invariance or noninvariance. $\Delta$CFI was followed in each of these cases, but the conflicting evidence raises questions as to the strength of the conclusions reached about invariance$^{54}$. Second, the procedures for comparing path differences between groups limited the cross-group comparisons that could be tested. Specifically, when a group (i.e., Black adolescents) was found to be non-invariant in terms of measurement, it was no longer possible to form any conclusions about differences in paths between this group and other groups. While this provided important knowledge about differences in how groups interpret key constructs, essentially, this meant that Hypothesis 3c could not be fully tested.

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$^{54}$ A similar dynamic was present in terms of goodness-of-fit analyses. In almost all cases, the $X^2$ statistic showed poor fit, while the other goodness-of-fit statistics (CFI, TLI, RMSEA, and occasionally WRMR) showed good fit.
Implications

Although the majority of scholarship relating to adolescent civic engagement does not emerge from the social work discipline (but see Checkoway, 1998, 2005; Checkoway & Gutierrez, 2006; Checkoway, et al., 2003; Finn & Checkoway, 1998; Kelly, 2004; McBride, Pritzker, Daftary, & Tang, 2007; Pritzker & McBride, 2006b), this is an important and fitting field of study for social work. Scholarship and practice in this field deal with such central social work concerns as social justice, equal access to opportunities and choice for disadvantaged persons, and promoting institutional responsiveness to client needs (National Association of Social Workers, 1999). Unequal participation raises significant social justice concerns about whose voices, interests, and needs are heard by those in power.

Moreover, scholarship originating in the discipline of social work brings a valuable perspective to the field. Concern for these ethical issues motivates attention to participation among disadvantaged adolescents, particularly important as existing civic engagement scholarship has paid insufficient attention to these populations of adolescents. As discussed in Chapter 2, perceived or real marginalization from political processes may contribute to lower rates of political behavior and more negative political attitudes among some youth (e.g., Bedolla, 2000; Sanchez-Jankowski, 2002; Schur, et al., 2003; Taft, 2006). Attention to civic engagement without addressing issues of inclusion, or developing civic interventions that do not seek to increase minority and low-SES adolescent engagement, runs the risk of reinforcing this political marginalization.

This study identified some important differences in terms of political development between White and non-low-income adolescents and those who are poor
and/or minorities. These findings have important implications for practice, research, and policy.

**Implications for Practice**

The study of adolescent political engagement helps to bridge a gap in social work practice between helping individuals directly and working to address larger community and systemic issues. Social workers, educators, and other youth workers can guide adolescents living in disadvantaged communities to strengthen their own development and that of their communities through youth programming that emphasizes civic engagement (Finn & Checkoway, 1998). Too often, youth development work, particularly with at-risk youth, becomes problem-focused, concerned with reducing deficiencies in youth (Damon, 2004; Finn & Checkoway, 1998). Consistent with a positive youth development orientation, civic engagement programs encourage youth to use their strengths to become active citizens.

Currently, a variety of curricula and program forms seek to increase civic engagement among adolescents. These include service-learning, community service, youth organizing, youth-adult partnerships for community change, and civic education curricula. These civic interventions target a wide array of outcomes (Pritzker, 2006; Pritzker & McBride, 2006b) with little consistency across studies. Furthermore, empirical evidence currently does not find sufficient evidence to support theoretical claims that some civic interventions, like service-learning, produce political outcomes (Pritzker & McBride, 2006b). However, the significantly positive relationship found in this study between self as political actor attitudes and political voice behaviors for all
subgroups except Hispanics and Asians suggests that interventions that help students develop an interest in politics and government may help increase political participation. Thus, exposure to current events or politics or education about a range of political preferences and beliefs may increase the likelihood that youth engage in forms of political activity. For White youth, and youth of both income levels, positive views of government as political actor predict electoral participation; this relationship approaches significance for Hispanic youth. This would indicate that targeted exposure to government in its more responsive forms could increase electoral behavior, though not necessarily for minority youth. This is a more controversial point of intervention, however. As discussed in Chapter 3, youth may well have justifiable reasons for finding government untrustworthy, unresponsive, or unconcerned with public interests (see Kahne & Westheimer, 2006; Woodly, n.d.). Any civic intervention needs to respect students’ own prior experiences with government, even while providing them with experiences that might expose them to alternative viewpoints.

In fact, for White youth and youth of both income levels, negative views of government were found to predict nontraditional political voice activity; this relationship approaches significance for Black youth. Rather than seeking to change youth views about government, civic interventions may be well-served by helping youth channel their attitudes constructively into political activity of either type. The strong connection between political voice and electoral activity for both income subgroups and Black and White adolescents suggests that involvement in political voice activity may lead to other forms of political activity. For example, providing students with opportunities and

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55 No paths were interpreted for Asians because of poor model fit. However, an examination of the parameter estimates for this poor-fitting model show significance for this self as a political actor – political voice relationship.
support in writing letters to public officials about topics to which they have a personal connection may set the stage for future electoral activity.

This study finds that low-income youth are less connected to politics and government and less likely to participate in political activity, and that for the most part, Hispanic and Black youth are similarly less engaged. These findings underscore the need for more attention to civic interventions that are targeted specifically to low-income and minority populations. While pathways to participation do not appear to differ across SES, there appear to be differences in pathways across races/ethnicities, suggesting that disadvantage may play a role in youth’s political development. For minority youth, then, implementation of one-size-fits-all civic programs across different contexts is insufficient. The lack of clear attitudinal paths to electoral activity for minority youth in this study suggests that other factors external to this model can lead to greater political activity. For example, theoretical links between community service and political participation may be relevant here, although the evidence for such a link among adolescents is inconclusive (Pritzker, & McBride, 2006b). Although the mechanisms by which minority adolescents become political participants is still unclear from this study, an important finding for intervention development is that these mechanisms appear not to be the same across racial/ethnic groups.

Implications for Research

The study of both adult and adolescent civic engagement has focused far less attention on the attitudes and participation of non-Black minorities. Few studies have examined participation among Hispanics (Leighley & Vedlitz, 1999; Torney-Purta, et al., 2007), even fewer have investigated Asian-American participation (Lopez, et al., 2006a).
There also has been little examination of socio-economic differences in adolescent political engagement research. This study counters these patterns, contributing to the knowledge base about the role that ethnicity and socio-economic status may play in the development of political engagement among adolescents.

Comparative data on adolescent participation by socio-economic status and across racial/ethnic groups allowed for verification of previous descriptive research. This study confirms prior findings of less civic participation on the part of low-income youth (Lopez, et al. 2005; Fridkin, et al., 2006) and offers new insight into political attitudes among this population, finding lower values for every attitudinal item in this dataset. Consistent with prior research, Black youth were found to have more negative attitudes about government and politics than White youth (e.g., Fridkin, et al., 2006; Lopez & Kirby, 2005), but differences among racial/ethnic groups suggest further avenues for research. Asian youth, for example, tend to hold more positive attitudes about government and politics than other minority youth, with Black youth holding particularly negative attitudes. Do different group experiences with racial marginalization account for these differences, as Sanchez-Jankowski (2002) suggests?

Racial/ethnic differences are less clear in terms of political participation. Where cross-group differences exist, however, Whites and Asians are similarly likely to have participated, except in terms of voting, where the difference between Whites (11.32%) and Asians (3.28%) is particularly large. Black and Hispanic adolescents participate less than White adolescents in many of the measured activities, particularly in terms of political voice behaviors. For Hispanics, these low rates of participation are consistent with prior research (Lopez, et al., 2006a; Torney-Purta, et al., 2006a; Torney-Purta,
for Blacks, however, these findings are inconsistent with the findings of Lopez, et al. (2006a). In an analysis of national survey data on youth ages 15-25, Lopez, et al. (2006a) found Black youth to be more involved than White youth in several of the political activities measured here. A question for further research is why the participation patterns differ between these two surveys. As other racial/ethnic patterns are similar to Lopez, et al.’s findings, perhaps participation shifts take place for Black youth between adolescence and adulthood at a degree larger than for other populations. Further studies of youth participation might be well served by investigating differences between adolescent and adult participation patterns, even within a youth sample.

Overall, this study finds disadvantaged youth to be less positive about government and politics and less likely to engage than other youth. Some scholarship suggests such differences may be rooted in experiences of marginalization (e.g., Cohen, 2006; Ginwright, 2006; Sanchez-Jankowski, 2002; Sidanuis, et al., 2004); more research is needed to understand why these differences exist for disadvantaged youth, in order to develop stronger civic interventions among these youth populations.

Prior research with youth has not examined whether measures of political engagement – attitudinal or behavioral – are interpreted differently across groups; that is, whether the measures are reliable across groups. This is a particularly important avenue for research, given claims in the literature that common measures of political participation may be insufficient for understanding engagement among minority or economically-disadvantaged youth (Cohen, 2006; Ginwright, 2006; Jones & O'Toole, 2001; O'Toole, Lister, Marsh, Jones, & McDonagh, 2003; Sherrod, et al., 2002).
study did not find evidence of different interpretations of behavioral items or constructs, but did find some evidence of different interpretations of attitudes across groups. Interpretation differences between SES groups were small. One observed variable differently reflected the government as political actor construct across groups. In addition, low-income and non-low-income students responded differently to the measure of interest of government; low-income and non-low-income students with a similar interest in government selected different answers on the 1-5 scale. Larger differences were found across racial/ethnic groups, except between White and Hispanic youth, where no differences in interpretation appear to exist. Between Asian and White youth (and accordingly, Hispanic youth), two interpretive differences exist across groups; in both cases, an observed variable differentially reflects the underlying latent construct. However, between Black and White (and Hispanic) youth, substantial differences in interpretation were found. Specifically, while the observed items were similarly interpreted across groups, almost all of the observed items did not reflect the government as political actor construct in the same way. This means that the full government as political actor construct did not mean the same thing between groups. The differences that were found across groups were generally not in interpretation of individual survey items, but instead in terms of how survey items reflect underlying factors. These findings suggest that future research on youth political engagement should test for cross-group differences in interpretation. This may be particularly relevant when items are added together in scales or are used to estimate a latent factor. This evidence suggests that at least with regard to Black adolescents, important differences in the interpretation of political attitudes may need to be taken into account.
Using a large-scale national dataset, this study sought to test in part claims made by Kahne and Westheimer (2006) regarding the roles of internal and external efficacy in shaping youth civic development. Kahne and Westheimer (2006) question civic interventions that seek to promote external efficacy, a belief that government is responsive to citizens. They suggest that this sets up some adolescents, particularly those belonging to more marginalized groups, for later disassociation from civic processes when they realize that government is not necessarily responsive. Rather, Kahne and Westheimer (2006) suggest that less positive external attitudes in combination with positive internal attitudes may predict political participation, particularly among disadvantaged adolescents. Previous research found evidence of this dynamic with Black adults (e.g., Marschall, 2001; Shingles, 1981); however, little is known about political attitude-behavior relationships across other ethnic groups (Leighley & Vedlitz, 1999; Marschall, 2001). This study sought to empirically test this claim, although it should be noted that no explicit measures of efficacy were measured in the MTF survey, and thus could not be included in this analysis. Measures of interest in government and of government responsiveness to the public were selected to capture similar attitudes, but were distinct from typical efficacy measures. An important follow-up to this study would be to replicate this analysis with explicit measures of internal and external efficacy.

This study did not find strong support for Kahne and Westheimer’s (2006) claim. For White adolescents and both income subgroups, positive government as political actor attitudes predict increased electoral activity, as expected. However, for these subgroups, government as political actor negatively predicts political voice behavior, suggesting

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56 There is some question, however, as to whether the ethnic community theory that sought to explain this relationship is still applicable (Bobo & Gilliam, 1990; Marschall, 2001). See Chapter 3 for further discussion.
more complexity in how attitudes about government – or by extension, external efficacy – may operate. Rather than leading to electoral activity for some youth, as Kahne and Westheimer (2006) suggest, negative perceptions of government may actually lead to more non-traditional political behaviors for White youth, in the form of political voice activities. Future research should seek to replicate these findings, ideally with a larger set of political voice and electoral measures (e.g., additional political voice behaviors could include contacting media to express political opinions and participating in online political discussions, while additional electoral behaviors could include persuading others to vote and displaying political paraphernalia), and should examine why attitudes towards government operate differently with regard to different types of political activity for White youth.

However, even with support in the full sample for differential effects of government as political actor on political behaviors, this pattern is not evident for minority youth. For each minority subgroup, there is not a significant relationship between government as political actor attitudes and electoral activity, either negatively, as Kahne and Westheimer (2006) suggest, or positively (although a positive relationship between government as political actor and electoral activity nears significance for Hispanic adolescents). Nor is there a relationship for minority youth between government as political actor and political voice (although a negative relationship approaches significance for Black adolescents). Even internally-focused attitudes – interest in government and opinions about politics – do not have a clear and consistent relationship with either form of political behavior for minority youth (though self as political actor does predict political voice behaviors for Black adolescents). Furthermore, the
hypothesized attitude-behavior relationships do not hold for Asians, resulting in poor model fit. Are these non-relationships between attitudes and behaviors reflective of the low levels of participation among minority 17 and 18 year-olds in this sample, or would these same patterns exist in a sample in which all youth are old enough to vote? Why do attitudes not appear to significantly predict behaviors for minority youth? This is a particularly interesting question, given that in addition, few demographic characteristics were found to be predictive of political voice and electoral behavior among the minority subsamples. Given the very low rate of participation in some political behaviors on the part of ethnic minority adolescents, future studies of political behavior among adolescent minorities may need even larger samples than those in this study, in order to strengthen the power of statistical analyses\textsuperscript{57}.

This study also sought to examine relationships between two forms of political behaviors, political voice and electoral. Jenkins, et al. (2003) suggest that citizens tend to “specialize” in either political voice or electoral behaviors, thus emphasizing the distinctiveness of these two forms of participation. While CFA analyses confirmed this separation into two different spheres of activity, these data also suggest that the two forms of activity may not be particularly independent for adolescents. As noted previously in this chapter, there is some indication that several of the activities used to measure political voice or electoral behaviors might be strongly correlated with both forms of activity, meaning that distinctions between the forms are not clear with this adolescent population. Furthermore, patterns of common political behaviors among each

\textsuperscript{57} For example, only 2.22\% of the 442 Asian students in this sample have worked on a campaign.
subsample did not clearly prioritize either political voice or electoral behaviors. While it is possible that these forms of behavior were engaged in by distinct sets of youth – not tested here – it is likely that these data suggest some overlap in the forms of political behavior preferred by adolescents.

Political voice behaviors strongly predict electoral behaviors for all subsamples except Hispanic and Asian adolescents. This further suggests that adolescents who seek out political voice behaviors also seek out traditional forms of electoral behaviors; certainly relationships between the two constructs could be more strongly examined using longitudinal data. Of interest, however, is why no relationship was identified between political voice and electoral behaviors for Hispanic or Asian adolescents (for Asian adolescents, of course, the full model did not fit, limiting exploration of this relationship). Prior research exploring relationships between political voice and electoral behaviors has not explored subgroup differences. Future studies with large enough samples to examine these relationships are an important step in understanding processes of minority youth civic development.

As discussed in the prior practice implications section, this study has a number of implications for civic programming with youth. However, it was a cross-sectional study of relationships between political attitudes and behaviors for adolescents during their senior year of high school. It is not possible to determine from this data how program interventions that seek to strengthen civic identity would impact political behavior.

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58 It may be that the measure of writing to public officials (“havewrt”) contributes to this lack of clarity. This variable was categorized as a political voice activity here, because it is both not directly related to elections and campaigns and because of its expressive nature. This is consistent with some other research on youth political engagement (e.g., Jenkins, et al., 2003). Syvertsen, et al. (2008), on the other hand, categorize writing to public officials as a “conventional activity”. “Havewrt” most strongly correlates with the political voice construct, but less so than the other variables associated with this construct.
Would an increase in positive attitudes toward government as a result of program participation increase a student’s participation in electoral behaviors? Would a decrease in these attitudes result in an increase instead in political voice behaviors? These questions could best be tested through an intervention study, measuring attitudinal and behavioral changes over the course of program participation (although it will be important to isolate attitudes from other programmatic aspects which might also lead to behavioral changes).

Finally, following a particularly interesting 2008 Presidential election season from the perspective of youth civic engagement, an interesting next step to this study would be to conduct the same analysis using 2008 and 2009 MTF data. Have political attitudes and behaviors changed among youth in general? Is there a smaller racial/ethnic gap in attitudes and behaviors following the emergence of a viable minority Presidential candidate, and his ultimate election as President? Is there a stronger connection between political attitudes and political behaviors among a more highly engaged youth population (Keeter, et al., 2008)?

Implications for Policy

Policy on the state and federal level addresses adolescent civic engagement, particularly the instilling of citizenship behaviors through either school-based civic education programs or forms of service. By informing scholarship on attitudinal precursors to political engagement and how they may differ by SES or ethnicity, this study can inform the promotion of effective civic interventions through policy.

Civic education is not enforced by the federal government (e.g., U.S. Department of Education, 2001; 2002), but federal funds are available for various civic initiatives
including through the Education for Democracy Act, which is a subpart of No Child Left Behind, the federal government’s primary education policy. Initiatives include funds for civic education for immigrants, programs intended to enhance American history education, and a program that brings economically disadvantaged students and teachers to spend a week in Washington, D.C. attending seminars on government (Kirby, Levine, & Elrod, 2006). In addition, federal and state policies also address forms of service.

Federal attention to volunteerism is evident in repeated calls by President Barack Obama for American citizens to participate in volunteer activity. Federal and state politicians increasingly encourage schools to use community service and service-learning activities to overcome youth civic disengagement. For example, the National and Community Service Act of 1990 created grant opportunities for schools to receive support for implementing service-learning activities. The federally-funded Corporation for National and Community Service calls on schools to “become places where students can acquire the habits of civic participation, responsibility, and service that are essential to American democratic life” (CNCS, 2002, p. 4). Various school and community-based youth service programs have received funding from federal sources, including Serve America, AmeriCorps, and Learn and Serve America. Most recently in March 2009, Congress passed the Kennedy Serve America Act, substantially increasing support for both school- and community-based service opportunities.

However, recent research raises doubt as to whether service participation is a strong strategy for increasing political engagement among pre-voting age adolescents, in part because political outcomes are not intentionally targeted (Pritzker & McBride, 2006). Calls for youth service were part of the 2008 Presidential campaign, with both general election candidates supportive of increased national service opportunities. President Obama has suggested public service among college students as a means to increasing the affordability of college.
2006b). This research can inform policy support for interventions that seek to target political outcomes and can inform funding decisions. In particular, the lower rates of participation confirmed here among low-income, Black, and Hispanic adolescents provide a rationale for funding targeted to civic education or civic development programming with these populations.

Conclusion

This study sought to expand knowledge about influences on political behavior among adolescents, in particular among those who are low-income or belong to racial or ethnic minorities. The use of a nationally-representative dataset with a large adolescent sample allowed for in-depth exploration of political attitudes and behaviors among not just White and Black youth, but also among Hispanic and Asian youth. This study found more negative political attitudes and lower levels of political behavior on the part of low-income adolescents, and among Black and Hispanic adolescents, suggesting that more attention to the role of disadvantage in youth political development is needed in both practice and research.

While few differences in interpretation of attitudinal and behavioral items and constructs exist between low-income and non-low-income youth, this study finds important differences across ethnic groups. Specifically, Black adolescents interpret political attitudes differently than youth of other racial/ethnic groups. This suggests caution in future cross-group analyses involving measurement of adolescent attitudes and perceptions towards government.

This study yields important findings regarding the relationships between political attitudes and behaviors. Across the full sample and subgroups, these relationships
differed from those hypothesized. For White adolescents and youth of both income
groups, findings strongly suggest students who are interested in government and hold
political preferences and beliefs are more likely to engage in non-traditional political
activities; contrary to expectations, these attitudes do not predict electoral behavior.
Additionally, for these subgroups, students who hold positive views of government are
more likely to engage in electoral behaviors, while students who hold negative views of
government are more likely to engage in non-traditional political activities. This latter
finding is particularly important, as it suggests that mistrust of government may be
constructively channeled into expressive forms of political behavior, which may then lead
to engagement in electoral behaviors.

Unexpectedly, the above findings of attitudinal paths to political behavior are
shared by low-income and non-low-income students, suggesting that socio-economic
status does not moderate attitude-behavior relationships. This study finds, however, that
race may well moderate attitude-behavior relationships, although findings are preliminary
and subject to the limitations described previously in this chapter. While there is
evidence that political attitudes predict political behaviors for White students in this
study, for racial/ethnic minority youth, there is not clear evidence of such a predictive
relationship, raising additional questions as to how civic interventions can best help to
develop political engagement on the part of minority youth. Further research on
attitudinal predictors of political behavior is needed for minority youth, in order to
strengthen understanding of whether and why minority youth develop political behaviors
differently than White youth.
REFERENCES


Corporation for National and Community Service. (2002). *Students in service to America: A guidebook for engaging America's students in a lifelong habit of service.* Washington, D.C.


<table>
<thead>
<tr>
<th>Construct</th>
<th>Concept</th>
<th>Variable Name</th>
<th>Item</th>
<th>Original Response Options</th>
<th>Recoded Response Options</th>
<th>Level of Measurement for Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self as Political Actor</td>
<td>Importance of Politics</td>
<td>INTEREST IN GOVT</td>
<td>Some people think about what’s going on in government very often, and others are not that interested. How much of an interest do you take in government and current events?</td>
<td>No interest at all, Very little interest, Some interest, A lot of interest, A very great interest</td>
<td>SAME</td>
<td>Continuous</td>
</tr>
<tr>
<td>Self as Political Actor</td>
<td>Strongly-held views</td>
<td>R’S POLTL PRFNC</td>
<td>How would you describe your political preference?</td>
<td>Strongly Republican, Mildly Republican, Mildly Democrat, Strongly Democrat, Independent, No preference, Other, Don’t Know/Haven’t Decided</td>
<td>Opinion</td>
<td>Categorical (Dichotomous)</td>
</tr>
<tr>
<td>Self as Political Actor</td>
<td>Political opinions</td>
<td>R’POL BLF RADCL</td>
<td>How would you describe your political beliefs?</td>
<td>Very conservative, Conservative, Moderate, Liberal, Very liberal, Radical, None of the Above/Don’t Know, Decided</td>
<td>Opinion</td>
<td>Categorical (Dichotomous)</td>
</tr>
<tr>
<td>Government as Political Actor</td>
<td>Political opinions</td>
<td>GOVT PPL - DSHNST</td>
<td>Do you think some of the people running the government are crooked or dishonest?</td>
<td>Most of them are crooked or dishonest, Quite a few are Some are, Hardly any are, None at all are crooked or dishonest</td>
<td>SAME</td>
<td>Continuous</td>
</tr>
<tr>
<td>Government as Political Actor</td>
<td>Trust in government</td>
<td>NEVER TRUST</td>
<td>How much of the time do you think you can trust the government?</td>
<td>Almost always, Often</td>
<td>SAME</td>
<td>Continuous</td>
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<td>Construct</td>
<td>Concept</td>
<td>Variable Name</td>
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<tr>
<td>Government as</td>
<td>Evaluation of government</td>
<td>GOVT</td>
<td>government in Washington to do what is right?</td>
<td>Sometimes Seldom Never Near always run for a few big interests Usually run for a few big interests Run some for the big interests, some for the people Usually run for the benefit of all the people</td>
<td>SAME [reverse-coded]</td>
<td>Continuous</td>
</tr>
<tr>
<td>Political Actor</td>
<td></td>
<td>GOVT RUN FOR PPL</td>
<td>Would you say that government is pretty much run for a few big interests looking out for themselves or is it run for the benefit of all the people?</td>
<td>Solo Sometimes Seldom Never Near always run for a few big interests Usually run for a few big interests Run some for the big interests, some for the people Usually run for the benefit of all the people</td>
<td>SAME</td>
<td>Continuous</td>
</tr>
<tr>
<td>Government as</td>
<td>Evaluation of government</td>
<td>GOVT DSNT WASTES</td>
<td>Do you think the government wastes much of the money we pay in taxes?</td>
<td>Nearly all tax money is wasted A lot of tax money is wasted Some tax money is wasted A little tax money is wasted No tax money is wasted</td>
<td>SAME</td>
<td>Continuous</td>
</tr>
<tr>
<td>Political Actor</td>
<td></td>
<td>GVT PPL DK DOING</td>
<td>Do you feel that the people running the government are smart people who usually know what they are doing?</td>
<td>They almost always know what they are doing They usually know what they are doing They sometimes know what they are doing They seldom know what they are doing</td>
<td>SAME [reverse-coded]</td>
<td>Continuous</td>
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</table>
| Political Voice    | Expressions of political voice | DO OR PLN WRITE | Have you ever done, or do you plan to do, the following things: Write to public officials? | They never know what they are doing  
I probably won’t do this  
Don’t know  
I probably will do this  
I have already done this | Current Behavior  
Have not done this  
Have already done this | Categorical                        |
| Behavior           |                           |               |                                                                      |                                                                                            |                                                                    |                                   |
| Political Voice    | Expressions of political voice | DO OR PLN DEMONST | Have you ever done, or do you plan to do, the following things: Participate in a lawful demonstration? | I probably won’t do this  
Don’t know  
I probably will do this  
I have already done this | Current Behavior  
Have not done this  
Have already done this | Categorical                        |
| Behavior           |                           |               |                                                                      |                                                                                            |                                                                    |                                   |
| Political Voice    | Expressions of political voice | DO OR PLN BOYCOTT | Have you ever done, or do you plan to do, the following things: Boycott certain products or stores? | I probably won’t do this  
Don’t know  
I probably will do this  
I have already done this | Current Behavior  
Have not done this  
Have already done this | Categorical                        |
| Behavior           |                           |               |                                                                      |                                                                                            |                                                                    |                                   |
| Electoral Behavior | Electoral behavior        | DO OR PLN VOTE | Have you ever done, or do you plan to do, the following things: Vote in a public election? | I probably won’t do this  
Don’t know  
I probably will do this  
I have already done this | Current Behavior  
Have not done this  
Have already done this | Categorical                        |
| Electoral Behavior |                           |               |                                                                      |                                                                                            |                                                                    |                                   |
| Electoral Behavior | Electoral behavior        | DO OR PLN GIVE $ | Have you ever done, or do you plan to do, the following things:     | I probably won’t do this  
Don’t know | Current Behavior | Categorical                        |
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<tbody>
<tr>
<td>Electoral Behavior</td>
<td>Electoral behavior</td>
<td>DO OR PLN WK CPG</td>
<td>Have you ever done, or do you plan to do, the following things: Work in a political campaign?</td>
<td>I probably won’t do this Don’t know I probably will do this I have already done this</td>
<td>Have not done this Current Behavior Have not done this Have already done this</td>
<td>Categorical</td>
</tr>
<tr>
<td>Moderator</td>
<td>Minority status</td>
<td>R’S RACE</td>
<td>What is your race?</td>
<td>REDUCED IN MTF-PROVIDED DATA SET TO: Black White Hispanic Asian</td>
<td>SAME</td>
<td>Categorical</td>
</tr>
<tr>
<td>Moderator</td>
<td>SES (proxy)</td>
<td>PARENTS- AVG EDUC</td>
<td>Average highest level of schooling completed by parents</td>
<td>AVERAGE OF M&amp;F RESPONSES, CALCULATED BY MTF: Completed grade school or less Some high school Completed high school Some college Completed college Graduate or professional school after college</td>
<td>Low-income Non-low-income</td>
<td>Categorical (Dichotomous)</td>
</tr>
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<td>Construct</td>
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<tr>
<td>Exogenous Variable</td>
<td>Geographic residence</td>
<td>R SPD &gt; TIM</td>
<td>Where did you grow up mostly?</td>
<td>On a farm&lt;br&gt;In the country, not on a farm&lt;br&gt;In a small city or town (under 50,000 people)&lt;br&gt;In a medium-sized city (50,000-100,000)&lt;br&gt;In a suburb of a medium-sized city&lt;br&gt;In a large city (100,000-500,000)&lt;br&gt;In a suburb of a large city&lt;br&gt;In a very large city (over 500,000)&lt;br&gt;In a suburb of a very large city</td>
<td>Urban Suburban Rural</td>
<td>Categorical</td>
</tr>
<tr>
<td>Exogenous Variable</td>
<td>Gender</td>
<td>R’S SEX</td>
<td>What is your sex?</td>
<td>Male&lt;br&gt;Female</td>
<td>SAME</td>
<td>Categorical (Dichotomous)</td>
</tr>
<tr>
<td>Exogenous Variable</td>
<td>Age</td>
<td>AGE &lt;&gt; 18</td>
<td>(Age: In what year were you born + In what month were you born)</td>
<td>Under 18&lt;br&gt;Over 18</td>
<td>SAME</td>
<td>Categorical (Dichotomous)</td>
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