

THE TWENTY-SIXTH AMENDMENT AS A TEACHABLE MOMENT:  
YOUNG ADULT VOTER TURNOUT IN U.S. ELECTIONS, 1972-2006

David L. Wright

Submitted in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy  
under the Executive Committee  
of the Graduate School of Arts and Sciences

COLUMBIA UNIVERSITY

2013

© 2013  
David Lee Wright  
All rights reserved

## ABSTRACT

### The Twenty-Sixth Amendment as a Teachable Moment: Young Adult Voter Turnout in U.S. Elections, 1972-2006

David L. Wright

Ratification of the 26<sup>th</sup> Amendment in 1971 was a watershed event in America's long and often tumultuous electoral reform journey. The persistently low voter turnout of newly enfranchised 18-20 year-olds since then not only is troubling from a democratic perspective but also is puzzling in light of the rapidly rising educational attainment of this age group during the same period. In this investigation, I develop an original theoretical frame by which to examine relationships between the 1972-2006 voter turnout patterns of 26<sup>th</sup> Amendment eligible voters and a large complement of educational and non-educational influences manifested during the end of high school and the years immediately following high school. Drawing upon multiple data sources, including a greatly under-utilized national survey series that is maintained under National Center for Education Statistics (NCES) auspices, I reaffirm the overall strength of educational attainment as a young adult voter turnout predictor while providing new evidence that attainment effects are attenuated by other educational and non-educational circumstances and traits. My results, which also reveal the dynamism of these influences in predicting young adult voter turnout, are suggestive of five areas in which the 26<sup>th</sup> Amendment can serve as a teachable moment to strengthen the democratic education mission through: (1) expanded post-high school enrollment opportunities; (2) energized high school citizenship training; (3) strengthened connections between the high school literacy and civics curricula; (4) improved use of technology to deliver civically relevant messages; and (5) more aggressive voter registration efforts on high school and college campuses.

This page is intentionally left blank.

## TABLE OF CONTENTS

Chapter 1: Introduction .....	1
Personal Reflection .....	1
Theoretical Orientation, Study Focus, Unanswered Questions and Methods .....	10
Brief Chapter Outline .....	14
Chapter 2: Background and Purpose .....	16
26 <sup>th</sup> Amendment Background .....	20
The Conundrum Revisited .....	22
Prior Education Research and Theoretical Anchors .....	29
Integrated Theoretical Approach .....	39
Research Questions .....	47
The Terrain Ahead.....	54
Chapter 3: Study Design .....	60
Contextual Analyses .....	62
Empirical Analyses .....	67
Presentation of results .....	84
Chapter 4: Micro-Analyses .....	89
Mid-Boomers .....	91
Late-Boomers .....	105
Gen Xers .....	117
Millennials .....	127
Discussion .....	138

Chapter 5: Comparative Generational (Macro-) Analyses.....	174
Generational Components of Stability and Change .....	177
Macro-Empirical results .....	194
Discussion .....	206
Chapter 6: Conclusions and Recommendations .....	231
Theoretical Perspective .....	234
Study Design Considerations .....	236
Further Research Needs .....	238
Summary of Findings and recommendations .....	241
Closing Remarks .....	249
Endnotes .....	252
References .....	255
Appendix A: Empirical Design Details .....	278
Appendix B: Event History Tables .....	298

## LIST OF FIGURES

- Figure 2.1. Voter Turnout in U.S. Presidential Elections by Age Category.
- Figure 2.2. 18-20 Year-Old Voter Turnout in First Two Eligible Presidential Elections.
- Figure 2.3. 18-29 Year-Old Presidential Vote, 1972-2008.
- Figure 2.4. Democratic Presidential Candidate Vote by Age, 1972-2008.
- Figure 2.5. Percent Democratic Vote in U.S. Presidential elections, 1972-2008.
- Figure 2.6. Young Adult National Voter Turnout vs. Educational Attainment.
- Figure 2.7. The Funnel of Causality.
- Figure 2.8. The Target of Participation.
- Figure 3.1. NCES Secondary Longitudinal Studies: All Data Collection Waves.
- Figure 3.2. NCES Secondary Longitudinal Study Within Cohort Micro-Analyses.
- Figure 3.3. NCES Secondary Longitudinal Study Between Cohort Macro-Analyses.
- Figure 4.1. Comparison of NCES and U.S. Census Bureau 18-20 Year-Old Voter Turnout Trends in Relation to Educational Attainment.
- Figure 4.2. Voter Turnout Differential of Mid-Boomers at Ages 20 and 22.
- Figure 4.3. Mid-Boomer Voter Turnout vs. Education at Ages 20 and 22.
- Figure 4.4. Voter Turnout Differential of Late-Boomers at Ages 20 and 22.
- Figure 4.5. Late-Boomer Voter Turnout vs. Education at Ages 20 and 22.
- Figure 4.6. Voter Turnout Differential of Gen Xers at Age 20.
- Figure 4.7. Gen X Voter Turnout vs. Education at Age 20.
- Figure 4.8. Voter Turnout Differential of Millennials at Age 20.
- Figure 4.9. Millennial Voter Turnout vs. Education at Age 20.
- Figure 5.1. Initial Voter Turnout of NCES Secondary Longitudinal Study Participants.

Figure 5.2. Educational Attainment of NCES Secondary Longitudinal Study Participants Two Years Post-High School (Approximate Age 20).

Figure 5.3. Selected Priorities of NCES Respondents as High School Seniors.

Figure 5.4. Partisan Attachment of College Freshmen.

Figure 5.5. Activist Profile of College Freshmen.

Figure 5.6. Race/Ethnicity of NCES Secondary Longitudinal Study Participants.

Figure 5.7. Voter Turnout of NCES Secondary Longitudinal Study participants Two Years Post-High School (Approximate Age 20) Classified by Race.

Figure 5.8. NCES Secondary Longitudinal Study Participants Reporting At Least Some College Two Years Post-High School (Approximate Age 20) Classified by Race.

Figure 5.9. Family Transition Milestones of NCES Secondary Longitudinal Study Participants Two Years Post-High School (Approximate Age 20).

Figure 5.10. Work and Study Transition Milestones of NCES Secondary Longitudinal Study Participants Two Years Post-High School (approximate Age 20).



## LIST OF TABLES

Table 3.1. Logistic regression model structure exclusive of quadratic and interaction terms.

Table 3.2. Quadratic and interaction terms included in logistic regression models.

Table 3.3. Voter turnout outcome equivalency across study cohorts.

Table 4.1. Recurrent voter turnout predictors two years post-high school (approximate age 20).

Table 4.2a. Selected characteristics of NCES Secondary Longitudinal Study respondents.

Table 4.2b. Selected characteristics of NCES Secondary Longitudinal Study respondents.

Table 4.3. Descriptive statistics of Mid-Boomers classified by voter turnout (N=13,167).

Table 4.4. Logistic regression estimates of the pre-Nov 1974 voter turnout of Mid-Boomers at age 20 (N=13,167).

Table 4.5. Logistic regression estimates of the pre-Nov 1976 voter turnout of Mid-Boomers at age 22 (N=13,167).

Table 4.6. Descriptive statistics of Late-Boomers classified by voter turnout (N=9,588).

Table 4.7. Logistic regression estimates of the pre-Mar 1982 voter turnout of Late-Boomers at age 20 (N=9,588).

Table 4.8. Logistic regression estimates of the pre-Mar 1984 voter turnout of Late-Boomers at age 22 (N=9,588).

Table 4.9. Descriptive statistics of gen Xers classified by voter turnout (N=12,240).

Table 4.10. Logistic regression estimates of the pre-Mar 1994 voter turnout of gen Xers at age 20 (N=12,240).

Table 4.11. Descriptive statistics of Millennials classified by voter turnout (N=11,915).

Table 4.12. Logistic regression estimates of the pre-July 2006 voter turnout of Millennials at age 20 (N=11,915).

- Table 5.1a. Components of change: voter turnout predictors whose magnitude and/or directionality were not consistent across NCES study cohorts two years post-high school (approximate age 20).
- Table 5.1b. Components of stability: voter turnout predictors whose magnitude and directionality were consistent across NCES study cohorts two years post-high school (approximate age 20).
- Table 5.2. Percent of NCES Secondary Longitudinal Study participants who voted at ages 18-20, classified by selected personal traits.
- Table 5.3. Bivariate differences in the voter turnout percentages of NCES Secondary Longitudinal Study participants two years post-high school (approximate age 20).
- Table 5.4. Aged-based logistic regression analyses of the voter turnout of NCES Secondary Longitudinal Study participants two years post-high school (approximate age 20) and four years post-high school (approximate age 22).
- Table 5.5. Supplemental age-based logistic regression analyses of the voter turnout of NCES Secondary Longitudinal Study participants two years post-high school (approximate age 20) and four years post-high school (approximate age 22).
- Table 5.6. Voting odds differences of NCES Secondary Longitudinal Study participants in relation to selected personal traits two years post-high school (approximate age 20).
- Table 5.7. Voting odds differences of NCES Secondary Longitudinal Study participants in relation to selected personal traits four years post-high school (approximate age 22).
- Table 5.8. Voting odds differences of NCES Secondary Longitudinal Study participants in relation to selected personal traits two years post-high school (approximate age 20) and four years post-high school (approximate age 22).

Table 6.1. Summary of recommendations for policy and practice reform.

Table A-1. Study measures missing at least 5 percent of data prior to multiple imputation.

Table A-2. Multiply imputed Mid-Boom outcome, education and sociodemographic variable frequencies vs. those in comparable base and listwise deletion samples.

Table A-3. Multiply imputed Late-Boom outcome, education and sociodemographic variable frequencies vs. those in comparable base and listwise deletion samples.

Table A-4. Multiply imputed Gen X outcome, education and sociodemographic variable frequencies vs. those in comparable base and listwise deletion samples.

Table A-5. Multiply imputed Millennial outcome, education and sociodemographic variable frequencies vs. those in comparable base and listwise deletion samples.

Table A-6. NCES Secondary Longitudinal Study sample weighting and flag selections.

Table A-7. Summary of logistic regression diagnostic measures and specification of quadratic and interaction terms for micro-analysis models.

Table A-8. Summary of logistic regression diagnostic measures and specification of quadratic and interaction terms for macro-analysis models.

Table A-9. Logistic regression collinearity, nonlinearity and nonadditivity diagnostics for fully specified (Model 5) micro-models.

Table A-10. Logistic regression collinearity, nonlinearity and nonadditivity diagnostics for age-based comparison macro-models.

Table B-1. NCES Secondary Longitudinal Study respondent birth years.

Table B-2a: selected national economic, social, educational and political indicators, 1954-1979.

Table B-2b: selected national economic, social, educational and political indicators, 1980-2006.

Table B-3: selected results from annual Phi Delta Kappa / Gallup polls of public attitudes toward education, 1973-2010.

Table B-4: National Assessment of Educational Progress (NAEP) math, reading and civics achievement results, 1969-2006.

Table B-5: popular culture events including the *Time Magazine* Person of the Year, the Best Picture and other pop-culture attention grabbers, 1954-2006.

Table B-6: seminal national security and foreign affairs developments, 1954-2006.

Table B-7: key developments in the domestic affairs arena, 1954-2006.

Table B-8: education policy and related legal developments.

Table B-9: major events in the areas of science, technology and nature.

## ACKNOWLEDGMENTS

I am most indebted to professors Jeff Henig, Bob Shapiro and Doug Ready. Although any errors or omissions fall squarely on my shoulders, their encouragement, creativity and judgment were critical to the completion of this project. I would also like to thank professors Ansley Erickson and Dorian Warren for their special insights during the later phases of my research and writing. I am proud to stand with all of them in support of the democratic voting ideal.

## DEDICATION

To Karen for her patience and loving support throughout this journey. To our parents and grandparents who instilled in both of us the democratic value of voting. And to our children and grandchildren who are entrusted with the task of keeping this family tradition alive.

## CHAPTER 1: INTRODUCTION

*Highlights: This investigation is aimed at better understanding the persistently low voter turnout of U.S. 18-20 year-olds and recommending concrete educational reforms to alter the status quo. These 26<sup>th</sup> Amendment eligible voters ultimately have the most to gain or lose from government decisions and comprise the nation's future leaders. As such, they deserve the same nurturing attention as that granted to any other prized electoral constituency.*

Theory and research assign prominent roles to a wide range of generational, life-cycle and circumstantial influences that are believed to account for observed U.S. voter turnout patterns. But few considerations outweigh the presumed importance of education (Abramson, Aldrich and Rohde, 2010; Erikson and Tedin, 2011; Niemi, Weisberg and Kimball, 2011). U.S. 18-20 year-old citizens who were enfranchised by the 26<sup>th</sup> Amendment in 1971 consistently have demonstrated the highest same-age educational attainment of any adult age classification. Yet, without exception, they have had the lowest aggregate voter turnout in national elections. The overall aims of this investigation are to: (1) develop a better understanding of the apparent disconnect between education and young adult voter turnout; and (2) identify education-based policy and practice reforms aimed at improving the status quo.

Later in the chapter, I describe this conundrum, its theoretical and empirical underpinnings and the questions that my study is designed to answer. But my overall interest in pursuing this challenge is personal. My family experience not only affirms a strong connection between education and political participation but also shapes the general research interests that gave breath and life to this investigation. So I begin there.

### Personal Reflection

Born in 1949, I am an early example of the post-World War II Baby Boom generation that arrived on the scene between 1946 and 1964. Like the vast majority of Early Boomers, I am the progeny of what journalist Tom Brokaw celebrated as the Greatest Generation (Brokaw,

1998). My mother and father came from families of humble means and deep religious roots. They endured the Great Depression during their formative years. As young adults, they sacrificed again when the winds of war reached the shores of Hawaii in December 1941 and propelled America headlong into global conflict. Throughout this ordeal, my parents never lost sight of their moral compass or their optimism. And, after the War, when career and health circumstances prompted a family move to California, they held their heads high. Although they had very little in the way of personal savings or assets to fund a new beginning, my parents remained steadfast in the conviction that hard work and faith would illuminate the path to a better life for themselves and for my older brother, sister and me.

During my childhood and adolescence, the kitchen table served as the family's den and office in residence. Except for holidays, the meals were an almost incidental part of the action. The kitchen table was where my father read the newspaper and paid the bills. It was where my parents entertained friends after Wednesday choir practice and Sunday church services. It was where the Wright family kids did their homework and discussed routine personal problems. After we obtained a small black and white television, the kitchen table also was where we watched the Huntley-Brinkley Report with our parents most evenings. What we did not do at the kitchen table very often was to discuss politics or politicians, per se. When election time rolled around, my mother and father made a big point about the importance of voting, but they seldom disclosed what levers they had pulled.

### *The Importance of Voting*

My parents' basic position -- that voting is something you do as a responsibility of citizenship but not something you talk about in polite circles -- was far from unique within our extended family. Both of my grandfathers were proud to say that they had never missed an



election. And both grandmothers were able to make the same claim post-ratification of the 19<sup>th</sup> Amendment in 1920. My grandmother Wright, a naturalized American citizen who had emigrated from Sweden in the late-19<sup>th</sup> century, could be particularly animated when professing that she always voted to cancel out my grandfather. But my grandparents never discussed Party considerations or candidate preferences within earshot. The Wright grandkids were left to guess.

The importance of standing and being counted took a different turn when I was a Vietnam era undergraduate at the University of California, Davis. In those days, Davis was the frequent site of anti-war, free speech and civil rights protests. It also served as a staging area for marches on the State Capitol in Sacramento, which was less than 20 miles away. As an Army ROTC cadet, I found myself on the receiving end of many protests, my uniform more often stained white from flour than its manufactured olive green. But that was an afternoon drill matter. The rest of the time, my Davis buddies (many of whom participated in the protests) and I found common ground on most issues, including the need to end the war. For many of us, the urgency of the matter came into full view during the 1968 Tet offensive. We received additional jolts closer to home with the murders of the Reverend Martin Luther King and Robert F. Kennedy that year. We were not alone in our angst, of course. There were upwards of 200 major student demonstrations on college campuses across the country in 1968 alone, including the seizure of buildings at elite institutions like Columbia University (Schlesinger, 2004).

As young idealists, my friends and I counted heavily on the 1968 presidential election to bring about new leadership that would get the troops home and put an end to the senseless domestic violence and discord we had been living through. Inasmuch as the 26<sup>th</sup> Amendment was still in the idea stage, none of us were eligible to vote at the time. But we had a strong

hunch that our older friends and brothers and sisters and parents would carry the torch in sufficient numbers to make this an election of consequence.

It is true that Richard Nixon's 1968 victory and the appointment of Henry Kissinger as Secretary of State shortly thereafter were accompanied by an accelerated wind-down of the Vietnam War. But, shortly thereafter, the seeds were sown for a new jolt to America -- this one eventually shaking our domestic political institutions to the core. Soon after the 1972 election -- the first national election in which 18 year-olds were eligible to vote and the year in which I cast my first presidential ballot as a 23 year-old Early Boomer -- the nation was confronted by the Watergate scandal. As this story played out over the next few years, the nation saw a President (Watergate) and Vice President (tax evasion) resign under the glare and heat of public revelation. Nineteen others who were implicated in the Watergate affair were jailed (New York Times, 2008). A big shake-up in Congress, in which the U.S. House Party balance alone shifted by nearly fifty seats as a consequence of the 1974 off-year elections, gave Democrats veto-proof majorities in both the House and Senate. President Nixon's appointed successor, Gerald Ford, who would go down to defeat at the hands of Jimmy Carter in 1976, was unable to legislate or command public confidence -- particularly after his 1974 Nixon pardon. It was political gridlock at a fragile and perilous time in our nation's history.

Having graduated from college, spent a year in graduate school and completed a brief U.S. Army stint, I settled into a civilian public service job in California in late 1972. Less than three years later in 1975, while the Washington, D.C. political establishment appeared to be in full melt down, I was offered a staff position on the U.S. House Agriculture Committee based on some of the work I had done in California. I accepted the challenge on a temporary basis, having received assurances that a suitable position would be made available if I decided to return to

Sacramento. Not too long after I arrived in Washington, D.C., however, I was infected by a particularly virulent strain of the Potomac Fever virus. I stayed. In 1977 I moved to the personal office of the Committee's Ranking Member, Congressman William Wampler (R-VA), for whom I served as administrative assistant and chief of staff and, when not managing his Washington, D.C. and District-based congressional operations, oversaw his 1978 and 1980 re-election victories. I participated actively as well in the 1980 presidential campaign.

For me and many others, stagflation, long gas lines, the Iranian hostage crisis and other public concerns framed Election Day 1980 as a moment of particular risk and opportunity, producing a deep gnawing in my gut that I had not experienced since I sat with my college friends watching the election returns roll in on another November day in 1968. Soon after the election, on New Year's Eve, I received the call to join the White House congressional relations team for President-elect Reagan – a grueling but invigorating position that I occupied until June 1984. In that capacity, I observed the swiftness with which newly elected and appointed federal officials could transform the domestic political landscape -- from the early appointment of Sandra Day O'Connor as the first woman on the U.S. Supreme Court to major legislative initiatives on the budget, tax and defense policy fronts. I witnessed the pronounced political impact of profoundly human events, such as the attempted assassination of President Reagan in March 1981. I also saw how easily things could boomerang on the policy front. White House insiders had hoped, for example, that the public release of *A Nation at Risk* (U.S. Department of Education [Education], 1983) would give new impetus to their ongoing efforts to reduce the federal education role in favor of stronger state funding and curricular standards. The rearview mirror of more recent history, of course, reveals that this Report had the opposite effect. As a

billboard for the standards movement, *A Nation at Risk* more commonly was enlisted by proponents to undergird calls for greater federal involvement in education.

The domestic agenda formed only part of the Reagan mosaic, of course. From my East Wing perch, I also saw the incredible reach of U.S. influence and entanglements in a global context – from the celebrated return of the Iranian hostages and the thrill of the first orbital Space Shuttle voyage to the agonies of Korean Flight 007 and the Beirut Marine headquarters bombing. That Congressman Larry McDonald (D-GA), a close personal acquaintance, went down on that Korean airliner punctuated the personal price that can accompany public service. The consequences of votes and voting, by then, had become deeply engrained in my persona.

In 1984 I was presented with another career opportunity. After twelve plus years of public service – particularly the three and a half years I had just spent on the White House staff – I was, frankly, exhausted. I also had a growing family and was still struggling to make financial ends meet. Through a fortuitous circumstance, I was offered a position at a Fortune 50 corporation for which I eventually headed the worldwide government and political affairs function until my retirement in 2005. In this capacity, I found myself more-or-less on the receiving end of government decisions, dealing on a daily basis with the practical impact of U.S. elections on business and industry. I also became well acquainted with business partners and government officials in other parts of the world whose domestic political systems did not permit them to exercise the vibrant voice that I had taken for granted as an American citizen. For me, votes and voting became an even more precious commodity.

Like my parents and grandparents, I am proud that I have never missed a state or national election in which I was eligible to vote. My wife has a similar record. Together, we have tried to inculcate the value of voting in our own children. Unlike my elders, however, we never have

banned political discussion from the dinner table. Nor have we been shy about our preferences. We have embraced political conversation and debate with our children as an important part of the family ethos. It is my fervent hope and expectation that our grandchildren will both benefit from and carry-on this family tradition.

Our children -- twin Gen Xers born in 1976 and Millennials born in 1985 and 1990 -- have carved individual pathways to the voting booth. In each instance, we have observed an initial predisposition to vote that has been influenced both by personal development and by external events and circumstances. One of our older daughters, for example, initially delayed registering to vote because she saw it as a sure ticket to jury duty and being asked to render personal judgments about others that she felt unqualified to make. Her twin sister, on the other hand, has been a dependable voter since age 18 and is now becoming actively involved in local and state politics along with her spouse. Our son registered to vote at age 18 and has been a regular voter since then with one exception. Given his learning differences, he did not complete a 2012 election ballot after being totally baffled by the 142 page voter information guide that was issued in the state where he now resides. Our youngest daughter registered at age 18 and voted in both national elections for which she was eligible.

### *The Importance of Education*

My family voter turnout narrative well illustrates the power of generational, life-cycle and circumstantial influences. It does not, however, validate any particular theoretical frame or imply that we are representative of other American families. If our history was the norm, U.S. voter turnout would be near 100 percent across the age spectrum, which, as evidenced by the modern voter turnout peak of 63 percent established in the 1960 presidential election (Abramson, Aldrich and Rohde, 2010), certainly is not the case. But we are not atypical of other American

households in important respects. In demographic terms, our race/ethnicity and gender balance place us near the center of what has been termed the traditional middle class American majority. Residing variously in the East, Midwest, West and South, we represent all regions of the country. My immediate family members range in age from twenty-three to sixty-four, effectively bracketing the principal categories used in many voting studies.

The main point of difference for my family appears to center on the educational component of what is commonly referred to as socioeconomic status (SES). A large literature confirms that SES -- which typically encompasses family occupational prestige, income and educational attainment -- is a strong and consistent U.S. voter turnout predictor. That SES simultaneously captures the educational and wealth dimensions of one's presumed social status is important. My inter-generational family of voters typically has been blessed with an abundance of the former but not much of the latter trait.

Clearly, my professional career included prestigious positions that also were economically advantageous, benefiting my wife and me later in life and our children relatively early in life. But I am not a child of privilege. I picked up the habit of voting as an impoverished college student, surviving mainly on part-time jobs and a small ROTC stipend. For me it was a financial struggle from childhood through mid-career. For my parents and grandparents it was a financial struggle from beginning to end. Moreover, none of my parents or grandparents ever held prestigious occupational positions. My maternal grandfather was an orchardist and rancher most of his life. My maternal grandmother supplemented the family income as a launderer and cook. My paternal grandmother worked as a nanny before marrying my grandfather. Although my paternal grandfather and father were trained as jewelers and

watchmakers, they obtained most of their incomes from repair work rather than retail trade. My mother worked as a cosmetologist and bank teller prior to my brother's birth in 1938.

My family's three generation educational experience presents a different picture in relation to the SES norm. On par with their peers who were born during the last two decades of the 19<sup>th</sup> Century, my maternal grandfather and both grandmothers had limited formal educations. But all were highly literate, placing them comfortably in the upper half of their generation's educational mainstream (Snyder, 1993). My paternal grandfather completed both high school and trade school – a notable achievement for an American citizen born in the 1880's. My father graduated from Bradley University with a degree in horology (watch making and the science of time) in 1936. According to 1940 U.S. Census records, my father's educational attainment placed him in the top three percent or so of adult Americans at the time (Census, 1943). My mother was an honors high school graduate in 1936 – an era in which less than twenty percent of Americans over the age of 20 had completed four years of high school (Census, 1943). She also completed cosmetology school in 1937 – an experience that was more akin to college than vocational training juxtaposed against modern day benchmarks. My wife has a degree in economics. And all four of our children have attended college. Of the three kids who have completed their bachelor's degrees to date, two of them likely will head back to graduate school at some point – one in psychology and the other in education.

For me, education has been an indispensable condition precedent to every career endeavor I have undertaken. Granted, I have had the good fortune of luck – being in the right place at the right time. But education has played a critical role at every turn and, on reflection, probably accounts for much of the luck as well.

### Theoretical Orientation, Study Focus, Unanswered Questions and Methods

Given my family history, it comes as no surprise to me that a strong presumed relationship between education and voter turnout is abundantly evident in the literature. Unfortunately, the relevant literature also fails to account for the apparent disconnect between education and voting in actual terms. As detailed later in this paper, since 1960 educational attainment has shot upward while voter turnout generally has been on a declining path within most age categories. Moreover, there has been a lack of scholarly emphasis on the citizens in which I have the greatest interest -- 18-20 year-olds -- who consistently have demonstrated the highest same-age educational attainment and lowest voter turnout in national elections since their 1971 enfranchisement.

#### *Theoretical Orientation*

The two most common theoretical anchors used in voting studies are the “funnel of causality” that was pioneered by Angus Campbell and his colleagues (Campbell, Converse, Miller and Stokes, 1960) and Richard Brody’s (1978) “puzzle of political participation.” Both frames envision education as entering the voter turnout picture primarily along the single dimension of educational attainment and operating in a more or less indirect manner as a voting “resource.” But, although both frames enjoy conditional empirical support, neither fully explains the apparent disconnect between education and voting that is so readily apparent within the young adult community.

An associated literature relies largely on what I refer to as partial theoretical frames that seek to explain voter turnout patterns in terms of citizen characteristics such as social traits, sociodemographic shifts, generational inheritance, life-cycle transitions, social capital, mobilization propensity, external events, issue and candidate preferences, and new



communications technology. The partial frames typically include education as an important voter turnout contributor along one or more of its primary dimensions: attainment, context and content. All of these frames can claim at least limited empirical support. But they, too, fall short of explaining the education- turnout anomaly.

In this investigation, I adopt a new theoretical orientation. I take advantage of elements of the “funnel of causality,” Brody’s “puzzle” and the partial frames that exhibit theoretical and empirical soundness. But I do so within an integrated structure that highlights the multi-faceted and multidirectional roles of education as a voter turnout predictor. Moreover, my Target of Participation model, which is detailed in Chapter 2, permits me to approach the voter turnout “puzzle” both from the individual voter (micro) and group (macro) perspectives that Erikson, Mackuen and Stimson (2002), Erikson and Tedin (2011) and other leading scholars have strongly advocated as the preferred means of developing a comprehensive understanding of U.S. voter turnout.

### *Young Adult Focus*

I am particularly concerned about the youngest voters – 18-20 year-olds who were granted national voting rights by the 26<sup>th</sup> Amendment in 1971 – for several reasons. First, a core tenet of representative democracy is that the electorate should reflect the population that is being governed. That the 18-20 year-old citizen cohort consistently exhibits the lowest turnout of any age category (Census, 2009a, Center for Information & Research on Civic Learning and Engagement [CIRCLE], 2012a, 2012b ) – means that its voice is persistently under-represented in national elections.

Second, because expensive government programs tend to frontload benefits and backload costs, and also because many government programs are perpetual or near-perpetual entitlements,

the youngest voters inevitably inherit the biggest bills. As such, they ultimately have the most to gain or lose from the policy decisions made by elected officials and their appointed surrogates.

Third, it is axiomatic that young adults are the nation's future leaders in waiting. As is well documented, whether or not an individual voted in the previous election in which he or she was eligible to vote is a strong indicator of future voter turnout (Lewis-Beck, Jacoby, Norpoth and Weisberg, 2011; Niemi, 2011). At least superficially, encouraging 18-20 year-olds to turnout for that first election is a great way to establish the habit of voting early for the nation's future leaders.

Fourth, the seeming disconnect between recency of education and voter turnout shows up in particularly sharp relief for the youngest eligible voters because so many of them are in high school or college when they turn eighteen. As detailed in Chapter 2, volumes have been written about the role of educational attainment (graduating), school-type, academic achievement, civics courses, extracurricular activities, community service, social capital, new technology and the like in promoting or discouraging the civic development of these young adults. But most of the studies that focus on young voters adopt an age 18-24 or age 18-29 classification scheme that obscures 26<sup>th</sup> Amendment effects (see D.E. Campbell, 2006; Highton and Wolfinger, 2001; Strate, Parrish, Elder and Ford, 1989). As a consequence, very little has been done to connect the end of high school -- and the years immediately following high school -- to the voting booth. Yet research also converges on a strong consensus that this developmental period is very important from a civic and political engagement standpoint (see Bachner, 2010; D.E. Campbell, 2006; Coleman, 1988; Conover and Searing, 2000; Niemi and Junn, 1998; Rubin, 2008). One of the principal aims of this investigation is to begin plugging that gap.

*Unanswered Questions and Methods*

There are many possible reasons for the lack of scholarly consensus regarding the relationship(s) between education and young adult voter turnout. It might be that the mechanism of educational attainment does not behave in the manner suggested by Converse et al. (1960), Brody (1978) and others. Another possibility is that educational attainment is mediated by other educational influences, such as academic context and content. A third possibility is that non-educational influences enter the voter turnout picture in powerful ways that attenuate educational effects. As detailed in Chapter 2, among the most prominent non-educational influences are sociopolitical traits, sociodemographic characteristics, life-cycle transitions, external period influences and generational inheritance. My investigation is framed in a manner that accommodates all of these considerations. In general, I ask:

- In what manner and to what degree does educational attainment – defined as high school completion or less, post-high school vocational training, college attendance or college completion – predict 18-20 year-old voter turnout?
- Inasmuch as the end of high school is a common educational denominator for a very large percentage of U.S. 18-20 year-olds, to what extent do the academic and sociopolitical traits associated with that developmental period affect the probability of voting?
- What can be said about the contributions of sociodemographic characteristics and young adult life-cycle transitions as independent predictors of U.S. 18-20 year-old voter turnout?
- What are the implications for policy and practice?

My study takes advantage of the long-term National Center for Educational Statistics (NCES) Secondary Longitudinal Study series, which contains a rich complement of high school and post-high school educational and non-educational measures (including voter turnout), and which has been greatly under-utilized in political participation research. To date, the NCES series has released data on five cohorts -- young adults who were high school seniors in 1972, 1980, 1982, 1992 and 2004 -- permitting me to estimate generational and life-cycle voter turnout effects over a 32 year (1.4 generation) time horizon. My study design also incorporates both contextual and empirical analyses that assist in the evaluation of external period influences that typically are beyond the reach of the large-format observational surveys commonly used in American voting studies. Through the systematic examination of both within cohort and between cohort voter turnout effects, I am able to approach the investigation from both the micro- and macro-perspectives within the unified theoretical framework afforded by my Target of Participation model.

This procedure overcomes many of the limitations of prior research. A high percentage of the voting studies: (1) are cross-sectional or capture relatively short durational timeframes; (2) delimit observed educational effects to the attainment dimension; (3) and focus primarily on individual (micro) behaviors. My investigation is also more activist-focused than many other voting studies in that I not only seek to understand the underlying linkages between education and voter turnout; I also present concrete recommendations for policy and practice reform that flow from my contextual observations and empirical results.

#### Brief Chapter Outline

One of the most important functions of democratic education is to inculcate a deep respect of and appreciation for voting. That is not to demean nonvoting forms of civic and

political expression or, for that matter, to downplay socially important educational aims that may be directed toward other private and public goods. I am motivated by the simple recognition that the self-governance structure that has been in place since the earliest days of the Republic relies on voting to perpetuate, improve and ensure the legitimacy of vital public institutions. As such, voting is important in its own right and deserves focused attention – especially inasmuch as observed young adult voter turnout patterns fall well short of the democratic ideal.

This study advances that theme. In Chapter 2, I outline the historical, philosophical, theoretical and empirical bases of my investigation before detailing my research questions. In Chapter 3, I present my contextual and empirical study design. In Chapters 4 (micro-analyses) and 5 (macro-analyses), I discuss my major findings. I devote Chapter 6 to the exposition of twelve educationally-focused policy and practice reforms aimed at improving the voter turnout of U.S. young adults.

In addition to the narrative chapters, I include two technical appendices. Appendix A provides additional details regarding my study design. Appendix B, which supports my contextual analyses, lists major events and period influences occurring during the time horizon of my study.

## CHAPTER 2: BACKGROUND AND PURPOSE

*Highlights: Using Campbell et al's (1960) "funnel of causality" and Brody's (1978) "puzzle of political participation" as points of reference, I crystallize my interests in developing a better understanding of the voter turnout of 26<sup>th</sup> Amendment-eligible young adults (i.e., 18-20 year-olds). In addition to discussing the relevant literatures, I outline an original theoretical formulation, the Target of Participation (Figure 2.8), which reinforces my focus on possible voter turnout predictors that are manifested during the end of high school and early young adult period. Beyond the educational and non-educational considerations identified by prior research, my theoretical formulation gives prominence to possible generational, life-cycle and period influences that are typically beyond the purview of observational voting studies. My theoretical position also suggests several research questions that place educational attainment, sociodemographic traits, high school academics, sociopolitical traits exhibited during high school and important adult transitions milestones in the foreground as likely voter turnout predictors. I approach the research questions both from a micro- (individual) and macro- (generational) perspective.*

This investigation takes aim at the seeming disconnect between education and voter turnout that was introduced into the scholarly dialog by Brody's (1978) "puzzle of political participation." Brody's essential observation was that voter turnout revolves around "legal context, individual attributes, and the character of the choice situation" (p. 291). He went on to rule out legal context, arguing (as do I) that the legal climate for voting has substantially improved over the decades. He also equivocated as to the evolving contributions of individual attributes and the choice situation as turnout inhibitors, ultimately concluding that "the confusion that remains in the picture of voting participation ... stems from the limitations of survey research and the quality of the information it yields" (p. 324). Left dangling in the dialog was the personal attribute known as educational attainment. Brody acknowledged the growing body of theory and research pointing to a strongly positive association between educational attainment and voter turnout. He presented data showing that the overall voter turnout trend in national elections occurring between 1952 and 1976 ran counter to rising national educational attainment levels. He then transitioned to other topics. But others took notice and began to investigate the

educational anomaly. Thirty-five years later, researchers are still conducting voting studies that are framed at least in part on Brody's "puzzle" (see Berensky and Lenz, 2010; Burden, 2009; Carlson, 2012; Leighley and Vedlitz, 1999; Nie, Junn and Stehlik-Barry, 1996), but consensus has been elusive as to solutions.

As detailed in Chapter 4 (micro-analyses) and Chapter 5 (macro-analyses), I am not an acolyte of Brody's (1978) method. The basic framing of his "puzzle" comports well with my study focus on young adult voter turnout due to the close connections that typically exist between turnout, age and education. However, my research is more firmly implanted on a trio of core beliefs, only the third of which relates directly to Brody's work. The most basic of these beliefs is that voting matters – a lot. Writing shortly after voter turnout reached its modern peak of 62.8 percent in the 1960 presidential election<sup>1</sup>, Almond and Verba (1963) characterized the emerging political world as a "culture of participation" (p. 2). Borrowing from Dahl (1956), they emphasized that "the common thread running through the many definitions of democracy is that a democracy is a society in which '... ordinary citizens exert a relatively high degree of control over leaders'" (Almond and Verba, 1963, pp. 118-119). A few years later -- after U.S. voter turnout had turned downward and the Civil Rights Movement had firmly imprinted voter discrimination on the national political consciousness -- Verba (1967) advanced a very broad definition of political participation in which nonvoting forms of political expression that primarily benefited individuals and limited groups were placed more-or-less on par with mass voting. In Verba's view, voting was a "powerful but blunt weapon that does not closely guide the behavior of decision-makers, largely because the relation of the election to any specific policy is usually quite ambiguous" (pp. 72-73). Prominent scholars have since piggybacked on Verba's message to rationalize declining voter turnout during the last four decades, suggesting,

among other things, that citizens are not necessarily participating less in overall terms, but, rather, there has been a de-emphasis on voting in favor of other modes of political expression that often escape social science measurement (see Dalton, 2006, 2009; Zukin, Keeter, Andolina, Jenkins and Delli Carpini, 2006). The implication is that voting is one of many forms of political participation that command relatively equivalent status as engines of democracy.

Despite the hoopla often surrounding these alternative forms of political expression – which include such things as letter writing campaigns, civil protest, internet chat rooms and political tweets -- the popular vote, as antiquated as it may appear to be at times, remains the principal mechanism by which private U.S. citizens allocate political power, preserve and improve public institutions and legitimize government decisions. As such, voting is both a vital structural mechanism to organize and control the government and an important sociopolitical mechanism to situate the needs, wants and rights of non-office holders within the uniquely American scheme of democratic self-governance. Voting is not and never has been merely one of many co-equal means of political expression; it is first among equals. Even Schattschneider (1960), who held that citizens were only “semisovereign” if their political roles were confined to the selection of leaders, never disputed the primacy of elections. “In the last analysis,” Schattschneider opined, “there is no political substitute for victory in an election” (p. 57).

The second core belief driving my investigation is that U.S. voter turnout is far from perfect and cries out for improvement. As noted, the high water mark during the last six decades occurred in 1960 when John Kennedy narrowly defeated Richard Nixon for the U.S. presidency. Despite momentary upticks since that time, including somewhat higher turnout during the three most recent presidential elections, aggregate voter turnout in national elections has remained below the 1960 peak.



There is no doubt that clearing the 1960 hurdle would constitute progress. But, although there are many gradations of success within the American political system and the necessity of compromise has been ever upon us since the early days of the Republic, I know of no standard of democratic *perfection* that settles for a fractionalized percentage of any prized goal. If the overall aim is perfection, and I see no logical reason why it should not be that, the voting ideal should be understood as 100 percent turnout. And if grasping that ideal demonstrates itself to be impossible, then the bar at least should be elevated to the historical high of 82 percent voter turnout that was recorded in the 1876 presidential election.

The third core belief, which brings Brody's (1978) "puzzle" back into the picture, is that the turnout problem is most acute among the youngest voters: the 18-20 year-olds who were enfranchised by ratification of the 26<sup>th</sup> Amendment in 1971. These young adults (and their successors) appeared on the voter-eligible stage as the most educated citizens in U.S. history on a same-age basis. As depicted by Figure 2.1, although low and declining post-26<sup>th</sup> Amendment voter turnout trends certainly have not been confined to the young, the curvilinear and often inverse relationship between age and voter turnout is striking in its consistency. The fact that 18-20 year-old voter turnout was generally headed downward until the 2004 presidential election (Figure 2.1) is particularly reflective of Brody's "puzzle" inasmuch as educational attainment was in the rapid ascendancy during that time.

Moreover, the trends depicted by Figure 2.1 add to Brody's "puzzle" in two notable respects. First, separate and apart from aggregate educational attainment increases, the high school dropout rate – a well-established voter turnout inhibitor – declined markedly after 1972. Second, the legal and procedural obstacles to voting were decidedly lower between 1972 and 2008 than during the time horizon of Brody's study.

I devote the remainder of the chapter to the exposition of this problem and my overall plan to address it. I begin by establishing the legal and historical frame of reference for my study: the 26<sup>th</sup> Amendment. I then add perspective to the conundrum presented by low young adult voter turnout. This is followed by separate discussions of prior empirical and theoretical efforts as well as the theoretical model that underlies my investigation. Finally, I articulate the specific research questions that frame my contextual and empirical analysis.

### 26<sup>th</sup> Amendment Background

The 26<sup>th</sup> Amendment states succinctly that: “Section 1. The right of citizens of the United States, who are eighteen years of age or older, to vote shall not be denied or abridged by the United States or by any State on account of age ... Section 2. The Congress shall have the power to enforce this article by appropriate legislation” (*United States Constitution, as Amended*). The directness and simplicity of these words belie a long and distinctive history prior to ratification in 1971.

As noted by Engdahl (2010), age 21 was adopted somewhat arbitrarily as the adult threshold for voting in much of colonial America based on medieval English precedents. The earliest organized political effort to lower the age took place in Missouri in 1820 (Engdahl, 2010). The political debate occurring there and in other states during the ensuing decades never strayed far afield from popular conceptions of adulthood. As noted by Keyssar (2000), however, efforts to lower the voting age also were generously sprinkled with the military metaphor. It was during World War II, after President Roosevelt lowered the draft age to 18, that the Gallup organization first saw public support for the 18 year-old vote surpass the 50 percent threshold (Gallup, 2010). President Eisenhower, the first Commander in Chief to publicly endorse the 18 year-old vote, did so largely on military service grounds, commenting in his 1954 State of the

Union Address that 18-20 year-olds “should participate in the political process that produces this fateful [military service] summons” (Woolley and Peters, 2013b).

Eisenhower was not alone. A bipartisan coalition formed during the late-1950s and 1960s, featuring seldom linked names such as Hubert Humphrey, Jennings Randolph, Richard Nixon, Barry Goldwater and Wayne Morse. The “old enough to fight, old enough to vote” mantra was an outwardly visible unifying theme. But Party politics also was in evidence. As observed by Keyssar (2000), “both Republicans and Democrats thought they might reap partisan benefits from a lowered voting age” (p. 225). Notwithstanding the political and philosophical breadth of the coalition, Keyssar also noted that the push to lower the voting age stalled in Congress for more than a decade due to competing priorities, concerns over states’ rights and spirited opposition in some quarters on philosophical and practical grounds.

Domestic social volatility and the increasingly poisonous political environment brought about by escalation of the Vietnam War served as a bloodstained backdrop to bring the matter to a head. By 1970, a handful of states had acted on their own to lower the voting age. Georgia, Kentucky and Alaska permitted 18 year-olds to vote. Massachusetts, Minnesota and Montana had extended voting rights to 19 year-olds. Maine, Nebraska and Hawaii had established an age 20 threshold (Cultice, 1992). Although the Kentucky, Georgia and Hawaiian laws had been on the books for some time, the actions taken in other states were of recent vintage and no doubt were prompted by organized advocacy efforts during the late 1960s that brought together youth organizations, labor unions, churches and other grass roots interests. Despite the apparent progress at the state-level, however, advocates remained highly focused on establishing a uniform national standard (Amar, 2005).

A swirl of political activity in 1970 and 1971 led to ratification of the 26<sup>th</sup> Amendment in time for implementation during the 1972 U.S. presidential election. In December 1970, the U.S. Supreme Court ruled in *Oregon v. Mitchell* that a previously enacted federal statute extending voting rights to 18-20 year-olds was valid only for federal elections, meaning that states that had not already lowered the voting age would be forced to maintain dual voting records and, in some instances, conduct dual polling operations (Keyssar, 2000). The High Court ruling served as a powerful action-forcing mechanism in Congress, which acted with uncharacteristic speed and efficiency to submit constitutional amendment language for state approval prior to the end of March 1971 (Cultice, 1992). Less than four months later, a sufficient number of states had approved the language, paving the way for formal ratification by the beginning of July – the shortest ratification period for any Amendment in U.S. history (Cultice, 1992; Keyssar, 2000). As summed up by constitutional scholar Akhil Amar (2005), the political saliency of the 26<sup>th</sup> Amendment and the velocity of the final approval process were driven, not by a single High Court action, but instead by the convergence of “three of the era’s most powerful currents – the civil rights/voting rights movement, a youth culture, and the great debate over Vietnam” (p. 445).

#### The Conundrum Revisited

Against this backdrop of swift and resolute action at the tail-end of the ratification process, questions lingered about the likely impact of the 26<sup>th</sup> Amendment. The betting was heaviest as to whether the newly enfranchised 18-20 year-olds would turn out in sufficient numbers to affect national election outcomes and whether they would pathologically favor one political party over another. But academics, politicians and other observers also were curious about such things as the impact of ongoing election law reforms, the growing reach of

government and rising educational levels on young adult voter turnout. The results have been decidedly mixed.

### *Voter Turnout and Election Impact*

U.S. Census records reveal that the pre-1971 voter turnout of young adults was less than stellar. In both 1964 and 1968, for example, the presidential election turnout of 21-24 year-olds trailed that of older voters (Census, 1965, 1969). But, by the end of the decade, Baby Boomers had demonstrated an activist bent that led some prognosticators to expect things to be different going forward. As articulated by Engdahl (2010): “It was widely believed that the votes of eighteen- to twenty-year olds would have a major impact on the outcome of elections, beginning with the general election of 1972” (p. 20).

Contrary to Engdahl’s forecast, the aggregate voter turnout of 18-20 year-olds was not high or even on par with the reported turnout of other age groups following ratification of the 26<sup>th</sup> Amendment. As depicted by Figure 2.1, without exception the voter turnout of 18-20 year-olds was the lowest of any age category in U.S. presidential elections taking place between 1972 and 2008. Interestingly, as displayed in Figure 2.2, age-based disparities in the voter turnout calculus were evident even during the 26<sup>th</sup> Amendment voter eligibility period. In seven of nine comparisons spanning the 1972 to 2008 presidential elections, aggregate voter turnout in the second eligible presidential election was higher than it was in the first election in which the same cohort of 18-20 year-olds was eligible to vote.

At least at the national level, there is at best mixed support as well for the notion that young voters have had a transformative effect on election outcomes. In 1972, the first post-26<sup>th</sup> Amendment presidential election, a majority of 18-29 year-old voters supported President Nixon (Figure 2.3)<sup>2</sup>, but they did so to a far lesser degree than older voters (Figure 2.4) who returned

the incumbent President to Office by an astounding 520 to 17 electoral vote margin (Woolley and Peters, 2013a). Between 1976 and 2000, the faltering youth vote also was overwhelmed by the expressed sentiment of older voters. In the razor thin 2000 presidential election, young adult voter turnout was at its lowest level since ratification of the 26<sup>th</sup> Amendment (Figure 2.1). In 2004, President Bush was re-elected with 51 percent of the popular vote and a 16 electoral vote edge despite the fact that a clear majority of 18-29 year-olds voted for Senator John Kerry (Figure 2.3). In 2008 – an election marked by unprecedented mobilization efforts directed at young voters by both presidential candidates (Abramson et al., 2010) – it has been estimated that the youth vote was especially instrumental in Indiana, Virginia and North Carolina (CIRCLE, 2012a). Had those states fallen into the McCain column, however, Team Obama still would have prevailed (Woolley and Peters, 2013a). There is also inconclusive evidence that 18-29 year-old voters were instrumental in delivering Ohio, Florida, Virginia and Pennsylvania to the Democratic ticket in 2012 (CIRCLE, 2012a). Had those states opted instead for the Republican candidate, former Governor Mitt Romney would have won the election (Woolley and Peters, 2013a).

### *Partisan Orientation*

26<sup>th</sup> Amendment opponents were not shy in expressing the concern that the new electoral arithmetic could distort the political power balance in Washington, D.C. and elsewhere on partisan grounds (Furnish, 2010). Some critics went so far as to imply that the newly enfranchised voters would be radical and predominantly leftist. Carleton (2010), for example, drew parallels to successful youth mobilizations by Fidel Castro, Mao and other anti-democratic icons of the day.

But such suspicions did not bear up under scrutiny. As noted by Erikson and Tedin (2011), research demonstrates that, in general, “each new generation starts out more liberal than average but then drifts toward the conservative with age” (p. 153). Figure 2.4, which displays the presidential voter preferences of 18-29 year-olds versus older voters between 1972 and 2008, is directionally consistent with this logic. It would be wrong to assume, however, that the observed pattern is universal or that each new generational cohort begins its rightward journey from the same point on the liberal-conservative and partisan continua. Figure 2.3, which is based on national exit polls, shows that the Republican presidential candidate was the top vote getter among 18-29 year-olds in 1972, 1984 and 1988. Norpoth (1987) for one attributed the 1984 youth vote to a pronounced generational shift. The presence of third party candidates in 1980 (John Anderson), 1992 (Ross Perot) and 1996 (Ross Perot) likely deflated the Republican youth vote to a degree, just as Ralph Nader’s appearance on the national ticket in 2000 likely depressed the Democratic youth vote that year. Figure 2.5 reveals that, on a percentage basis, the partisan breakdown of the youth vote was quite similar to the total popular vote in about half of the presidential elections occurring between 1972 and 2008. It is true that the aggregate youth vote has favored the Democratic ticket in presidential elections occurring since 1992 (Figure 2.3). But the longer term trend is more episodic. And no one can predict when and under what circumstances young adult partisan preferences might yet shift again.

### *Ongoing Election Reforms*

Ratification of the 26<sup>th</sup> Amendment was both preceded and followed by major election reforms aimed generally at reducing discrimination and improving procedural access to the voting booth. At the federal-level: the 15<sup>th</sup> Amendment (1870) banned voter discrimination on the basis of race, color or previous condition of servitude; the 17<sup>th</sup> Amendment (1913) mandated

the popular election of U.S. Senators; the 19<sup>th</sup> Amendment (1920) extended voting rights to women; the 1960 Civil Right Act established federal oversight of state elections; the 24<sup>th</sup> Amendment (1964) banned poll taxes; the Civil Rights Act of 1965 prohibited unequal voter registration requirements within states; the Voting Rights Act of 1965 authorized direct federal intervention to ensure that state voter registration and voting procedures were being applied in a nondiscriminatory manner; and the 1972 U.S. Supreme Court decision in *Dunn v. Blumstein* limited voter registration residency requirements to 30 days. At the state-level, myriad election reforms were put in place to improve efficiency, liberalize absentee and early voting rules, and expand the scope of voting through initiative and referenda mechanisms. So, by the end of 1972, not only had 18-20 year-olds been granted a universal voting entitlement based on age, but many other restrictions and procedural roadblocks also had been reduced or eliminated.

As detailed in Chapter 3, 1972 is the base year for my empirical analyses. But my investigation also extends to later born cohorts who reached the age 18 minimum voting age in 1980, 1992 and 2004. Additional election reforms directly benefited these later born cohorts. At the federal-level: the 1975 Voting Rights Act extended the nondiscrimination doctrine to language minority citizens; and the 1993 “motor voter” law enabled citizens to register to vote when they obtained their driver’s license. Additional procedural reforms were put in place at the state-level as well.

Importantly, these election reforms were cumulative, meaning that, as all of my study cohorts surpassed the age 18 voter eligibility threshold, they could rightfully claim that they were the most democratically liberated citizens in U.S. history. That said, one would naturally expect to observe across-the-board voter turnout increases over time within most age categories. But



the growing diversity of America combined with the typical mobility patterns of young adults suggest that they were the biggest beneficiaries.

### *The Growing Reach of Government*

Thomas Paine's *Common Sense* (1776) spoke plainly and directly to the need for independence from the British Crown. More than two centuries later, today's American young adults just as plainly and directly have the most to gain or lose from the decisions made by home-grown government officials. Inasmuch as expensive government programs tend to frontload benefits and backload costs, and also because many of these programs are perpetual or near perpetual entitlements, the youngest taxpayers inevitably inherit the biggest bills. Between 1972 and 2004 -- the years in which respondents in my oldest and youngest born study cohorts reached voting eligibility -- the national debt jumped from \$427 billion to \$8.5 trillion (U.S. Treasury Department [Treasury], 2013a, 2013b), and federal transfer payments to individuals skyrocketed from \$13.5 billion to \$1.6 trillion (U.S. Census Bureau [Census], 2002a, 2002b, 2009a, 2009b). Between 1979 and 2006, the percentage of U.S. households receiving government benefits doubled (Eberstadt, 2012). On economic grounds alone, then, the personal lives of U.S. young adults have become increasingly intertwined with the public affairs of the Nation. Common sense and logic suggest that we should have witnessed a growing sense of urgency among these young adults to participate in the selection of leaders who control government programs and spending levels.

### *Education*

Not only can 26<sup>th</sup> Amendment eligible voters be characterized as the most democratically liberated citizens in U.S. history; they also can lay claim to the fact that they are the most educated citizens based on high school graduation and college attendance rates. Between 1954

(the principal birth year of my earliest born study cohort) and 2006 (the year in which nearly all of my youngest study cohort members transitioned beyond 26<sup>th</sup> Amendment voting eligibility), the national high school graduation rate jumped from 34 percent to 84 percent, and the four-year college completion rate jumped from 6 percent to 28 percent of the national age-25 plus population (Appendix B, Tables B-2a and B-2b).

At least superficially, it is reasonable to expect this trend to have been accompanied by rising young adult voter turnout for at least two reasons. First, a large literature converges on educational attainment as a major predictor of voter turnout (see, e.g., Abramson et al., 2010; Lewis-Beck et al., 2011; Niemi et al., 2011). Second, in most sectors, including education, recency of training typically enhances performance. From a citizenship perspective, formal training is most in evidence at the high school-level. Moreover, an ever increasing percentage of 18-20 year-olds has remained in school well into their twenties (Census, 2006b, 2011). If aggregate attainment levels and recency of training principally account for voter turnout, not only should we have observed consistent voter turnout increases within most age categories; the increase should have been most pronounced among the youngest eligible voters.

### *Summary*

The emerging picture is one in which the post-26<sup>th</sup> Amendment voter turnout of U.S. 18-20 year-olds has fallen well short of democratic expectations – both in absolute and relative terms. But the seeming disconnect between young adult voter turnout and educational attainment is particularly puzzling. It is one thing for performance to fall short of expectations. But it is quite another thing for the directionality of observed performance to run directly counter to expectations. As depicted by Figure 2.6, 18-20 year-old voter turnout headed down just as educational attainment shot up between 1972 and 2000, and the relationship between educational

attainment and voter turnout was only weakly positive thereafter. This conundrum is a young adult variant of Brody's (1978) "puzzle."

As we have seen, the problem of low young adult voter turnout has many components that fall broadly within the disciplines of philosophy, history, politics, sociology and economics. In focusing my attention on the educational dimension, I take solace in knowing that this slice of the puzzle is tantalizing in its own right because it is both manipulable at the policy level and well-grounded in the literature. In further narrowing the focus to young adults, I not only tip my hat to the historical voter turnout disparities illustrated by Figures 2.1 and 2.6, but I also look to the future of the Republic. Today's young adults are tomorrow's national leaders.

#### Prior Research and Theoretical Anchors

I am certainly not the first to focus on the relationship between education and voting. Nor do I expect to be the last. The empirical research falls very broadly (but not always neatly) into two categories. Studies in the first category focus primarily on educational attainment as a political participation predictor. Naturally, these studies tend to attach themselves to theoretical frames that emphasize attainment-related explanations. Studies in the second category usually assign a prominent role to educational attainment as a control, covariate or predictor, but they focus more directly on rival explanations. Not surprisingly, these studies often flow from partial theoretical frames that deflect attention away from educational attainment.

#### *Attainment-Based Research – Emphasis on the Resource and Sorting Mechanisms*

Studies in the first category typically test the theoretical proposition that educational attainment exerts a primary influence on political participation, and that it does so by operating as a resource (Campbell et al., 1960; Lewis-Beck, et al., 2011; Verba, Schlozman and Brady, 1995), a sorting mechanism (D.E. Campbell, 2009; Nie et al., 1996; Rosenstone and Hansen,

2003) or both (D.E. Campbell, 2009; Carlson, 2012). Confined as they typically are to the exploration of a single voter turnout dimension (educational attainment) that is restricted to a unitary scale (i.e., total years of schooling or highest degree) and is usually estimated by ordinary regression techniques, most of the attainment-based studies embody the implicit assumption that the relationship between attainment and political participation is ascending and linear.

Several studies in this genre have affirmed educational attainment as an important standalone predictor of U.S. voter turnout. Utilizing American National Election Studies (ANES) data from 1952 to 2004, Burden (2009) found that college attainment strengthened over time as a voter turnout predictor but had a relatively constant effect on civic knowledge. Dee (2004) used General Social Survey (GSS) and High School & Beyond (HSB) data to establish that “educational attainment has large and statistically significant effects on subsequent voter participation and free speech” (p. 1697). Milligan, Moretti and Oreopoulos (2004), using ANES data, found a “strong and robust relationship between education and voting for the United States” (p. 1667). Sondheimer and Green (2010) used the rearview mirror of the Perry Preschool, I Have a Dream (IHAD) and Tennessee STAR experiments to track children into adulthood, finding that high school graduation encouraged voter turnout.

A competing literature has questioned the overall value of educational attainment as a political participation indicator. Using the Vietnam draft as an instrumental marker for an increase in male college attendance, Berensky and Lenz (2010) concluded that a college education did not increase political participation. Kam and Palmer (2008) deployed Political Socialization Panel Study (PSPS) and HSB data in a two-stage propensity score matching scheme to account for pre-adult experiences, ultimately concluding that higher education was not a cause of political participation. As detailed in Appendix A, the Kam and Palmer (2008) study

has been criticized on methodological grounds (Henderson and Chatfield, 2011; Mayer, 2011; see also Kam and Palmer, 2011). Tenn (2007) took advantage of the Current Population Survey (CPS) panel structure to examine 18-24 year-old voter turnout in national elections taking place between 1980 and 2000, finding that additional years of schooling did not influence the turnout picture in a meaningful way.

Although the aforementioned studies typically visualize educational attainment as a political resource, work also has been done to test Nie et al's (1996) view that education is a sorting mechanism that affects political participation by influencing social status and centrality to political power networks. Some scholars have questioned Nie et al's sorting model on the grounds that it under-values social status by pegging an individual's educational attainment against earlier born comparison groups (Helliwell and Putnam, 2007; Tenn, 2005). Using data from the National Civic Engagement Study, D.E. Campbell (2009) found limited support for the sorting model in an electoral context when variation across age and place was accounted for. Carlson (2012) adopted a more holistic approach. Drawing on a variety of data sources – HSB, the National Education Longitudinal Study of 1988 (NELS), the 1979 National Longitudinal Survey of Youth (NLSY79), the National Assessment of Educational Progress (NAEP), the 1996 Beginning Postsecondary Students Study (BPS96) and the national Assessment of Adult Literacy (NAAL) – he found that educational attainment acted both as a resource and as a sorting mechanism in promoting political participation. Carlson's research also is notable in its finding that the political participation effects of educational attainment were mediated by multiple educational policy, practice and contextual influences. The overall message delivered by Carlson is that educational attainment, by itself, presents an incomplete picture of the relationship between education and political participation.

*Non-Attainment-Based Research – Partial Theoretical Frames*

The second research genre does not typically privilege total years of schooling or credentials received as voter turnout king-makers. Although most of the studies in this category have observed a consistently positive association between educational attainment and voter turnout, their principal truth claims tend to be directed elsewhere and anchored on what I refer to as partial theoretical frames. Eight such frames have received the greatest attention: social traits, sociodemographic shifts, generational transfer, life-cycle transitions, external events, social capital, mobilizations and new technology.

*Social traits.* This frame asserts that political participation is driven largely by individual (micro) and group (macro) sociodemographic characteristics. Among the most important traits cited in the literature are age, gender, race/ethnicity, educational attainment, social status and income (see, e.g., Abramson, et al., 2010; Blais, 2000; Erikson et al., 2002; Erikson and Tedin, 2011; Franklin, 2004; Leighley and Vedlitz, 1999; Lewis-Beck et al., 2011; Nie et al., 1996, Niemi and Junn, 1998; Teixeira, 1987, 1992; Verba et al, 1995; Wolfinger and Rosenstone, 1980). Importantly, this frame often situates educational attainment as a manifestation of or proxy for the other characteristics, often citing well-established relationships between attainment and family wealth or between attainment and race/ethnicity (see Abramson et al., 2010).

Of late, gender, race and age have consumed much of the attention of social traits researchers. In particular, women and citizens of Hispanic descent have had measurable turnout increases in relation to the size of their voting age population segments during the last few presidential elections (see CIRCLE, 2012a; McCormick and Giroux, 2012; Pew Research Center [PEW], 2012). Additional attention has been paid to the recent voter turnout increases and

candidate preference patterns of young adults -- both in relation to older voters and in relation to educational attainment (see CIRCLE 2012c, 2012d, 2012e; PEW, 2012).

*Sociodemographic shifts.* A logical extension of the social traits frame embraces the reality that U.S. population characteristics are not static. Broadly speaking, the sociodemographic shift formulation suggests that observed political participation patterns depend to an increasing degree on the changing attitudes, values and behaviors that accompany these shifts. Current U.S. Census projections indicate, for example, that the Hispanic population is the fastest growing demographic segment of U.S. society and will more than double during the next five decades (Census, 2009b, 2012e). Census data also show that Hispanic Americans and Asian Americans – especially those in the young adult category – historically have demonstrated far lower voter turnout in national elections than have their Black and White counterparts (Census 2009a).

Much of the recent sociodemographic shift research has focused on this disparity, not only affirming the disconnect between Hispanic population growth and voter turnout, but also revealing that, in general, the modes of political expression chosen by traditionally disadvantaged minorities differ from those selected by their more advantaged peers (Alesina and La Ferrara, 2000; Bowman, 2011; Costa and Kahn, 2003; Kahne and Middaugh, 2008; Rubin and Giarelli, 2008). Recent analyses, which indicate that Hispanics may have been a major force in the 2008 and 2012 presidential elections (see McCormick and Giroux, 2012), have prompted reconsideration of the traditional view.

*Generational transfer*<sup>3</sup>. This formulation suggests that there are inherent qualities of the family unit or even DNA that predispose individuals to participate in civic and public affairs above and beyond their particular social, educational and economic circumstances. The

generational transfer thesis has been embraced in broad terms within much of the literature (see Dalton, 2009; Erikson et al., 2002; Erikson and Tedin, 2011; Hess and Torney, 1967; Jennings and Niemi, 1975, 1981, 1991; Jennings and Stoker, 2004; Jennings, Stoker and Bowers, 2009; Lewis-Beck et al., 2011; Nie et al., 1979; Niemi et al., 2011; Rosenstone and Hansen, 2003; Verba et al., 1995; Zukin et al., 2006). Moreover, the generational shift perspective is a double-duty workhorse; it not only conveys the content of presumed inherited or transferred attitudes, values and behaviors; it also establishes a temporal anchor point very early in the life-cycle for political identity development.

Empirical research consistently has shown generational transfer effects to be potent in the formation of political attitudes and behaviors. A number of studies have shown, for example, that family-inspired political attachments can begin forming quite early in childhood and have enduring effects (see Hess and Torney, 1967; Verba et al., 1995). Other studies emphasize the parental linkage in predisposing their offspring to political participation on the basis of wealth, educational opportunity, partisan identification, etc. (see Abramson et al., 2010; Nie et al., 1996; Rosenstone and Hansen, 2003). The findings of Erikson et al. (2002) point to the “permanence of early socialization *and* the permanence of reactions to subsequent social history” (p. 157), suggesting that important linkages may exist between the generational shift, life-cycle and external events theoretical frames. The ongoing debate about a hypothetical DNA link, however, remains controversial (see Alford, Funk and Hibbing, 2005; Fowler, Baker and Dawes, 2008).

*Life-cycle transitions.* The literature associated with this frame approaches the matter from multiple vantage points. The general theoretical stance is that political interests, preferences, access and decisions change as citizens move through the aging process (see Abramson et al., 2010; Erikson et al., 2002; Erikson and Tedin, 2011; Niemi et al., 2011; Zukin



et al., 2006). Special-duty sub-frames approach the matter in relation to specific age categories. Of particular importance in relation to the current investigation, an adult transitions version of the life-cycle frame narrows the focus to the first five to ten years post-high school (see D.E. Campbell, 2006; Highton and Wolfinger, 2001; Strate et al., 1989). Akin to the generational shift frame, the life-cycle prism emits two beams: one conveying the content of presumed influences, and the other beam establishing a time continuum along which these influences gain relevance, lose relevance or switch directions as political participation predictors. The list of research measures used to capture the adult transitions influences in which I am primarily interested is lengthy: marriage, having children, employment, military service, school attendance, educational attainment, residential stability, home ownership, living with parents, family income, church attendance, strength of partisanship, etc. (see D.E. Campbell, 2006; Highton and Wolfinger, 2001; Stoker and Jennings, 1995, 2008; Strate et al., 1989).

Available evidence points to five general life-cycle truth claims, some of which remain contested. First, several studies have found that citizens typically move to the right on the liberal-conservative scale and attach greater importance to social safety net and tax issues as they age (see Berkman and Plutzer, 2005; A.L. Campbell, 2002, 2003; Erikson and Tedin, 2011; Erikson et al., 2002). Second, research suggests that the process of life-cycle change is not necessarily linear. Stoker and Jennings (2008), for example, found that partisan attachment typically gelled when citizens were in their twenties and became progressively resistant to change as they progressed through the aging process. Third, studies typically have found that young adults place political participation on hold while they complete educations, enter the work force, marry, start families and the like (D.E. Campbell, 2006; Jennings and Stoker, 2004; Strate et al., 1989); although some research suggests that the presumed relationships between adult

milestones and voting may be overblown (Highton and Wolfinger, 2001). Fourth, research has indicated that the component influences associated with voter turnout sometimes exert countervailing pressures. For example, having children and/or marrying at an early age tend to be negatively associated with voter turnout, whereas remaining in school and/or having a job tend to be positively associated with turnout (see Highton and Wolfinger, 2001; Stoker and Jennings, 1995, Strate et al., 1989). Fifth, the life-cycle frame suggests that age-based political participation is shaped in part by the evolving nature of peer and community relationships (see Berkman and Plutzer, 2005; A.L. Campbell, 2002; Rosenstone and Hansen, 2003), implying, among other things, that there may be a close connection between the life-cycle and social capital frames. In fact, researchers sometimes include residential stability and church attendance measures as proxies for life-cycle-specific social capital influences (Highton and Wolfinger, 2001; Strate et al., 1989).

*Social capital.* A large and energetic cadre of scholars has associated political participation in general -- and voter turnout in particular -- with social capital (Brehm and Rahn, 1997; Coleman, 1988; Conover and Searing, 2000; Costa and Kahn, 2003b; Durlauf and Fafchamps, 2004; Grix, 2001; Helliwell and Putnam, 1999; Jackman and Miller, 1998; Jennings and Stoker, 2004; Jennings, Stoker and Bowers, 2009; Leighley and Vedlitz, 1999; Levinson, 2007; Paxton, 1999; Putnam, 1995a, 1995b, 2000, 2007; Rice and Ling, 2002; Sullivan and Transue, 1999) . As summarized by Durlauf and Fafchamps, social capital is “broadly understood as referring to the community relations that affect personal interactions ... [and] has been used to explain an immense range of phenomena ... [including] voting patterns” (p. 1). The measures that are most frequently associated with social capital are: trust in others, confidence in

public institutions, voluntary organizational memberships and affiliations, and frequency of social contacts.

Empirical research in this area typically has supported three assertions that are especially relevant to the current investigation. One is that an evidenced long term decline in social capital has been a major cause of declining voter turnout among adult citizens of all ages (see Putnam, 1995a, 1995b, 2000, 2007). The second is that educational environments that are rich in social capital promote civic and political participation (D.E. Campbell, 2001; Coleman, 1988). A third assertion is that different types of social capital lead to different expectations about civic and social participation. As described by Putnam (2000), “bridging” social capital is inclusive and promotes broad community relationships, whereas “bonding” social capital is exclusive and produces an inward devotion to homogeneous groups (pp. 22-23). The measures commonly used in political participation studies emphasize “bridging” social capital.

*Mobilization.* As observed by numerous scholars (see Berkman and Plutzer, 2005; Erikson and Tedin, 2011; Lewis-Beck et al., 2011; Piven and Cloward, 2000; Rosenstone and Hansen, 2003), a strong association has been presumed to exist between mobilization efforts and voter turnout. Rosenstone and Hansen went so far as to depict mobilizations as “the essential feature of electoral politics” (p. 161). Inasmuch as mobilization efforts generated by political parties, employers, unions and the like tend to target specific constituencies, this frame suggests that there is at least an implied connection between social traits (e.g., age, social status, income, etc.) and mobilization efforts. As such, education emerges as a sorting mechanism – one of many traits used by mobilizers to identify target constituencies. The mobilization frame also projects that mobilization potential is closely related to issue saliency (e.g., social security as a mobilizing influence for older citizens, new-age social issues as vote prompters for younger

citizens, etc.), suggesting a probable linkage between the mobilization and external events frames.

In general, political participation research has broadly affirmed a positive association between mobilization efforts and voter turnout (see Abramson et al., 2010; Lewis-Beck et al., 2011; Rosenstone and Hansen, 2003). Abramson et al. note that “the growth of the Latino vote over the last two decades placed that group front and center in campaign efforts” (p. 54). Research also suggests that traditional mobilization efforts have embodied age-related efficiency or cost-benefit mechanisms that reduce outreach to groups that are thought to be difficult to deliver to the polls, such as young adults (Rosenstone and Hansen, 2003). But this might be changing, as evidenced by mobilization efforts in recent national elections that heavily targeted college students, as well as analyses indicating that young adults may be emerging as a more energetic voting bloc (CIRCLE, 2012a; PEW, 2012).

*External events.* This frame suggests that voter turnout is influenced by current events, salient policy issues and systemic “shocks” that resonate strongly within particular age groups at specific moments in time. Recent examples include 9/11, the 2008 economic recession, public disaffection with the handling of the wars in Iraq and Afghanistan, the health care and immigration policy debates, worries about social security solvency, etc. Lewis-Beck et al. (2011) and others have referred to a broader version of this frame encompassing so-called “period forces” that can occur quite early in life and have lasting effects on political participation (p. 157), lending further credence to the generational shift and life-cycle frames. Empirical support for the external events frame can be found in numerous sources (see Abramson et al., 2010; Berkman and Plutzer, 2005; A.L. Campbell, 2002, 2003; El-Haj and Bonet, 2011; Hill, 2006; Lewis-Beck et al., 2011; Rosenstone and Hansen, 2003; Verba et al, 1995).

*New technology.* The period of rapid technological change within which contemporary society resides offers another possible explanation for observed political participation patterns. Unlike some of the rival explanations, however, the anticipated directional effects of the new technology frame are quite difficult to gauge. Research suggests, for example, that prolonged media exposure may have a negative effect on civic participation, essentially by encouraging passivity and social isolation (Brickham and Rich, 2006; Genzkow, 2006; Seitz and Summer, 2007). This position is reminiscent of the “couch potatoes” culture that was popularized by *Saturday Night Live*. A parallel literature counters that contemporary young adults exhibit aggregate political participation levels that are on par with or ahead of their 1972-era counterparts, but that they participate in non-traditional ways such as Facebook, Twitter, blogs, texting, etc. that are not easily captured by traditional social science measures of political participation (Brin, 1998; Bucy and Gregson, 2001; Dalton, 2006, 2009; Tamim, Bernard, Borokhavski, Abrami and Schmid, 2011; Zukin et al., 2006). Experimental and statistical controls for social characteristics, including education, vary widely between these studies, suggesting that differences in the findings may be connected in important ways to unaccounted for latent influences.

#### Integrated Theoretical Approach

Scattered on the table at this juncture are many seemingly unconnected pieces of the political participation puzzle. All of the attainment- and non-attainment-based theoretical frames enjoy at least conditional empirical support, but none are fully responsive to the quandary framed by Brody (1978) or me. Taking a step back from the individual studies and theoretical frames, four general observations come into view at this stage of the investigation. First, education seems to assert itself as a political participation marker at every turn. Needless to say, this is a

foundational consideration in the attainment-based studies. But the importance of education as a political participation marker also permeates the other partial theoretical frames and associated research. Second, as noted by Carlson (2012), educational attainment, by itself, fails to capture the many routes by which education writ large may influence voter turnout. Third, apparent interactions between the partial frames are highly suggestive of an ontological environment in which key relationships are not fixed and unidirectional but, rather, are interactive and multidirectional. Fourth, as well illustrated by discontinuities involving the propensity score research (see Henderson and Chatfield, 2011; Kam and Palmer, 2008, 2011; Mayer, 2011), it is likely that voting studies relying on observational data are plagued by latent influences. The challenge at this juncture is to construct a theoretical bridge between education and political participation that overcomes these limitations. Using Campbell et al.'s "funnel of causality" as a beginning point I formulate a new theoretical frame that informs my study design (Chapter 3), analyses (Chapters 4 and 5) and conclusions (Chapter 6).

### *Funnel of Causality*

Niemi et al.'s (2011) *Controversies in Voting Behavior* succinctly recaps the progression of consensus and dissensus since World War II (pp. 13-16) regarding the theoretical foundations of U.S. political participation (see Abramson et al., 2010, pp. 80-82; Lewis-Beck et al., 2011, pp. 19-28). The point of departure is the 1940 Columbia University study, which featured a sociological model linking socioeconomic status to voting behavior. This sparked a spirited scholarly debate, eventually producing three paradigms that have at various times competed with and complemented one another. The first approach, popularized by Campbell et al. (1960), emphasized social-psychological influences. As described by Niemi et al. and depicted by Figure 2.7, the axis of Campbell et al.'s original "funnel of causality" is time. Social

characteristics and parental traits (sociodemographics) were placed at the funnel's wide brim. These influences were said to be filtered in the model's core by the combined effects of party identification, issue evaluations and candidate affinity. Further down the narrowing funnel stem was a succession of campaign influences as well as personal contacts with family, friends and others en route to the crystallization of voter preferences and participatory decisions.

A second paradigm, which gained prominence in the 1970's, was rooted on a rational actor perspective that had been previously associated with the economics discipline (see Blais, 2000; Downs, 1957; Riker and Ordeshook, 1968). Under this formulation, expected benefits (versus costs) and issue saliency took center stage as political participation predictors. As noted by Niemi et al. (2011), the initial competition between the social-psychological ("funnel") and rational voter perspectives eventually gave way to a combined perspective embodying elements of both theoretical frames.

Niemi et al. (2011) characterized the third voting paradigm as a modern political psychology formulation. This approach, which grew in popularity alongside the emerging field of cognitive psychology, celebrated experimental methods as the preferred means of identifying decisional mechanisms. As observed by Niemi et al.:

Rational choice and political psychology perspectives were originally seen to be at odds with one another, but it is now more common to view them as complementary, with political psychology dealing with the origin of preferences and rational choice with strategic behavior once individual preferences are chosen. (p. 15)

Today, the blended "funnel of causality" remains influential and still serves as the theoretical foundation for prominent voting studies (see Berensky and Lenz, 2010; Burden, 2009; Leighley and Vedlitz, 1999; Lewis-Beck et al., 2011; Nie et al., 1996). The "funnel" is best attuned to traditional attainment-based studies that regard education primarily as a single unidimensional resource or sorting mechanism. But the "funnel" otherwise comes up lacking

for at least three reasons. First, the “funnel” is essentially a causal model that tends to overtax the capabilities of most observational research – including many of the voting studies cited earlier. Second, the “funnel” structure is rigid. It does not easily embrace educational context and content that can enter the voter turnout picture through multiple pathways, such as generational transfer, formal education and informal mechanisms that occur during various life-cycle stages. Nor is the “funnel” particularly friendly to notions of political participation that envision bidirectional or multidirectional associations between education and non-educational predictors; “funnelized” education works its will on other predictors and political participation outcomes in a single (predominantly downward) direction. Third, the “funnel” is most useful in accounting for individual behavior; yet a robust literature suggests that political participation is best understood as a mixture of individual (micro) and group (macro) behaviors (see Abramson et al., 2010; Erikson et al., 2002; Erikson and Tedin, 2011).

### *Target of Participation*

Having begun this portion of the discussion with the adoption of Campbell et al’s (1960) “funnel of causality” as a reference point, I conclude with the description of a composite theoretical frame that reflects the needed adjustments. Specifically, my Target of Participation model (Figure 2.8) corrects for presumed causality, structural rigidity, and micro- and macro-analytic requirements. It also accommodates my primary focus on age 18-20 young adults as well as the need to incorporate a broad range of potential voter turnout predictors.

*Causality.* Although I am grateful for any evidence that might permit me to make causal truth claims, my theoretical formulation is primarily associational. Notwithstanding Marini and Singer’s (1988) pronouncement that “there is no universally accepted definition of causality” (p.



350), there are certain well established standards that are particularly troublesome in relation to observational studies such as mine.

Temporal sequence is a frequently cited issue (see Brady, 2008; Stinchcombe, 1968). As observed by Marini and Singer (1988), “causes usually occur prior to their effects. Contemporaneous and backward causation are possible ... but genuine instances of them are rare, and it is a matter of debate whether they even exist” (p. 376). The directionality of association between the specialized theoretical frames is often unclear due to latent influences and the interaction effects that were discussed in the preceding section.

Another issue with observational research purporting to make causal claims involves counterfactuals – the necessity of ruling out alternative explanations. In research such as mine that takes advantage of large format survey data and thousands of possible measures, it is a practical impossibility to specify models that exclusively and exhaustively account for observed voter turnout patterns and, hence, fully account for the counterfactual possibilities.

Study design and statistical tools also are important considerations. Brady (2008) noted, for example, that “the gold standard for establishing causality is experimental research” (p. 247) – studies that typically employ random assignment, the designation of control and treatment groups, and the like to control for associational relationships and latent influences. The empirical portion of my investigation is based primarily on respondent self-reports that were not collected under experimental or randomized field trial procedures. McEwan (2008) describes a number of statistical techniques to help overcome the inferential limitations of non-experimental observational studies, including the application of two particularly interesting methods that have received currency in recent voting studies: propensity score matching and the introduction of instrumental variables. As detailed in Appendix A, I considered both techniques but found them

to be inappropriate for use in my study. As such, the truth claims flowing from my Target of Participation are primarily associational.

*Structure.* As depicted by Figure 2.8, my composite frame is not a funnel through which presumed influences are filtered and channeled sequentially toward the eventual political participation outcome. It more closely resembles an archery target made up of concentric rings. As previously discussed, the principal “bull’s eye” in my study is 18-20 year-old voter turnout: a non-subjective outcome that captures the essence of my interest in young adult political participation.

The basic notion of bulls-eyes and target models certainly is not new (see Howlett and Ramesh, 2003), but I have not come across any examples that duplicate my structure or purposes. The Target approach is particularly appealing in the current investigation because it: (1) readily enables the visualization of educational influences (attainment, context and content) entering the voter turnout picture through multiple pathways; (2) flexibly accommodates bidirectional and multidirectional interactions between various voter turnout predictors; and (3) makes no presumptions about the regularity of presumed educational influences.

The concentric rings, themselves, serve two purposes. First, they reinforce my overriding interest in education. The outer ring, for example, captures parental educational attainment. The next inner ring includes respondent educational attainment. The next inner ring captures educational context and content. And the most inner ring records current school enrollment status as an important life-cycle transitions component. Second, the concentric rings permit the introduction of any and all components of the partial theoretical frames that may be of interest. As detailed in Chapter 3, in addition to measures of educational attainment, context and content,

my analytic models include a rich assortment non-education variables that are closely associated with the eight partial theoretical frames discussed earlier.

*Micro- and macro-perspectives.* The pioneering work of Erikson, Mackuen and Stimson (1989, 2002) provides convincing evidence – both theoretical and empirical -- that much is left out of the political participation calculus if research fails to consider both the individual (micro) and group or cohort (macro) perspectives. The micro-lens is emblematic of the often erratic and episodic path that is typically observed when we track the voting behavior of individual citizens. The macro-lens suggests a somewhat steadier course that embodies an underlying logical unity when we track the voting behavior of citizen groups or blocs. As detailed in Chapter 3, my investigation focuses on the voter turnout patterns of four population(s) of U.S. high school seniors (1972, 1980, 1992 and 2004) as they progressed into early adulthood two years (approximate age 20) and four years (approximate age 22) post-high school. The Target of Participation accommodates a dual study approach in that it is agnostic both as to the unit of analysis and as to the comparison group. The Target thus permits analyses to be conducted at both the micro- and macro-levels within a single unified theoretical framework. In the current investigation, this translates into one set of analyses that tracks respondents within age-based study cohorts and another set that compares respondents across age-based cohorts.

*Young adult focus.* A central premise of this study is that educational experience and attainment are not merely benign social traits that play bit parts on the political stage. The voluminous literature and scholarly consensus suggests just the opposite (see Abramson et al., 2010; Almond and Verba, 1963; D.E. Campbell, 2006; Cremin, 1957; Delli Carpini and Keeter, 1996; Dewey, 1916; Franklin, 2004; Gilreath, 2002; Gutmann, 1987, 2000; Hill, 2006; Lewis-Beck et al. 2011; McDonnell Timpane and Benjamin, 2000; Nie et al., 1996; Niemi et al., 2011;

Macedo, 2000; Niemi and Junn, 1998; Ravitch and Viteritti, 2001; Verba, 1967; Verba et al., 1995; Wolfinger and Rosenstone, 1980). Respecting this literature, I situate total educational attainment and high school educational experience as two distinct considerations near the center of my theoretical stage.

As discussed, my overall focus on 18-20 year-old 26<sup>th</sup> Amendment-eligible voters is based on the well substantiated belief that it is within that group that the voter turnout problem is most acute. Given my concurrent focus on education, this interest translates into a strong emphasis on the end of high school period and the years just beyond high school that frame 26<sup>th</sup> Amendment voter eligibility. My approach is further motivated by three considerations. First, it is well established that, separate from other developmental influences, the high school experience is a distinctive contributor to civic development (see Bachner, 2010; D.E. Campbell, 2006; Coleman, 1988; Conover and Searing, 2000; Kahne and Middaugh, 2008; Niemi and Junn, 1998; Rubin, 2008). Second, high school is the common educational denominator for all of the respondents in my study. Third, for nearly all of the young adults in my study, high school constitutes the most recent educational experience prior to their initial voter eligibility under the 26<sup>th</sup> Amendment. Moreover, 42 percent of the respondents in my study did not continue their formal educations past high school, meaning that high school also was the last formal schooling destination before they had an opportunity to vote. As such, the high school focus undergirds my conceptual interest in recency of training as a conceptually distinct voter turnout consideration.

This is not to imply that education alone accounts for young adult voter turnout under my formulation. The empirical evidence in support of the non-education-driven frames is far too voluminous to ignore. Yet, these frames typically embody common elements, converge on common themes and suffer from common latency issues that greatly complicate efforts to isolate

their unique contributions. My solution is to split out the components that have been shown to make the biggest difference in predicting voter turnout and insert them in my models as individual covariates and controls. This approach not only permits me to assess the partial frames more-or-less holistically; it also raises the bar in gauging the robustness of education as a young adult voter turnout predictor.

### Research Questions

The foregoing discussion reveals several possible reasons for the lack of scholarly consensus regarding the relationship between education and voter turnout in general, and on Brody's (1978) "puzzle" in particular. First, voting studies typically delimit education to the single dimension of gross attainment – either total years or highest credential. Carlson (2012) reminds us that educational content and context are also important voter turnout predictors that likely mediate attainment effects to some degree. Second, the statistical methods employed in most voting studies carry with them the implicit assumption that educational attainment works its will on voter turnout in an ascending and uniform manner. The curvilinear relationships between education/training and performance that are observed in most academic and professional settings take this assumption to task. Third, attainment-focused voting studies often obscure non-educational explanations. In some instances, models are under-specified. In other instances, such as research relying on propensity score matching, non-attainment considerations are buried in matching formulae that scarcely see the light of day. My literature review surfaced several non-educational predictors of voter turnout that enjoy at least conditional empirical support and deserve to be brought visibly to the forefront. My Target of Participation model organizes these rivals into theoretically coherent groups that permit the analysis of their individual and joint effects on voter turnout. Fourth, other than those in the life-cycle category, voting studies

typically fail to account for well documented age-based differences in voter turnout. My emphasis on the 26<sup>th</sup> Amendment, which targets the lowest performing voting bloc in terms of age, instills special regard for possible educational and non-educational voter turnout influences residing during and just after the end of high school period. Fifth, voting studies typically focus only on individual behaviors. As emphasized by Erikson and Tedin (2011), it is enormously difficult to obtain a complete voter turnout picture without examining the matter from both the individual (micro) and group (macro) perspectives. Among other things, the underlying behavioral unity or regularity contemplated by the macro-perspective (Erikson et al., 2002) simplifies my efforts to estimate differences between generational cohorts.

These considerations prompt six research questions that address the young adult voter turnout problem directly and a seventh that focuses on implications for policy and practice. The micro-questions target the contributions of voter turnout predictors within same-age generational cohorts. The macro-questions focus on aggregate differences in the contributions of these predictors between generational cohorts.

### *Educational Attainment*

Nie et al. (1996) forcefully assert that “formal education [attainment] is almost without exception the strongest factor in explaining what citizens do in politics and how they think about politics” (p. 2). The first two research questions test the veracity of that claim in relation to 26<sup>th</sup> Amendment-eligible voters:

1. At the micro-level: In what manner and to what degree does educational attainment – here defined as high school completion or less, vocational education experience, college attendance or college completion – predict the election turnout of 26<sup>th</sup> Amendment eligible voters?

2. At the macro-level: In what ways has the contribution of educational attainment as a young adult voter turnout predictor shifted or remained the same since ratification of the 26<sup>th</sup> Amendment?

To the extent that Nie et al. (1996) and others occupying the attainment perch are to be believed, we would expect several conditions to hold. From the micro-perspective, we should observe a highly positive relationship between educational attainment and voter turnout that strengthens as attainment goes up. Given the variable constructions and statistical methods on which attainment-based study truth claims routinely are premised, the observed relationship between attainment and voter turnout also should be reasonably uniform as attainment rises. Moreover, the micro-relationship between educational attainment and voter turnout should be relatively impervious to the introduction of rival voter turnout explanations. From a macro-perspective, consistent increases in aggregate high school completion and college attendance rates since World War II suggest that educational attainment should strengthen as a young adult voter turnout predictor from one same-aged generational cohort to the next. And these macro-shifts should be relatively immune to the introduction of rival voter turnout explanations. Positive findings along the educational attainment dimension at the micro- and/or macro-levels would be suggestive of young adult voter turnout solutions that privilege incentives to remain in school and maximize academic degree status.

#### *End of High School Academics and Sociopolitical Traits*

As discussed, a large literature converges on the high school period as being instrumental in the civic development and subsequent political participation of American young adults. The next two research questions test this proposition:

3. At the micro-level: Inasmuch as the end of high school is a common educational denominator for a very large percentage of 26<sup>th</sup> Amendment eligible voters, to what extent do the academic and sociopolitical traits associated with that period affect the probability of voting?
4. At the macro-level: To what extent have end of high school academics and sociopolitical traits impacting the young adult voter turnout probability changed or remained constant since ratification of the 26<sup>th</sup> Amendment?

The main challenge is to dimensionalize these questions in a manner that is sufficiently broad to be representative of the full range of academic and sociopolitical influences and sufficiently narrow to permit the contextual and empirical analyses envisioned by my study design. In general, findings that high school academics and/or sociopolitical traits make distinct contributions to young adult voter turnout – separate and apart from educational attainment – would place attainment on a more conditional footing than is contemplated by many of the attainment-based voting studies. To find that the high school experience is predictive of young adult voter turnout but has not kept pace with rising educational attainment levels would help explain the observed disconnect between attainment and turnout (Figure 2.6).

With regard to high school academics, the literature gives prominence to three content measures (math achievement, reading achievement and civics coursework) and one contextual measure (high school-type) whose political participation contributions have been hotly contested over the years. Nie et al's. (1996) observation that “verbal cognitive proficiency as opposed to mathematical or spacial ability, is the most relevant aspect of cognitive ability in relation to democratic citizenship” (p. 41) is counterbalanced by other scholarship (see Niemi and Junn, 1998) that assigns important roles to both the verbal and mathematical dimensions of learning.



A spirited debate about the value of formal civics training at the high school-level has been ongoing for nearly five decades (see Greene, 2000; Langton and Jennings, 1968; Kahne and Middaugh, 2008; Niemi and Junn, 1998; Ravitch and Viteritti, 2001; Rubin, 2008). The research involving various high school venues (e.g., traditional public, charter, Catholic, non-religious private, etc.) also has generated a wide range of civic development truth claims (see Belfield, 2003; Buckley and Schneider, 2007; D.E. Campbell, 2011; Greene, 1998; Henig, 2000). In estimating the voter turnout effects of this collection of experiential measures, my research questions leverage the evidenced tension for the greater good – highlighting each consideration as a potential source of solutions for low young adult voter turnout.

A large literature highlights political attentiveness, partisan attachment, external involvements and new communications technology -- all of which are observable at the high school level – as important sociopolitical traits that are associated with political participation (see Abramson et al., 2010; Berkman and Plutzer, 2005; Bucy and Gregson, 2001; Erikson and Tedin, 2011; Genzkow, 2006; Hess and Torney, 1967; Hochschild and Scovronick, 2000; Lewis-Beck et al., 2011; Niemi et al., 2011; Rosenstone and Hansen, 2003). My research questions contemplate direct and indirect measures within each category whose voter turnout effects can be estimated alone and in relation to educational attainment. In particular, my research questions are geared to illuminating the value of extracurricular activities and civically relevant uses of new technology as potential remedies for the low young adult voter turnout problem.

#### *Sociodemographic Traits and Life-Cycle Transitions*

Although the contributions of individual components remain contested, the overall roles of sociodemographic traits and life-cycle transitions in accounting for young adult voter are well

supported in the literature. Disentangling their effects in relation to educational attainment, high school academics and sociopolitical traits prompts two additional research questions:

5. At the micro-level: What can be said about the contributions of sociodemographic characteristics and young adult life-cycle transitions as independent predictors of election turnout by 26<sup>th</sup> Amendment eligible voters?
6. At the macro-level: In what manner have sociodemographic and life-cycle influences exhibited stability or change in predicting young adult voter turnout since ratification of the 26<sup>th</sup> Amendment?

Key considerations along the sociodemographic dimension are straightforward. Virtually all well-controlled voting studies account for gender, race/ethnicity and social status to one degree or another. All have been closely associated with voter turnout. In the literature, social status typically takes on a composite identity that not only captures income but also assigns weight to occupational prestige and educational attainment. As such, social status is not simply about wealth but is also conceptually linked to the social and institutional networks that are often associated with civic engagement and political participation – both from a political resource perspective and from a political access or sorting vantage point. Voting studies also typically include measures of regionality and urbanicity (see Abramson et al., 2010; Erikson and Tedin, 2011; Key, 1949, 1955, 1966; Lewis-Beck et al., 2011; Niemi et al., 2011). Here I also include English language status. Inasmuch as verbal ability is thought to be an important voter turnout indicator (see Nie et al., 1996; Niemi and Junn, 1998), it stands to reason that English fluency counts heavily in a U.S. election context.

As it applies to young adult political participation, the life-cycle transitions literature embodies a wide range of considerations. The most frequently considered elements – marriage,

parenthood, student enrollment, employment, military status and residential stability – round out my study measures. Student enrollment status wears two hats: one as an adult transition milestone and the other as an indication of the recency of training.

In combination with the high school academic and sociopolitical considerations, the sociodemographic and life-cycle transition measures raise the bar in my efforts to adjudge the primacy of educational attainment as a young adult voter turnout predictor. If educational attainment is an all-powerful turnout indicator, it should be able to withstand all comers. These latest entries in the political participation “puzzle” sweepstakes accomplish at least two other purposes as well. First, the sociodemographic considerations instill a strong equity emphasis in my investigation. I adhere to the democratic ideal that requires equality of political opportunity across the entire spectrum of eligible voters. To the extent that serious voter turnout disparities are observed in relation to race/ethnicity or social status, for example, our attention necessarily shifts to nondiscrimination remedies – both within the educational sphere and in the conduct of elections – as potentially promising avenues to improve young adult voter turnout. Second, the adult transitions measures reinforce the theme developed earlier in this chapter that often overlooked generational, life-cycle and period influences merit separate consideration as voter turnout predictors. From an educational perspective, school enrollment status looms especially large as a potential voter turnout indicator that is amenable to intervention by policy makers, parents and educators.

### *Implications for Policy and Practice*

I bring an activist orientation to this investigation that stems from three core beliefs: the popular vote is highly consequential for U.S. democracy; observed voter turnout is sub-par; and the turnout problem is most acute among the nation’s youngest voters. Developing a more

complete understanding of young adult voter turnout, and perhaps shedding new light on Brody's (1978) "puzzle" along the way, clearly makes an original contribution to scholarship. But this, in itself, changes nothing. Ultimately, my goal is to alter the status quo. This prompts an additional research question that is much more simply stated than the others but is also decidedly more difficult to answer:

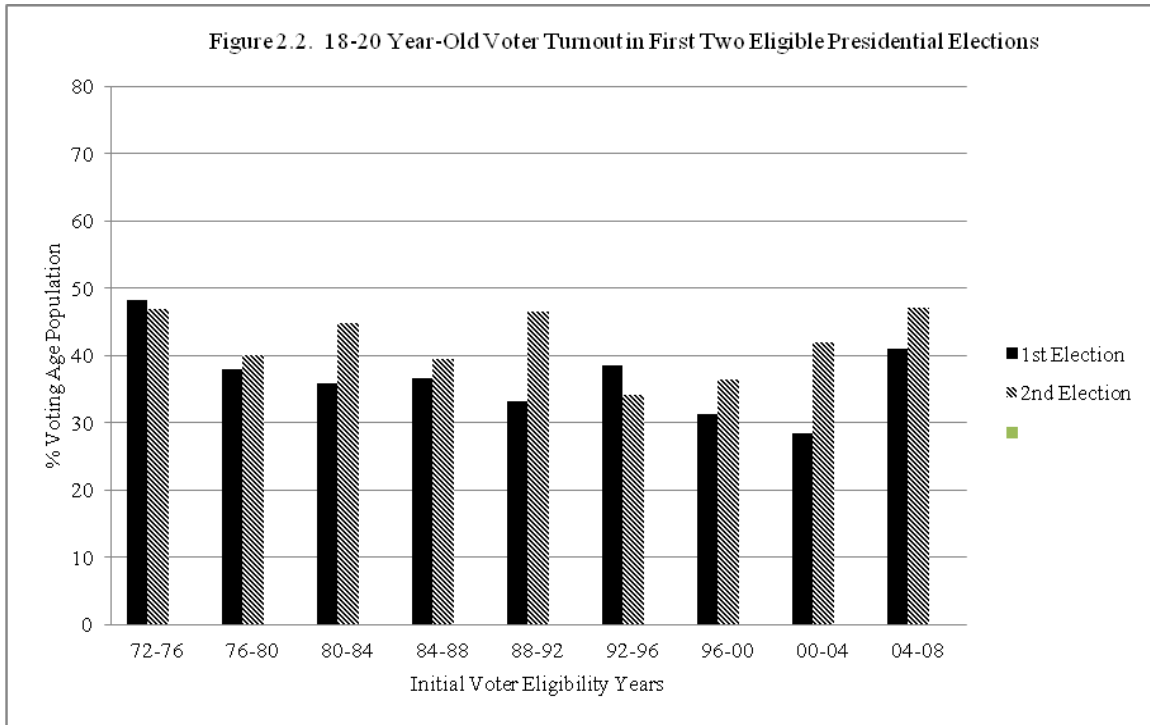
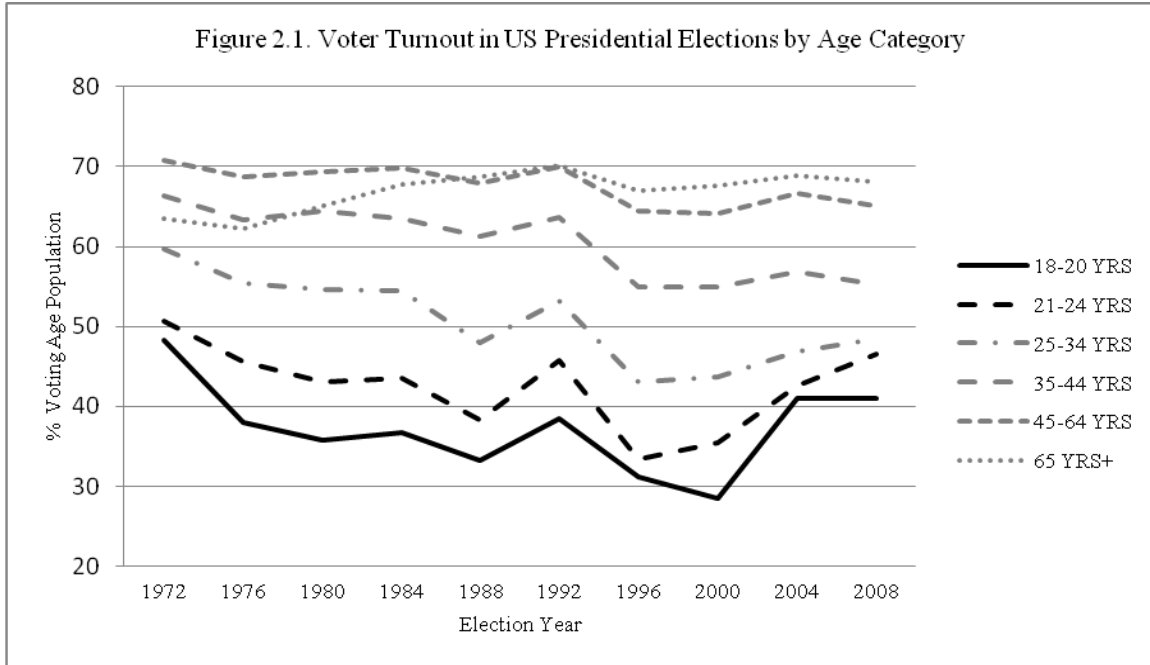
7. What are the implications for policy and practice?

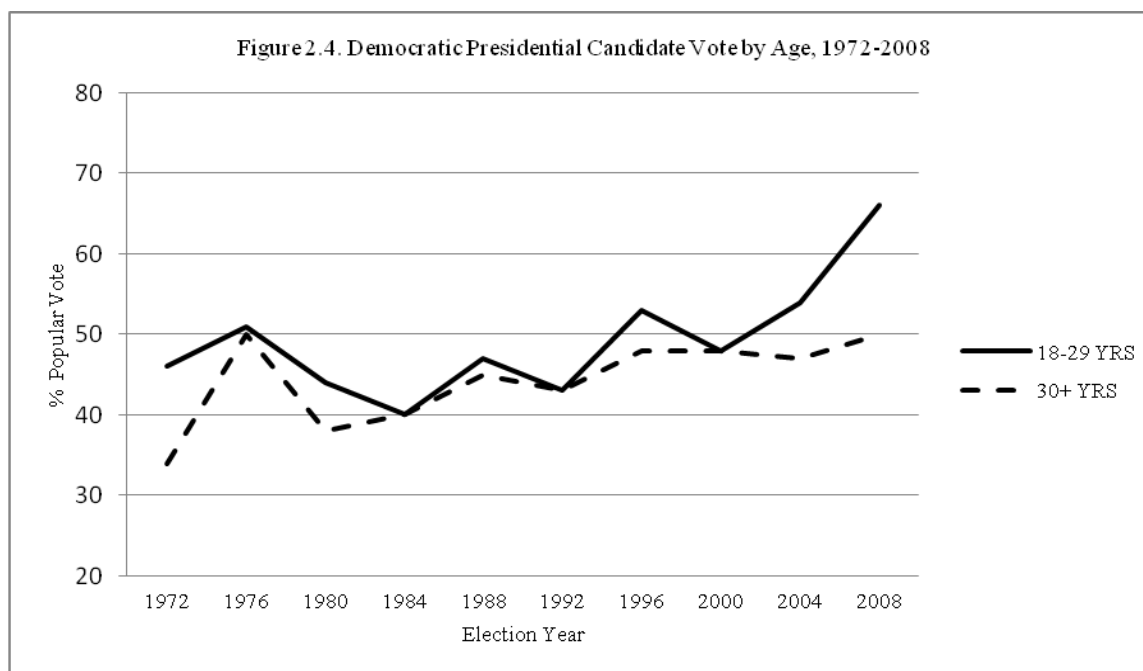
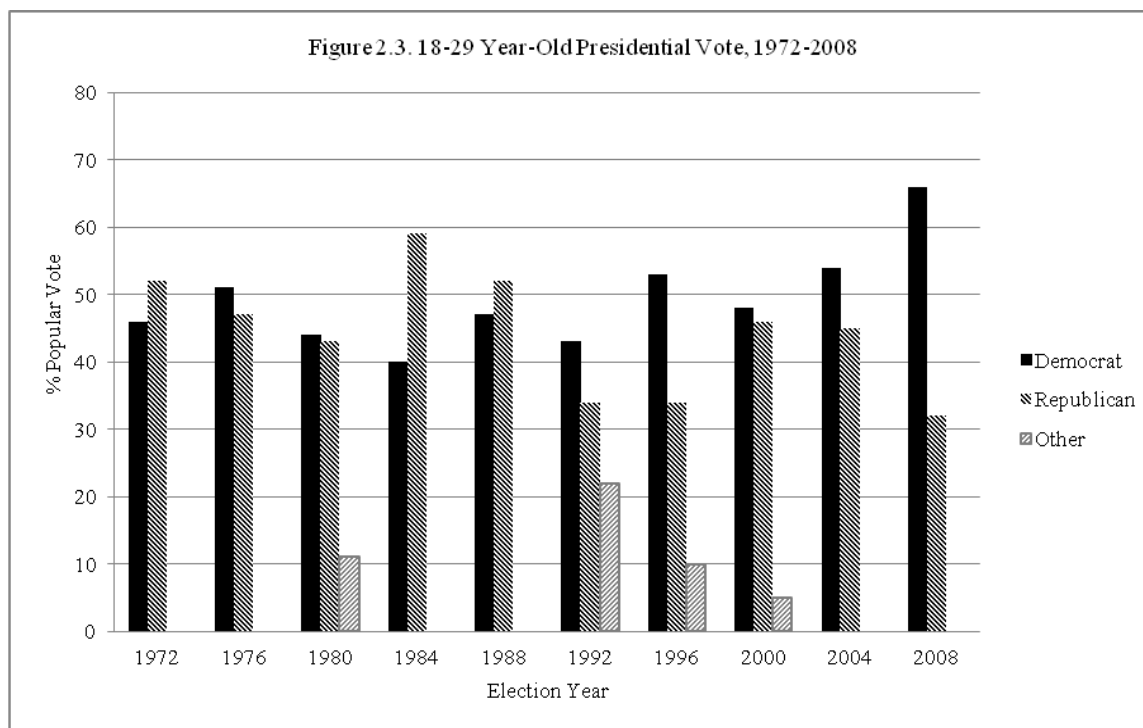
On the surface, the sheer breadth of this question would appear to expose my study to a seemingly endless array of social, political and economic possibilities. But, given my theoretical position and principal research questions, all of these considerations hinge to an important degree on the role of education. A general finding that education is not the all-powerful contributor to young adult voter turnout that it is held out to be in some quarters would shift attention to family, cultural and socioeconomic solutions. The optimum policy or program antidotes to low turnout, if any exist under that scenario, might reside far afield from the schools. As noted above, however, findings that education is at the heart of the matter – through the mechanisms of attainment, context and/or content -- might illuminate pathways to novel school- or community-based reforms or to better resourcing for existing education-based initiatives. Thankfully, my study design imposes limits on the generalizability of my results. I restrict the scope of my recommendations (Chapter 6) accordingly.

### The Terrain Ahead

These seven research questions, which are nestled in the embrace of the 26<sup>th</sup> Amendment, frame the "teachable moment" that is prominently advertised on the title page. I lay out my study design in Chapter 3 and summarize my findings in Chapter 4 (micro) and Chapter 5 (macro). In chapter 6, I present my overall conclusions before proceeding to the consideration of

recommendations for policy and practice reform. I pursue the entire undertaking with one eye firmly implanted on scholarship and the other eye riveted on activism.





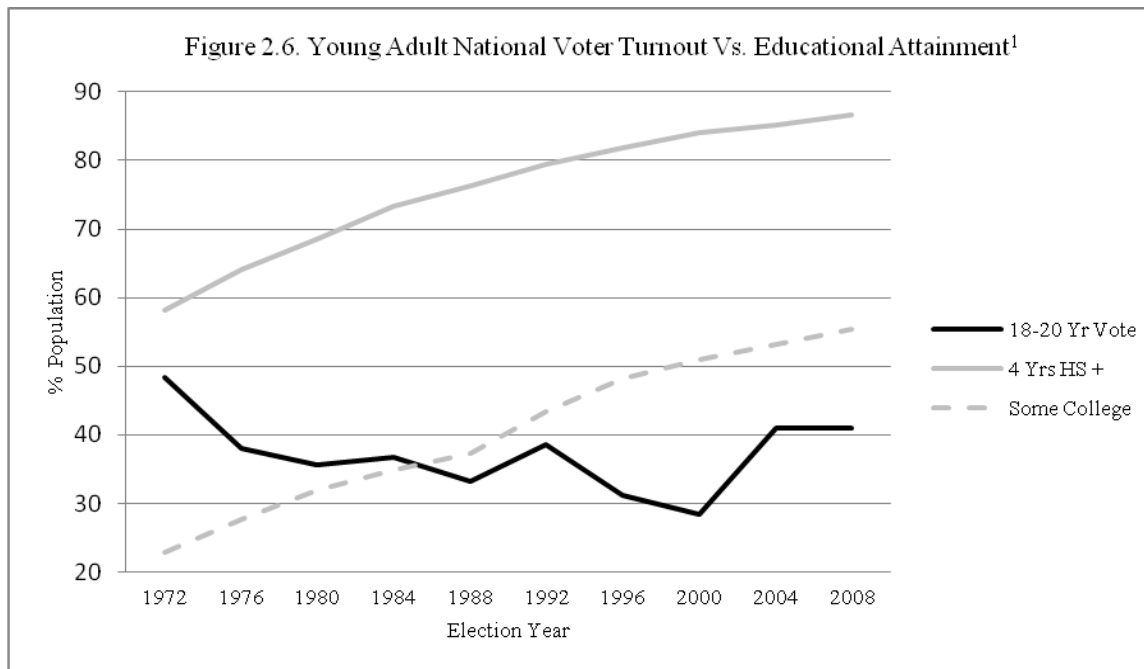
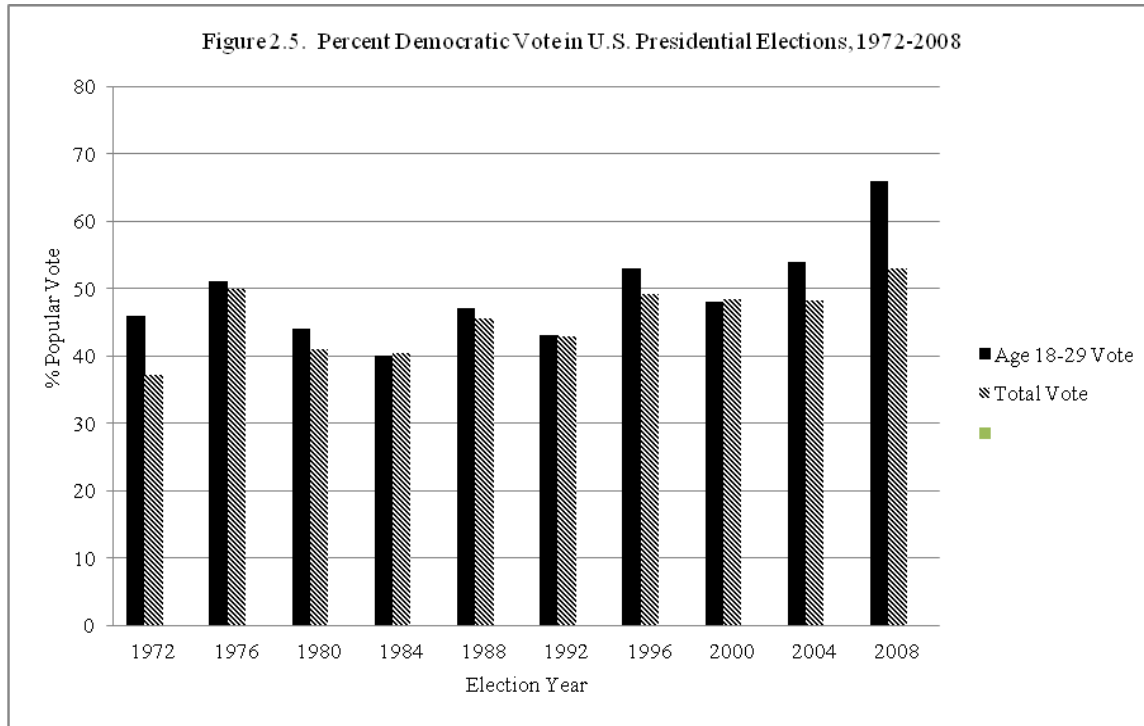




Figure 2.7. Funnel of Causality. Source: Niemi, Weisberg & Kimball (2011) and Lewis-Beck, Jacoby, Norpoth & Weisberg (2011).

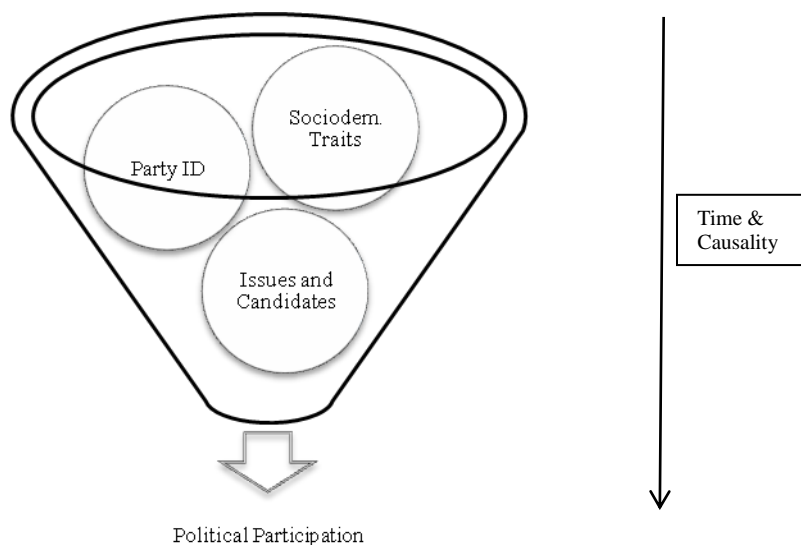
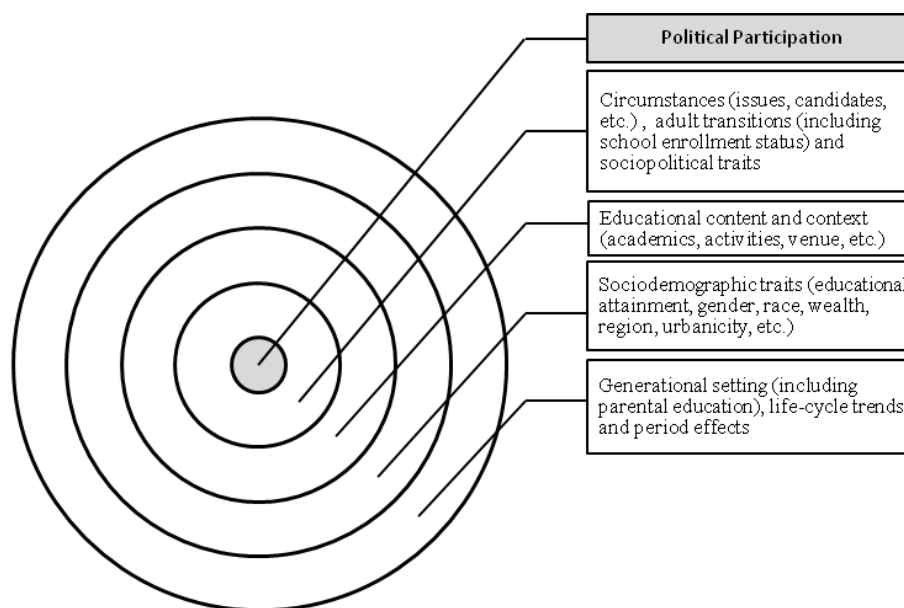


Figure 2.8. Target of Participation.



## CHAPTER 3: STUDY DESIGN

*Highlights: This chapter translates the literature review and theoretical discussion presented in Chapter 2 into a concrete strategy by which to address my research questions. My design is distinctive in comparison to the approaches used in most voting studies in that it: (1) embodies both contextual and empirical analyses, and (2) takes advantage of a greatly under-utilized data source that is nationally representative, rich in educational measures and of exceptional durational scope (roughly 1.4 generations). Moreover, this design permits me to estimate within cohort (micro) and between cohort (macro) voter turnout effects inside a uniform theoretical and methodological framework.*

The Chapter 2 discussion revealed that there is an important disconnect between theory and research in accounting for observed U.S. voter turnout patterns. And nowhere is this more evident than in the voting studies that have had a dual focus on education and age. The voluminous empirical literature affirming educational attainment as a major voter turnout predictor is counterbalanced by studies suggesting that other educational and non-educational influences mediate educational effects in important ways (see Costa and Kahn, 2003; Dalton, 2009; Genzkow, 2006; Highton and Wolfinger, 2001; Leighley and Vedlitz, 1999; Prior, 2011; Strate et al., 1989; Wattenberg, 2008), and by studies questioning the role of education in promoting or discouraging political participation in absolute terms (see Kam and Palmer, 2008).

My literature review exposed three methodological challenges that are especially relevant to the current investigation. First, empirical voting studies traditionally have been rooted on self-reported survey data, suggesting that the wide ranging results may stem to an important degree from inconsistent outcome specification, differing statistical controls and methods, and, most importantly, unaccounted for latent influences. The empirical “gold standard” to control for latency— random assignment of test subjects to “control” and “treatment” groups in field trials or more traditional experimental settings -- is rarely feasible in a voting study context due to prohibitive costs and durational time requirements. As detailed in Appendix A, I also considered

but ultimately ruled out the “next best” alternatives employed in some observational studies (see McEwan, 2008) – the imposition of scaled outcome measures, instrumental variables and/or propensity score matching – on theoretical, methodological and practical grounds. I found greater justification in pursuing a more traditional observational study design that is faithful to my educational focus, embodies rich methodological controls, and narrows the outcome to a single measurable dimension of political participation (voter turnout).

Second, observational voting studies commonly have relied on large format data sources that contain extensive political and sociodemographic variables but relatively few educational indicators. The typical complement of educational measures – total years of schooling and/or highest degree received – falls far short of the requirements of my research questions. Studies based on the two most influential data sources – the American National Election Study (ANES) series that has tracked electoral participation since 1948 and the General Social Survey (GSS) surveys that have been conducted regularly since 1972 – typically suffer from this deficiency.

The National Center for Education Statistics (NCES) Secondary Longitudinal Study series, which routinely captures voter turnout in combination with a rich array of sociodemographic and educational measures that zero-in on the end of high school and post-secondary experience, is much better suited to my current research needs. Moreover, this survey series has been greatly under-utilized in the study political participation. A handful of voting studies have taken advantage of one or two of the principal NCES survey installments, but my literature review revealed no voting studies that have leveraged the full complement of NCES data that are currently available. The only study touching on voter turnout across the entire range of NCES Secondary Longitudinal Study data was restricted to the reporting of simple frequencies and tabulations<sup>1</sup>.

Third, none of the major longitudinal and time-series data sources – ANES, GSS, NCES or any others to my knowledge – effectively capture the generational, life-cycle and period influences that are fundamental to the theoretical position I developed in Chapter 2. The solution employed in some studies has been to rely on multiple qualitative and empirical data sources to cover the waterfront in this regard (see Jennings and Niemi, 1981; Zukin et al., 2006). Of necessity, I employ a similar strategy in this investigation.

It is useful to divide the discussion of my study design into three segments. I first outline my contextual analytic approach. I then detail my empirical design. I conclude the chapter with a brief description of the manner in which I structure the presentation of my contextual and empirical findings in Chapter 4 (micro-results) and Chapter 5 (macro-results). Additional study design details are contained in Appendix A and Appendix B.

### Contextual Analyses

The questionnaire content and respondent age focus of the NCES surveys are not well suited to the identification of contextual and early developmental influences that may have played major roles in shaping the young adult political identities of my study respondents. As observed by Hess and Torney (1967), political identity formation begins quite early in life, and by the 8<sup>th</sup> grade, general attitudes about voting typically are well formed. My empirical study measures kick-in well after these early developmental stages and primarily target respondents during their senior year in high school and the two to four years immediately thereafter. The missing contextual fabric is most vividly apparent in connection with the generational, life-cycle and external events partial theoretical frames. In the main, their hypothesized influences predate the NCES Secondary Longitudinal surveys, escape the batteries of survey questions and/or are difficult to quantify in any event.

In coming to grips with this challenge, I find inspiration in Smith's (2004) assertion that "we need, in short, to study the processes of political identity formation in large part through interpretive, ethnographic, and historical methods of various sorts" (p. 64). The unique generational identities of my NCES study respondents enable me both to navigate through the event histories of each cohort and also to make time-based comparisons across cohorts.

*Focus on Generational, Life-Cycle and External Period Effects*

In structuring this portion of the investigation, I relied heavily on Jennings and Niemi (1981) and Zukin et al. (2006), which demonstrated the descriptive power of combining contextual narratives with empirical analyses to gain insights about inter-generational political participation patterns. Jennings and Niemi's (1981) empirical analyses, which were based largely on their earlier surveys of high school seniors and their parents (Jennings and Niemi, 1974), were supplemented by rich contextual discussions of possible generational, life-cycle and period influences accounting for political persistence and change. Of particular interest in relation to my study samples, the birth years of the Jennings and Niemi (1981) student cohorts placed them squarely in the Baby Boomer category. Zukin et al (2006) relied on multiple data sources to empirically assess the civic engagement patterns of Gen Xers and Millennials (referred to by them as DotNets). But, again, the vibrancy of their analyses owes much to the contextual descriptions and historical timelines that supplemented the empirical estimates. Together, the works of Jennings and Niemi (1981) and Zukin et al., (2006) span an era that roughly parallels that of my investigation.

There is broad agreement that generational, life-cycle and external period effects operate differently as promoters of persistence and change along politically relevant dimensions. Life-cycle and external period effects tend to be change promoters, whereas generational effects tend

to be stability promoters (Jennings and Niemi, 1981). My qualitative analyses remain flexibly open to both directional possibilities.

*Generational influences.* At a conceptual level, I embrace Jennings and Niemi's (1981) interpretation of Karl Mannheim's (1972) classic formulation in which "generations" can be thought of in three principal ways: (1) as "an age group sharing the same time and space," (2) "as actuality ... when same-aged individuals ... participate in the characteristic social and intellectual currents of their society and period," and (3) as "divergences [that] may occur within actual generations, both in terms of behavior and in the directionality of goals and values ... lead[ing] to what are called generation units" (pp. 331-332).

I adopt an overall stance that accommodates the first two meanings of Mannheim's definition but emphasizes the third (generation units) – especially in relation to the two earliest born study cohorts. That is, although the Mid-Boom and Late-Boom respondents in my study are customarily regarded as having a common generational heritage and sharing common social and intellectual currents, there is reason to believe that their young adult civic "footprints" may have been as different from one another as they both were from the Gen Xers and Millennials in my study. Closing the curtain on any generation at a specific point in time, no matter how carefully the cut-point is determined or rationalized, is inherently artificial. The twin pulses of parentage and history follow the beats of much more irregular and episodic drummers. As will be detailed in Chapters 4 and 5, the average age spacing between the generational cohorts in my study presented them with distinctly different parentage and event histories. Moreover, they demonstrated equally distinctive voter turnout patterns as young adults.

*Life-cycle transitions.* Although there is broad definitional agreement that life-cycle effects pertain essentially to attitudinal and behavioral changes motivated by one's age

placement on the developmental continuum, social scientists have adopted many different apertures in narrowing the focus to their populations of interest. Several scholars have stressed, for example, that politically relevant life-cycle changes occur throughout the aging process (see Berkman and Plutzer, 2005; Rosenstone and Hansen, 2003). Others have confined their attention to specific age categories in order to highlight particular developmental stages. The adult transitions studies conducted by Highton and Wolfinger (2001) and Strate et al. (1989), for example, adopted target age ranges of 18-24 and 18-29, respectively. Given my 26<sup>th</sup> Amendment emphasis, I primarily target 18-20 year-olds, broadening the discussion to include 22 year-olds who have passed just beyond 26<sup>th</sup> Amendment voting eligibility when appropriate.

My contextual life-cycle observations differ markedly from my empirical life-cycle estimates. In the empirical analyses, I gauge the voter turnout effects of six adult transitions milestones within and across NCES datasets at age 20 and, when possible, at age 22. These include: marriage, parenthood, student enrollment status, employment, military service and residential stability. In the contextual analyses, I discuss what Jennings and Niemi (1981) referred to as more general and thematic “movements by the young ... as they pass through time” (p. 118) along civically relevant dimensions. The contextual analyses trace these movements all the way back to my respondents’ birth years.

*External period effects.* As noted by Jennings and Niemi (1981), “period effects work their will on each generation, reflecting the important events and trends of the time. They are often referred to as *Zeitgeist* effects” (p. 122). As discussed below, my contextual lens captures a wide range of events and circumstances in this regard.

*Information Sources*

The raw product of my contextual inquiry, which respects Gottschalk's (1950) longstanding guidance about the relative credibility of different information sources, is detailed in Appendix B. There I include ten event history tables spanning the 52 year period between 1954 (the principal birth year of my oldest study cohort) and 2006 (the year in which nearly all of my latest born cohort members attained age 20). Table B-1 displays the aggregate birth years of my study cohort members. Tables B-2a and B-2b capture a variety of economic, social, educational and political indicators. Table B-3 summarizes pertinent results from annual Phi Delta Kappa / Gallup polls of attitudes toward public education. Table B-4 presents National Assessment of Educational Progress (NAEP) math, reading and civics achievement results. Table B-5 summarizes key events in the pop culture genre. Table B-6 covers national security and foreign affairs. Table B-7 lists key non-education-related domestic events. Table B-8 highlights education. And Table B-9 covers the waterfront on science, technology and nature. Tables B-3 through B-9 are structured such that the typical ages of my cohort members are readily apparent both in relation to each listed event and in relation to the ages of members of other study cohorts. These tables draw upon a variety of authoritative governmental, academic and private sector sources, all of which are within the public domain. Some of the listed events, such as 9/11, are deeply imprinted on the public consciousness and require no further sourcing. When necessary to promote clarity, however, I use table footnotes to identify specialized and technical sources.

The event history tables serve two purposes. First, they enable me to fill in some of the gaps in the NCES data. Second, and more importantly, they help frame the contextual settings –



generational, life-cycle and external period influences -- within which I situate my empirical findings.

### Empirical Analyses

My study design is oriented toward developing a better understanding of the relationships between educational attainment and a rich array of other educational and non-educational measures as predictors of young adult voter turnout in U.S. local, state and federal elections at both the micro- and macro-levels of analysis. The micro-analyses, which adopt individual respondents as the unit of analysis, explore within-cohort voter effects suggested by my Target of Participation theoretical model up to the maximum capability of each NCES survey. The macro-analyses, which also adopt individual respondents as the unit of analysis, compare the estimated aggregate effects of study measures across cohorts to identify time-based voter turnout trends. Study respondents are grouped into generational cohorts – one cohort for each NCES survey series – which establishes the election-based empirical time horizon of my study as 32 years or 1.4 generations. Here I describe my principal data source, sample construction, measures, analytic methods, model specifications, diagnostics, and alternative methods considered. Additional details regarding the sample design, diagnostic tests and alternative methods are located in Appendix A.

### *Data*

The federal role in compiling regular statistics on the “condition and progress of education” dates back to the establishment of the federal Office of Education in 1867. But it was not until the mid-1960s that these efforts were re-oriented in part to support congressional legislative needs (Snyder, 1993). The NCES Secondary Longitudinal Study series, which was inaugurated with a 1968 pilot survey (NCES, 1999a), was an outgrowth of the then emerging

public policy emphasis on “educational, vocational, and personal development of students at various stages in their educational careers, and the personal, familial, social, institutional, and cultural factors that may affect that development” (NCES 2004a, pp. 1-2).

Shifting priorities and survey procedures occurring subsequent to the 1968 pilot study have contributed both to the ongoing relevance of the NCES Secondary Longitudinal Study series and to certain inconsistencies between survey instruments over time. The inconsistencies relate both to the changing mix of performance-based and attitudinal questions (e.g., high school coursework, extracurricular activities, personal priorities, etc.) and to differences in the specification of common survey items (e.g., race/ethnicity, parental dependency, etc.). Fortunately, none of these differences prevented me from moving forward with my study design.

That said, the Secondary Longitudinal Study series provides a unique window through which to observe young adult voter turnout over a multi-generational time horizon. The completion of additional survey data collection waves -- both planned and in progress -- promises to extend this time horizon even further. As depicted by Figure 3.1, this study series presently has six major components: NLS72 (NLS), the High School & Beyond senior cohort (HSB), the High School & Beyond sophomore cohort (HSB), NEL88 (NELS), ELS 2002 (ELS) and HSLS09 (HSLS). All of the NCES surveys are based on stratified school samples that are nationally representative at the student-level -- the unit of analysis in my investigation -- when coupled with the appropriate weighting schemes. HSLS, which entered the field testing phase in 2009 with a 9<sup>th</sup> grade-aged sample, is not scheduled to generate data for public release prior to late-2013 for its study respondents at approximate age 16. However, data that are available from the other study components permit the evaluation of four distinct generational cohorts: Mid-Baby Boomers, Late-Baby Boomers, Gen Xers and Millennials (see Chapter 2, Endnote 3 for

additional generational cohort background). Moreover, the parallel structure and, with noted exceptions, the parallel variable conventions employed in the NCES surveys support cross-sectional and longitudinal analyses within study cohorts as well as time-based comparisons between cohorts. All of the NCES surveys inquire about voter turnout at appropriate points in the respondents' life-cycles and contain a large complement of educational and non-educational measures that are called for by my Target of Participation model.

*Mid-Boomers (NLS).* The first installment in the NCES series, NLS72 (NLS), serendipitously commenced with the first group of young adults that was eligible to vote under the 26<sup>th</sup> Amendment. That 94 percent of the respondents in my study sample were born in 1953 or 1954 places them near the midpoint of the Baby Boom generation (i.e., 1946-1964 birth year range). These Mid-Boomers were initially surveyed as high school seniors in 1972. They were re-surveyed in 1974 (approximate age 20) and 1976 (approximate age 22), permitting the estimation of their turnout in national elections at the end of and just after their initial voting eligibility under the 26<sup>th</sup> Amendment. Respondents also were re-surveyed in 1976, 1979 and 1986, which, although beyond the scope of the current investigation, accommodates research efforts focusing on voter turnout patterns later in the young adult life-cycle.

*Late-Boomers (HSB).* The High School and Beyond survey (HSB) simultaneously followed two cohorts: 1980 high school sophomores and 1980 high school seniors. I confine my study sample and all further HSB references to the senior cohort, which is better suited to my investigation for three reasons. First, it is used in the most recent comparative trends analyses conducted by NCES, and thus ties my research more closely to NCES follow-up efforts. Second, it preserves twelve year cohort spacing to improve HSB comparability to later surveys in the NCES study series. Third, consistent with the other respondent cohorts in my study, it permits

me to project my findings to the population of high school seniors. The HSB senior sample was, in fact, designed to be directly comparable to the NLS senior sample (NCES, 2003a). Inasmuch as the HSB sophomore sample was not freshened or re-evaluated for ineligibles prior to the first follow-up (grade 12), it is not capable of projecting to the population of high school seniors (Ingels, Glennie, Lauff and Wirt, 2012).

That 97 percent of the respondents in my study sample were born in 1963 or 1964 places them at the tail-end of the Baby Boom generation – hence, the Late-Boom moniker. Consistent with NLS, the HSB follow up surveys in 1982 and 1984 permit me to estimate the voter turnout of these Late-Boomers at approximate ages 20 and 22. A subsequent re-survey in 1986 supports future research efforts focusing on these respondents at approximate age 24.

*Gen Xers (NELS)*. The NELS survey tracked a cohort of 1988 8<sup>th</sup> graders through their mid-twenties. 95 percent of the respondents in my study sample were born in 1973 or 1974, securing their status as Gen Xers. Although there is no universally accepted definition of Gen X, this label commonly attaches to people who were born between 1965 and 1982, situating my NELS study cohort near the middle. The 1994 follow-up survey permits me to examine the voter turnout of these Gen Xers at approximate age 20. The 2000 follow-up survey permits future NELS-based studies focusing on respondent characteristics in evidence at age 26.

*Millennials (ELS)*. The ELS survey began in 2002 with a 10<sup>th</sup> grade cohort. That 97 percent of the respondents in my study sample were born in 1985 or 1986 places them comfortably in the Millennial zone (also known as Gen Y, Dot-Net, Echo Boom and New Boom) whose occupants were born roughly between the early 1980's and the early 2000's. The most recent follow up data release, which emanates from the 2006 NCES re-survey, permits the

examination of voter turnout at approximate age 20 and establishes the temporal endpoint of my empirical analyses.

### *Sample Construction*

Harnessing the NCES Secondary Longitudinal Study data to effectively pursue my research agenda involved two essential considerations: the uniform treatment of missing data and the selection of statistical weighting to enable the projection of my findings to equivalent populations. First, the NCES base samples used in my study exhibited missing data on variables of interest that exceeded the commonly accepted 5 percent ignorability threshold (IBM 2011b). To overcome this deficiency in a uniform manner that would not undermine cross-cohort comparisons, I employed the same multiple imputation procedure for each study sample (IBM, 2011b). As detailed in Appendix A, my multiply imputed analytic samples closely resemble their base sample counterparts in terms of key respondent characteristics.

Second, as noted by Ready and Wright (2011) and others, the NCES longitudinal datasets typically require the use of weights to compensate for unequal probabilities of selection within and between schools and to account for nonresponse effects. The multiple weighting options that are available within the NCES Secondary Study datasets provide flexibility in preserving the national representativeness of study samples at the student-level while permitting sample designs that project to specific populations. My weighting procedure, which was devised in consultation with NCES officials, yielded eight distinct analytic samples that project to the populations of spring-term high school seniors for each study sample<sup>2</sup>. Inasmuch as national tracking studies consistently demonstrate that a high percentage of students who dropout do so before their senior year in high school (NCES, 2007), my samples are not geared to the investigation of young adult voter turnout within that sub-population – an important content area in its own right that I leave

to future research efforts. A more complete discussion of my weighting procedures and analytic sample characteristics is included in Appendix A.

As generally illustrated by Figures 3.2 and 3.3, my study samples are attuned to the multiple empirical analyses that are contemplated by my research questions. At the micro-level of analysis (within cohorts), I was able to estimate the voter turnout of Mid- and Late-Boomers at ages 20 and 22 as well as that of Gen Xers and Millennials at age 20. At the macro-level of analysis (across cohorts), my analytic samples permitted comparisons to be made between all study respondents at age 20 and supplemental comparisons to be made between the Mid- and Late-Boomers at age 22.

### *Measures*

As discussed, the NCES Secondary Longitudinal Study series is structured to support a wide range of research goals. Fortuitously, the component surveys routinely provide a broad array of educational and non-educational measures that are directly relevant to my Target of Participation model. NCES also makes a concerted effort to construct core measures that are either identical or closely similar to one another from one survey to the next. Absent this practice, my study design would not be feasible. The full complement of measures included in my statistical models is summarized on Tables 3.1 and 3.2. The empirical rationale for the quadratic and interaction terms (Table 3.2) is discussed more fully in Appendix A. Here I describe the construction of my principal study measures.

*Voter turnout outcome.* The outcome of interest in all of my analyses is a dichotomous measure of voter turnout (0 = no, 1 = yes). The individual measures employed in my analyses encompass U.S. local, state and national elections occurring between 1972 and 2006. Inasmuch as these are cumulative measures encompassing all elections in which my respondents were

eligible to vote between the ages of 18 and 20 and, in the case of Mid- and Late-Boomers, between the ages of 18 and 22, they do not correspond to any single election.

This variable construction addresses two important needs. First, it effectively targets young adult voter turnout in my micro- and macro-analyses. Second, as illustrated by Table 3.3, this construction enables me to make apples-to-apples comparisons by holding reasonably constant the number of covered national elections in my cross-cohort macro-analyses.

My initial plan was to include voter registration status as an additional outcome of interest. I abandoned this idea for two reasons. First, the public use NCES datasets on which my empirical study is based do not uniformly permit the identification of study respondents by state. Voter registration procedures and requirements vary widely across states. Second, the Millennial (ELS) survey did not inquire about voter registration, further limiting analytic comparisons.

*Educational attainment.* As discussed, voting studies typically use a gross measure of educational attainment – total years of schooling or highest academic degree received – on which to base their educationally focused inferences. Here I adopt a hybrid measure capturing partial degree completion to obtain a somewhat richer picture.

In general, the NCES datasets permit the construction of five measures that disaggregate educational attainment consistently within and across study cohorts: “less than high school”, “high school graduate only”, “post-high school vocational training”, “post-high school college attendance”, and “bachelor’s degree or higher”. As noted, my study design did not permit rigorous estimates of the voter turnout performance of high school dropouts. I therefore collapsed “less than high school” and “high school only” into a single reference category in my analyses: “high school or less”. An additional limitation is that it was not feasible to isolate “bachelor degree or above” status for study respondents two years post-high school (approximate

age 20) due to zero and near-zero cell counts. I collapsed “at least some college” and “bachelor’s degree or above” into a single category -- “at least some college” -- for respondents two years out of high school (approximate age 20). At the same time, I was able to retain the “bachelor degree or above” distinction as a separate category in my supplemental analyses of the voter turnout of respondents four years post-high school (approximate age 22). All of my educational attainment measures are dichotomous (0 = no, 1 = yes).

*Sociodemographic traits exhibited during high school.* Given my emphasis on high school experience and circumstances, all of my sociodemographic measures were constructed on the basis of survey questions completed when respondents were high school students. And, with the exception of parental SES, all of these measures – gender (female), race (White, Black, Hispanic, Asian, other race), primary language (English), region (Northeast, Midwest, South, West) and urbanicity (rural, suburban, urban) – are dichotomous (0 = no, 1 = yes). I incorporated the high school parental SES measure -- a commonly used composite that encompasses educational attainment, occupational prestige and family income -- in two forms. My univariate and bivariate analyses relied on a trichotomized form of the variable utilizing -0.5 SD and +0.5 SD cut-points. My multivariate analyses employed a zscored continuous form of the parental SES measure (M=0, SD=1).

Two exceptions to the general variable constructions are noteworthy. First, inconsistencies in the NCES survey questions across study cohorts did not permit the construction of identical English language measures. The Mid-Boom (NLS), Gen X (NELS) and Millennial (ELS) variables categorized English in terms of whether or not it was the primary language spoken at home during high school. The closest comparable measure included in the Late-Boom (HSB) sample captured respondent participation in high school bilingual education.



Second, as noted by Ingels et al. (2012), the race/ethnicity composite variable was revised prior to implementation of the ELS surveys. NLS, HSB and NELS respondents were asked to mark a single category, whereas ELS respondents were presented with an additional option (Native Hawaiian or Pacific Islander) and were permitted to mark multiple categories. NCES included respondents of Native Hawaiian or Pacific Islander descent in the Asian category, as did I. I placed the small percentage of non-Hispanic multiple race responses (4 percent of the total sample) into the other race category.

*High school academics.* Several studies associate reading and/or math achievement with civic engagement and political participation (see Nie et al., 1996; Niemi and Junn, 1998). Given my emphasis on the high school experience, study measures were derived from the high school achievement scores that were obtained under NCES auspices for each study cohort. As with parental SES, I used trichotomized forms of the math and reading achievement measures ( $-0.5$  SD and  $+0.5$  SD cut-points) in my univariate and bivariate analyses, and I relied on zscored continuous versions of these measures in the multivariate analyses ( $M = 0$ ,  $SD = 1$ ). In most instances, the source testing took place during the senior year of high school. Math and reading tests were administered to Millennial respondents, however, during their sophomore year.

The supposed role of formal civics instruction in promoting political participation has been the object of scholarly controversy for decades. Langton and Jennings (1968), for example, found formal civics instruction to be of little value for most high school students. More recent research, such as that conducted by Niemi and Junn (1998), suggests that formal civics training can play a meaningful role in promoting the development of democratic attitudes, knowledge and behaviors if it is relevant to the local concerns of students and is at least partly interactive or activity-based. Inasmuch as the public use NCES datasets do not include comparable measures

of high school civics achievement across study cohorts, I opted to include a dichotomous measure of the number of civics and history semesters completed between the sophomore and senior years as a proxy (0 = 5 or fewer, 1 = 6 or more). Frequency analyses revealed that about 56 percent of Mid-Boomers (NLS), 40 percent of Late-Boomers (HSB) and 77 percent of Gen Xers (NELS) met the 6 semester threshold. This variability, unclear documentation about the precise mix of classes included in the NCES source variables, and the exclusion of a comparable variable from the Millennial (ELS) public use dataset, suggest that my measure, at best, provides a rough gauge of the contribution of formal high school civics training to voter turnout. It is included in my analyses, nonetheless, for two reasons. First, from a conceptual standpoint, formal civics training cuts to the core citizenship mission of American primary and secondary schools. Second, in light of the ongoing controversy regarding its value, it is difficult to ignore formal civics training in any comprehensive study of young adult civic development or political participation.

High school-type is another component of the educational experience that has been linked to academic and civic development. Not unlike the civics debate, empirical research on the matter has been mixed (see Belfield, 2003; D.E. Campbell, 2001, 2006, 2011; Greene, 2000; Henig, 2000; Teske and Schneider, 2001). The NCES Secondary Longitudinal Study data uniformly permitted me to distinguish between regular public, Catholic and non-Catholic private schools, and each high school-type was included as a dichotomous measure in my empirical models (0 = no, 1 = yes). Unfortunately, other important school venues whose civic impact has been debated of late, such as charter schools and online campuses, have not been in existence long enough to be effectively captured by NCES Secondary Longitudinal Study surveys across the time span of my study.

*High school sociopolitical traits.* In contrast to the major voting surveys, such those conducted under the ANES banner, the inclusion of general political orientation questions in the NCES Secondary Longitudinal Study series – notably, political attentiveness, political efficacy, partisanship and nonvoting political participation – has been at best episodic. However, NCES consistently includes measures at the high school level that address these considerations indirectly. I included seven such measures. Except for the locus of control measure described below, all of these measures are dichotomous (0 = no, 1 = yes).

As evidenced by the research of Dee (2004), Niemi et al. (2011), Zukin et al. (2006) and others, newspaper reading often has been used as a political attentiveness or engagement indicator. Newspaper usage variables were included in slightly different forms across the NCES Secondary Longitudinal Study series datasets. My Mid-Boom (NLS), Gen X (NELS) and Millennial (ELS) measures captured access to a daily newspaper. A somewhat different form of the measure, reading a newspaper at least once a week, was used for the Late-Boom (HSB) cohort.

Locus of control is a composite continuous measure that estimates respondent attitudes regarding the degree of their self-efficacy and perceived control over external events and circumstances. A specialized form of this measure – political efficacy – often has been associated with U.S. voter turnout (see Abramson et al., 2010; Erikson and Tedin, 2011; Lewis-Beck et al., 2011). Here I used slightly different forms of the locus of control measure as the best available proxy commonly included in the NCES high school datasets. The six source measures on which the Mid-Boom (NLS), Late-Boom (HSB) and Gen X (NELS) composites were based, surveyed during the high school senior year, cover three attitudinal dimensions: (1) the role of luck versus hard work in achieving personal ends, (2) perceived control over events

and circumstances affecting one's life and (3) the value or futility of planning ahead. The closest equivalent composite variable, which was contained in the Millennial (ELS) sophomore follow up survey, situated these components in terms of academic success, which, although not identical to the other cohort measures, taps into similar respondent attitudes. I used a trichotomized form of these measures in my univariate and bivariate analyses with cut-points at  $-0.5$  SD and  $+0.5$  SD. My multivariate analyses deployed locus of control in its zscored continuous form ( $M = 0$ ,  $SD = 1$ ).

Partisanship is another sociopolitical trait that has been closely associated with U.S. voter turnout (see Abramson et al., 2010). The closest equivalent measure that was uniformly available in my source NCES datasets captures whether or not respondents participated in high school student government. That this activity is voluntary and typically entails elections, political alliances and similar activities creates a laboratory environment in which participants gain experiences that are not dissimilar from the partisan choices they will face in adulthood as eligible voters. Additionally, it is not unreasonable to expect that students who opt to involve themselves in student government are naturally inclined toward partisan activities. As noted by, Brady et al. (1995), high school government involvement might be indicative of a "taste" for political participation (p. 291).

An expansive literature has shown that other types of extracurricular activities undertaken during high school might also affect the propensity for later civic involvement. As noted by Thomas and McFarland (2010), "Extracurriculars socialize students into voting by habituating them to civic engagement and by connecting them to politically engaged cultures" (p. 1). Typically, voluntary community service and various club involvements (distinct from student government) have been positively associated with adult civic engagement, whereas high school

athletics participation routinely has been found to be unrelated to adult political participation. My analyses included two high school-level measures – athletics and non-athletic clubs/organizations -- that are common to all of the NCES secondary studies. I included a third measure – community service clubs – which was contained in the Late-Boom (HSB), Gen X (NELS) and Millennial (ELS) study datasets.

During recent years, social science researchers have paid increasing attention to the supposed impact of new technology on U.S. voter turnout and other forms of political expression. As discussed in Chapter 2, the results have been mixed as to whether technology promotes or inhibits such expression (see Bucy and Gregson, 2001; Dalton, 2006, 2009; Wattenberg, 2008; Zukin et al., 2006). The time horizon of my study prevented me from addressing this issue uniformly across study cohorts. As illustrated in Appendix B (Table B-9), personal computers and internet communications, which are what most of the fuss has been about, did not become part of the popular culture until the early-1990s. Fortunately, the NCES Secondary Longitudinal Study series captured a variety of personal computer and internet measures beginning with the Gen X (NELS) cohort. My Gen X (NELS) and Millennial (ELS) empirical models incorporated a measure capturing whether or not respondents were daily personal computer users for non-school purposes during high school. I confined the measure to non-school use to refine the focus on the recreational, informational and social networking purposes that are most at issue in the sociopolitical literature.

*Life-Cycle Transitions.* As detailed in Chapter 2, possible relationships between life-cycle transitions and young adult political participation have been studied extensively (see D.E. Campbell, 2006; Highton and Wolfinger, 2001; Strate et al., 1989). Five adult transitions measures are common to all of my statistical models: being married, having children, current

school enrollment, having a job and active military status. All of these variables are dichotomous (0=no, 1=yes). I constructed the Gen X age 20 military service status measure, which was omitted from the most recent NCES young adult trends report (Ingels et al., 2012), from a retrospective NELS survey question that was asked in the 4<sup>th</sup> follow-up conducted during 2000 (approximate respondent age 26 but applicable to age 20 circumstances).

Two additional adult transitions variables merit special attention. A large literature suggests generally that putting down community roots is positively associated with voter turnout (see Putnam 1995, 2000; Highton and Wolfinger, 2001; Strate et al., 1989). An adult transitions measure of residential stability – estimating whether respondents resided in the same community at ages 20 and 22 as they did during high school – was the closest comparable measure available in the NCES datasets and, even in this limited form, it was available only for my Mid-Boom (NLS) and Late-Boom (HSB) respondents.

The most recent NCES young adult trends report (Ingels et al., 2012) contains a measure capturing whether or not Mid-Boom (NLS), Late-Boom (HSB), Gen X (NELS) and Millennial (ELS) respondents resided with their parents at age 20, the apparent objective being to determine whether respondents remained dependent on their parents for financial support, etc. I included this measure in my contextual macro-analyses (see Figure 5.9) but not in my empirical models because the source variables did not uniformly capture whether the respondent resided with one or both parents, whether the residential arrangement constituted parent-child dependency, or whether families so situated had moved or remained in the same communities. Although my residential stability measure only could be estimated for two study cohorts, it is more in keeping with the adult transitions and social capital literature cited above.

A final adult transitions measure, which sought to address whether respondents were financially independent at approximate ages 20 and 22, initially was included in my empirical models. I ultimately discarded this measure, however, due to conceptual differences in how financial dependency was defined in the different NCES datasets as well as the exclusion of financial dependency data from the public use Millennial (ELS) dataset.

### *Analytic Methods*

The statistical interpretation of my empirical findings is based on a combination of univariate, bivariate and multivariate analyses (Mendenhall, Beaver and Beaver, 2006). Here I summarize the statistical tests that underlie my empirical estimates.

*Univariate and bivariate analyses.* I relied primarily on three tests to gauge unadjusted relationships. I used frequency counts and distributions to define basic sample characteristics (IBM, 2011d; Kleinbaum et al, 1998; Mendenhall et al., 2006). I employed chi-square tests to estimate the unadjusted values of dichotomous and other categorical variables, such as gender and race/ethnicity, on voter turnout (IBM, 2011d; Kleinbaum et al., 1998; Mendenhall et al., 2006). I trichotomized continuous measures (-0.5 SD and 0.5 SD cut-points) for inclusion in my chi-square analyses. To gauge the unadjusted values of continuous variables, such as parental SES and locus of control, on voter turnout, I also employed one-way analyses of variance (ANOVA's) (IBM, 2011d; Kleinbaum et al., 1998; Mendenhall et al., 2006) in my preliminary research. The ANOVA estimates duplicate and are fully consistent with the trichotomized measure chi-square estimates.

To compare chi-square estimates across study cohorts at the macro-level of analysis, I employed the procedure recommended by Knepp and Entwisle (1969). This approach permits the assignment of statistical significance to differences between two chi-squares on the basis of a

table of their own design. I estimated these differences for each chi-square pair produced by my macro-analyses.

*Multivariate analyses.* Given my focus on dichotomous voter turnout outcomes, I relied on logistic regression as the statistical tool of choice in my multivariate analyses. To enhance consistency, comparability and intuitive appeal, my estimates are presented in the odds metric. By structuring my logistic regressions in a classic build formulation in which the addition of groups of study measures was cumulative from model to model (Table 3.1), I was able to statistically compare coefficients within study cohorts at the micro-level of analysis (IBM 2011c; Pampel, 2000).

To establish statistical significance levels in same-measure comparisons across study cohorts, at the macro-level of analysis, I adopted a two-part procedure. First, I reran my logistic regression models as linear probability models (LPM). Second, I employed the procedure used by Lee and Bryk (1989) to estimate the significance of differences between same-measure coefficients. Under this method, the differences between unstandardized coefficient pairs are divided by the square root of the sum of their squared standard errors. I repeated this procedure for every same-measure coefficient pair combination afforded by my macro-models. Although Mood (2010) observed that the LPM convention is imperfect in that it does not fully account for the unobserved heterogeneity of omitted variables, she ultimately concluded that “LPM effect estimates are unbiased and consistent estimates of a variable’s average effect on  $P(y=1)$ ” (p. 78). My macro-multivariate analyses are concerned with average effects.

#### *Final Model Specification, Diagnostics and Alternative Methods*

As detailed in Appendix A, my study design yielded eight distinct study samples that project to the population of spring-term high school seniors for each study cohort. I constructed



four samples – one each for the Mid-Boomers, Late-Boomers, Gen Xers and Millennials – for my micro-analyses. Inasmuch as all of my Gen X and Millennial analyses were confined to a single NCES follow up period (i.e., two years post-high school, approximate respondent age 20), it was appropriate to use the micro-samples to conduct my macro-analyses. That was not the case for the Mid- and Late-Boomers. In order to remain consistent in projecting to the populations of spring-term high school seniors in my macro-analyses, it was necessary to construct re-weighted samples for the Mid- and Late-Boom cohorts at respondent age 22. For each study cohort, the micro-model contains all study measures that were available in the NCES surveys pertaining to that cohort. The base macro-models contain only those study measures that were common across study cohorts.

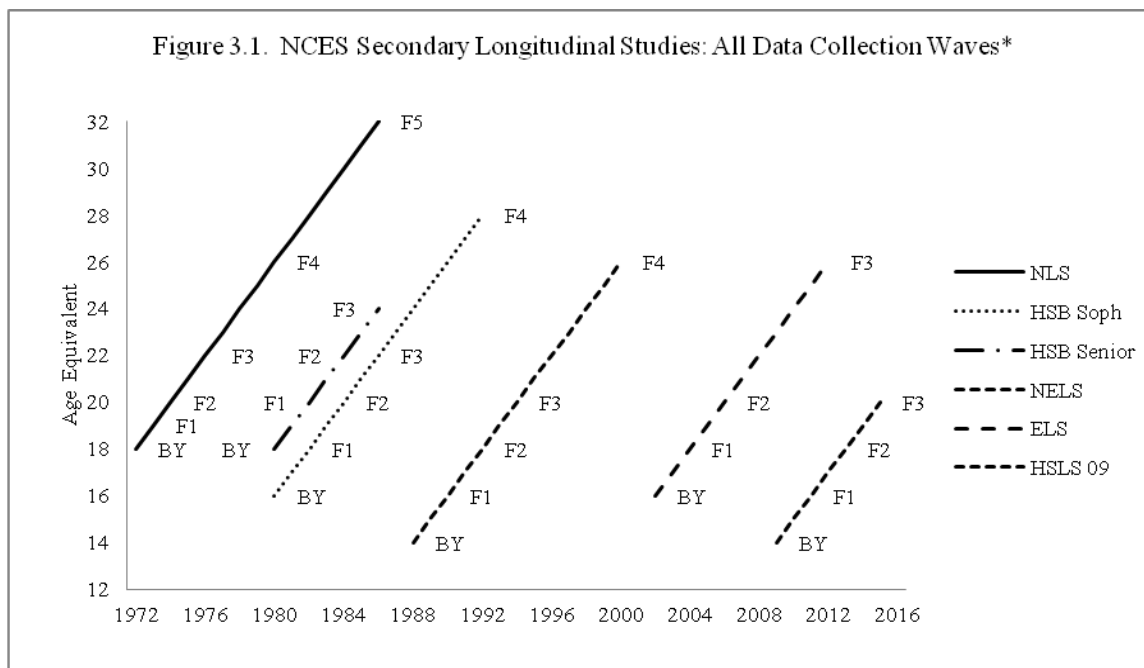
Logistic regression analyses are particularly sensitive to problems of collinearity, nonlinearity and nonadditivity (interaction effects) involving the independent variables (Menard, 2002, 2010). As detailed in Appendix A, in some instances my diagnostic tests prompted the inclusion of additional quadratic and interaction terms in my study models. The micro-models were optimized individually. To enhance cross-cohort comparisons, my macro-models were adjusted collectively and contain identical quadratic and interaction terms. These supplemental measures are listed in Table 3.2.

As noted, voting studies that are based on observational data have employed a wide range of methods to compensate for latency and to tailor measures to specific study objectives. Three approaches that are especially noteworthy are: the construction of scaled political participation outcomes, the adoption of instrumental variables, and the use of propensity score matching. As detailed in Appendix A, I considered each of these methodological approaches but ultimately

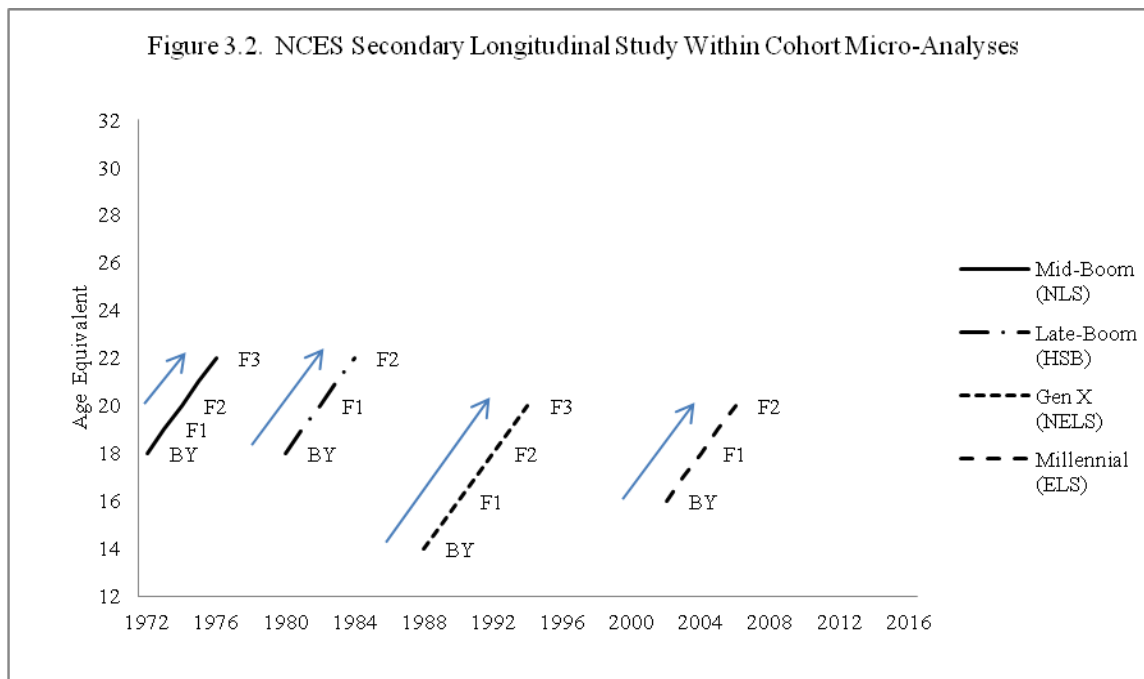
ruled them out in favor of a more traditional design that emphasizes rich contextual measures and straightforward sample structures.

### Presentation of Results

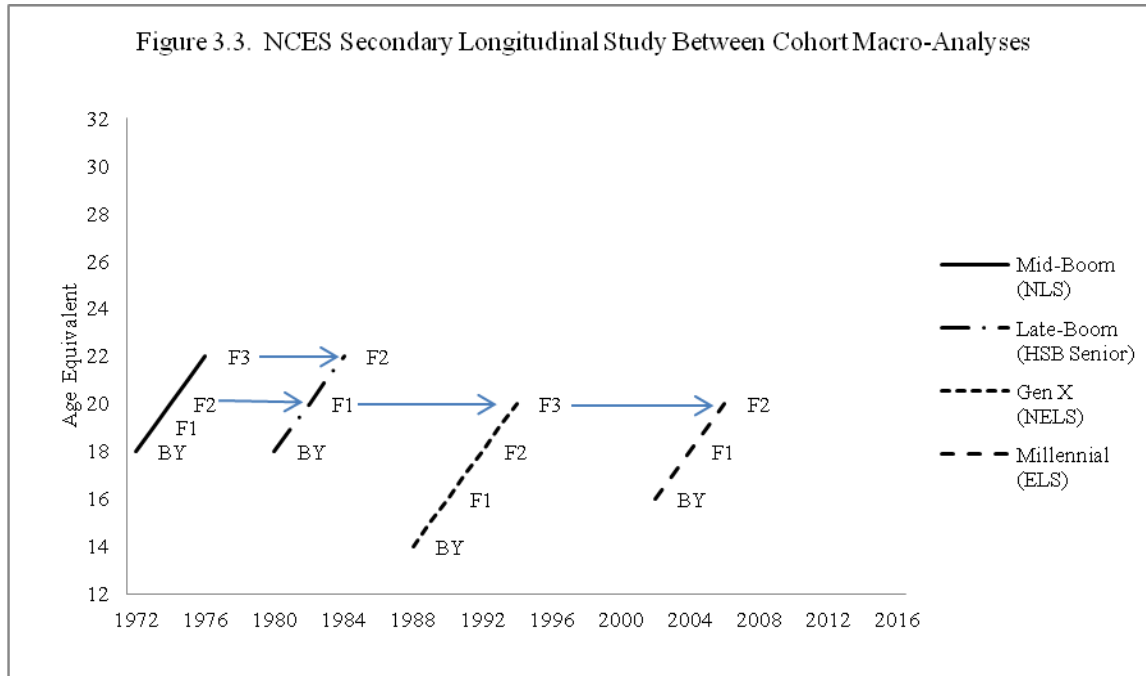
Clarity in the presentation of my contextual and empirical findings in Chapter 4 (micro-results) and Chapter 5 (macro-results) benefits from a three-part format. First, I discuss the contextual findings in relation to the three theoretical frames to which they principally apply: generational transfer, life-cycle transitions and external period effects. I then report the empirical results, discussing key univariate, bivariate and multivariate findings separately to highlight important differences between them. I conclude these chapters with a general discussion of my results in relation to the research questions to which they apply, emphasizing practical as well as theoretical implications. In so doing, I provide additional support for the Target of Participation model developed in Chapter 2 and address the limitations of Brody's (1978) "puzzle of political participation."



\* Coded data labels refer to NCES data collection waves: BY = base year, F1 = first follow-up, F2 = second follow-up, etc.



\* Coded data labels refer to NCES data collection waves: BY = base year, F1 = first follow-up, F2 = second follow-up, etc.  
 Note: Mid-Boom and Late-Boom analyses are at ages 20 and 22. Gen X and Millennial analyses are at age 20 only.



\* Coded data labels refer to NCES data collection waves: BY = base year, F1 = first follow-up, F2 = second follow-up, etc.  
 Note: Age 20 comparisons involve all study sample combinations. Age 22 comparisons are confined to the Mid-Boom and Late-Boom cohorts.

**Table 3.1. Logistic regression model structure exclusive of quadratic and interaction terms.**

Model 1 (Educational Attainment)	Model 2 (HS Sociodemographic Traits)	Model 3 (HS Academics)	Model 4 (HS sociopolitical Traits)	Model 5 (Life-Cycle Transitions)
Attainment	Gender	HS academic achievement	HS newspaper access	Marital status
HS graduate or less <sup>1</sup>	Female	Math <sup>2</sup>	Daily	Married
Vocational education	Male <sup>1</sup>	Reading <sup>2</sup>	Less than daily <sup>1</sup>	Not married <sup>1</sup>
Some college	Race/ethnicity	HS history and social studies courses <sup>6,7</sup>	HS locus of control <sup>2</sup>	Parental status
Bachelor degree+ <sup>8</sup>	White <sup>1</sup>	6+ semesters	HS student government	Children of own
	Black	5 or fewer semesters <sup>1</sup>	Participant or leader	No children <sup>1</sup>
	Hispanic	HS-type	Non-participant <sup>1</sup>	Student status
	Asian	Public <sup>1</sup>	HS athletics	Not enrolled
	Other	Catholic	Participant or leader	Enrolled <sup>1</sup>
	Home language during HS	Other private	Non-participant <sup>1</sup>	Employment status
	English		Non-political HS clubs	Full- or part-time job
	Non-English <sup>1</sup>		Participant or leader	Unemployed <sup>1</sup>
	HS parental SES <sup>2</sup>		Non-participant <sup>1</sup>	Military status
	HS region		HS community service clubs <sup>3,7</sup>	In military
	Northeast		Participant or leader	Not in military <sup>1</sup>
	Midwest <sup>1</sup>		Non-participant <sup>1</sup>	Residential stability <sup>5,6,7</sup>
	South		Non-school personal computer use during HS <sup>3,4,7</sup>	Same community as in HS
	West		Daily	Moved <sup>1</sup>
	HS urbanicity		Less than daily <sup>1</sup>	
	Urban			
	Suburban <sup>1</sup>			
	Rural			

<sup>1</sup> Logistic regression comparison group for dichotomous and categorical measures. <sup>2</sup> Zscore (M=0, SD=1). <sup>3</sup> Excluded from NLS models. <sup>4</sup> Excluded from HSB models. <sup>5</sup> Excluded from NELS models. <sup>6</sup> Excluded from ELS models. <sup>7</sup> Excluded from age-based comparison base models.

<sup>8</sup> Excluded from age 20 models due to zero and near-zero cell counts.

Table 3.2. Quadratic and interaction terms included in logistic regression models.

<u>Study Measures Generated by Logistic Regression Diagnostics Tests*</u>	<u>Micro-Models</u>				<u>Macro-Models</u>
	Mid-Boom (NLS)	Late-Boom (HSB)	Gen X (NELS)	Millennial (ELS)	All Study Cohorts
Quadratic measures					
HS locus of control squared		X			
HS parental SES squared					X
HS math achievement squared			X		
HS reading achievement squared			X		
Interaction terms					
Black*HS locus of control					X
Black*HS personal computer use			X		
Black*HS student government	X				
Female*HS news access	X		X		
Female*HS service clubs			X		
Hispanic*HS student government		X			
SES*HS locus of control		X			
SES*HS news access				X	
SES*HS service clubs		X			
South*HS locus of control	X				X
South*HS non-political clubs				X	
South*HS student government		X			

\* Source: Appendix A, Tables A-7 and A-8.

Table 3.3. Voter turnout outcome equivalency across study cohorts.

<u>Respondent Age, Study Cohort and Survey Year</u>	<u>Calendar Quarters</u>	<u>Non-Presidential National Elections</u>	<u>Presidential Elections</u>
Two Years Post-HS (Age 20)			
Mid-Boom (NLS, 1974)	10	0	1
Late-Boom (HSB, 1982)	8	0	1
Gen X (NELS, 1994)	6	0	1
Millennial (ELS, 2006)	10	0	1
Four Years Post-HS (Age 22)			
Mid-Boom (NLS, 1976)	18	1	1
Late-Boom (HSB, 1984)	16	1	1

## CHAPTER 4: MICRO-ANALYSES

*Highlights: My micro-analyses contribute to the education and political science literatures in several ways. In affirming the overall power of educational attainment as a young adult voter turnout predictor, my findings provide new evidence that attainment effects are attenuated by other educational and non-educational respondent characteristics. As summarized on Table 4.1, several of the non-attainment predictors of age 18-20 voter turnout in my empirical models were recurrent across study cohorts: race/ethnicity, parental SES, high school math and reading achievement, locus of control, newspaper access, participation in non-athletic extracurricular activities during high school, school enrollment status at age 20 and residential stability. English speaking household status and personal computer use during high school emerged as important voter turnout predictors for the Gen X and Millennial respondents at age 20. My results affirm the necessity of grounding empirical voting studies on multiple or composite theoretical frames, such as the Target of Participation model presented in Chapter 2. My findings also expose shortcomings of Brody's (1978) methodology that no doubt complicated his efforts to correctly frame and solve his "puzzle of political participation."*

Nineteen-seventy-two was a pivotal year for my investigation inasmuch as it marked the first post-26<sup>th</sup> Amendment national election as well as the base survey year for my earliest born study cohort, the Mid-Boomers. That year, the newly enfranchised 18-20 year-olds comprised the most educated and most democratically liberated generation in U.S. history. A similar claim can be made for the later born generational cohorts in my study. Based on the progression of high school completion rates and voting law reforms, as each cohort reached the age 18 voter eligibility threshold its aggregate educational attainment was higher and its voting booth access was easier than for the study cohort preceding it.

As discussed in Chapter 2, if educational attainment alone accounts for 18-20 year-old voter turnout, one would expect to see a positive relationship between turnout and election year recency. But, as depicted by Figure 4.1, that was not the case across the time span of my study, even for 18-20 year-olds who reported having at least some college experience. Based on national U.S. Census estimates (gray lines), the relationship between college attendance and

voter turnout was inverse between 1974 and 1982 and only weakly positive after that. My NCES study respondents (black lines) exhibited higher overall college attendance levels, lower high school dropout rates and higher voter turnout than their national Census counterparts, which is to be expected based on my sample design. Nonetheless, the NCES and Census estimates are strikingly similar on a proportional basis, adding further dimension to Brody's (1978) 'puzzle of political participation' during an era of progressively easier voting booth access. Clearly, educational attainment alone does not explain 18-20 year-old voter turnout in national elections occurring during the time horizon of my study.

Emphasizing the 26<sup>th</sup> Amendment eligibility period, this chapter is devoted to answering the three micro-level questions whose collective purpose is to tease out alternative explanations:

1. In what manner and to what degree does educational attainment – here defined as high school completion or less, vocational education experience, college attendance or college completion -- predict the election turnout of 26<sup>th</sup> Amendment eligible voters?
2. Inasmuch as the end of high school is a common educational denominator for a very large percentage of 26<sup>th</sup> Amendment eligible voters, to what extent do the academic and sociopolitical traits associated with that period affect the probability of voting?
3. What can be said about the contributions of sociodemographic characteristics and young adult life-cycle influences as independent predictors of election turnout by 26<sup>th</sup> Amendment eligible voters?

I adopt a three-part approach to answer these questions in relation to the generational cohorts in my study: Mid-Boomers, Late-Boomers, Gen Xers and Millennials. First, I provide a brief contextual profile of each study cohort, which frames generational, life-cycle and period-specific considerations that aid in the interpretation of my empirical findings. A voluminous



literature suggests that political identities are deeply rooted in contextual settings that transcend the descriptive power of any one social science survey or survey series, including the NCES Secondary Longitudinal Studies series on which my investigation is based (see Dalton, 2009; Delli Carpini and Keeter, 1996; Jennings and Niemi, 1974, 1981; Strauss and Howe, 1991; Zukin et al., 2006). In this portion of the analysis, I emphasize what Mannheim (1972) referred to as “crucial group experiences” or “crystallizing agents” that are gauged to be instrumental in forming each generational cohort’s educational and sociopolitical identity. Unless otherwise noted, reported events are sourced from the Appendix B summary tables. Second, I present the results of my micro-empirical analyses for each study cohort. As detailed in Chapter 3, my empirical observations are based on a combination of univariate frequency tabulations, bivariate differences and multivariate logistic regression estimates. Third, I conclude the chapter with a general discussion of my findings, including their theoretical implications, practical value and relevance to Brody’s “puzzle.” Although model differences preclude direct empirical comparisons between generational cohorts at this stage of the analysis, several trends are noted that receive further attention in my Chapter 5 macro-analyses.

#### Mid-Boomers

The respondents in my study samples were heavily clustered around specific birth years. For example, 94 percent of my NLS respondents were born in 1953 or 1954 (Appendix B, Table B-1). Although Strauss and Howe (1991) adopted a well-reasoned 1943-1960 birth range for the Baby Boom Generation, I prefer the more commonly employed 1946-1964 period. By either standard, the predominate birth years of my NLS respondents are reasonably close to the midpoint. This Mid-Boom cohort, which is the oldest born group in my study, establishes the chronological baseline for my analyses. Although there was minor variability in the birth years

of cohort members, to simplify the discussion I refer to the Mid-Boom cohort as having been age 20 in 1974 and age 22 in 1976. These years correspond to the two NCES follow up surveys that anchor my empirical voter turnout estimates for this study cohort.

### *Mid-Boomer Profile*

Here I briefly summarize the generational, life-cycle and external period influences that distinguish the Mid-Boomers from my other study cohorts. In so doing, I emphasize circumstances and events that were particularly relevant to their sociopolitical development.

### *Generational Setting*

Although an unspecified percentage of the Mid-Boomers in my study were the progeny of Silent Generation parents (born 1925-1945), my respondents were predominately the children of the World War II era citizens (born 1901-1924) that Strauss and Howe (1991) referred to as the G.I. Generation and Brokaw (1998) dubbed the Greatest Generation. Writing about the period at the end of World War II, Brokaw typified his Greatest this way:

When the war was over, the men and women who had been involved, in uniform and in civilian capacities, joined in joyous and short-lived celebrations, then immediately began the task of re-building their lives and the world they wanted. They were mature beyond their years, tempered by what they had been through, disciplined by their military training and sacrifices. They married in record numbers and gave birth to another distinctive generation, the Baby Boomers. They stayed true to their values of personal responsibility, duty, honor, and faith. ... They became part of the greatest investment in higher education that any society ever made ... They helped convert a wartime economy into the most powerful peacetime economy in history. They made breakthroughs in medicine and other sciences. They gave the world new art and literature. They came to understand the need for federal civil rights legislation. They gave America Medicare. They helped rebuild the economies of their former enemies, and they stood fast against the totalitarianism of their former allies, the Russians. [But] they weren't perfect. ... They allowed McCarthyism and racism to go unchallenged for too long. Women of the World War II generation ... were the underpinning of the liberation of their gender, even as many of their husbands resisted the idea. When a new war broke out, many of the veterans initially failed to recognize the difference between their war and the war in Vietnam (pp. xxvii-xxviii).

This stereotypical view of the Greatest Generation, which Strauss and Howe (1991) characterized as having a “civic” personality, is far from a perfect reflection of the citizens or the era. Certainly not all of these Baby Boom parents served the nation in a military or civilian capacity during the turmoil of the 1940s or even agreed with America’s presence in World War II. If the survey responses of Jennings and Niemi’s (1981) parent sample are representative of Baby Boom parents as a group, the political attitudes, values and behaviors of these citizens were far from monolithic as they went about the task of raising their children.

As noted by Zukin et al. (2006), however, perceptions that are imperfectly based on reality nonetheless can become “as important as reality itself” in molding generational identities (pp. 19-20). From this vantage point, the legacy enunciated by Brokaw (1998) is notable in several respects. It effectively captures the zeitgeist of the era in which Mid-Boomers transitioned from babyhood to adolescence. It powerfully foreshadows some of the important cleavages that were destined to hemorrhage during Mid-Boomer adolescence and young adulthood – particularly the civil rights, women’s rights and anti-war movements that, as discussed in Chapter 2, found common ground on the principle of expanded voting rights. Moreover, Brokaw’s portrait effectively juxtaposes the duty-bound and self-sacrificing image of Greatest Generation parents against the self-actualizing and activist reputation that many of their children eventually would carve out for themselves.

The message at this stage is decidedly mixed as regards any generational pre-disposition to vote on the part of Mid-Boomers. On the one hand, their parents set a strong example that Zukin et al. (2006) characterized as “the gold standard of political and civic participation” (p. 14). According to Gans and Mulling (2011), for example, aggregate presidential election turnout hovered in the low- to mid-60 percent range between 1952 and 1964, reaching a modern day

high of nearly 63 percent in 1960. The twin parental legacies of personal responsibility and duty to country also resonate as strong pro-voter turnout themes. On the other hand, the pre-26<sup>th</sup> Amendment voter turnout of the Mid-Boomers' older brothers, sisters and cousins did not set the bar particularly high; 21-24 year-olds consistently lagged other eligible voters in national election turnout (Census 1965, 1969). And it could not be gauged at the time whether the social cleavages that visibly began to fester in the 1950s ultimately would propel Mid-Boomers toward or away from the voting booth when these citizens reached the age of majority. As observed by Delli Carpini and Keeter (1996), an information-rich environment does not automatically translate into political knowledge or civic engagement.

### *Life-cycle Considerations*

Aggregate social, economic and political indicators framed the Mid-Boomer formative years as an era of hope and promise. Mid-Boomers entered the world at the tail-end of an economic correction that would yield to robust Gross Domestic Product (GDP) growth throughout their childhoods and adolescences. The personal savings rate, another oft cited economic health indicator was in the ascendancy, reaching a post-World War II high of 10 percent when the Mid-Boomers in my study were high school seniors. The influx of immigrants and the rise in domestic births during the 1950s produced a younger overall population by 1960, adding momentum to the youth culture the Mid-Boomers helped inspire.

Like their G.I. Bill parents, the Mid-Boomers in my study were the direct beneficiaries of a rapid expansion of U.S. educational opportunity after World War II. Among the systemic changes fueling this expansion were the *Brown v. Board of Education* nondiscrimination doctrine, the Defense Education Act of 1958 emphasis on math and science curricula and the Elementary and Secondary Act of 1965 priority on economically disadvantaged students.

Overall, high school degree status jumped by more than 50 percent and four-year college degree status went up 73 percent between 1954 and 1970.

Despite the gathering social and political storm clouds, the 1950s comprised a time of relative peace and tranquility in which war, social injustice and international competition were relatively distant concerns for this generational cohort. The introduction of the Frisbee arguably had greater saliency for four-year old Mid-Boomers in 1957 than did the Sputnik launch. The infectious popularity of American Bandstand undoubtedly captured greater unaided attention by seven-year-old Mid-Boomers in 1960 than did the first televised presidential debates. Later in the adolescent and young adult life-cycle, the members of this cohort, whom Zukin et al. (2006) characterized as being “parented by prosperity,” would become closely identified with the protest movements of the era as well as with illicit drugs and sexual experimentation (p. 14). Considered in isolation, one might be tempted to conclude that rapidly rising educational attainment levels would leave a pro-voting imprint on Mid-Boomers as they approached the age of majority. But their counter-culture identity, which prized individuality, social experimentation and activism, could as easily have diverted members of this generational cohort away from the voting booth.

### *Period Influences*

Major events and systemic shocks occurring during the 1960s and early 1970s reshaped the political world just as the Mid-Boomers were transitioning from childhood and adolescence into young adulthood. And the growing penetration of television – the principal techno-driven communications breakthrough of the era – carried the images and sounds of these period influences into the living rooms of Mid-Boom families more personally and more graphically than ever before. The 1963 assassination of President Kennedy, which prompted school

closures, mass vigils and a new tone of vulnerability in the national dialog, occurred when the Mid-Boomers in my study were highly impressionable 10 year-olds. At about the same time, expanded U.S. military presence in Vietnam and well publicized civil rights violations stoked the burning embers of the antiwar and civil rights movements, bringing both to full flame by the time of enactment of landmark civil rights legislation at mid-decade. In 1968, when the Mid-Boomers were age 15, wide-spread student demonstrations had become a near-daily fact of life on college campuses across America, and the assassinations of Robert F. Kennedy and the Reverend Martin Luther King again chiseled images of domestic violence and exposure into the American psyche. In 1972, the high school graduation year of my Mid-Boom cohort, the withdrawal of U.S. ground troops from Vietnam competed for television coverage with the brutal murders of Israeli Olympic athletes in Munich and an emerging story about a hotel break-in near Foggy Bottom in Washington, D.C.

These events and systemic shocks were further punctuated by developments occurring just prior to the two NCES follow up surveys I rely upon to gauge Mid-Boomer voter turnout. During the two year lead up to 1974 – the age 20 NCES survey year – Mid-Boomers lived through the turmoil of *Roe v. Wade*, the resignations of President Nixon (Watergate) and Vice President Agnew (tax evasion), and an economic recession. By 1976 – the age 22 NCES survey year – the Mid-Boomers in my sample had been introduced to the Saturday Night Live culture; but they also had been exposed to eroding Middle East stability and the New York City bail-out.

The turbulent adolescent and young adulthood years of these Mid-Boomers also marked an era of near-unprecedented liberalization of the Nation's voting laws. The 24<sup>th</sup> Amendment ban on poll taxes in 1964, the 1964 Civil Rights Act ban on unequal registration requirements within states, and the 1965 Voting Rights Act approval of direct federal intervention in cases of

suspected state voting rights violations all closely preceded ratification of the 26<sup>th</sup> Amendment in 1971. But the story does not end with the Mid-Boomers in my study becoming the first 18-20 year-olds to vote in a national election in 1972. That same year, the U.S. Supreme Court ruled in *Dunn v. Blumstein* that durational residency requirements exceeding 30 days were impermissible – a decision that had particular meaning for the typically mobile young adults in my study. And in 1975 – the year before my Mid-Boomers were re-surveyed at age 22 – the Voting Rights Act amendments extended the reach of nondiscrimination requirements to language-minority citizens.

### *Profile Summary*

Divining the precise relationships between these contextual influences and the voter turnout of the Mid-Boomers in my study is a largely conjectural exercise. The information at hand is consistent with the expectation that parental role modeling, rising educational levels and period-specific events – especially the liberalized voting rules -- may have worked in concert to encourage voter turnout. An equally persuasive counter-argument can be made that the less duty-driven, experimental and activist bents commonly attributed to Mid-Boomers may have conspired to depress their young adult voter turnout. A third possibility is that these and other contextual influences may have operated simultaneously as voter turnout motivators and demotivators. Choosing between these basic positions is excruciatingly difficult due to latency issues and other interpretative problems.

But this qualitative exercise is nonetheless helpful because it affirms that the Mid-Boomers in my study were distinctive in ways that bear directly on my empirical investigation. First, they were in the vanguard of the rapid upturn in U.S. educational attainment following World War II. Second, they benefited from dramatic educational reforms and resource infusions

that greatly broadened educational opportunity during their primary and secondary schooling years. Third, as young adults, these 26<sup>th</sup> Amendment pioneers had greater ballot box access than any prior generation in U.S. history. Fourth, they came of age during a time of exceptional social and political turbulence in America. In Strauss and Howe's (1991) estimation, this exposure helped forge their collective identity as an "idealist generation" that was attuned to public issues and public causes. Fifth, several of the most consequential sociopolitical events and systemic shocks surfaced during and just after the Mid-Boom high school years, coinciding roughly the empirical focus of my study.

### *Mid-Boomer Empirical Results*

The Mid-Boomer profile reinforces my emphasis on formal education and other educational and non-educational traits estimated during and shortly after the end of high school period as predictors of young adult voter turnout. To facilitate the discussion of my research questions in the final section of this chapter, I organize my findings around the three principal themes: (1) educational attainment, (2) end of high school academics and sociopolitical traits and (3) sociodemographic and life-cycle characteristics.

The timing of the Mid-Boom NCES surveys is fortuitous in that voter turnout was estimated two years post-high school (age 20) and four years post-high school (age 22). The age 20 analyses, which correspond to the end of the 26<sup>th</sup> Amendment voter eligibility period, are at the heart of my study. I include the age 22 analyses to further assess persistence and change at a point just beyond 26<sup>th</sup> Amendment voter eligibility. The age 22 analyses also permit me to broaden the educational attainment measure used in my models to effectively encompass four-year degree completion.



### *Educational Attainment*

*Univariate and bivariate results.* These findings support the traditional view that there is an ascending relationship between voter turnout and educational attainment. By age twenty, 51 percent of the Mid-Boomers whose formal educations were limited to high school had voted, compared to 57 percent of the respondents having some vocational education and 73 percent of the respondents reporting at least some college ( $p < .001$ ; Table 4.3). A similar pattern is evident when these Mid-Boomers had passed beyond 26<sup>th</sup> Amendment eligibility at age 22. By that time, 61 percent of the respondents electing not to continue their educations beyond high school had voted, compared to 67 percent of the vocational education students, 79 percent of the respondents reporting at least some college and 86 percent of those who had attained a bachelor's degree or its equivalent ( $p < .001$ ; Table 4.3). As suggested by these percentages and illustrated by Figure 4.2, the ascending relationship between educational attainment and voter turnout was similarly pronounced at ages 20 and 22. Importantly, however, Figure 4.3 shows that this relationship was somewhat irregular; it stepped-up for the Mid-Boomers reporting at least some college.

*Multivariate results.* My logistic regression results not only attest to the positive relationship between educational attainment and voter turnout but also assign a more constructive role to vocational education than suggested by the bivariate estimates. At age 20, the voting odds of respondents indicating that they had received vocational training were 31 percent higher than those of their less educated peers, exclusive of other influences ( $p < .001$ ; Table 4.4, Model 1). Similarly, the voting odds of Mid-Boomers reporting at least some college were 2.6 times that of respondents reporting high school or less ( $p < .001$ ; Table 4.4, Model 1).

This pattern was even more pronounced at age 22 when 16 percent of the Mid-Boomers had surpassed the bachelor's degree threshold (Table 4.2a). Without consideration of other study measures, the voting odds of respondents in the vocational education category were 33 percent higher than those of respondents reporting high school or less ( $p < .001$ ; Table 4.5, Model 1). The voting odds for Mid-Boomers having some college were 2.5 times and the odds for Mid-Boomers with a four year degree were 3.9 times those of the high school or less group ( $p < .001$ ; Table 4.5, Model 1).

The educational attainment findings remained robust at respondent ages 20 (Table 4.4, Model 5) and 22 (Table 4.5, Model 5) when other predictors and covariates were incorporated into the model structure. At the same time, two additional observations come more clearly into view. First, the magnitudes of all three attainment classification estimates – vocational education, some college and four-year college degree – declined in relation to high school or less as voter turnout predictors in the presence of other study measures. Second, vocational education emerged as a voter turnout force to be reckoned with in its own right. In the presence of other study measures, the magnitude of the vocational education effect was still substantially less than that of college experience, but its contribution to the voter turnout odds actually increased slightly between age 20 (odds ratio = 1.195;  $p < .001$ ; Table 4.4, Model 5) and age 22 (odds ratio = 1.229;  $p < .001$ ; Table 4.5, Model 5). Moreover, comparing the base (Model 1) and fully specified (Model 5) formulations, the voter turnout odds reductions associated with vocational education were noticeably less at ages 20 (odds ratio change = -0.118; Table 4.4) and 22 (odds ratio change = -0.099; Table 4.5) than was the case for Mid-Boomers reporting some college at the same ages (odds ratio changes = -0.882 and -0.626; Tables 4.4 and 4.5) or reporting four year degrees at age 22 (odds ratio change = -1.379; Table 4.5). Consistent with

the bivariate findings, these results call into question the common voting study practice of relegating educational attainment to a unitary scale based on total years or highest degree received.

#### *End of High School Academics and Sociopolitical Traits*

*Univariate and bivariate results.* These results are notable in at least three respects. First, from an academic perspective, there was a positive association between high school math and reading achievement on the one hand and Mid-Boomer voter turnout at age 20 on the other ( $p < .001$ ; Table 4.3). Interestingly, these results remained robust when Mid-Boomer voter turnout was estimated again at age 22 ( $p < .001$ ; Table 4.3). Second, taking 6 or more history and social studies semester courses during high school was not bivariately associated with Mid-Boomer voter turnout at ages 20 or 22 ( $p > .05$ ; Table 4.3). Third, there was a significant bivariate association between high school-type and voter turnout at ages 20 and 22. The voter turnout of respondents who had attended Catholic and other private high schools outpaced that of former public high school students by 4-13 percent at ages 20 and 22 ( $p < .05-.01$ ; Table 4.3).

The sociopolitical traits that were measured at the end of high school also are of interest from three vantage points. First, daily newspaper access was a moderate voter turnout marker. At age 20, the gap between voters and nonvoters who had daily newspaper access during high school was 29 percent ( $p < .001$ ; Table 4.3), and this disparity increased to 48 percent at age 22 ( $p < .001$ ; Table 4.3). Second, there was a pronounced hierarchical relationship between locus of control scores and voter turnout at both ages 20 and 22 ( $p < .001$ ; Table 4.3), which, on average, constituted a 13-15 percent voter turnout gap between the highest and lowest thirds. Third, high school extracurricular activities stand out as consistent differentiators of Mid-Boomer voters versus nonvoters. Among former high school student government participants, the gap between

voters and nonvoters was 48 percent at age 20, and, at age 22, the gap increased to 65 percent ( $p < .001$ ; Table 4.3). The voter turnout gaps associated with high school non-political club participation were 31 percent (age 20) and 50 percent (age 22) ( $p < .001$ ; Table 4.3). And the gaps associated with high school athletics participation were 33 percent (age 20) and 41 percent (age 22) ( $p < .001$ ; Table 4.3).

*Multivariate results.* My logistic regression estimates (Tables 4.4 and 4.5) are in line with the bivariate results relative to high school academic achievement and civics coursework but differ along the school-type dimension. Controlling for educational attainment and other covariates, a 1SD increase in high school math achievement was associated with an 8 percent increase in the odds of voting at age 20 ( $p < .001$ ) and a 7 percent increase at age 22 ( $p < .05$ ). Similarly, a 1 SD increase in high school reading achievement was associated with a 10 percent increase in the likelihood of voting at age 20 ( $p < .001$ ) and a 6 percent increase at age 22 ( $p < .05$ ). High school history and social studies coursework was a nonsignificant voter turnout predictor across the board ( $p > .05$ ). And my logistic regression estimates did not demonstrate a statistically significant association between high school-type and voter turnout ( $p > .05$ ).

With regard to high school sociopolitical traits, my age 20 (Table 4.4) and age 22 (Table 4.5) multivariate findings also present an interesting picture. Daily newspaper access at age 20, for example, was nonsignificant in my logistic regression models when the gender-based interaction measure was included ( $p > .05$ ), meaning that news access was significant only for females ( $p < .05$ ). The contribution of high school athletics to the probability of voting at ages 20 and 22 also was nonsignificant in my logistic regression models in the presence of other study measures ( $p > .05$ ). In contrast, a 1 SD increase in locus of control was consistently associated with a 10 percent increase in the voting odds for respondents outside the South at ages 20 and 22

( $p < .001$ ). High school student government participation was associated with a 50-57 percent increase in the likelihood of voting ( $p < .001$ ). The voter turnout probability boost associated with high school nonpolitical club participation was 19 percent at age 20 and 17 percent at age 22 ( $p < .001$ ).

### *Sociodemographic Traits and Life-Cycle Transitions*

*Univariate and bivariate results.* My findings closely parallel U.S. Census tracking reports and prior academic research. For example, the results are unsurprising in terms of the negative associations between female gender and/or traditionally disadvantaged racial status on the one hand and voter turnout on the other during the era when Mid-Boomers were in their early twenties ( $p < .01-.001$ ; Table 4.3). My results are consistent as well with a large literature suggesting that there is a strongly positive relationship between parental SES, which is anchored in part on educational attainment, and the voter turnout of their offspring in national elections as well as between English language proficiency and young adult voter turnout in national elections ( $p < .001$ ; Table 4.3). The age 20 voter turnout of study respondents whose parents fell in the upper third of the SES scale was 21 percent higher than that of respondents whose parents were in the lowest third ( $p < .001$ ; Table 4.3). And this gap remained relatively consistent, 19 percent, at age 22 ( $p < .001$ ; Table 4.3). I also observed well-established regional effects in which voter turnout in the South and Northeast, for example, lagged turnout in other parts of the country ( $p < .001$ . Table 4.3).

Of additional interest are the countervailing results associated with my life-cycle transitions measures. The voter turnout of respondents who were married, had children or were not enrolled in school consistently lagged that of peers who differed on these characteristics at ages 20 and 22 ( $p < .001$ ; Table 4.3). At age 20, however, there was a 29 percent gap favoring

voters who resided in the same residential community as they did during high school ( $p < .05$ ; Table 4.3).

*Multivariate results.* Several of the sociodemographic and life-cycle measures took on a less pronounced character when they were estimated in the presence of other predictors and covariates (Tables 4.4 and 4.5). In my fully specified Model 5 formulations, for example, female voter turnout, which was associated with a 23 percent odds deficit versus males at age 20 ( $p < .05$ ), receded to nonsignificance at age 22 ( $p > .05$ ). Similarly, the bivariate Black voter turnout deficit (Table 4.3) receded to nonsignificance in my fully specified (Model 5) multivariate formulations at ages 20 and 22, as did the bivariate advantage (Table 4.3) associated with English household status ( $p > .05$ , Tables 4.4 and 4.5, Model 5).

Other measures grab the spotlight. For example, the positive contribution of high school parental SES to the voter turnout odds of Mid-Boomers at ages 20 and 22 was rock solid at about 20 percent ( $p < .001$ ; Tables 4.4 and 4.5). The pronounced voter turnout odds deficits associated with Hispanic or Asian status – the two fastest growing U.S. population segments – came into sharper relief when other measures were added to the model structure. On average, the voter turnout odds of 20 year-old Hispanics were 25 percent lower and those of 20 year-old Asians were 60 percent lower than Whites ( $p < .01$ -.001; Table 4.4, Model 5). And these voter turnout odds deficits actually were larger at age 22: 27 percent for Hispanics and 62 percent for Asians ( $p < .001$ ; Table 4.5, Model 5).

The shifting contributions of the life-cycle measures as voter turnout predictors also come more clearly into view in the presence of other study measures. Being married was associated with a 10 percent voting odds reduction at age 20 ( $p < .05$ ; Table 4.4) but a 13 percent odds increase at age 22 ( $p < .05$ ; Table 4.5). Being a parent was a nonsignificant voter turnout

predictor at age 20 ( $p > .05$ ; Table 4.4) but a negative voter turnout predictor at age 22 (odds ratio = 0.767;  $p < .001$ ; Table 4.5). Non-enrollment in school was a moderately negative predictor of voter turnout at age 20 (odds ratio = 0.893;  $p < .05$ ; Table 4.4) but not at age 22 ( $p > .05$ ; Table 4.5). Residential stability emerged as an important voter turnout predictor at ages 20 and 22. The voter turnout odds of Mid-Boomers residing in the same communities as during high school were about 30 percent higher than for their more mobile peers ( $p < .001$ ; Tables 4.4 and 4.5).

### Late-Boomers

Close to 97 percent of the Late-Boomers in my study were born in either 1961 or 1962 (Appendix B, Table B-1). Although Strauss and Howe (1991) categorize these birth years as being part of the early Gen X period (“13ER” in their terminology), the more commonly used date range places these years toward the end of the Baby Boom Generation (1964). On average, my Late-Boom study participants were born eight years after than their Mid-Boom counterparts. As was the case with the Mid-Boomers, there is minor age variation (Appendix B, Table B-1). For convenience and simplicity, I refer to the Late-Boomers as having been 20 years of age in 1982 and 22 years of age in 1984 – the two NCES survey years on which my Late-Boom empirical analyses are anchored.

### *Late-Boomer Profile*

Juxtaposed against the Mid-Boom cohort, the Late-Boomers in my study were born into a similar (but not identical) generational setting and benefited as well from similar (but not identical) life-cycle influences, such as the continued expansion of U.S. educational opportunity. In important respects, however, their pre-adult experiences were notably different from those typifying the Mid-Boomers. And, to the extent that the Late-Boomers witnessed the same external events and systemic shocks as their Mid-Boom counterparts, they did so at different

developmental stages. As such, the Late-Boomers qualify as a distinct “generation-unit” within Mannheim’s (1972) schema.

### *Generational Setting*

As the younger siblings of Mid-Boomers, some members of Late-Boom cohort benefitted directly from the parental legacy of Brokaw’s (1998) Greatest Generation. Based on the typical U.S. child-bearing patterns of the era, however, the Late-Boomers in my study predominantly were the progeny of Silent Generation parents. As such, the Late-Boomers had a split personality from a generational setting standpoint.

A November 1951 *Time Magazine* article innocuously entitled “The Younger Generation” (Time, 1951) is credited with attaching the Silent Generation moniker to individuals born between 1925 and 1945. They were the younger brothers and sisters, and, in some instances, the offspring of the Greatest Generation. Although they were the children of the Great Depression and global conflict of the 1930s and 1940s, their war took place in Korea. Zukin et al. (2006) typified the Silents as people “who paid their dues by working hard for a better life and upholding the responsibilities and privileges of citizenship” (p. 14). But *Time* was more acidic in its assessment, referring variously to the Silents as “grave and fatalistic ... conventional and gregarious ... tolerant of almost anything, shocked by little ... ready to conform.” *Time* also characterized the Silents as being more sensitive to gender equality, somewhat more faith-driven and better educated than their generational predecessors. But in *Time*’s estimation, the most important distinguishing characteristic of this generation was its silence on public issues. It is reasonable to suppose on this basis that the Late-Boom children of Silents had a mixed political pedigree – one whose origins remained largely duty-driven but with a less activist bent than the legacy of the Greatest Generation.



### *Life-cycle Considerations*

The buoyancy and hope of the 1950s, which permeated the early development of the Mid-Boomers, only partially registered on the radar screens of the Late-Boomers in my study. During the first decade or so of their lives, Late-Boomers benefited from continuous GDP growth as well as relatively high personal savings rates; they were still the children of prosperity. They also benefited from expanded educational opportunities that ultimately enabled them to surpass the aggregate educational attainment levels of their Mid-Boomer counterparts. In the aftermath of the glut of early- and Mid-Boom births, U.S. population growth had begun to slow and the average age profile of Americans had begun to increase. That much of the population growth was occurring among traditionally disadvantaged constituencies – particularly Hispanics – foreshadowed the much more heterogeneous culture that Late-Boomers would encounter as high school students and young adults. All of these trends shaped and in turn were shaped by the social and political turbulence of the 1960s and 1970s.

### *Period Effects*

By the time most of the Mid-Boomers in my sample were enrolled in the eighth grade (1975), their social, educational and political fortunes had been boosted by one of the most prolific reform periods in U.S. history – notably ratification of the 24<sup>th</sup> Amendment ban on poll taxes (1964), the enactment of landmark Civil Rights legislation (1964, 1965), passage of the Voting Rights Act (1965), approval of the Elementary and Secondary Education Act (1965) and enactment of the Education For All Handicapped Children Act (1975). Many of these policy actions either responded to or extended the U.S. Supreme Court's 1954 anti-discrimination doctrine under *Brown v. Board of Education*, and the High Court itself remained active in broadening the legal fabric of nondiscrimination in education ( see the *Green* (1968), *Singleton*

(1970), *Mills* (1972) and *Keyes* (1973) rulings in Appendix B, Table B-6). Great Society-inspired resources flowed into education and other pockets of the social safety net. At the same time, the lives of these Late-Boom adolescents already had been touched by tragedy and skullduggery, including the assassinations of President John Kennedy, the Reverend Martin Luther King and Robert F. Kennedy as well as the withdrawal of one President (Johnson) under the crushing weight of an unpopular war and the resignation of another (Nixon) under the televised glare of scandal that reached into homes and classrooms across America.

The rollercoaster ride continued unabated. As high school seniors (1980), the Late-Boomers in my study could look back upon magical moments in the life of the nation, such as Neil Armstrong's Moon walk (1969) and the dramatic rescue of Apollo 13 (1970). They benefitted from new communications technology, such as the introduction of cell phones in 1979, which promised to shrink the world. They discovered new recreational pursuits in the form of home videos and video games. They saw the 1980 Miracle on Ice in which an underdog U.S. Olympic men's hockey team bested the indomitable Soviets.

But, in many respects, it was a chimeric paradise. These same 18 year-olds had endured the 1973-74 and 1980 economic contractions, sat with their parents in endless gas lines, witnessed the deleterious effects of inflation and suffered the embarrassment of U.S. diplomats held hostage in Iran. They had received the pointed "civics lessons" brought about by three failed presidencies (Nixon, Ford and Carter) in rapid succession as well as the congressional Koreagate and Abscam scandals. They bore witness to Three Mile Island, the Chrysler bailout, and what was correctly portrayed as High Court backtracking on efforts to reduce school discrimination (see the *Milliken I* (1974), *Milliken II* (1977) and *Bakke* (1978) rulings in Appendix B, Table B-8). They were "there" the day John Lennon was shot in New York City.

The overall picture remained complex and convoluted as the Late-Boomers in my study completed the NCES surveys that form the basis of my empirical analyses. By 1982 – the age 20 follow up survey – they had celebrated the release of the Iranian diplomatic hostages, witnessed the first female appointment to the U.S. Supreme Court (O'Connor) and marveled at the commercial release of portable laptop computers. But they also had been introduced to the AIDS epidemic, had experienced another economic recession and had seen endless televised replays of the near-assassination of another President (Reagan). By 1984 – the age 22 NCES follow up survey – the Late-Boomers had been buoyed by a return to economic growth and prosperity, the first voyage of the Space Shuttle Challenger, expanded access to commercial cell phone networks and the introduction of the Apple McIntosh. But they also had witnessed the Russian downing of Korean Flight 007, the Beirut Marine headquarters bombing and the Bhopal disaster.

The Late-Boomers in my study benefited to an even greater extent than their Mid-Boom peers from liberalization of the Nation's voting laws. For example, the compliance mechanisms associated with the U.S. Supreme Court's 1972 ban on durational residency requirements and the implementation of the 1975 Voting Rights Act protections for language-minority citizens were much more firmly in place at the state-level in 1982, when my Late-Boomers were first eligible to vote in a national election, than in 1976 when the Mid-Boomers were age 22.

### *Profile Summary*

These generational setting, life-cycle and period influences do not converge on a clear-cut attraction to or repulsion from the voting booth for the Late-Boomers in my study. However, the emerging profile is consistent with the expectation that Late-Boomers, on average, would be less civically engaged as young adults and, perhaps, that they would respond to a different mix of voter turnout incentives than earlier generational cohorts.

At least two circumstances no doubt improved the voter participation outlook. First, the continued ascendancy of educational attainment is consistent with the expectation that newly enfranchised Late-Boomers might vote in greater numbers than did their older brothers and sisters at the same age. Second, expanded compliance with national voting laws continued to ease their ballot box access versus prior generational cohorts at the same age.

Unfortunately, the other signs pointed downward from a voter turnout perspective. First, the blended role modeling of Greatest Generation and Silent Generation parents, although not susceptible to quantification, suggests at least impressionistically that the Late-Boom civic duty message may have softened somewhat in comparison to the Mid-Boom period – at least to the extent that Silents were the parental messengers. Other things equal, this observation is consistent with the expectation that Late-Boomers also received a less enthusiastic voter turnout signal at home, on average, than did Mid-Boomers at the same age. It is also consistent with evidenced voter turnout declines involving most age categories from 1964 onward – the key developmental period for the Late-Boomers in my study. Second, although the outward appearance is that Late-Boomers experienced no greater social or political turbulence than did their Mid-Boom predecessors, they came of age in an era in which the veracity of governmental, social and economic institutions had suffered additional broadsides. And it would not be surprising to find under the circumstances that the underlying idealism attributed to Baby Boomers as a whole (Strauss and Howe, 1991) was less in evidence for the Late-Boomers than for the Mid-Boomers. Third, it bears restating that some of the most notable events and systemic shocks were relatively contemporaneous with the Late-Boom end of high school period and 26<sup>th</sup> Amendment voter eligibility. To the extent that these experiences diminished the image of

elected officials as being part of the solution, it is reasonable to suspect that Late-Boomers might have had less enthusiasm for voting than did their Mid-Boom counterparts at the same age.

### *Late-Boomer Empirical Results*

The Late-Boomer profile provides further encouragement to zero-in on voter turnout effects associated with education and other possible influences measured during and shortly after the end of high school period. Consistent with the Mid-Boomer discussion, I organize my findings around the three principal themes addressed by my research questions: (1) educational attainment, (2) end of high school academics and sociopolitical traits and (3) sociodemographic and life-cycle characteristics. My Late-Boom age 20 analyses coincide with the 1982 NCES follow up survey. As was the case with Mid-Boomers, I am fortunate to be able to include age 22 analyses based on 1984 NCES survey data, which broaden the reach of my educational attainment measure to encompass four-year college degree completion.

#### *Educational Attainment*

*Univariate and bivariate results.* As was the case with the Mid-Boomers, my findings generally support the traditional expectation of an ascending relationship between educational attainment and voter turnout. As shown on Table 4.2a, 34 percent of the Late-Boomers in my study did not report post-high school formal education at age 20, whereas 10 percent indicated some degree of vocational training and 57 percent reported having at least some college. As indicated by Table 4.6, this pattern carried over to voter turnout. By age 20, 42 percent of the high school-only respondents had voted, compared to 50 percent of the vocational education students and 60 percent of those reporting at least some college ( $p < .001$ ). By age 22, 50 percent of the high school-only respondents had voted, compared to 58 percent of the vocational education students, 69 percent of those reporting some college and 79 percent of the college

graduates ( $p < .001$ ). Figure 4.4 further illustrates the ascending relationship between educational attainment and voter turnout, and Figure 4.5 suggests that this relationship was relatively uniform at ages 20 and 22.

*Multivariate results.* My logistic regression estimates provide new evidence of the power and resiliency of educational attainment as a young adult voter turnout predictor. Exclusive of other influences at age 20 (Table 4.7, Model 1), the voter turnout odds of a typical Late-Boomer having some vocational education were 1.4 times as high and the average voter turnout odds of respondents having some college experience were twice that of Late-Boomers in the high school or less category ( $p < .001$ ). Exclusive of other study measures (Table 4.8, Model 1), the ascendancy pattern was even more dramatic for 22 year-olds. In comparison to respondents in the high school or less category, those having some vocational education were 1.4 times as likely to have voted, whereas college students were 2.2 times as likely and respondents reporting bachelor's degrees were 3.7 times as likely to have voted ( $p < .001$ ).

The incorporation of other study measures (Tables 4.7 and 4.8, Model 5) substantially reduced the potency of educational attainment as a voter turnout predictor. At the same time, however, the power of educational attainment as a voter turnout predictor – in the presence of these other measures – was uniformly stronger for Late-Boomers at age 22 than at age 20. At age 22, for example, the voter turnout odds of a typical Late-Boomer with a four-year college degree were nearly two times as high as the odds for respondents having a high school degree or less ( $p < .001$ ). Twenty-two year-olds with some college had a 1.6 times voter turnout odds advantage and those reporting vocational education enjoyed a 1.3 times advantage versus the Late-Boom high school or less group ( $p < .001$ ).

*End of High School Academics and Sociopolitical Traits*

*Univariate and bivariate results.* Referring again to Table 4.6, these results are notable in multiple respects. For example, a moderately strong relationship between core academic achievement and voter turnout is in evidence on a bivariate basis. The voter turnout disparities in relation to reading and math achievement, which ranged from 16-18 percent at ages 20 and 22, uniformly favored voters in the highest achievement categories ( $p < .001$ ). Somewhat surprisingly, although high school civics coursework did not separate voters from nonvoters at age 20 ( $p > .05$ ), a statistically significant 29 percent gap favoring voters emerged at age 22 ( $p < .05$ ). School-type also re-surfaced as a point of difference between voters and nonvoters. Respondents who had attended Catholic and other private high schools out voted former public high school students at ages 20 and 22 by 6-12 percent ( $p < .001$ ).

The high school sociopolitical measures were highly significant and moderately large identifiers of voting and nonvoting status across the board. And the results were strikingly similar for respondents at ages 20 and 22. Daily newspaper access was associated with a 13-34 percent improvement in voter turnout at ages 20 and 22 ( $p < .001$ ). The voter turnout gap ranged from 10-49 percent favoring respondents who had participated in some form of extracurricular activities during high school ( $p < .001$ ). The gap between voters whose locus of control scores were in the upper third versus those whose scores were in the lower third was about 14 percent at ages 20 and 22 ( $p < .001$ ).

*Multivariate results.* The academic achievement findings are of particular interest. On a fully specified (Model 5) basis, a 1SD increase in high school math achievement was associated with a 7 percent increase in the odds of having voted by age 20 ( $p < .05$ ; Table 4.7, Model 5), but the relationship between high school math achievement and voter turnout was nonsignificant at

age 22 ( $p > .05$ , Table 4.8, Model 5). The reading achievement picture is exactly the opposite. As a voter turnout predictor, high school reading achievement was nonsignificant at age 20 ( $p > .05$ , Table 4.7, Model 5), but a 1 SD increase in high school reading achievement was associated with a 6 percent boost in the voter turnout odds at age 22 ( $p < .05$ ; Table 4.8, Model 5). Traditional civics coursework again receded as a voter turnout indicator ( $p > .05$ ). Although the positive Catholic high school effects observed in the bivariate findings (Table 4.6) disappeared at this level of analysis ( $p > .05$ ), the fully adjusted effects associated with other private schools (Tables 4.7 and 4.8, Model 5) were large. At age 20, the voter turnout odds of former non-Catholic private high school students were 36 percent higher than for former public high school students ( $p < .05$ ); and this advantage grew to 43 percent at age 22 ( $p < .01$ ).

The multivariate results regarding sociopolitical traits are uniformly strong (Tables 4.7 and 4.8). In my fully specified Model 5 formulations, for example, daily newspaper access during high school was associated with a 41 percent increase in the voter turnout odds at age 20 and a 46 percent increase at age 22 ( $p < .001$ ). Locus of control remained a moderate contributor to voter turnout, producing a 10 percent odds increase at ages 20 and 22 ( $p < .001$ ) in the presence of positive quadratic and SES interaction terms. The voter turnout odds increase associated with high school student government participation strengthened from 37 percent at age 20 to 73 percent at age 22 ( $p < .001$ ) for non-Hispanic respondents residing outside the South. The voter turnout odds advantages associated with nonpolitical high school club participation were 22 percent at age 20 and 25 percent at age 22. The voter turnout odds advantages associated with high school community service club participation, which may have especially benefited higher SES respondents, moved from 40 percent at age 20 to 44 percent at age 22 ( $p < .001$ ). It is noteworthy that the Model 5 regression coefficients for the principal nonathletic extracurricular



activity measures – student government, nonpolitical clubs and service clubs – all were larger at age 22 than at age 20.

### *Sociodemographic Traits and Life-Cycle Transitions*

*Univariate and bivariate results.* Approaching the matter first from a sociodemographic perspective, a threshold observation is that my Late-Boom sample was 4 percent more female and decidedly less White than my Mid-Boom sample, which exemplifies the U.S. population diversity that began to accelerate during the late 1960s and early 1970s (Table 4.2a). As shown on Table 4.6, the percentage of females who had voted by age 20 and age 22 was lower than the turnout rate of males at age 20 ( $p < .01$ ) but not at age 22 ( $p > .05$ ). Respondents from traditionally disadvantaged racial and ethnic groups consistently demonstrated lower voter turnout rates than majority Whites ( $p < .001$ ). Not surprisingly, my bivariate estimates also revealed a noticeable decline (versus Mid-Boomers) in the percentage of respondents whose primary language was English during high school (Table 4.2a). The non-English speakers out voted English speakers at ages 20 and 22 ( $p < .001$ ), which may reflect the NCES-imposed variable construction limitations detailed in Chapter 3. High school parental SES remained a stable voter turnout marker. The gaps involving voters whose parents ranked in the highest third in terms of SES were 20 percent (age 20) and 17 percent (age 22) in comparison to the voter turnout of their peers occupying the lowest tier ( $p < .001$ ; Table 4.6). The life-cycle transitions estimates (Table 4.6) emphasize the negative at this stage of the analysis. At ages 20 and 22, respondents who were married, had children, were not enrolled in school or were in the military all demonstrated lower voter turnout than their peers who differed along the same dimensions ( $p < .01$ -.001).

*Multivariate results.* High school parental SES again emerged as a meaningful voter turnout predictor. A 1 SD parental SES increase was associated with a 13 percent increase in the

voter turnout odds at age 20 ( $p < .001$ ) and a 7 percent increase at age 22 ( $p < .05$ ) in the presence of other study measures (Tables 4.7 and 4.8, Model 5). Interestingly from a diversity standpoint, my fully specified Model 5 formulations did not reveal differences in the voter turnout odds for women versus men or for Hispanics versus Whites at ages 20 and 22 ( $p > .05$ ). The negative voter turnout odds comparison between White and Black respondents observed at age 20 ( $p < .001$ ) disappeared at age 22 ( $p > .05$ ). English speaking household status in high school also receded as a voter turnout indicator at ages 20 and 22 in my fully specified models ( $p > .05$ ). Of additional interest, however, Asian Americans, which comprise the second fastest growing U.S. population segment, evidenced serious voter turnout deficits as young adults. At age 20, the voter turnout odds were 72 percent lower for Asians than for Whites, and, at age 22, the odds were 69 percent lower ( $p < .001$ ).

The life-cycle transitions results again confirm the countervailing force hypothesis. At ages 20 and 22, the voter turnout odds of Late-Boomers were damaged by nonenrollment in school ( $p < .001$ ), were improved if they were currently employed ( $p < .01-.001$ ) and were further improved if they still resided in the same community as during high school ( $p < .001$ ). Residential stability was associated with a 20-23 percent improvement in the voter turnout odds ( $p < .001$ ). The parental status estimates are also interesting. As shown on Table 4.2b, 6 percent of the Late-Boomers reported having children at age 20 and 16 percent indicated that they were parents at age 22. That the logistic regression estimates associated with parental status were nonsignificant at age 20 ( $p > .05$ ) and highly significant at age 22 (odds ratio = 0.777;  $p < .001$ ) may simply reflect the tripling of the parental group as opposed to any shift in the parental dynamic relative to voter turnout.

## Gen Xers

About 95 percent of the Gen Xers in my study were born in 1973 or 1974 (Appendix B, Table B-1). Although there are no universally agreed upon beginning and ending points for this generation, a commonly employed birth cohort range is 1965 to 1982, which is reasonably close to the 1961-1981 range employed by Strauss and Howe (1991). By either standard, my study sample resides approximately at the Gen X midpoint. As such, the Gen Xers in my study were typically born a dozen years after the Late-Boomers and 20 years later than the Mid-Boomers. As with the earlier born study cohorts, there was some age variation within the Gen X study cohort. To simplify the discussion, I refer to them as being 20 years of age in 1994 – the NCES survey year on which my Gen X empirical analyses are anchored.

### *Gen X Profile*

Strauss and Howe (1991) might contend that the Late-Boomers and Gen Xers in my study are really members of the same generation. As will be demonstrated, however, the Gen Xers represent a distinct “generation-unit” (Mannheim, 1972) based in part on differential experience and based in part their parentage. Both considerations are addressed in the narrative that follows.

### *Generational Setting*

The two cohorts that have been discussed up to this point in the study – Mid-Boomers and Late-Boomers – can be viewed more or less as brothers, sisters and acquaintances occupying the same generational space at somewhat different times and deriving their unique generational identities on the basis of differential parentage and experiences as children, adolescents and young adults. The Gen Xers in my study certainly share these distinctions with their somewhat older counterparts. But here there is an added twist. Although a small percentage of my Gen X

respondents no doubt had Silent Generation parents, they were primarily the children of Early-Boomers and a small percentage of the Mid-Boomers discussed earlier in the chapter. As such, many of the advances and cleavages that set Baby Boomers apart from prior generations – the social, political and economic turmoil of the 1960s and 1970s, the continued progression of U.S. educational attainment, the onward march of global technology and the changing sociodemographic face of America – also contextualized much of the parental legacy they handed down to Gen Xers.

There is more to the story, of course. Just as the Early- and Mid-Boomers began life with parental reference points that prized duty, honor and diligence, and celebrated the great achievements of the day, these same individuals as parents oozed the disappointments and turmoil of their own adult world. As colorfully summarized by Zukin et al. (2006): “The hand-wringing begins with images of the breakup of the traditional two-parent family and the subsequent negative impact on Xers as children ... [leaving them] with significantly less attention than that given to Boomer children” (p. 24). Drawing upon the earlier works of Holtz (1995), Lipsky and Abrams (1994) and Loeb (1994), Zukin et al. (2006) expand on the theme, noting that “the number of divorces rose ... average parent-child contact hours fell, and television was seen as the new babysitter” (p. 24). Strauss and Howe (1991) were just as blunt in characterizing Gen X as an “ill-timed lifecycle ... [suffering from] parental self-immersion or even neglect” (p. 12). As such, the emerging picture is one in which the Gen Xers likely did not benefit from the same degree of positive civics messages and role modeling that typified the home environments of Mid- and Late-Boomers.

### *Life-cycle Considerations*

In most respects, the signal life-cycle influences affecting Gen Xers represented a continuation of the general trends experienced by Late-Boomers. The U.S. population continued to age and become much more diverse along racial and ethnic lines. During the first 16 years or so of the lives of the Gen Xers in my study, the average U.S. age rose from 66 to 74 and the White share of the total population dropped by nearly 8 points. During the same time frame, although economic growth had strengthened since the turmoil of the 1970s, the personal savings rate dropped dramatically.

The Gen Xers in my study continued the trend of higher educational attainment – but not necessarily higher academic achievement in core subjects -- relative to prior generational cohorts. According to the NCES archives, there was very little difference in their demonstrated math and reading achievement relative to the Mid- and Late-Boomers (see Appendix B, Tables B-2a, B-2b and B-4). They might not have realized it the time, but *A Nation at Risk*, which was released when they were about 9 years of age, placed Gen Xers squarely in the cross-hairs of the rapidly emerging Standards Movement that provided fertile ground for the *Goals 2000* plan and subsequent initiatives, such as educational vouchers and charter schools, aimed at improving U.S. educational accomplishment and attainment.

### *Period Effects*

At age 10 (1984), the Gen Xers in my study had, at best, a limited comprehension of some of the major events that had alternately thrilled and dismayed the Mid- and Late-Boomers as teens and young adults, such as the attempted assassination of President Reagan, the downing of Korean Flight 007, the successful voyage of Space Shuttle Challenger, the introduction of the

Apple McIntosh and the Bhopal disaster. Many of the earlier triumphs and tribulations, such as the Vietnam War and Watergate were textbook lessons – if that.

Of course, the Gen Xers were destined to face a new set of complexities that would help shape their unique social and civic footprints. At age 15 (1989), the Gen Xers in my study not only had vivid memories of the Lockerbie disaster and Tiananmen Square confrontation, but they also had seen no real resolution of either matter that made sense in U.S. democratic terms. The drumbeat of domestic political scandals had continued with the 1986 Iran Contra affair and the 1989 resignation of U.S. House Speaker Jim Wright. These Gen Xers had joined the Nation in paying homage to the crew of the Space Shuttle Challenger in 1986, had witnessed the beginning of the Prozac era in 1987, and had been on the receiving end of NASA's 1988 affirmation that global warming is real. The 1989 fall of the Berlin Wall in Europe was juxtaposed against the U.S. Supreme Court's widely publicized ruling in *Texas v. Johnson* to permit nonessential U.S. flag burning that year. These same 15 year-olds no doubt sensed parental anxiety as well over the second largest DOW Jones plunge in history that occurred in 1989.

By the time they were high school seniors (1992), these Gen Xers had experienced more excitement. They had witnessed the launch of the Hubble Space telescope, the Apple PowerBook and public internet access. They had watched as Nelson Mandela departed Robben Island as a free man, and they had puzzled over the implications of the Soviet Union break-up. But they also had been exposed to televised footage of a fleeting U.S.-led war in the Middle East that more closely resembled a video game than lethal human conflict to media watchers. They lived through the devastation of Hurricane Hugo. They saw the televised political circus that engulfed the Clarence Thomas nomination to the U.S. Supreme Court. And, as evidenced by Magic Johnson, they learned that heterosexuals can get HIV too.

By 1994 – the year of the NCES survey that anchors my Gen X empirical analysis – these 20 year-olds had been uplifted by the Mandela election in South Africa only to be visually assaulted by gavel-to-gavel CNN coverage of the O.J. Simpson trial and yet another political scandal (Whitewater). They had begun to experiment with the internet, although they would not experience the true power of this technological breakthrough for some time. They also benefited from the most expansive voting law reform – “motor voter” (1993) – that had been enacted since the mid-1970s.

### *Profile Summary*

Again, the political participation message is somewhat mixed. The ever increasing educational attainment of the Gen Xers in my study and continued expansion of voting law reforms are consistent with the expectation that these young adults would vote in greater numbers than their recent generational predecessors. In most other respects, however, the mix of contextual influences encountered by the members of this study cohort does not leave one with a particular sense of optimism about the level of their initial voter turnout. As previously observed in relation to Mid- and Late-Boomers, many of the seminal events that were destined to rock the Gen X world, such as Desert Storm and the extended reach of HIV into the general population, took place at about the same time they became eligible to vote. The generational setting – including the presumed decline in constructive civics role modeling by parents – was an additional negative.

### *Gen X Empirical Results*

The Gen X profile further supports my dual study focus on education and the end of high school experience. Consistent with earlier empirical discussions, I organize my findings around the three principal themes addressed by my research questions: (1) educational attainment, (2)

end of high school academics and sociopolitical traits and (3) sociodemographic and life-cycle characteristics. My Gen X analysis targets the end of the 26<sup>th</sup> Amendment voter eligibility period, which coincides with the 1994 NCES follow up survey that was conducted when my respondents were approximately 20 years of age.

### *Educational Attainment*

*Univariate and bivariate results.* As illustrated by Figure 4.6, my results are consistent with earlier findings affirming an ascending relationship between educational attainment and voter turnout at age 20. At age 20, 40 percent of the respondents reporting high school or less had voted, whereas 44 percent of the vocational education students and 62 percent of the respondents reporting at least some college had voted ( $p < .001$ ; Table 4.9). Two additional bivariate findings are of particular interest. First, these results reside in a context in which Gen Xers exhibited a jump-shift educational attainment improvement relative to the Mid- and Late-Boomers: a 9-10 percent decrease in study participants reporting high school or less accompanied by a 9-12 percent increase in those indicating that they had received some college training (Table 4.2a). Second, as depicted by Figure 4.7, the relationship between attainment and voter turnout was non-uniform, suggesting that the civic impact of vocational education and college enrollment might differ in meaningful ways.

*Multivariate results.* My multivariate findings, which are detailed in Table 4.10, present a distinctive picture of the conditional relationships between educational attainment and voter turnout. On an unadjusted basis (Model 1), the voter turnout odds of respondents that received vocational training were 18 percent higher than those for their high school or less counterparts ( $p < .05$ ). But this advantage disappeared when high school sociodemographic measures were introduced in Model 2 and thereafter ( $p > .05$ ).



My findings are directionally similar to those for the older study cohorts for Gen Xers reporting some college at age 20. On an unadjusted basis (Model 1), the Gen Xers were 2.5 times as likely as their high school or less counterparts to have voted ( $p < .001$ ). However, the incorporation of other study measures reduced this advantage to 1.4 times in Model 5 ( $p < .001$ ). Although the reduced college advantage was still highly impactful as a voter turnout predictor, these findings reinforce the view that other study measures were important contributors to the voter turnout odds as well.

#### *End of High School Academics and Sociopolitical Traits*

*Univariate and bivariate results.* As revealed by Table 4.2b, the distribution of Gen Xers along the math achievement and reading achievement dimensions was similar to that exhibited by the Mid- and Late-Boomers. As shown on Table 4.9, the gap between voters in the upper third of math and reading achievement was 21-22 percent versus voters occupying the lowest third ( $p < .001$ ). Although the voter turnout effect for respondents who had attended non-Catholic private high schools was non-significant ( $p > .05$ ), on average, former Catholic high school students out-voted their public high school counterparts by about 8 percent ( $p < .001$ ). The civics coursework findings are notable in two respects. As shown on Table 4.2b, the percentage of Gen Xers taking six or more semesters during high school – 77 percent – was 37 percent higher than that of Late-Boomers and 21 percent higher than that of Mid-Boomers. In contrast to earlier bivariate findings, which revealed no significant voter turnout differences along the civics dimension at age 20, here prior civics coursework was significantly associated with voter turnout. Among respondents who completed 6 or more semesters, voters outnumbered nonvoters by 13 percent ( $p < .001$ ).

The bivariate findings pertaining to Gen X sociopolitical traits present no surprises along the previously examined dimensions. Daily newspaper access and extracurricular activities were all positively associated with voter turnout at age 20 ( $p < .001$ ). The locus of control gap separating voters in the upper and lower thirds was 10 percent ( $p < .001$ ).

As indicated by Table B-9 (Appendix B), U.S. commercial internet access emerged after the completion of the Late-Boom NCES data collection waves used in my study. The Gen X measure permitted me to take an initial look at the personal computer use of this study cohort. As shown on Table 4.2b, the reported frequency of daily personal computer use for non-school purposes – 20 percent – was quite small by present-day standards. On a bivariate basis, the voter turnout of daily computer users lagged that of their peers to a small degree ( $p < .001$ ; Table 4.9).

*Multivariate results.* My fully specified logistic regression findings (Table 4.10, Model 5) present an interesting and somewhat puzzling mosaic of the relationship between high school academics and voter turnout at age 20. In line with expectations, a 1 SD increase in reading achievement was associated with a 27 percent increase in the voter turnout odds ( $p < .001$ ). However, math achievement emerged as a slightly negative voter turnout predictor – accounting for an 8 percent odds reduction – when the high school sociopolitical traits (Model 4) and life-cycle transitions measures (Model 5) were included ( $p < .001$ ). The diagnostic tests reported in Appendix A did not reveal collinearity issues involving either the math or reading achievement measures. Removal of the math achievement quadratic term, which I added to the Gen X model structure based on the nonlinearity diagnostic tests detailed in Appendix A, made no difference in the directionality or statistical significance of the math achievement measure and reduced the size of the coefficient (i.e., increased the magnitude of the effect) almost imperceptively (i.e., odds ratio change = 0.004). Removal of the reading quadratic term, which I also added to the

model structure based on the nonlinearity diagnostic tests, made no meaningful difference in the directionality or magnitude of the reading or math achievement coefficients.

Consistent with the bivariate findings (Table 4.9), formal civics coursework emerged as a positive voter turnout predictor. The age 20 voter turnout odds of Gen Xers who took six or more semesters of formal civics coursework during high school were 1.3 times those of their peers ( $p < .001$ ).

The multivariate school-type findings also are attention grabbers. In contrast to the bivariate findings (Table 4.9), Catholic high school attendance was not associated with age 20 voter turnout in the presence of other study measures ( $p > .05$ ; Table 4.10, Model 5). Somewhat surprisingly, the voter turnout odds of Gen Xers who attended other types of private high schools were a third lower than those of former public school students ( $p < .001$ ; Table 4.10, Model 5). As can be seen by comparing the Model 3-5 odds coefficients (Tables 4.10), these results did not change appreciably based on the introduction of high school sociopolitical traits or life-cycle transition measures. Moreover, supplemental analyses, in which I modeled the high school academic measures only in the presence of the educational attainment measures, still produced a nonsignificant Catholic school effect ( $p > .05$ ) and a 28 percent voter turnout odds deficit for other private school students versus former public high school students ( $p < .001$ ).

My logistic regression findings relative to high school sociopolitical traits also are notable. For example, high school student government participation ( $p < .05$ ) and high school nonpolitical club participation ( $p < .001$ ) were both positive predictors of age 20 voter turnout in the presence of other study measures. The 38 percent odds improvement associated with nonpolitical club participation was especially striking.

Gender also entered the sociopolitical traits picture in a potentially powerful way. The daily newspaper access and high school service club measures were both nonsignificant predictors of age 20 voter turnout ( $p > .05$ ). However, the gender-based interaction terms for both items, which were prompted by my nonadditivity diagnostic tests (see Appendix A), were highly significant, meaning that daily news access and service club participation were positive voter turnout indicators for females but not necessarily for males.

Personal computer use during high school rounds out the sociopolitical considerations. In contrast to the bivariate results (Table 4.9), which pointed to a negative relationship between high school computer use and age 20 voter turnout, the multivariate results suggest that the voter turnout odds of Black respondents were improved by daily personal computer use ( $p < .05$ ), whereas the voter turnout odds of non-Black respondents as a group were unaffected by personal computer use ( $p > .05$ ).

#### *Sociodemographic Traits and Life-Cycle Transitions*

*Univariate and bivariate results.* The Gen Xers in my study reflected the continued march toward U.S. racial and ethnic diversity. As shown on Table 4.2a, the proportion of White respondents (72 percent of the total) was down 10 percent in relation to the Mid-Boom cohort. This was offset by corresponding increases in the Gen X minority categories in which Black respondents represented 12 percent, Hispanics represented 10 percent and Asians represented 4.5 percent of the total. As detailed on Table 4.9, minority respondents seriously lagged their White peers in voter turnout at age 20 ( $p < .001$ ). Consistent with earlier findings, parental SES during high school was positively associated with respondent voter turnout at age 20 ( $p < .001$ ). My bivariate Gen X results revealed a moderately positive association between primary language during high school and voter turnout at age 20.

In comparison to the other study cohorts, Gen Xers also demonstrated a marked decline in the marriage rate (7 percent of Gen Xers versus 24 percent of Mid-boomers) as well as an increase in the number of respondents enrolled in school at age 20 (59 percent of Gen Xers versus 41 percent of Mid-Boomers). Marriage and non-enrollment were joined by parenthood and active military service as negative bivariate voter turnout indicators at age 20 ( $p < .001$ ; Table 4.9). These findings were offset to a degree by the positive association between current employment and voter turnout at age 20 ( $p < .05$ ).

*Multivariate results.* The high school parental SES measure was a prominent voter turnout predictor. On average a 1 SD increase was associated with a 19 percent increase in the voter turnout odds ( $p < .001$ ; Table 4.10). My logistic regression estimates also provide little cause for celebration along the gender or race/ethnicity dimensions. The voter turnout odds of female Gen Xers at age 20 were 30 percent lower than for males ( $p < .001$ ). In comparison to Whites, the voter turnout odds were 24 percent lower for Blacks, 27 percent lower for Hispanics and 71 percent lower for Americans of Asian descent ( $p < .001$ ). Not surprisingly, given my univariate and bivariate findings, English language status emerged as a powerful voter turnout predictor. The turnout odds were 55 percent higher for respondents whose primary home language during high school was English than for others ( $p < .001$ ).

The life-cycle transitions measures again attest to the countervailing forces at work. Having children and not being currently enrolled in school at age 20 were negatively associated with voter turnout, whereas current employment at the time of the NCES survey was positively associated with voter turnout ( $p < .05$ -.001). For the Gen Xers in my study, marital status was unrelated to the voter turnout odds ( $p > .05$ ).

## Millennials

About 97 percent of the Millennials in my study were born in 1985 or 1986 (Appendix B, Table B-1). As with the other generational cohorts in my study, there is no universally accepted beginning or ending point for the Millennials. However, most commentaries, including Strauss and Howe (1991), place the initial birth year in the early 1980s. This situates my study sample toward the early end of the Millennial continuum.

### *Millennial Profile*

As noted by several scholars (see Strauss and Howe, 1991, 2000; Zukin et al., 2006), the Millennial Generation was received with enthusiasm and high expectations when its members began arriving in hospital delivery rooms during the early 1980s. The 18-20 year-old voter turnout improvements evidenced in the 2008 and 2012 presidential elections provide at least momentary cause for celebration from a civic development standpoint. Here I confine the discussion to the slightly earlier 2004-2006 period that corresponds to the most recent release of NCES survey data. As such, my analysis should be viewed as a first installment that will be augmented as additional NCES data releases occur.

### *Generational Setting*

The Millennials in my study primarily were the offspring of Late-Boomers, and, to a lesser degree, Mid-Boomers, meaning that this is the only study cohort to be wholly contained within the scope of the NCES Secondary Longitudinal Study data that have been released to date. Like the Gen Xers in my study, the Millennials had a Boomer-tinged parental legacy. But in contrast to the Gen Xers, the Millennial “inheritance” was primarily of Late-Boom vintage.

This distinction is consequential in at least three respects. First, more than any preceding group of post-World War II parents, Millennial parents reflected the rapidly accelerating racial

and ethnic diversity of America – particularly the explosive growth of Hispanics and the trend toward racially and culturally diverse families. Referring to the work of Howe and Strauss (2000), Zukin et al. (2006) observed, for example, that “one-fifth [of Millennials] have parents who are immigrants and 1 in 10 has at least one parent who isn’t a citizen” (p. 37). This trend also is revealed in my study samples in which 62 percent of the Millennial respondents were White (versus 83 percent of the Mid-Boomers), 15 percent of the Millennials were Hispanic (versus 4 percent of the Mid-Boomers), and 87 percent of the Millennials reported English as their primary home language during high school (versus 92 percent of the Mid-Boomers) (Table 4.2a).

Second, Millennial parents are type-cast as having been much more nurturing than their Gen X parental predecessors. As noted by Strauss and Howe (1991), the parental distinction is consequential:

Not since the early 1900s have older generations moved so quickly to assert greater adult dominion over the world of childhood – and to implant civic virtue in a new crop of youngsters. ... Fueling this adult mission toward the Millennial generation is palpable (mainly Boom) disappointment in how the 13<sup>th</sup> [Gen X] is turning out, and second thoughts about how 13ers [Gen Xers] were raised (pp. 335-337).

In line with this assessment, Zukin et al. (2006) characterized Millennial parents as being much more “coddling” than their recent predecessors, punctuating the popular stereotype of highly engaged “soccer moms” and “soccer dads.”

Third, Millennial parents raised their families in an educationally-privileged setting compared to that which typified their own upbringing. For example, the high school and college completion rates were roughly 41 percent and 8 percent, respectively, when the Late-Boomers in my study were born. When their Millennial children entered the world, the comparable completion rates had risen to about 72 percent and 19 percent (Appendix B, Tables B-2a and B-

2b). Given their overall attentiveness to the parenting mission, it is reasonable to expect that Millennial parents, on average, leveraged their educational accomplishments to a greater extent than did their recent predecessors in creating learning-rich home environments for their children.

### *Life-cycle Considerations*

In many respects, the Millennials happened along at a fortuitous moment. By the time they entered first grade (1992), education reform efforts – symbolized by the 1983 publication of *A Nation at Risk*, the 1989 Charlottesville Education Summit and the Goals 2000 initiative – had matured and sharpened the focus on standards and accountability. New structural approaches, such as charter schools, were beginning to emerge. As observed more generally by Howe and Strauss (2000), “the 1990s became the first decade since the 1920s in which federal spending on kids rose faster than spending on working-age adults or elders. Through the first half of the 1990s, real federal spending per child jumped 37 percent, more than twice the rate for the elderly” (p. 111). This influx of public spending was accompanied by relative economic prosperity throughout the childhood and adolescence of the Millennials in my study. Although the personal savings rate continued to plummet and there was a momentary economic contraction in 1991, inflation generally remained in check, personal income growth was robust and unemployment stayed in the moderate- to low-range. Not surprisingly, Millennials, on average, continued the march toward ever higher educational attainment levels within this environment.

Like their parents, the Millennials also negotiated their childhoods and adolescences in an environment that was typified by rapidly accelerating racial and ethnic diversity as well as growing gender equality. Not surprisingly, they exhibited a higher degree of social tolerance and liberal social values than has been commonly associated with their generational predecessors,



simultaneously propelling them toward government remedies and away from partisan attachments (see Zukin et al., 2006, pp. 157-170).

### *Period Effects*

The most dramatic period influence shaping the pre-adult development of Millennials was new communications technology. Millennials were, in fact, the first generational cohort to grow up entirely under the watchful eye of the Worldwide Web, which became available for public use when they were about 5 years-old (1991). The new communications platform was supported by equally dramatic improvements in hardware and connectivity – from the advent of DVDs, video streaming and online commercial transactions in the mid-1990s to Facebook, Twitter and smartphones in the early 2000s. By the time the Millennials in my study were high school seniors, electronic communication was *derigueur*, bringing rise to their alternate generational moniker, Dot-Nets. The basic thesis advanced by Dalton (2009), Zukin et al. (2006) and others is that the new communications technology tends to favor non-traditional forms of political expression – such as chat rooms and online petitions – over voting. As discussed elsewhere in this paper, however, the literature remains divided on this point.

At least in a virtual sense, this new technology connected Millennials to the major events occurring during their formative years in a much more powerful and immediate way than was possible when their TV generation elders were negotiating the transition from childhood to adulthood. The 1999 impeachment proceedings involving President Clinton and the U.S. Supreme Court adjudication of the 2000 presidential election infused domestic political discord on the video screens of mid-teen Millennials, just as real-time coverage of the 1999 Columbine shootings created personalized connections to that tragedy in schools and homes across the Nation. The 2000 announcement that the human genome map had been completed was offset by

the declaration of AIDS as a national security threat. But the biggest jolt was 9/11, which streamed live on video screens around the world when the Millennials in my study were 15 years-old.

As high school juniors and seniors, these Millennials received further jolts that were hurled at the ever increasing velocity of the internet and contextualized by social networks, such as Face Book. They observed and re-observed the Space Shuttle Columbia explosion in graphic detail. They learned that an obscure virus appearing in Asia one day (SARS) somehow created a pandemic in London, New York and other global reaches the next. They were confronted by the reality that the weapons of mass destruction on which the Iraq War was publicly premised were nowhere to be found and that there was no verifiable collaboration between the deposed Iraqi leader, Saddam Hussein, and the Al Qaeda terrorists who knocked down the World Trade Center buildings. They saw the devastation of Katrina and the disappointing governmental response.

By the time these Millennials, at age 20, participated in the 2006 NCES survey that anchors my empirical analyses, they had seen the “War on Terror” mushroom on multiple domestic and international fronts. They had been bombarded by wholesale changes in domestic security procedures and the erosion of personal privacy safeguards. The *Time Magazine* person of the year in 2006 was “You” in commemoration of worldwide internet use that had surpassed the billion person mark. Although there were no major changes in the federally imposed voting rules during their upbringing, the Millennials nonetheless benefited from additional state actions to liberalize the absentee and early voting procedures (see National Association of State Secretaries of State (NASS), 2012; NCSL, 2012) – changes that were particularly impactful for highly mobile young adults.

*Profile Summary*

Strauss and Howe (1991) advance a cyclical theory of generational identity formation, suggesting, among other things, that Millennials may have more in common with the G.I./Greatest Generation from a civic engagement standpoint than with the post-26<sup>th</sup> Amendment generational cohorts to which they more frequently are compared. In important ways, the emerging Millennial profile is consistent with that view. The nurturing and role modeling attributed to Millennial parents is consistent with the formation of attitudes, values and behaviors that are commonly thought to underlie many forms of civic engagement. A large body of theory and research suggests that the continued improvement in educational attainment demonstrated by Millennials should connect them more powerfully to the voting booth than their recent generational predecessors at the same age. Due to continued liberalization of the voting rules, Millennials enjoyed greater and easier ballot box access as 18-20 year-olds than did any prior generational cohort at the same ages. Despite divisions in the literature regarding the impact of new technology on voter turnout, there is broad agreement that the allure of new technology naturally draws Millennial attention toward the public sphere.

Other elements of the Millennial profile point in the opposite direction. In particular, the shifting racial and ethnic composition of America, which is most clearly exhibited in my study by the Millennial cohort, is suggestive of further voter turnout declines if traditional participation patterns go on unchecked (Census, 2006c, 2009a). New technology, which exposes the frailties of social and political institutions as well as their strengths, also can fuel political estrangement – especially when key political failures are fresh in mind at election time. The Millennials in my study had a lot to chew on when they approached their first national election in 2004. But, on

balance, the overall message is a hopeful one as regards the expected civic participation of the Millennials in my study.

### *Millennial Empirical Results*

The Millennial profile further supports my dual study focus on education and the end of high school experience. I again organize my findings around the three principal themes addressed by my research questions: (1) educational attainment, (2) end of high school academics and sociopolitical traits and (3) sociodemographic and life-cycle characteristics. My Millennial analysis targets the age 20 end of 26<sup>th</sup> Amendment voter eligibility period, which coincides with the 2006 NCES follow up survey.

#### *Educational Attainment*

*Univariate and bivariate results.* These results, which again affirm the ascending relationship between educational attainment and voter turnout, reside in a context in which Millennials demonstrated the highest same-age educational attainment of any of my study cohorts. At age 20, 23 percent of my respondents indicated that they had not continued their formal educations beyond high school, whereas 2 percent reported vocational training and 75 percent reported having completed at least some college (Table 4.2a). As shown on Table 4.11, the bivariate relationships between educational attainment and voter turnout were pronounced. By age 20, 39 percent of the respondents electing not to continue their formal educations past high school had voted, whereas 44 percent of vocational education students and 63 percent of the respondents reporting some college had voted ( $p < .001$ ). Figures 4.8 and 4.9 affirm the ascending but irregular pattern produced by these turnout percentages.

*Multivariate results.* For Millennials, the relationship between vocational training (versus high school or less) and voter turnout at age 20 was nonsignificant ( $p > .05$ ; Table 4.12).

Also of interest, the magnitude of the relationship between college experience (versus high school) and voter turnout declined substantially when other predictors and covariates were added to the model mix. On a standalone basis (Table 4.12, Model 1), Millennials having some college experience were 2.8 times more likely to have voted by age 20 than were their high school or less educated peers ( $p < .001$ ). In the presence of all other study variables (Table 4.12, Model 5), however, the college advantage was cut in half ( $p < .001$ ).

*End of High School Academics and Sociopolitical Traits*

*Univariate and bivariate results.* As discussed in Chapter 3, these results are exclusive of civics coursework. The voter turnout disparities associated with math and reading achievement again strongly favored respondents in the highest third of academic performers ( $p < .001$ ). Former Catholic and non-Catholic private high school students out-voted their public high school peers by 9-12 percent at age 20 ( $p < .001$ ).

The bivariate findings along the sociopolitical dimension further underscore the importance of literacy and extracurricular activities as voter turnout indicators. For example, of respondents who had daily newspaper access, the gap between voters and nonvoters was 21 percent ( $p < .001$ ). Age 20 voter turnout was consistently higher among respondents who engaged in some form of extracurricular activities during high school High school ( $p < .001$ ). In addition, daily personal computer use for non-school purposes during high school was positively associated with age 20 voter turnout. Among the daily personal computer users, voters outnumbered nonvoters by about 25 percent ( $p < .001$ ; Table 4.11).

*Multivariate results.* Math achievement, which was unrelated to voter turnout in the presence of the educational attainment, other academic, sociodemographic and sociopolitical measures, became a slight negative predictor of age 20 voter turnout with the inclusion of life-

cycle transition measures. In my fully specified model (Table 4.12, Model 5), a 1 SD increase in high school math achievement was associated with a 7 percent reduction in the voter turnout odds at age 20 ( $p < .05$ ). In marked contrast, high school reading achievement improved the age 20 voter turnout odds by 16 percent ( $p < .001$ ; Table 4.12, Model 5). Also of interest, the school-type measures were nonsignificant predictors of age 20 voter turnout in all of the Table 4.12 models in which they appeared ( $p > .05$ ). Daily newspaper access during high school and the high school locus of control measure were modest predictors of age 20 voter turnout ( $p < .001$ ). High school student government and nonpolitical club participation were again dependable predictors of age 20 voter turnout ( $p < .001$ ). Although the service club measure was nonsignificant ( $p > .05$ ), the female\*service club interaction term was significant (odds ratio = 1.297;  $p < .05$ ), meaning that such clubs boosted the age 20 voter turnout odds for females but not necessarily for males.

Of particular interest, non-school-related daily personal computer use during high school was associated with a 16 percent increase in the age 20 voter turnout odds ( $p < .001$ ; Table 4.12, Model 5). On its face, this finding, which is in line with my bivariate results (Table 4.11), challenges the literature in at least two important ways. First, it runs counter to studies suggesting that heavy personal computer use is isolative. Second, my finding goes somewhat against the grain in relation to studies suggesting that new technology may attract young adults to nontraditional modes of political expression at the expense of voting.

### *Sociodemographic Traits and Life-Cycle Transitions*

*Univariate and bivariate results.* It bears restating that Millennials comprised the most racially diverse of any of my generational cohort groupings. The 62 percent White share of these NCES respondents was 20 percent lower than that of the Mid-Boomers (Table 4.2a). Although the share of all minority subgroups was generally higher for Millennials than for the older study

cohorts, the Hispanic percentage is especially striking because it is the only instance in my study in which Hispanic respondents (15 percent) outnumbered Black respondents (13 percent). Not surprisingly, there was a marked decline in the percentage of Millennial respondents who reported English as their primary home language during high school (87 percent) versus Mid-Boomers (92 percent). Consistent with earlier bivariate results, the voter turnout percentages (Table 4.11) differed markedly along the race/ethnicity dimension, generally favoring White respondents ( $p < .001$ ). Although the percentage of Black Millennial voters did not differ significantly from the percentage of non-Black voters overall, it remained well below that of Whites. High school parental SES again revealed itself as a consistent and positive age 20 bivariate voter turnout indicator ( $p < .001$ ).

Consistent with the overall generational profile of the Millennials, fewer were married (3.8 percent) and more remained enrolled in a post-high school formal educational program at age 20 (39 percent) than was the case for the earlier born cohorts in my study (Table 4.2b). On a bivariate basis, respondents who reported being married, having children, not being enrolled in school or serving in the military at age 20 voted in lower percentages than their peers who differed on these characteristics ( $p < .001$ ).

*Multivariate results.* The findings along racial and English fluency lines are even more striking from a multivariate perspective. Here we observe the age 20 voter turnout odds for Black respondents to have been 27 percent higher than for Whites in the presence of other study measures ( $p < .001$ ; Table 4.12, Model 5). In marked contrast, the voter turnout odds for Hispanic respondents were 31 percent lower and the voter turnout odds for Asian respondents were 62 percent lower than for their White counterparts at age 20 ( $p < .001$ ). English speaking household status during high school also was an important age 20 voter turnout predictor (odds ratio =

1.665;  $p < .05$ ). High school parental SES again resided quietly in the background as an 11 percent voter turnout odds booster ( $p < .01$ ; Table 4.12, Model 5).

Delayed young adult life-cycle transitions also typify my Millennial cohort. Perhaps due in part to their low marriage rate, the voter turnout penalties associated with marriage and having children were nonsignificant in my fully specified logistic regression model ( $p > .05$ ; Table 4.12, Model 5). The voter turnout odds of Millennials who were not enrolled in a formal education program at age 20, on the other hand, were 36 percent lower than for their student peers ( $p < .001$ ). Recalling Table 4.2b, the Millennial marriage rate was the lowest and the post-high school student enrollment rate was the highest for any of my study cohorts.

### Discussion

From a voter turnout perspective, the generational profiles and empirical findings reveal striking similarities and differences between the Mid-Boom, Late-Boom, Gen X and Millennial cohorts. In proceeding to the general discussion of my micro-findings, it is important to bear in mind that there are two important interpretive limitations at this stage of the analysis. First, it bears restating that the generational profile narratives are impressionistic and not typically subject to quantification. Their overall purpose is to broaden the contextual reach and interpretation of my empirical findings – not to compete with or replace them. Second, it is not appropriate to numerically compare my micro-model logistic regression coefficients across generational cohorts. My priority at this stage of the analysis is to optimize the model structure for each generational cohort. As discussed in Chapter 3, not all study measures were available in all NCES datasets, and my diagnostics led as well to the inclusion of a different mix of quadratic and interaction terms across cohorts. My macro-models, which are discussed in Chapter 5, correct for these differences. Here I address the three micro-questions before concluding the



chapter with a brief account of the theoretical implications of my findings and their relevance to Brody's (1978) "puzzle of political participation."

### *Educational Attainment*

The generational profiles highlight the constant march of ascending educational attainment levels across time and generational cohorts. Given the superordinate role that typically is assigned to educational attainment as a voter turnout predictor in the literature, I begin the discussion with this question: *In what manner and to what degree does educational attainment – here defined as high school completion or less, vocational education experience, college attendance or college completion -- predict the election turnout of 26<sup>th</sup> Amendment eligible voters?* The reported findings crystalize around two fundamental considerations: the overall robustness and the irregularity of educational attainment as a voter turnout predictor.

### *Robustness*

Consistent with theoretical and empirical expectations, educational attainment emerged as a consistent and very influential component of the young adult voter turnout mosaic. Educational attainment not only was a central consideration in the sociopolitical profile of each generational cohort; it entered the picture in two ways. One, there was a pronounced ascending relationship between the generational recency and educational attainment of my respondents. Two, the same ascending relationship applied to the generational placement of their parents. The Chapter 2 discussion affirmed the broadly held view that the educational attainment of individuals and the educational attainment of their parents are both influential in the voter turnout calculus. My empirical findings clearly connected educational attainment to the ballot box from both perspectives. But these findings also offered a more contingent view of the power

of educational attainment as a voter turnout predictor than is sometimes portrayed in the literature – especially at the relatively higher attainment levels.

*Parental educational attainment.* My SES measure, which takes parental educational attainment prominently into account, was uniformly significant and positively associated with respondent voter turnout across study cohorts. On a bivariate basis, the average SES of voters' parents was routinely higher than that of nonvoters' parents ( $p < .001$ ). On a multivariate basis, a 1 SD increase in parental SES was associated with a 7-19 percent voter turnout odds advantage at ages 20 and 22 ( $p < .05$ -.001) in the presence of other study measures.

*Respondent educational attainment.* Here we are presented with a somewhat mixed picture. With the possible exception of Late-Boomer vocational education at age 20 ( $p > .05$ ), the bivariate results demonstrated a consistently ascending pattern in the relationship between educational attainment and voter turnout.

To more systematically gauge the predictive power of educational attainment, it is helpful to compare the multivariate results obtained when educational attainment was introduced as a standalone predictor of voter turnout (Model 1) versus the results obtained when attainment effects were estimated in the presence of all other study measures (Model 5). When my study respondents were age 20, the Model 1 voter turnout odds advantage associated with vocational training (versus high school) ranged from nonsignificance to a highly significant 1.3 multiplier ( $p < .001$ ); the comparable Model 5 range was nonsignificance to a 1.2 odds multiplier ( $p < .001$ ). The age 20 Model 1 voter turnout odds boost for participants reporting some college ranged from 2.1-2.8 X ( $p < .001$ ), whereas the comparable Model 5 range was 1.3-1.7 X ( $p < .001$ ).

The age 22 differences, which reflect the inclusion of bachelor degree completion as a separate educational attainment sub-classification, were even more pronounced for the Mid- and

Late-Boomers to which these results apply. The 1.3-1.4 Model 1 vocational training odds ratio range was slightly higher than the 1.2-1.3 Model 5 odds ratio range ( $p < .001$ ). But the differences became more pronounced at the relatively higher attainment levels. The Model 1 odds ratio multiplier range for respondents reporting some college was 2.2-2.5, whereas the comparable Model 5 range was only 1.6-1.8 ( $p < .001$ ). The Model 1 odds ratio multiplier range for respondents reporting the completion of a four-year degree was 3.7-3.9 versus the 1.9-2.5 Model 5 range ( $p < .001$ ).

### *Irregularity*

The non-uniformity of educational effects is familiar in many contexts, such as the typical learning “curve” that has an initially steep slope and levels off as mastery is approached, or the artificial ceiling and floor effects often associated with standardized testing regimes. My findings suggest that the irregularity of educational attainment as a voter turnout predictor is often concealed by empirical methods. As emphasized throughout this investigation, a common shortcoming of prior research devoted in part to unlocking the relationship(s) between education and voting is that education is typically confined to a single attainment measure that either captures total years or the highest degree received. The associated -- and frequently unstated -- assumptions are that the political effects of education are uniform as well as non-content and non-venue specific. My findings suggest otherwise.

My findings exposed bivariate and multivariate patterns that are consistent with the impression that educational attainment effects on young adult voter turnout may vary by school classification – in this instance, vocational education versus college. My bivariate results are most vividly depicted by Figures 4.3, 4.5, 4.7 and 4.9, which show that, with the possible

exception of Late-Boomers, the observed relationships between voter turnout and educational attainment differed along these lines as well as between generational cohorts.

These observations are given a numerical boost by my age 22 multivariate estimates. On a standalone basis, the disparity between some college and vocational education was associated with a 112 percent difference in the voter turnout odds, whereas the disparity between college degree attainment and only some college was associated with a 140 percent difference in the voter turnout odds for Mid-Boomers (Table 4.5, Model 1). The corresponding differences for Late-Boomers were 82 percent and 151 percent (Table 4.8, Model 1). On a fully specified (Model 5) basis, the differences were understandably smaller but still noticeable for Mid-Boomers (59 and 65 percent, respectively; Table 4.5) and Late-Boomers (29 and 37 percent, respectively; Table 4.8).

These patterns raise the possibility that voter turnout may be affected both by venue and content differences. As discussed, this is best represented in my study by the observed differences involving vocational training and college attendance. Going forward, however, technology may present an even bigger challenge on venue and educational content grounds. As noted by *Education Sector* (ES Select, 2012), “for the past nine years, online enrollments in higher education have grown faster than overall enrollment throughout higher education.” Moreover, the University of Phoenix “online campus” – an accredited institution that grants a wide range of associate, baccalaureate and graduate degrees and boasts a total enrollment exceeding 300,000 students – is by far the Nation’s largest institution of higher learning (NCES, 2012). The literature discussed in Chapter 2 that connected young adult voter turnout to social capital and campus-focused mobilization efforts, cause one to wonder whether the voter turnout incentives associated with a predominately online venue differ from those associated with the

more traditional college campus environment. One is also left to wonder whether online degree programs, which frequently are more vocationally focused than traditional college degree programs, embody different voter turnout incentives from a content perspective. To accurately gauge the impact of educational attainment on voter turnout, voting studies should take such differences into account.

*End of High School Academics and Sociopolitical Traits*

There are several reasons to suspect that the often overlooked end of high school period is consequential in accounting for young adult voter turnout. First, U.S. citizens typically surpass the 26<sup>th</sup> Amendment's age 18 minimum as high school seniors. Second, the end of high school period roughly coincides with what Mannheim (1972) referred to as "the point where personal experimentation with life begins" (p. 115). Voting in local, state and national elections certainly qualifies as an important component of the democratic life experiment. Third, formal civics training traditionally culminates during the junior or senior years of high school. As newly enfranchised voters, 18 year-olds typically are the beneficiaries of the most recent democratic training -- whether or not they opt to continue their formal educations past high school. Fourth, the profiles of all of the generational cohorts in my study reveal that several important and civically relevant events and systemic shocks were clustered within and just after the high school period. These considerations prompt the question: *Inasmuch as end of high school is a common educational denominator for a very large percentage of 26<sup>th</sup> Amendment eligible voters, to what extent do the academic and sociopolitical traits associated with that period affect the probability of voting?* Here it is helpful to pay separate attention to the academic and sociopolitical components.

*Academics*

Each of the generational cohorts yielded substantial evidence that educational attainment is mediated to an important degree by end of high school academics, which, in my study, are represented by math and reading achievement, civics coursework and high school-type.

*Math and reading achievement.* My bivariate results uniformly confirmed that the age 20 and age 22 voters in my study outperformed their peers on both math and reading achievement when they were in high school. The multivariate results portrayed a more contingent picture – especially for math. High school math achievement, which boosted the voter turnout odds of Mid- and Late-Boom 20 year-olds by 6-8 percent, reduced the turnout odds of Gen X and Millennial respondents by 7-8 percent in my fully specified logistic regression formulations (Model 5).

My findings suggest that reading achievement was much more powerfully and consistently connected to voter turnout than was math achievement for the young adults in my study. With the exception of Late-Boom 20 year-olds, reading achievement was a dependable voter turnout booster. At age 20, a 1 SD increase in high school reading achievement increased the voter turnout odds of Mid-Boomers, Gen Xers and Millennials by 10-27 percent (Model 5). And, at age 22, the boost was 6 percent for both Mid- and Late-Boomers, which is especially notable in light of the nonsignificant coefficient for Late-Boomers at age 20. Although daily newspaper access can in part be viewed as an affluence indicator, this measure just as importantly touches on attentiveness and literacy. My bivariate findings revealed that, on average, the respondents in every study cohort who had daily newspaper access during high school outvoted their peers at age 20 ( $p < .001$ ), although the multivariate results provide some

indication that the positive contribution of news access to voter turnout may have been most pronounced for women and higher SES respondents.

*Civics coursework.* As discussed in Chapter 3, my civics coursework measure, which places the cut-point at six semesters taken between the sophomore and senior years, is not available in the public-use dataset for Millennials. On a bivariate basis, the age 20 Gen Xers who met the six semester threshold typically out voted their peers ( $p < .001$ ), whereas the Mid- and Late-Boomers did not ( $p > .05$ ). Interestingly, however, my results revealed a positive bivariate effect for Late-Boomers at age 22 ( $p < .05$ ). On a multivariate basis, only the Gen Xers demonstrated any benefit from civics coursework as a voter turnout booster. At age 20, the completion of six or more semesters of civics coursework was associated with a 25 percent increase in voter turnout odds ( $p < .001$ ; Table 4.10, Model 5).

These findings are subject to multiple interpretations and raise more questions than they answer. First, as indicated on Table 4.2b, a much higher percentage of Gen Xers met the six semester threshold than did Boomers. It is possible that my findings simply reflect shifting high school graduation requirements that have placed greater emphasis on academic performance, in general, and civics course work, in particular, over time. Second, as noted by Niemi and Junn (1998) and others, there has been an increasing emphasis on activity-based and community-focused civics and service requirements since the publication of Langton and Jennings' (1968) Boom-era study questioning the value of traditional civics coursework. It is possible that my findings reflect that shift in emphasis. In any event, this is an aspect of my investigation that underscores the need for further research.

*High school-type.* On a bivariate basis, my findings support the contentions of many school-choice advocates that private schools do a better job than public schools in preparing

students for their adult citizenship roles. In general, the respondents who attended public high schools can be seen to have voted in lower percentages than their former Catholic and non-Catholic private high school peers at age 20 and, in the case of the Mid- and Late-Boomers, at age 22 as well.

As is often the case, however, the devil is in the details – in this instance, the empirical details. My multivariate estimates revealed that the voter turnout odds of former Catholic school students did not differ from those of former public high school students at age 20 or, in the case of the Mid- and Late-Boomers, at age 22 ( $p > .05$ ). The non-significance of the non-Catholic private high school effect for Mid-Boomers may simply reflect the very small cell count (1 percent; Table 4.2b) for that study sample. More notably, the voter turnout effect associated with other private schools was nonsignificant for Millennials who exhibited a much higher (4 percent) cell count ( $p > .05$ ). Even more interesting, the voter turnout odds for Late-Boomers who attended non-Catholic private high schools were higher than those of former public school students at age 20 and age 22 ( $p < .05$ -.01), whereas the voter turnout odds associated with non-Catholic private high school attendance were 34 percent lower in relation to the odds associated with former public high school students for the Gen Xers in my study ( $p < .001$ ). Clearly, there is more to this story, including probable selection effects, than can be divined from my study results.

From a micro-perspective, my school-type results support at least four general observations. First, school choice studies – both pro and con – are sometimes criticized for failing to include adequate empirical controls. At least in regard to young adult voter turnout odds, my findings affirm that such controls – especially those involving sociodemographic traits – matter a great deal. The differences between my bivariate and multivariate results can be



attributed at least in part to the fact that high school-type entered my logistic regression equations in the Model 3 formulations -- after basic controls for educational attainment, gender, race/ethnicity, parental SES, English language status, region and urbanicity already had been imposed. Second, my multivariate results do not lend support to the contentions of some scholars that the supposedly social capital-rich environment of Catholic schools (versus public schools) necessarily promotes civic engagement. Third, my multivariate findings suggest that the voter turnout effects associated with non-Catholic private schools may vary greatly and, perhaps, be cohort specific. Fourth, the school-type findings expose a limitation of my study that flows from its 32 year time horizon. During this time, alternative school-types have emerged -- such as charter schools -- which some proponents have claimed outperform traditional public schools from a civic development standpoint. Data limitations and the need to construct relatively uniform model structures across generational cohorts prevented me from addressing this controversy in the current investigation. But I hope to do so at a future time.

### *Sociopolitical Traits*

My sociopolitical findings reveal that attentiveness, locus of control and extracurricular activities all play important roles in mediating the young adult voter turnout effects of educational attainment. I discuss these considerations in turn.

*Attentiveness.* As discussed in Chapter 3, my daily newspaper access measure, which is frequently used in voting studies as a proxy to estimate political attentiveness, also can be viewed as a marker for family affluence and as an indirect reading literacy gauge. From an attentiveness perspective, it is noteworthy that my bivariate results revealed daily newspaper access to have been a consistent voter turnout marker for the respondents in my study.

My multivariate results are also interesting. In the presence of other study measures, daily newspaper access generally improved the voter turnout odds of Late-Boomers and Millennials. But for Mid-Boomers and Gen Xers, the benefit of daily newspaper access was confined to females ( $p < .05$ ). Given the general decline in newspaper readership during the past few decades, it is reasonable to expect daily newspaper access to have been more impactful overall for the earliest born study cohorts. But the observed pattern is much more uneven.

*Locus of control.* My bivariate results highlight locus of control, my rough proxy for political efficacy, as an across-the-board voter turnout marker ( $p < .001$ ). On a multivariate basis, the Gen X coefficient was nonsignificant. But, although there was some evidence of regional and SES effects, 1 SD improvement in locus of control was associated with an 8-10 percent improvement in the voter turnout odds of the Mid-Boom Late-Boom and Millennial respondents. These findings simultaneously fuel the “tuned out” Gen X stereotype and, for the other study cohorts, correspond to a large literature associating efficacy (in various forms) with voter turnout.

*Extracurricular activities.* Running somewhat counter to the literature suggesting that high school sports participation is unrelated to later political engagement, my bivariate findings suggest that all forms of extracurricular high school activities included in my study – athletics, student government, nonpolitical clubs and service clubs – were moderate to strong voter turnout markers. My multivariate results, however, are more in keeping with prior research and conventional wisdom. High school athletics participation was a nonsignificant predictor of young adult voter turnout in all of my fully specified Model 5 formulations. On the other hand, high school student government participation was associated with a 16-51 percent increase in

voter turnout odds across my study samples, although there was some evidence of disparities along racial and regional lines.

The service club measure, which was not included in the Mid-Boom NCES surveys, merits special attention. The 40 percent Late-Boom voter turnout odds improvement at age 20 occurred in the presence of a positive SES\*service club interaction term. The coefficient for 20 year-old Gen Xers was nonsignificant and remained nonsignificant when the positive female\*service interaction term was removed from the equation. The Millennial service club measure, which was nonsignificant in the presence of a positive female\*service interaction term, became highly significant when the interaction term was removed. I include these details to suggest the existence of probable contingent influences involving, at a minimum, gender and social status. Given the growing role of voluntary and mandated community service at the high school level and the theoretical expectation that such activities are sometimes associated with later civic engagement (see, Niemi and Junn, 1998), this is another area that could benefit from highly targeted and properly controlled voting study research.

The personal computer use results, which apply only to the Gen X and Millennial cohorts, are also interesting. It is useful to recall that only about 20 percent of the Gen Xers were daily non-school users of this new technology when surveyed as 1992 high school seniors, whereas nearly 50 percent of the Millennial high school seniors were daily users in 2004. On a bivariate basis, daily computer use for non-school purposes was a negative voter turnout marker for the much maligned Gen Xers and a positive voter turnout indicator for the civically celebrated Millennials. My multivariate results revealed that daily non-school personal computer use was associated with an increase in the age 20 voter turnout odds of Black Gen Xers and more generally boosted the voter turnout odds of Millennials.

Overall, my extracurricular participation findings are encouraging in at least two respects. First, these findings lend support to the notion that young adult civic engagement is enhanced by activity-based civic participation in high school – in this instance, student government, nonpolitical clubs and service clubs. Second, these findings also offer some encouragement on a prospective basis that heavy personal computer use is not necessarily injurious to young adult voter turnout when other circumstances – sociodemographics, academics, sociopolitical traits and life-cycle transitions – are taken into account.

#### *Sociodemographic Traits and Life-cycle Transitions*

Prominent theoretical frames and well-controlled empirical studies focusing on young adult voter turnout routinely account for sociodemographic circumstances and the attainment of key life-cycle milestones. Isolating these influences is essential not only to better understand their unique contributions to the voting calculus but also to highlight the educational role. I ask: *What can be said about the contributions of sociodemographic characteristics and young adult life-cycle influences as independent predictors of election turnout by 26<sup>th</sup> Amendment eligible voters?* I address the sociodemographic and life-cycle components separately.

#### *Sociodemographic Traits.*

My bivariate and multivariate results are generally in line with the voluminous literature suggesting that gender, race/ethnicity, English language status and socioeconomic status all make distinct contributions to the voter turnout calculus. As evidenced throughout my individual cohort analyses, the general backdrop is one in which the gender balance and within-sample SES composition did not shift appreciably between the Mid-Boom and Millennial eras. Changes in the racial and ethnic composition of my study samples, however, clearly reflect the national trend toward a less White and more Hispanic- and Asian-American population. The decline in

English-speaking households between the Mid-Boom and Millennial eras is directionally consistent with the race/ethnicity trend.

The dependable 11-21 percent voter turnout odds boost associated with a 1 SD increase in high school parental SES across my study samples was offset by decidedly more conditional results along the other sociodemographic dimensions. The longitudinal effects are discussed more fully in Chapter 5. At this stage of the analysis, it useful to highlight the race/ethnicity and language findings. In particular, although the Black voter turnout odds versus Whites moved into the positive column for the Millennials in my study, respondents in the two fastest growing population segments demonstrated large and persistent voter turnout odds deficits versus majority Whites in almost every cohort. With the exception of Late-Boomers, the Hispanic voter turnout odds were 20-25 percent lower than the comparable odds for Whites at ages 20 and 22. Within all study cohorts, the voter turnout odds of Asians were 60-70 percent below those of Whites in the presence of all other study measures. Unfortunately, my Asian voter turnout findings are not aberrational but rather are directionally in line with census tracking studies (Census, 2011a). Not surprisingly, English language status during high school, which was a nonsignificant voter turnout indicator for the less diverse Mid- and Late-Boomers, substantially boosted the voter turnout odds for my Gen X and Millennial respondents.

### *Life-Cycle Transitions*

My findings regarding the life-cycle transitions occurring within the first few years after high school are notable in at least two respects. First, they affirm that the tug of war between countervailing influences is very much in evidence even at this early stage of the adult life experience. Not surprisingly, marriage and parenthood typically were negative young adult voter turnout predictors. Having a job and, for the Mid- and Late-Boom participants, residing in the

same community as during high school were consistently positive voter turnout predictors at ages 20 and 22. Second, my life-cycle findings highlight an additional educational contingency in the prediction of young adult voter turnout: current school enrollment status. The voter turnout odds of respondents who were not enrolled in school at the time of the NCES age 20 surveys were 11-36 percent lower than for their student peers even after controlling for educational attainment and high school academics.

### *Theoretical Support and Summary*

As is readily apparent based on the preceding discussion, my findings provide conditional support for all of the partial theoretical frames discussed in Chapter 2. The educational attainment findings not only bolster the social traits frame but also increase the appeal of the social capital and new technology frames at least at an impressionistic level, given the likely social consequences associated with the rapid emergence of online learning platforms. The end of high school academics and sociopolitical traits results collectively support the social traits, social capital and new technology frames. These results also underscore important features of the generational transfer, sociodemographic shift, external events and mobilization frames. In addition to hammering home the importance of controlling for social characteristics and adult transitions influences in young adult voting studies, my sociodemographic traits and life-cycle findings lend further support to the social capital and sociodemographic shift frames. The exceptionally strong results associated with high school student government -- often viewed as a practice arena for later partisan pursuits -- provides indirect support for the mobilization frame and introduces a partisanship theme into the discussion that is taken up more fully in Chapter 5.

Although my generational profile narratives are not amenable to statistical measurement, they underscore the importance of generational position, life-cycle considerations and external

events as pre-adult sociopolitical development influences that may serve as important voter turnout mobilizers and de-mobilizers. As emphasized by Rosenstone and Hansen (2002), individual characteristics define the “who” while external events and actors frequently dictate the “when” of political mobilizations. The generational profiles presented in this chapter embody both elements.

My point in painstakingly recounting the narrative profiles and empirical highlights is not to create a laundry list or to take an affirmative or negative position on any of the competing theoretical explanations at this stage of the analysis. Having now addressed my micro-research questions, my theoretical objective is threefold. First, my analyses make clear that all of the partial frames contribute to a better understanding of young adult voter turnout. That said, and despite the continued insistence of some scholars, it makes little sense to push one partial explanation, such as social capital, over others. That is why I structured the Target of Participation model as an alternative that incorporates the empirically and theoretical grounded elements of all of these frames. Second, beyond the detailed findings, my analyses confirm that education enters the voter turnout picture by many different routes – attainment, academics, social status, current enrollment, etc. – that all make distinctive contributions to the young adult voter turnout odds. Researchers routinely should take into account the multi-faceted and irregular effects that are associated with education when designing and conducting voting studies.

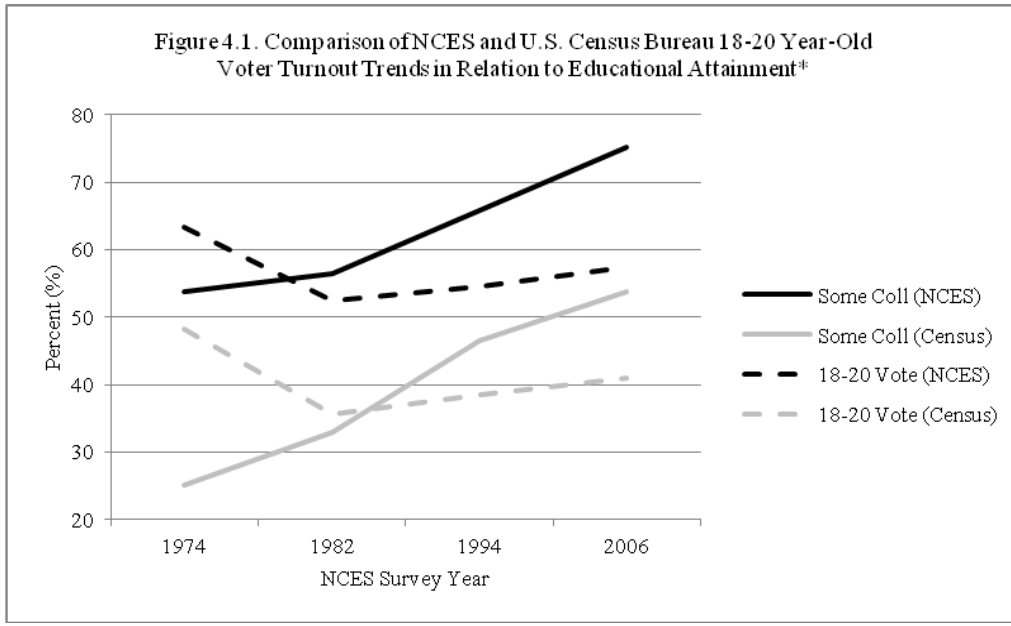
Third, my analysis sheds light on the “puzzle of political participation” that was introduced by Brody more than three decades ago. Brody’s (1978) basic observation was that voter turnout revolves around “legal context, individual attributes, and the character of the choice situation” (p. 291). He went on to rule out legal context as a major voter turnout inhibitor,

explaining as I have done in this investigation how the legal climate has substantially improved over the decades. He also equivocated as to the evolving contributions of individual attributes and the choice situation as turnout inhibitors, ultimately concluding that “the confusion that remains in the picture of voting participation ... stems from the limitations of survey research and the quality of the information it yields” (p. 324). As discussed in Chapter 3, I certainly concur that the interpretation of survey data, such as that which forms the empirical basis of my study, needs to be approached carefully. At the same time, my empirical analyses affirm the power of modern survey research and statistical procedures to illuminate important, often highly contingent, relationships that bear directly on the voter turnout calculus.

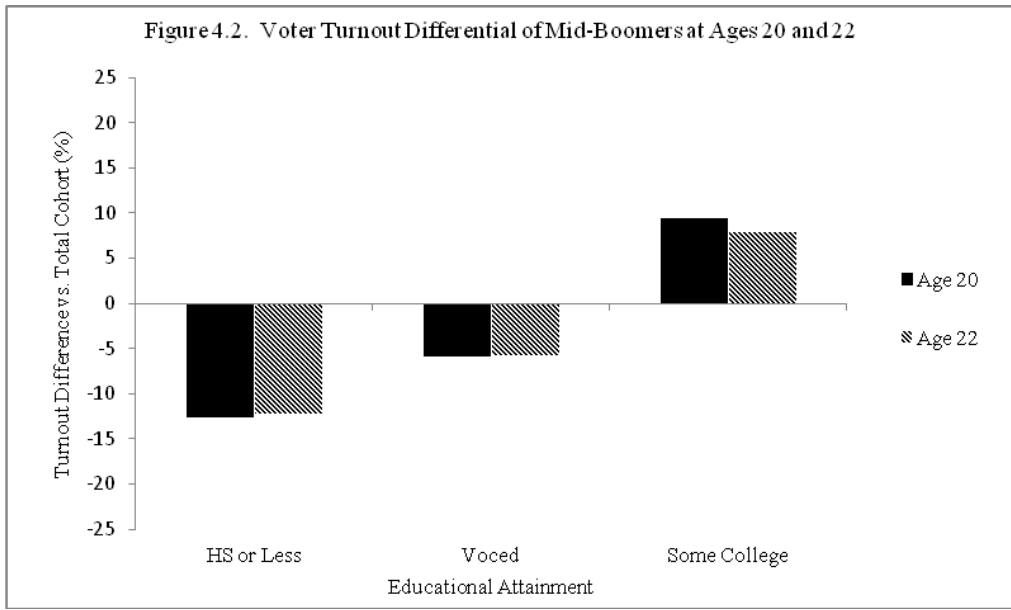
In my estimation, Brody’s (1978) struggle was as structural as it was data-driven. In particular, he confined one of the most important “individual attributes” – education -- to a single measure of attainment based solely on total years of schooling. His procedure tacitly assumed regularity and seriously constrained educational routes of entry into the voter turnout calculus. My investigation demonstrates that educational attainment effects are not only irregular and multifaceted in their association with young adult voter turnout but also that they are quite sensitive to countervailing influences – including generational and life-cycle considerations that are difficult to estimate numerically but are nonetheless readily observable from a qualitative perspective. From a micro-standpoint, the contextual observations and empirical findings presented in this chapter add to Brody’s “puzzle” given the increased educational attainment levels and eased voting restrictions occurring since the time of his study. In so doing, my results also account for the countercyclical pattern between educational attainment and voter turnout that bedeviled Brody. My micro-results also accommodate the more recent increase in



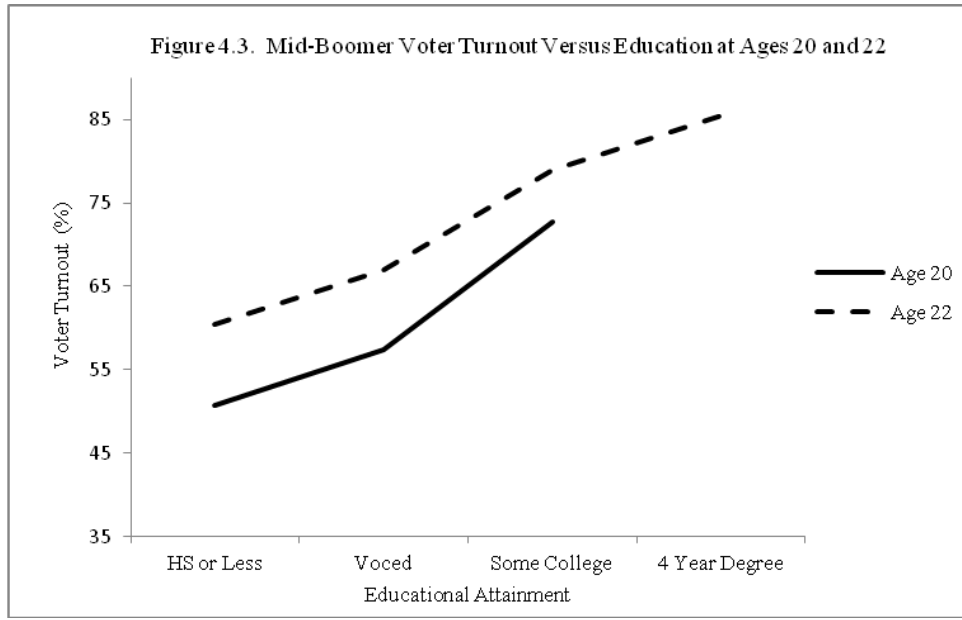
participation when the Gen Xers and Millennials in my study “came on line” as eligible voters (Figure 4.1). I address the macro-perspective in Chapter 5.



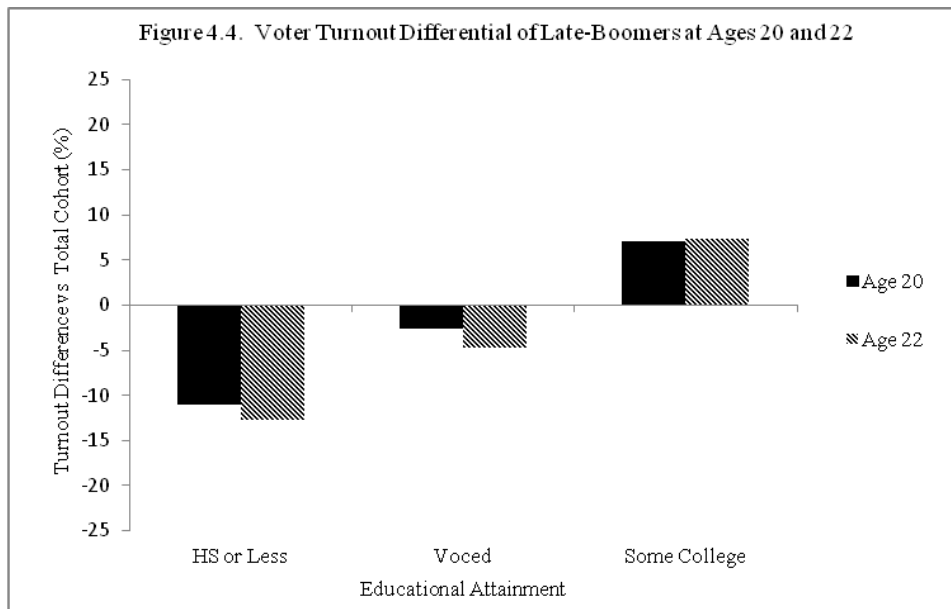
\* Note: Census vote percentages are for the prior presidential elections (i.e., 1972, 1980, 1992 and 2004). NCES vote percentages are based on cumulative 18-20 year-old measures used in empirical analyses.



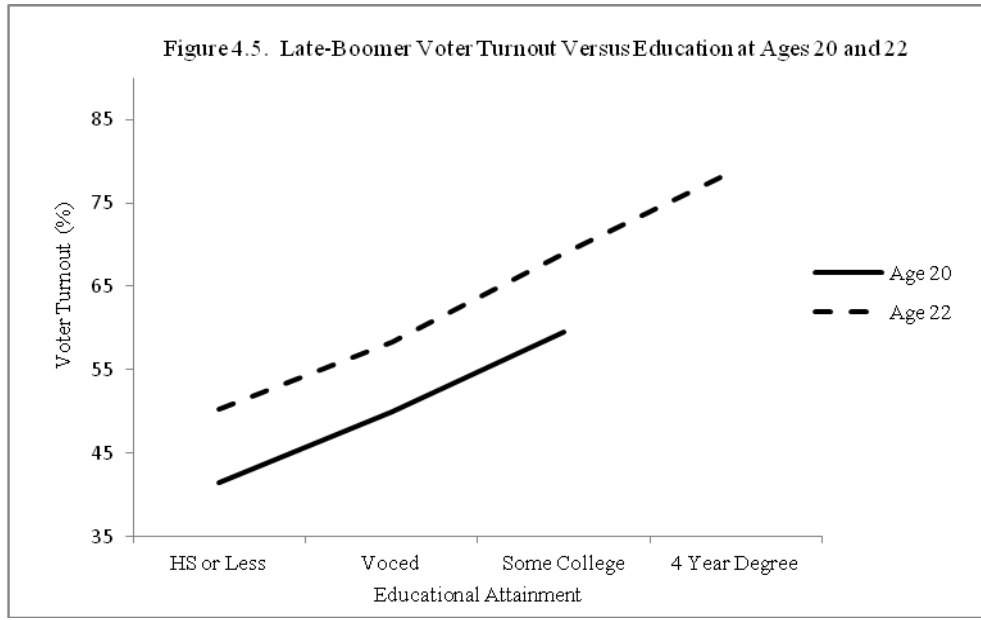
Source: NCES Secondary Longitudinal Study datasets.



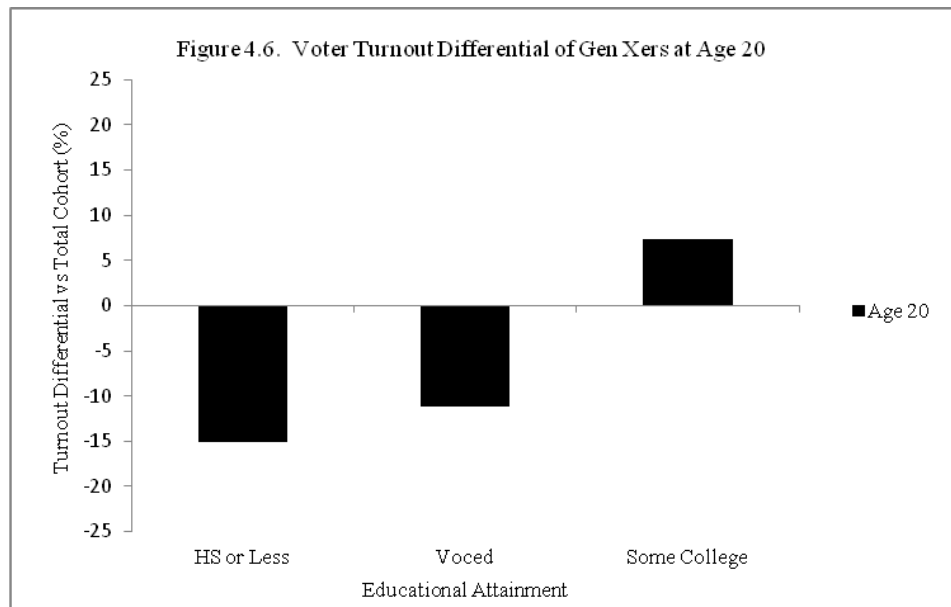
Source: NCES Secondary Longitudinal Study datasets.



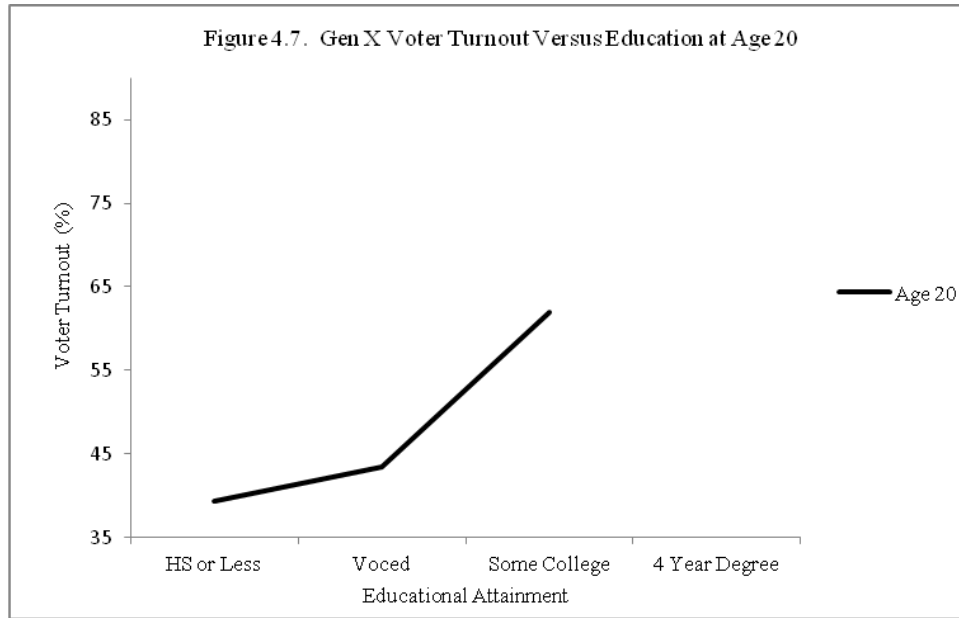
Source: NCES Secondary Longitudinal Study datasets.



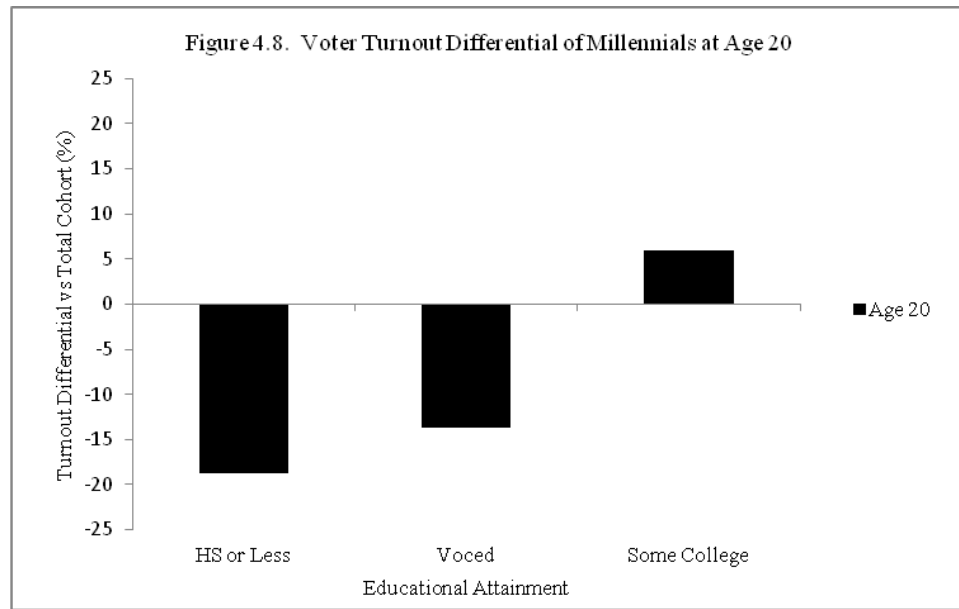
Source: NCES Secondary Longitudinal Study datasets.



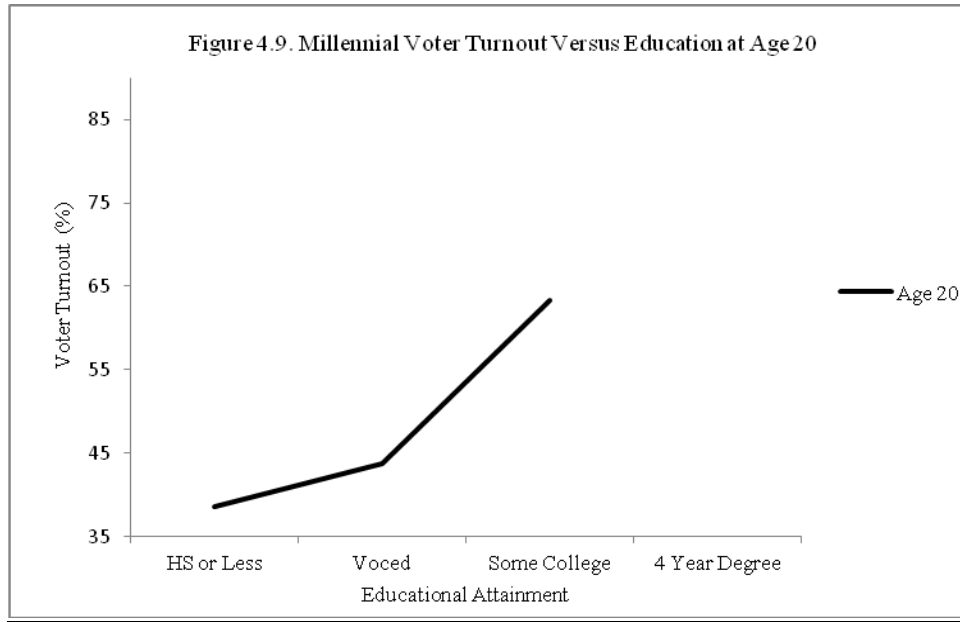
Source: NCES Secondary Longitudinal Study datasets.



Source: NCES Secondary Longitudinal Study datasets.



Source: NCES Secondary Longitudinal Study datasets.



Source: NCES Secondary Longitudinal Study datasets.

Table 4.1. Recurrent voter turnout predictors two years post-high school (approximate respondent age 20).<sup>1</sup>

	<u>Mid-Boomers</u> (NLS)	<u>Late-Boomers</u> (HSB)	<u>Gen Xers</u> (NELS)	<u>Millennials</u> (ELS)
<u>Educational attainment</u>				
At least some college <sup>2</sup>	+	+	+	+
<u>HS sociodemographic traits</u>				
Black <sup>3</sup>		-	-	+
Hispanic <sup>3</sup>	-		-	-
Asian <sup>3</sup>	-	-	-	-
HS parental SES	+	+	+	+
<u>HS academics</u>				
Math achievement	+	+	-	-
Reading achievement	+		+	+
<u>HS sociopolitical traits</u>				
HS locus of control	+	+		+
HS news access	+	+	+	+
HS student government	+	+	+	+
HS non-pol. clubs and organizations	+	+	+	+
<u>Life-cycle transitions</u>				
Not in school	-	-	-	-
Resided in same community as during HS	+	+	NA	NA

<sup>1</sup> Source: Model 5 formulations from Tables 4.4, 4.7, 4.10 and 4.12. To be included, measure must be significant ( $p < .05$ ) in more than half of the logistic regression models in which it appears. <sup>2</sup> Comparison group is high school or less. <sup>3</sup> Comparison group is White. Plus (+) sign denotes positive predictor. Minus (-) sign denotes negative predictor. NA = measure not available.

Table 4.2a. Selected characteristics of NCES Secondary Longitudinal Study respondents.<sup>1</sup>

<u>MEASURES</u>	<u>Mid-Boomers</u> (N=13,167)	<u>Late-Boomers</u> (N=9,588)	<u>Gen Xers</u> (N=12,240)	<u>Millennials</u> (N=11,915)
<u>Outcomes (%)</u>				
Voted 2 years post-HS	63.3	52.5	54.6	57.4
Voted 4 years post-HS	72.8	63.6	NA	NA
<u>Educational Attainment (%)</u>				
<u>Two years post-HS</u>				
HS Grad or less	35.2	33.9	25.4	23.0
Post-HS vocational ed	11.1	9.6	8.8	1.8
Some college	53.7	56.5	65.8	75.2
<u>Four years post-HS</u>				
HS grad or less	31.6	30.2	NA	NA
Post-HS vocational ed	11.1	9.8	NA	NA
Some college	41.3	52.2	NA	NA
Bachelor degree+	16.0	7.8	NA	NA
<u>Sociodemographic Traits (%)</u>				
Female	48.1	52.0	49.9	50.9
<u>Race</u>				
White	82.6	77.8	72.4	62.1
Black	8.6	10.6	12.0	13.3
Hispanic	3.6	9.2	10.0	15.0
Asian	1.1	1.5	4.5	4.5
Other race	4.2	0.9	1.0	5.1
<u>HS Parental SES (%)<sup>2</sup></u>				
<-.5 SD	33.0	31.9	31.2	32.2
-.5 to .5 SD	38.0	36.8	37.0	35.7
>.5 SD	29.0	31.2	31.8	32.2
English household during HS (%)	91.9	86.7	92.6	86.9
<u>HS Region (%)</u>				
Northeast	24.5	23.2	19.4	19.0
Midwest	30.9	28.9	25.9	24.8
South	26.9	30.5	35.0	33.8
West	17.7	17.4	19.7	22.4
<u>HS urbanicity (%)</u>				
Rural	18.1	31.1	30.5	19.8
Suburban	25.6	49.1	41.0	51.2
Urban	56.3	19.8	28.6	29.0

<sup>1</sup> Percentages may not total 100% due to rounding. <sup>2</sup> Zscore. NA = not available or zero cell count.



Table 4.2b. Selected characteristics of NCES Secondary Longitudinal Study respondents.<sup>1</sup>

<u>MEASURES</u>	<u>Mid-Boomers</u> (N=13,167)	<u>Late-Boomers</u> (N=9,588)	<u>Gen Xers</u> (N=12,240)	<u>Millennials</u> (N=11,915)
<u>HS academics</u>				
Math achievement (%) <sup>2</sup>				
<-.5 SD	34.2	34.9	32.0	30.1
-.5 to .5 SD	28.8	31.2	34.5	37.0
>.5 SD	37.0	33.8	33.5	32.9
Reading achievement (%) <sup>2</sup>				
<-.5 SD	29.6	31.3	32.0	31.2
-.5 to .5 SD	33.9	31.8	32.2	36.6
>.5 SD	36.5	36.9	35.8	32.2
% 6+ HS soc. stud. Semesters	55.5	40.0	76.8	NA
<u>HS type (%)</u>				
Public	91.8	90.0	90.3	91.5
Catholic	7.5	6.6	5.7	4.8
Other private	0.7	3.4	4.0	3.7
<u>HS sociopolitical traits</u>				
% HS news access	89.5	69.1	74.6	64.1
HS locus of control (%) <sup>2</sup>				
<-.5 SD	25.4	26.8	28.6	31.1
-.5 to .5 SD	42.3	43.0	36.6	37.3
>.5 SD	32.3	30.2	34.8	31.6
% HS student govt. participation	19.7	18.4	16.2	12.9
% HS athletics	44.5	51.3	42.5	44.1
% non-political clubs	69.9	74.3	64.2	64.2
% HS service clubs	NA	24.0	16.8	17.9
% HS personal computer use	NA	NA	20.0	49.3
<u>Life-cycle transitions</u>				
Two years post-HS				
% married	24.4	11.0	7.1	3.8
% had own children	11.2	6.3	9.4	7.2
% not in school	59.2	50.0	40.9	38.7
% had job	68.6	55.2	62.8	68.9
% active military	4.0	3.7	3.3	1.7
% same community as during HS	38.5	50.7	NA	NA
Four years post-HS				
% married	39.9	24.0	NA	NA
% had own children	21.4	15.7	NA	NA
% not in school	74.4	60.8	NA	NA
% had job	76.8	65.1	NA	NA
% active military	3.5	4.2	NA	NA
% same community as during HS	29.7	44.5	NA	NA

<sup>1</sup> Percentages may not total 100% due to rounding. <sup>2</sup>Zscore. NA = not available or zero cell count.

Table 4.3. Descriptive statistics of Mid-Boomers classified by voter turnout (N=13,167).

Measure	Voted Prior to Nov 74 <sup>1</sup> (Age 20) (N=8,331)	Voted Prior to Nov 76 <sup>1</sup> (Age 22) (N=9,587)
Overall percentage	63.3	72.8
Educational attainment		
% HS grad or less <sup>5</sup>	50.7***	60.5***
% Post-HS vocational education	57.4***	67.0***
% Some college	72.7***	78.9***
% Bachelor degree +	NA	85.5***
HS sociodemographic traits		
% Female	61.8***	71.8***
Race/ethnicity		
% White <sup>5</sup>	65.5***	74.5***
% Black	53.5***	67.1***
% Hispanic	50.7***	60.6***
% Asian	52.1***	61.1***
% Other race	52.9***	65.4***
% English household during HS	63.7***	92.3***
HS parental SES <sup>2</sup>		
% Less than -0.5 SD	53.2***	63.9***
% -0.5 SD to 0.5 SD	63.8***	73.3***
% Greater than 0.5 SD	74.0***	82.4***
HS region		
% Midwest <sup>5</sup>	66.9***	75.9***
% Northeast	59.0***	68.0***
% South	60.4***	71.4*
% West	67.3***	76.3***
HS urbanicity		
% Suburban <sup>5</sup>	64.6	73.4
% Rural	62.3	71.8
% Urban	63.0	72.9
HS academics		
Math achievement <sup>2</sup>		
% less than -0.5 SD	53.0***	64.4***
% -0.5 SD to 0.5 SD	64.9***	74.1***
% Greater than 0.5 SD	71.6***	79.5***
Reading achievement <sup>2</sup> (M)		
% Less than -0.5 SD	53.0***	64.5***
% -0.5 SD to 0.5 SD	63.6***	73.1***
% Greater than 0.5 SD	71.3***	79.3***
% 6+ HS soc. stud. semesters	63.7	73.2
HS-type		
% Public <sup>5</sup>	62.9***	72.4***
% Catholic	66.7*	76.6**
% Other private	75.9**	82.3*
HS sociopolitical traits		
% HS news access <sup>3</sup>	64.6***	74.1***
HS locus of control <sup>2</sup>		
% Less than -0,5 SD	54.9***	65.7***
% -0.5 SD to 0.5 SD	63.6***	72.8***
% Greater than 0.5 SD	69.6***	78.4***
% HS stud. Govt. or pol. Clubs	74.0***	82.6***
% HS athletics	66.6***	75.7***
% HS non-political clubs <sup>4</sup>	65.7***	75.0***
% HS service clubs	NA	NA
% HS personal computer use	NA	NA
Life-cycle transitions		
% Married	54.0***	69.6***
% Had own children	49.2***	62.3***
% Not in school	56.5***	70.3***
% Had job	62.7*	73.1
% In military	60.8	73.2
% Same community as during HS	64.3*	72.8

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup>Based on pooled imputation estimates. <sup>2</sup>Zscore (M=0, SD=1). <sup>3</sup>Use of daily newspaper during HS. <sup>4</sup>Debating, drama, band, chorus, hobby clubs, honorary clubs, school publications, school subject matter clubs, school vocational interest clubs. <sup>5</sup>Sub-category column percentages may not total 100 due to rounding. NA = not available or near-zero cell count.

Table 4.4. Logistic regression estimates of the pre-Nov 1974 voter turnout of Mid-Boomers at age 20 (N=13,167).

	Model 1 <sup>1</sup>	Model 2 <sup>1</sup>	Model 3 <sup>1</sup>	Model 4 <sup>1</sup>	Model 5 <sup>1</sup>
<u>Educational attainment</u>					
Post-HS vocational education	1.313***	1.292***	1.269***	1.244***	1.195***
Some college	2.592***	2.249***	1.962***	1.845***	1.710***
Bachelor degree +	NA	NA	NA	NA	NA
<u>HS sociodemographic traits</u>					
Female		0.950	0.954	0.706***	0.770*
Black		0.781***	0.916	0.934	0.930
Hispanic		0.688***	0.748**	0.763**	0.748**
Asian		0.436***	0.420***	0.426***	0.402***
Other race		0.763***	0.841	0.852	0.853
English household during HS		1.080	1.049	1.058	1.064
HS parental SES <sup>4</sup>		1.265***	1.220***	1.181***	1.186***
North East		0.679***	0.663***	0.671***	0.654***
South		0.820***	0.829***	1.222	1.243
West		0.995	1.018	1.023	1.032
Rural		1.232***	1.219***	1.155*	1.202***
Urban		1.129**	1.134**	1.112*	1.127**
<u>HS academics</u>					
Math achievement <sup>4</sup>			1.099***	1.081***	1.084***
Reading achievement <sup>4</sup>			1.127***	1.102***	1.103***
6+ HS history and soc. stud. semesters			1.040	1.031	1.026
Catholic school			1.021	0.998	0.958
Other private HS			1.557	1.526	1.574
<u>HS sociopolitical traits</u>					
HS news access				1.022	1.017
Female*HS news access				1.326*	1.289*
HS locus of control <sup>4</sup>				1.098***	1.098***
South*locus of control				0.898	0.895*
HS student government				1.486***	1.512***
Black*HS student government				0.707*	0.705*
HS athletics				1.004	1.009
HS non-pol. clubs and organizations				1.187***	1.194***
HS service clubs	NA	NA	NA	NA	NA
HS personal computer use	NA	NA	NA	NA	NA
<u>Life-cycle transitions</u>					
Married					0.903*
Had children					0.913
Not in school					0.893*
Had job					1.076
In military					1.147
Same community as during HS					1.313***
Constant	1.028	1.191*	1.256**	1.105	1.045
Pseudo r-square <sup>2, 3</sup>	0.062***	0.092***	0.100***	0.110***	0.118***
Percentage correct <sup>3</sup>	63.3	65.2	65.4	65.8	66.4

\*p<.05,\*\*p<.01,\*\*\*p<.001. NA = measure not available. <sup>1</sup> Pooled sample EXP (B) odds metric coefficients. <sup>2</sup> Nagelkerke formulation. <sup>3</sup> Pooled estimates are averaged across multiple imputation samples. <sup>4</sup> Zscore (M=0, SD=1).

Table 4.5. Logistic regression estimates of the pre-Nov 1976 voter turnout of Mid-Boomers at age 22 (N=13,167).

	Model 1 <sup>1</sup>	Model 2 <sup>1</sup>	Model 3 <sup>1</sup>	Model 4 <sup>1</sup>	Model 5 <sup>1</sup>
<u>Educational attainment</u>					
Post-HS vocational education	1.328***	1.300***	1.279***	1.254***	1.229***
Some college	2.445***	2.162***	1.980***	1.885***	1.819***
Bachelor degree +	3.848***	3.239***	2.762***	2.478***	2.469***
<u>HS sociodemographic traits</u>					
Female		0.967	0.972	0.804	0.845
Black		0.894	1.011	1.014	1.071
Hispanic		0.663***	0.719***	0.735**	0.728***
Asian		0.394***	0.387***	0.394***	0.377***
Other race		0.868	0.936	0.948	0.954
English household during HS		1.088	1.064	1.072	1.072
HS parental SES <sup>4</sup>		1.289***	1.259***	1.216***	1.218***
North East		0.627***	0.616***	0.625***	0.609***
South		0.853***	0.865**	1.432	1.421
West		1.022	1.040	1.041	1.054
Rural		1.275***	1.267***	1.207***	1.230***
Urban		1.168***	1.169***	1.149**	1.154**
<u>HS academics</u>					
Math achievement <sup>4</sup>			1.079**	1.065*	1.068*
Reading achievement <sup>4</sup>			1.083**	1.061*	1.061*
6+ HS history and soc. stud. semesters			1.050	1.039	1.037
Catholic school			1.111	1.084	1.054
Other private HS			1.477	1.463	1.489
<u>HS sociopolitical traits</u>					
HS news access				1.104	1.094
Female*HS news access				1.176	1.158
HS locus of control <sup>4</sup>				1.103***	1.101***
South*locus of control				0.870*	0.870*
HS student government				1.548***	1.569***
Black*HS student government				0.732	0.724
HS athletics				0.991	0.998
HS non-pol. clubs and organizations				1.171	1.171***
HS service clubs	NA	NA	NA	NA	NA
HS personal computer use	NA	NA	NA	NA	NA
<u>Life-cycle transitions</u>					
Married					1.126*
Had children					0.767***
Not in school					0.966
Had job					0.977
In military					1.111
Same community as during HS					1.298***
Constant	1.529***	1.708***	1.758***	1.465***	1.431*
Pseudo r-square <sup>2, 3</sup>	0.067***	0.096***	0.101***	0.111***	0.117***
Percentage correct <sup>3</sup>	72.8	72.9	72.9	73.0	73.0

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup> Pooled sample EXP (B) odds metric coefficients. <sup>2</sup> Nagelkerke formulation. <sup>3</sup> Pooled estimates are averaged across multiple imputation samples. <sup>4</sup> Zscore (M=0, SD=1).

Table 4.6. Descriptive statistics of Late-Boomers classified by voter turnout (N=9,588).

Measure	Voted Prior to Feb 82 <sup>1</sup> (Age 20) (N=5,036)	Voted Prior to Feb 84 <sup>1</sup> (Age 22) (N=6,044)
Overall Percentage	52.5	63.0
<u>Educational attainment</u>		
% HS grad or less <sup>5</sup>	41.5***	50.2***
% Post-HS vocational education	49.9	58.3***
% Some college	59.6***	69.0***
% Bachelor degree +	NA	79.0***
<u>HS sociodemographic traits</u>		
% Female	51.3**	62.3
Race/ethnicity		
% White <sup>5</sup>	55.6***	64.9***
% Black	41.2***	60.8
% Hispanic	44.0***	53.8***
% Asian	28.6***	41.8***
% Other race	46.5	59.3
% English household during HS	51.6***	62.2***
HS parental SES <sup>2</sup>		
% Less than -0.5 SD	42.6***	55.6***
% -0.5 SD to 0.5 SD	52.7***	61.6***
% Greater than 0.5 SD	62.4***	72.3***
HS region		
% Midwest <sup>5</sup>	61.6***	69.3***
% Northeast	47.9***	59.8***
% South	49.1***	60.4***
% West	49.6**	61.7
HS urbanicity		
% Suburban <sup>5</sup>	52.7	62.9
% Rural	54.1*	64.1
% Urban	49.7**	61.8
<u>HS academics</u>		
Math achievement <sup>2</sup>		
% Less than -0.5 SD	43.4***	55.3***
% -0.5 SD to 0.5 SD	53.0***	63.3***
% Greater than 0.5 SD	61.5***	70.8***
Reading achievement <sup>2</sup>		
% Less than -0.5 SD	43.4***	54.8***
% -0.5 SD to 0.5 SD	52.5***	62.3***
% Greater than 0.5 SD	60.4***	70.5***
% 6+ HS soc. stud. semesters	53.4	64.5*
HS-type		
% Public <sup>5</sup>	51.7***	62.2***
% Catholic	57.4**	68.5***
% Other private	64.1***	74.6***
<u>HS sociopolitical traits</u>		
% HS news access <sup>3</sup>	56.4***	67.1***
HS locus of control <sup>2</sup> (M)		
% Less than -0.5 SD	45.3***	56.0***
% -0.5 SD to 0.5 SD	52.1***	62.3***
% Greater than 0.5 SD	59.5***	70.3***
% HS stud. Govt. or pol. Clubs	62.0***	74.5***
% HS athletics	55.6***	65.8***
% HS non-political clubs <sup>4</sup>	55.2***	65.9***
% HS service clubs	62.2***	72.7***
% HS personal computer use	NA	NA
<u>Life-cycle transitions</u>		
% Married	45.2***	56.2***
% Had children	38.9***	50.8***
% Not in school	43.8***	57.0***
% Had job	52.0	62.9
% In military	43.1***	56.5**
% Same community as during HS	52.1	62.9

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup>Based on pooled imputation estimates. <sup>2</sup>Zscore (M=0, SD=1).

<sup>3</sup>Use of daily newspaper during HS. <sup>4</sup>Debating, drama, band, chorus, hobby clubs, honorary clubs, school publications, school subject matter clubs, school vocational interest clubs. <sup>5</sup>Sub-category column percentages may not total 100 due to rounding. NA = data not available or zero cell count.

Table 4.7. Logistic regression estimates of the pre-Mar 1982 voter turnout of Late-Boomers at age 20 (N=9,588).

	Model 1 <sup>1</sup>	Model 2 <sup>1</sup>	Model 3 <sup>1</sup>	Model 4 <sup>1</sup>	Model 5 <sup>1</sup>
<u>Educational attainment</u>					
Post-HS vocational education	1.403***	1.316***	1.285***	1.311***	1.178*
Some college	2.073***	1.832***	1.649***	1.519***	1.287***
Bachelor degree +	NA	NA	NA	NA	NA
<u>HS sociodemographic traits</u>					
Female		0.906*	0.924	0.907*	0.916
Black		0.711***	0.787***	0.720***	0.749***
Hispanic		0.832*	0.902	0.919	0.908
Asian		0.311***	0.312***	0.293***	0.283***
Other race		0.817	0.850	0.830	0.836
English household during HS		0.840**	0.874*	0.909	0.914
HS parental SES <sup>4</sup>		1.262***	1.225***	1.135***	1.131***
North East		0.547***	0.535***	0.513***	0.515***
South		0.662***	0.671***	0.680***	0.674***
West		0.617***	0.621***	0.625***	0.640***
Rural		1.228***	1.214***	1.145**	1.181***
Urban		1.093	1.075	1.018	1.007
<u>HS academics</u>					
Math achievement <sup>4</sup>			1.084**	1.071*	1.065*
Reading achievement <sup>4</sup>			1.076**	1.046	1.041
6+ HS history and soc. stud. semesters			1.040	1.009	1.012
Catholic HS			1.052	1.054	1.015
Other private HS			1.310*	1.322*	1.356*
<u>HS sociopolitical traits</u>					
HS news access				1.417***	1.407***
HS locus of control <sup>4</sup>				1.098***	1.099***
HS locus of control squared				1.052***	1.051***
SES*HS locus of control				1.177***	1.194***
HS student government				1.388***	1.374***
Hispanic*HS student government				0.742	0.759
South*HS student government				0.829	0.833
HS athletics				1.013	1.008
HS non-pol. clubs and organizations				1.208***	1.216***
HS service clubs				1.397***	1.398***
SES*HS service clubs				1.174*	1.174*
HS personal computer use				NA	NA
<u>Life-cycle transitions</u>					
Married					1.129
Had children					0.830
Not in school					0.714***
Had job					1.130**
In military					1.057
Same community as during HS					1.233***
Constant	0.710***	1.325***	1.294***	0.779*	0.842
Pseudo r-square <sup>2, 3</sup>	0.037***	0.086***	0.090***	0.117***	0.124***
Percentage correct <sup>3</sup>	58.3	60.9	61.2	62.5	62.8

\*p<.05, \*\*p<.01, \*\*\*p<.001. NA = not available. <sup>1</sup>Pooled sample log odds coefficients. <sup>2</sup>Nagelkerke formulation. <sup>3</sup>Average pooled sample estimates. <sup>4</sup>Zscore (M=0, SD=1).

Table 4.8. Logistic regression estimates of the pre-Mar 1984 voter turnout of Late-Boomers at age 22 (N=9,588).

	Model 1 <sup>1</sup>	Model 2 <sup>1</sup>	Model 3 <sup>1</sup>	Model 4 <sup>1</sup>	Model 5 <sup>1</sup>
<u>Educational attainment</u>					
Post-HS vocational education	1.387***	1.324***	1.309***	1.319***	1.261***
Some college	2.207***	2.038***	1.869***	1.722***	1.552***
Bachelor degree +	3.716***	3.091***	2.752***	2.172***	1.921***
<u>HS sociodemographic traits</u>					
Female		0.922	0.930	0.899*	0.942
Black		1.058	1.152	1.057	1.096
Hispanic		0.821**	0.878	0.921	0.920
Asian		0.342***	0.346***	0.321***	0.308***
Other race		0.876	0.902	0.883	0.903
English household during HS		0.891	0.925	0.962	0.960
HS parental SES <sup>4</sup>		1.193***	1.165***	1.077**	1.070*
North East		0.617***	0.605***	0.579***	0.566***
South		0.707***	0.716***	0.736***	0.731***
West		0.739***	0.742***	0.740***	0.748***
Rural		1.231***	1.219***	1.140**	1.179***
Urban		1.102	1.084	1.014	0.990
<u>HS academics</u>					
Math achievement <sup>4</sup>			1.035	1.022	1.015
Reading achievement <sup>4</sup>			1.100***	1.065*	1.062*
6+ HS history and soc. stud. semesters			1.078	1.045	1.048
Catholic HS			1.087	1.092	1.054
Other private HS			1.394**	1.422**	1.426**
<u>HS sociopolitical traits</u>					
HS news access				1.466***	1.455***
HS locus of control <sup>4</sup>				1.104***	1.104***
HS locus of control squared				1.046**	1.044**
SES*HS locus of control				1.150***	1.156***
HS student government				1.712***	1.727***
Hispanic*HS student government				0.621*	0.637*
South*HS student government				0.702**	0.686***
HS athletics				0.967	0.972
HS non-pol. clubs and organizations				1.241***	1.249***
HS service clubs				1.443***	1.438***
SES*HS service clubs				1.231**	1.220**
HS personal computer use				NA	NA
<u>Life-cycle transitions</u>					
Married					1.013
Had children					0.777***
Not in school					0.794***
Had job					1.173***
In military					1.093
Same community as during HS					1.209***
Constant	1.008	1.550***	1.496***	0.895	0.923
Pseudo r-square <sup>2, 3</sup>	0.052***	0.079***	0.083***	0.116***	0.124***
Percentage correct <sup>3</sup>	63.0	63.8	64.0	65.9	65.8

\*p<.05, \*\*p<.01, \*\*\*p<.001. NA=measure not available.

Table 4.9. Descriptive statistics of Gen Xers classified by voter turnout (N=12,240).

<u>Measure</u>	<u>Voted Prior to Mar 94<sup>1</sup></u> (Age 20) (N=6,682)
<u>Overall percentage</u>	54.6
<u>Educational attainment</u>	
% HS grad or less <sup>5</sup>	39.5***
% Post-HS vocational education	43.5***
% Some college	61.9***
% Bachelor degree +	NA
<u>HS sociodemographic traits</u>	
% Female	54.3
<u>Race/ethnicity</u>	
% White <sup>5</sup>	59.8***
% Black	45.9***
% Hispanic	39.6***
% Asian	30.2***
% Other race	43.3***
% English household during HS	56.3***
<u>HS parental SES<sup>2</sup></u>	
% Less than -0.5 SD	42.3***
% -0.5 SD to 0.5 SD	56.1***
% Greater than 0.5 SD	65.0***
<u>HS region</u>	
% Midwest <sup>5</sup>	62.2***
% Northeast	54.1
% South	51.2***
% West	51.2***
<u>HS urbanicity</u>	
% Suburban <sup>5</sup>	56.8***
% Rural	54.6
% Urban	51.4***
<u>HS academics</u>	
<u>Math achievement<sup>2</sup></u>	
% Less than -0.5 SD	44.6***
% -0.5 SD to 0.5 SD	53.6***
% Greater than 0.5 SD	65.1***
<u>Reading achievement<sup>2</sup></u>	
% Less than -0.5 SD	43.7***
% -0.5 SD to 0.5 SD	52.9***
% Greater than 0.5 SD	65.9***
% 6+ HS soc. stud. semesters	56.6***
<u>HS-type</u>	
% Public <sup>5</sup>	54.1***
% Catholic	62.0***
% Other private	55.0
<u>HS sociopolitical traits</u>	
% HS news access <sup>3</sup>	56.8***
<u>HS locus of control<sup>2</sup></u>	
% Less than -0.5 SD	49.3***
% -0.5 SD to 0.5 SD	54.1***
% Greater than 0.5 SD	59.5***
% HS student government	62.2***
% HS athletics	58.6***
% HS non-political clubs <sup>4</sup>	59.3***
% HS service clubs	58.5***
% HS personal computer use	51.4***
<u>Life-cycle transitions</u>	
% Married	42.6***
% Had children	37.7***
% Not in school	43.0***
% Had job	55.3*
% In military	46.3***
% Same community as during HS	NA

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup>Based on pooled imputation estimates. <sup>2</sup>Zscore (M=0, SD=1). <sup>3</sup>Use of daily newspaper during HS. <sup>4</sup>Debating, drama, band, chorus, hobby clubs, honorary clubs, school publications, school subject matter clubs, school vocational interest clubs. <sup>5</sup>Sub-category column percentages may not total 100 due to rounding. NA = data not available or zero cell count.



Table 4.10. Logistic regression estimates of the pre-Mar 1994 voter turnout of Gen Xers at age 20 (N=12,240).

	Model 1 <sup>1</sup>	Model 2 <sup>1</sup>	Model 3 <sup>1</sup>	Model 4 <sup>1</sup>	Model 5 <sup>1</sup>
<u>Educational attainment</u>					
Post-HS vocational education	1.181*	1.145	1.142	1.116	1.038
Some college	2.496***	2.201***	1.981***	1.858***	1.440***
Bachelor degree +	NA	NA	NA	NA	NA
<u>HS sociodemographic traits</u>					
Female		0.944	0.893***	0.690***	0.701***
Black		0.758***	0.806***	0.722***	0.765***
Hispanic		0.707***	0.723***	0.708***	0.734***
Asian		0.303***	0.295***	0.294***	0.295***
Other race		0.749	0.803	0.799	0.843
English household during HS		1.644***	1.570***	1.514***	1.554***
HS parental SES <sup>4</sup>		1.249***	1.215***	1.195***	1.192***
North East		0.669***	0.650***	0.658***	0.666***
South		0.691***	0.697***	0.689***	0.696***
West		0.791***	0.775***	0.783***	0.789***
Rural		1.039	1.042	1.002	1.014
Urban		0.961	0.968	0.967	0.966
<u>HS academics</u>					
Math achievement <sup>4</sup>			0.959	0.924*	0.920**
Math achievement squared			1.040	1.036	1.040
Reading achievement <sup>4</sup>			1.266***	1.261***	1.266***
Reading achievement squared			1.057**	1.053**	1.055**
6+ HS history and soc. stud. semesters			1.242***	1.245**	1.245***
Catholic school			1.048	1.056	1.040
Other private HS			0.671***	0.640***	0.665***
<u>HS sociopolitical traits</u>					
HS news access				0.986	0.983
Female*HS news access				1.229*	1.215*
HS locus of control <sup>4</sup>				1.025	1.019
HS student government				1.168*	1.160*
HS athletics				1.084	1.086
HS non-pol. clubs and organizations				1.397***	1.379***
HS service clubs				0.849	0.846
Female*HS service clubs				1.368*	1.381*
HS personal computer use				0.907	0.902
Black*HS personal computer use				1.425*	1.441*
<u>Life-cycle transitions</u>					
Married					0.957
Has children					0.859*
No longer in school					0.708***
Has job					1.285***
In military					1.063
Same community as during HS	NA	NA	NA	NA	NA
Constant	0.651***	0.673***	0.604***	0.551***	0.627***
Pseudo r-square <sup>2, 3</sup>	0.055***	0.117***	0.130***	0.142***	0.149***
Percentage correct <sup>3</sup>	61.1	63.1	63.7	64.0	64.6

\*p<.05,\*\*p<.01,\*\*\*p<.001. NA = measure not available. <sup>1</sup>Pooled sample EXP (B) odds metric coefficients. <sup>2</sup>Nagelkerke formulation. <sup>3</sup>Pooled estimates are averaged across multiple imputation samples. <sup>4</sup>Zscore (M=0, SD=1).

Table 4.11. Descriptive statistics of Millennials classified by voter turnout (N=11,915).

Measure	Voted Prior to Jul 06 <sup>1</sup> (Age 20) (N=6,836)
Overall percentage	57.4
<u>Educational attainment</u>	
% HS grad or less	38.6***
% Post-HS vocational education	43.7***
% Some college	63.4***
% Bachelor degree +	NA
<u>HS sociodemographic traits</u>	
% Female	59.4***
Race/ethnicity	
% White <sup>5</sup>	62.7***
% Black	58.7
% Hispanic	41.1***
% Asian	37.9***
% Other race	54.0
% English household during HS	60.3***
HS parental SES <sup>2</sup> (M)	
% Less than -0.5 SD	45.5***
% -0.5 SD to 0.5 SD	58.1***
% Greater than 0.5 SD	68.4***
HS region	
% Midwest <sup>5</sup>	62.9***
% Northeast	55.8
% South	55.3***
% West	55.7*
HS urbanicity	
% Suburban <sup>5</sup>	57.3
% Rural	58.4
% Urban	56.8
<u>HS academics</u>	
Math achievement <sup>2</sup> (M)	
% Less than -0.5 SD	48.2***
% -0.5 SD to 0.5 SD	56.9***
% Greater than 0.5 SD	66.3***
Reading achievement <sup>2</sup> (M)	
% Less than -0.5 SD	46.1***
% -0.5 SD to 0.5 SD	58.2***
% Greater than 0.5 SD	67.4***
% 6+ sem. HS soc. studies	NA
HS-type	
% Public <sup>5</sup>	56.5***
% Catholic	68.7***
% Other private	65.0***
<u>HS sociopolitical traits</u>	
% HS news access <sup>3</sup>	60.4***
HS locus of control <sup>2</sup> (M)	
% Less than -0.5 SD	49.9***
% -0.5 SD to 0.5 SD	58.0***
% Greater than 0.5 SD	63.9***
% HS stud. Govt. or pol. Clubs	67.6***
% HS athletics	60.8***
% HS non-political clubs <sup>4</sup>	62.2***
% HS service clubs	67.0***
% HS personal computer use	62.4***
<u>Life-cycle transitions</u>	
% Married	43.0***
% Had own children	43.9***
% No longer in school	43.5***
% Had job	57.3
% In military	50.6*
% same residence as during HS	NA

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup>Based on pooled imputation estimates. <sup>2</sup>Zscore (M=0, SD=1). <sup>3</sup>Use of daily newspaper during HS. <sup>4</sup>Debating, drama, band, chorus, hobby clubs, honorary clubs, school publications, school subject matter clubs, school vocational interest clubs. <sup>5</sup>Service clubs and other community service activities. <sup>6</sup>Sub-category column percentages may not total 100 due to rounding.

Table 4.12. Logistic regression estimates of the pre-July 2006 voter turnout of Millennials at age 20 (N=11,915).

	Model 1 <sup>1</sup>	Model 2 <sup>1</sup>	Model 3 <sup>1</sup>	Model 4 <sup>1</sup>	Model 5 <sup>1</sup>
<u>Educational attainment</u>					
Post-HS vocational education	1.234	1.265	1.239	1.231	1.062
Some college	2.757***	2.257***	2.070***	1.919***	1.430***
Bachelor degree +	NA	NA	NA	NA	NA
<u>HS sociodemographic traits</u>					
Female		1.133***	1.113**	1.009	1.005
Black		1.161*	1.276***	1.257***	1.265***
Hispanic		0.654***	0.687***	0.687***	0.688***
Asian		0.405***	0.411***	0.391***	0.381***
Other race		0.793**	0.824*	0.835*	0.845
English household during HS		1.661*	1.603*	1.628	1.665*
HS parental SES <sup>4</sup>		1.325***	1.268***	1.136***	1.113**
North East		0.753***	0.738***	0.722***	0.711***
South		0.756***	0.754***	0.818**	0.817**
West		1.007	1.014	1.015	1.031
Rural		1.065	1.068	1.060	1.057
Urban		1.081	1.078	1.069	1.063
<u>HS academics</u>					
Math achievement <sup>4</sup>			0.980	0.951	0.927*
Reading achievement <sup>4</sup>			1.205***	1.162***	1.161***
6+ HS history and soc. stud. semesters	NA	NA	NA	NA	NA
Catholic school			1.098	1.045	1.017
Other private HS			0.946	0.909	0.900
<u>HS sociopolitical traits</u>					
HS news access				1.127**	1.113*
SES*HS news access				1.196***	1.197***
HS locus of control <sup>4</sup>				1.081**	1.077**
HS student Government				1.215***	1.196**
HS athletics				0.948	0.932
HS non-political clubs				1.355***	1.342***
South*HS non-political clubs				0.845*	0.845*
HS service clubs				1.037	1.015
Female*HS service clubs				1.313**	1.297*
HS personal computer use				1.172***	1.157***
<u>Life-cycle transitions</u>					
Married					0.891
Has children					0.944
No longer in school					0.636***
Has job					1.049
In military					1.130
Same community as during HS	NA	NA	NA	NA	NA
Constant	0.629***	0.545*	0.594*	0.449*	0.666
Pseudo r-square <sup>2, 3</sup>	0.060***	0.125***	0.131***	0.145***	0.152***
Percentage correct <sup>3</sup>	62.8	65.0	65.2	65.2	65.8

\*p<.05, \*\*p<.01, \*\*\*p<.001. NA = measure not available. <sup>1</sup>Pooled sample EXP (B) odds metric coefficients. <sup>2</sup>Nagelkerke formulation. <sup>3</sup>Pooled estimates are averaged across multiple imputation samples. <sup>4</sup>Zscore (M=0, SD=1).

## CHAPTER 5: COMPARATIVE GENERATIONAL ANALYSES

*Highlights: This chapter offers a macro-perspective on the voter turnout patterns of 26<sup>th</sup> Amendment eligible voters between 1972 and 2006 along the key dimensions of my study: educational attainment, sociodemographic traits, high school academics, end of high school sociopolitical traits and adult life-cycle transitions. As summarized on Tables 5.1a and 5.1b, my analyses revealed both stability and change in the contributions of individual voter turnout predictors within these categories. In particular, the reported results show that educational attainment was not invariable but nonetheless remained robust in predicting young adult voter turnout during the time horizon of my study. My findings also: (1) highlight the importance of English literacy as a voter turnout indicator; (2) expose persistent voter turnout disparities involving young adult citizens of Hispanic or Asian descent; and (3) provide new insights regarding the value of high school civics, extracurricular activities and new technology in promoting young adult voter turnout. The macro-analyses lend additional support to my Target of Participation model as a useful alternative to the theoretical orientations adopted in most voting studies. Moreover, my findings further illustrate the importance of empirical model construction and the imposition of methodological controls in civically-focused empirical studies.*

We saw in Chapter 4 that -- at the individual- or micro-level of analysis -- the post-26<sup>th</sup> Amendment voter turnout patterns of my study respondents presented a highly contingent picture. Educational attainment emerged as a consistent and strong voter turnout predictor. But several other educational and non-educational measures that were pegged to the end of high school period and the years immediately following high school attenuated observed attainment effects.

The Chapter 4 discussion also highlighted the fact that members of the different generational cohorts in my study not only experienced a unique array of developmental influences but, in important respects, also experienced the same events at different developmental stages than did their counterparts in the other study cohorts. It is reasonable to expect that these experiential differences shaped the aggregate sociopolitical identities of my study cohorts in distinctive ways that in turn affected their average same-age voter turnout patterns. Given the Chapter 4 findings in combination with the age range of my study

respondents, it also is reasonable to expect differential voter turnout effects between cohorts to be visible along the principal dimensions of my investigation: educational attainment, end of high school academics and sociopolitical traits, sociodemographic traits and young adult life-cycle transitions.

In this chapter, I retain individuals as the unit of analysis but approach the inquiry from a comparative generational or macro-perspective. Through this lens, we again observe an overall relationship between educational attainment and young adult voter turnout that is emblematic of Body's (1978) "puzzle" and suggests that multiple influences are afoot. As illustrated by Figure 5.1, the oldest generational cohort in my study – Mid-Boomers – had the highest cumulative voter turnout at age 20 (i.e., 63.3 percent voted in at least one national, state or local election prior to November 1974). And, although the comparable age 20 voter turnout of the younger cohorts revealed an upward trend from the Late-Boomer trough (52.5 percent in 1982), the age 20 cumulative turnout of Millennials was still about 6 percent lower than that of Mid-Boomers. Given the ascending educational attainment levels that are illustrated by Figure 5.2, we would expect to observe consistent increases in the aggregate voter turnout of my study cohort members over time if educational attainment alone accounted for their decisions to visit the voting booth.

These observations punctuate efforts in this chapter to come to grips with my three macro-level questions.

1. In what ways has the contribution of educational attainment as a young adult voter turnout predictor shifted or remained the same since ratification of the 26<sup>th</sup> Amendment?
2. To what extent have end of high school academics and sociopolitical traits impacting the young adult voter turnout probability changed or remained constant since ratification of the 26<sup>th</sup> Amendment?

3. In what manners have sociodemographic and life-cycle influences exhibited stability or change in predicting young adult voter turnout since ratification of the 26<sup>th</sup> Amendment?

At this macro-stage of the analysis, I embrace the complete time horizon of my study from three distinct vantage points. First, I adopt the period between 1954 (the principal birth year of my Mid-Boomers) and 2006 (the year by which virtually all of my Millennials had reached age 20) -- a five decade span -- to broadly gauge developmental influences occurring throughout the observed lifespans of my respondents. Second, I narrow the focus to the period between 1974 and 2006 for my age 20 empirical analyses. Third, I narrow the focus further to the 8 year period between 1976 and 1984 for my supplemental empirical comparisons involving Mid-Boomers and Late-Boomers at approximate age 22. As discussed in Chapter 3, the NCES surveys do not accommodate age 22 analyses involving the Gen X and Millennial respondents. Given my 26<sup>th</sup> Amendment focus, however, the age 20 empirical analyses are at the heart of the study, constituting a 32 year or 1.4 generation time span.

Consistent with the Chapter 4 discussion, I adopt a three-part approach to present my macro-observations, in this instance adopting generational cohort comparisons as the frame of reference. First, I address prominent constituents of stability and change from a contextual perspective. Second, I present the results of my macro-empirical analyses -- in this instance concentrating on aggregate cohort similarities and differences. The analytic methods described in Chapter 3 permit me to do this from both bivariate and multivariate vantage points. I close the chapter with a general discussion of my macro-findings, their theoretical implications and the major trends that are in evidence from a young adult voter turnout perspective. In so doing, I refine the themes underlying the conclusions and recommendations presented in Chapter 6. I also offer further insights about Brody's (1978) "puzzle."

## Generational Components of Stability and Change

I again find it useful to give separate consideration to the overall generational settings, life-cycle influences and period effects encountered by my respondents and other young Americans representing similar generational cohorts. Here, however, I focus on cross-cohort similarities and differences. In so doing, I respect Mannheim's (1972) generational unit distinction. Although the Mid-Boomers and Late-Boomers in my study are frequently regarded as having a common generational heritage, Figure 5.1 demonstrates that their aggregate voter turnout footprints were distinctive from one another at ages 20 and 22. That is, my macro-findings confirm that generational labels are somewhat arbitrary and that cohort placement within generations – the generational unit -- matters a great deal when young adult voter turnout is the object of interest. Reported events and trends are sourced primarily from the Appendix B tables.

The extended time horizon of my study – 1954 to 2006 -- covers one of the most dynamic periods in American history. For example:

- There were four “official” wars and several military actions of limited scope in which U.S. combat forces found themselves on foreign soil.
- There were at least six distinct U.S. economic cycles based on GDP, CPI and unemployment trends.
- Aggregate U.S. educational attainment not only reached its highest level but also grew at one of its fastest rates within a general environment of growing equality of educational opportunity.
- The average age of U.S. residents briefly went down during the Mid-Boom era before resuming its longer-term upward movement.

- The White majority of U.S. residents consistently declined as a percentage of the total population, yielding the most racially, ethnically and language diverse society in modern U.S. history by 2006.
- There was unprecedented liberalization of U.S. state and federal voting rules.
- Protest and demonstration, as exemplified by the civil rights, women's rights and voting rights movements, often rivaled the voting booth as a preferred means of political expression.
- Major events and systemic shocks -- ranging from manned space flight to completion of the human genome map to 9/11 -- re-shaped sociopolitical perceptions and expectations.
- New technology fundamentally altered the manner in which Americans communicate, do business and manage their personal lives within an overall context of growing globalization.

The period between 1954 and 2006 also marks an era of remarkable sociopolitical and economic stability within the U.S. – especially in comparison to many other parts of the world. All nine presidential transitions, for example, were orderly and conducted according to the rule of law despite the fact that some – especially the transitions from Kennedy to Johnson, Nixon to Ford and Clinton to Bush -- were not ultimately decided by the voters. Although the economy encountered periodic difficulties, in every instance the relatively brief economic downturns yielded to sustained periods of economic growth, lower inflation and reduced unemployment. Pre-1954 civil liberties and protections either remained in place or were strengthened. As the world shrunk in practical terms – due to the emergence of greatly improved travel and communications capabilities -- the oscillating U.S. role in global affairs never yielded to anything remotely resembling a “hostile takeover” by foreign political, socio-religious,



technological or economic competitors. That Americans routinely took for granted the basic stability of key economic, legal and political institutions is all the more remarkable in view of the periodic upheavals surrounding them between 1954 and 2006, including, for example: the 1978 Iranian Revolution, the 1979 Soviet invasion of Afghanistan, the 1981 imposition of martial law in Poland, the 1991 dissolution of the Soviet Union, and skyrocketing inflation, such as the 325 percent rate experienced in Angola in 2000.

The forces of stability and change within the U.S. no doubt contributed mightily to the distinct sociopolitical identities formed by my study cohort members. The overall purpose of the following sub-sections – *Generational Setting*, *Life-Cycle Considerations* and *Period Influences* - - is to add context and perspective to the macro-empirical findings presented later in the chapter, recognizing that these contextual observations are primarily impressionistic and, in many instances, difficult to specify with precision.

### *Generational Setting*

The time horizon of my study permits an indirect examination of macro-forces operating at the parent-level. Between 1954 and 2006, the proportion of U.S. residents aged 25 and over having bachelor's degrees more than quadrupled from about 6 percent to 27 percent. During the same time frame, annual disposable income growth beat inflation in 48 of 52 years and the national GDP was positive in 45 of the 52 years (see Appendix B, Tables B-2a and B-2b). As established in Chapters 2 and 4, both educational attainment and wealth are strongly associated with voter turnout. Applying that standard to the parent-age populations of my study cohorts not only leads to the expectation of an ascending voter turnout pattern for them but also implies that they would increasingly impart the importance of voting to their children. Such expectations are ill conceived on at least three grounds: the behavioral examples set by parents as role models, the

civic encouragement provided by parents, and the attitudes expressed by parents regarding partisan orientation and the importance of citizenship training.

*Parental role modeling.* As we saw in Chapter 2 (Figure 2.1), at an aggregate level, the voter turnout performance of U.S. adults during their prime childbearing years (ages 25-34) set a negative example that essentially paralleled the voter turnout of my study cohort members between 1974 and 2006 (Figure 5.1). As noted by Abramson et al. (2010) and others, the downward slope of adult participation in U.S. presidential elections actually extends back to 1964 – a point when my Mid-Boomers were highly impressionable 10 year-olds and my Late-Boomers were just learning to walk and interact with the outside world. If the respondents in my study were simply parroting the aggregate behaviors of their parents from cohort to cohort, they did so with an astonishing degree of regularity.

*Parental encouragement.* The observation of oscillating parental civic attentiveness that played out serially in Chapter 4 also is roughly consistent with the young adult voter turnout pattern illustrated by Figure 5.1. The strongest voter turnout message would be anticipated from Greatest Generation parents, given their well-publicized emphasis on duty, honor and country. Silent Generation parents who were characterized as being duty driven but less activist than their Greatest Generation predecessors and comprised a larger percentage of Late-Boomer parents, would be expected to transmit a weaker political participation signal to their children. The Early- and Mid-Boom parents of Gen Xers were typified as being less attentive, largely self-indulged and more prone to mixed civic signals than their parental predecessors. The Millennial combination of Mid- and Late-Boom parents was characterized as being much more involved and civically energized than their immediate predecessors. These shifting parental profiles,

although impossible to quantify, are roughly in line with the cross-cohort trend illustrated by Figure 5.1.

*Parental attitudes.* Abramson et al. (2010) cite partisanship as “the most important factor connecting voters’ backgrounds, social settings, and their more immediate assessment of issues and the candidates” (p. 193). A moderate increase in “strong” partisan attachment within the general voting age population prior to the 2004 presidential election (see Abramson et al., 2010, pp. 198-202; Lewis-Beck et al., 2011, pp. 112-127) is consistent with the increased voter turnout of my Millennial respondents at age 20 versus their Gen X and Late-Boom counterparts.

In this instance, public attitudes toward civic education are also revealing. As summarized on Table 5.2, age 20 respondents reporting high school or less educational attainment consistently demonstrated the lowest voter turnout of any educational attainment category. In PDK-Gallup polls capturing U.S. adult attitudes toward the public schools between 1979 and 2001 (Appendix B, Table B-3), a high proportion of respondents (i.e., 88-93 percent) affirmed the importance of citizenship training at the high school level. But in a half dozen surveys conducted during the 1980s, adult respondents consistently indicated that the civics curriculum comprising history and U.S. government courses was more important for college-bound than non-college-bound high school students. The overall implication is that the young adults who typically voted the least by age 20 (i.e., non-college-bound) also may have been receiving the weakest voter turnout signals at home and, perhaps, at school. Other considerations equal, as the percentage of college-bound students went up across study cohorts – as is most evident between the Late-Boom and Millennial cohorts in my study (Figure 5.2) – it would not be surprising to observe the upward voter turnout trend shown in Figure 5.1.

*Life-Cycle Considerations*

The life-cycle perspective is suggestive of three general trends that are potentially useful in interpreting the cross-cohort voter turnout patterns of my respondents. These trends relate to the changing meaning of educational attainment, the changing population dynamics and the delayed adult transitions of my study cohort members.

*Educational attainment.* As depicted by Figure 5.2, my study cohorts reflected the national trend toward higher educational attainment between 1974 and 2006. This is consistent as well with PDK-Gallup poll results showing a pronounced increase (i.e., from 26 percent to 75 percent) in the proportion of respondents indicating that a college education is “very important” (Appendix B, Table B-3). At the same time, available evidence suggests that the objective and symbolic meanings attached to educational attainment may have shifted during this period for at least three reasons.

At the threshold-level, it does not necessarily follow that educational achievement has kept pace with the emphasis on credentialing (see, e.g. Collins, 1979). In Chapter 4, we saw that high school reading achievement was a consistent voter turnout predictor for my study cohort members at age 20, and that high school math achievement and civics coursework were periodic voter turnout predictors for these respondents. Yet, as shown on table B-4 (Appendix B), high school senior math and reading achievement levels, as captured by the National Assessment of educational Progress (NAEP), essentially were flat between 1972 and 2004. Similarly, NAEP civics achievement scores showed little change between 1969 and 2006. To the extent that educational attainment is a marker for academic achievement in these subjects and, perhaps, other core subjects, it would not be surprising to observe the irregular relationship between attainment and young adult voter turnout that is depicted by Figures 2.6 and 4.1.

Second, there are strong indications that the importance of voluntary community service declined relative to other extracurricular priorities during the time horizon of my study. Prominent educational historians, such as Carl Kaestle, have noted a twentieth century “focus on training workers ... [that] parallels a decline in political knowledge and political participation” (Kaestle, 2000, p. 47). From the enactment of the 1958 Defense Education Act to the 1983 release of *A Nation at Risk* to the No Child Left Behind accountability standards that were phased-in beginning in 2002, the clear trend has been to strengthen job-related skills, math achievement and literacy achievement at the expense of civics-related subjects, prompting concerns in various quarters about the growing civic ill-preparedness of adolescents and young adults (see F.M. Hess, 2008; Ravitch and Finn, 1987; Ravitch and Viteritti, 2001). It is true that public and private high schools have placed greater emphasis on mandatory community service as a form of citizenship training during recent years. However, scholars have questioned whether mandatory community service actually promotes subsequent civic or political participation (see D.E. Campbell, 2011). Moreover, inasmuch as voting is inherently voluntary, discretionary community service may be a more telling indicator in any event. It is noteworthy in this regard that the average service club participation of my Millennial and Gen X respondents was 18 percent -- substantially lower than the 24 percent participation rate registered by the Late-Boomers in my study (Table 4.2b) -- suggesting that the effects of voluntary service on voter turnout, if any, may have diminished.

Third, the emergence of alternative school-types and the explosive growth of online learning options since the early 1990s suggest that the academic credentials received by the Millennials in my study may signify a different kind of citizenship training experience than that received by respondents in the earlier born study cohorts who obtained the “same” credentials.

Although my Chapter 4 micro-results presented a somewhat mixed picture of the voter turnout effects of traditional Catholic and non-Catholic private schools versus public high schools, a growing literature suggests that charter school students may be exposed to a different mix of civically relevant content than their public school counterparts (see Buckley and Schneider, 2003, 2004, 2007) as well as a less diverse social environment (see Hehir, 2009; Ravitch, 2010). The literature also presents a conflicted picture of overall charter school success from a core academic achievement and attainment perspective (see CREDO, 2009a, 2009b; Henig, 2008; Hoxby, Muraka and Kang, 2009). As discussed in Chapters 2 and 4, all three components – educational content, educational setting and core academic achievement – are associated with young adult voter turnout.

The distance learning perspective is also illuminating. As previously noted, the University of Phoenix -- a predominately online learning platform – is by far the largest accredited U.S. college or university, and online learning options of all types have been proliferating rapidly during the last few decades. Clearly, an online undergraduate or graduate degree is not obtained within the socially rich environments afforded by traditional colleges and universities – venues that, in recent years, have been central to young adult mobilizations at election time (see CIRCLE, 2012a, 2012b; Rosenstone and Hansen, 2003).

It is beyond the scope of my current investigation to estimate charter school or online learning effects on young adult voter turnout. Nonetheless, it is reasonable to expect differences relative to the traditional public schools. For example, both the mobilization and social capital frames discussed in Chapter 2 would predict that, other things equal, distance learning students typically would vote with less regularity than their young adult counterparts attending traditional

schools. This is of particular interest inasmuch as a high percentage of my study respondents – 61 percent of the Millennials, in fact -- were still enrolled in school at age 20 (see Table 4.2b).

*Population dynamics.* As depicted by Figures 4.1 and 5.1, the rise in educational attainment and the variable voter turnout patterns of my respondents closely paralleled the U.S. Census Bureau’s national tracking data. Surveyed attitudes yield useful insights as to possible influences underlying this trend. As high school seniors, 27 percent of the Mid-Boomers in my study indicated that correcting social and economic inequities was “very important,” compared to 12 percent of the Late-Boomers and 20 percent of the Gen X and Millennial respondents (Figure 5.3). Although social activism is far from being synonymous with political activism, it does tap a similar reservoir of public interest and concern at least from a social policy standpoint. As such, it is interesting that the observed trend is directionally similar to the age 20 voter turnout pattern observed in Figure 5.1.

Higher Education Research Institute (HERI) surveys of nationally representative college freshman samples are also illuminating. HERI studies conducted between 1972 and 2004 suggest an overall decrease in liberal-conservative ideology from the Mid-Boom to Late-Boom period and a noticeable uptick in liberal-conservative preferences thereafter (Figure 5.4). The “middle-of-the-road” category dropped from 57 percent for Late-Boomers to 46 percent for the Millennials in my study. The striking similarity between the rise and fall of “middle of the road” status (Figure 5.4) and voter turnout (Figures 4.1 and 5.1) is consistent with the expectations of Abramson et al. (2010) and others that ideological and partisan attachments drive voter turnout to an important degree.

My investigation also highlights a major anomaly along the race/ethnicity dimension. As depicted by Figure 5.6, and consistent with national trends, the percentage of White respondents

declined markedly from the Mid-Boom to Millennial phases of my study. The proportion of Black respondents, which was 13.3 percent of the Millennial sample, was 55 percent higher than in the Mid-Boom sample, which may reflect my sample design as well as general population dynamics. But the most explosive growth was among Hispanic and Asian respondents. Hispanics (15 percent of the Millennial sample) quadrupled and Asians (4-1/2 percent of the Millennial sample) tripled in size versus their percentages of the Mid-Boom cohort. The 5 percent drop in the percentage of English speaking households during the same period was more modest than one might expect under the circumstances and no doubt is due in part to the construction of my analytic samples discussed in Chapter 3 and Appendix A.

Consistent with national trends (see, e.g. Census, 2009a, 2009b), my Hispanic and Asian respondents consistently demonstrated the lowest voter turnout of any racial or ethnic category (Figure 5.7), which might reflect citizenship status as well as cultural and English proficiency differences versus White and Black respondents. This circumstance casts further doubt on the standalone contribution of educational attainment in the prediction of young adult voter turnout from a macro-perspective. Although my Hispanic respondents in the Late-Boom, Gen X and Millennial categories typically demonstrated lower educational attainment than their White and Black counterparts, Asians had the highest educational attainment of any racial or ethnic category across all study cohorts (Figure 5.8).

*Adult transitions.* As discussed in Chapter 4, important life-cycle transitions often point in opposite directions as young adult voter turnout predictors. Several scholars have reported that many of these civically relevant transitions are being delayed by the younger generations (see Howe and Strauss, 2000; Strauss and Howe, 1991; Zukin et al., 2006) – a notion that receives some impressionistic support from the reported experiences of my respondents at age



20. As depicted by Figures 5.9 and 5.10, the progression from the Mid-Boom to the Millennial era was accompanied by fewer marriages, an irregular but slightly reduced emphasis on having children, increased residential stability (i.e., residing with parents) and prolonged student status – all of which lead to higher voter turnout expectations based on my micro-results.

### *Period Influences*

The period influences discussed in Chapter 4 are suggestive of three broad trends that may have alternately encouraged and discouraged the voter turnout of my study cohort members. These include liberalization of the voting rules, the changing sociopolitical landscape and the march of new technology.

*Liberalized voting rules.* My study cohort members all approached the age of majority in a general environment of progressively liberalized federal and state voting rules. The path to the voting booth was clearly the most eventful and dramatic for the Mid-Boomers, who came of age shortly after ratification of the 24<sup>th</sup> (poll tax) and 26<sup>th</sup> (18-year-old vote) Amendments as well as the enactment of landmark civil rights and voting rights legislation. But the other study cohort members also benefited from a long list of court rulings (e.g., the 1972 *Dunn v. Blumstein* U.S. Supreme Court ban on residency requirements exceeding 30 days), federal legislation (e.g., the 1993 “motor voter” statute), and myriad state actions (e.g., relaxed absentee and early voting rules) during the time horizon of my study. Importantly, these effects were cumulative, meaning that each successive generational cohort enjoyed greater overall ballot box access than the previous one at ages 18-20. Other things equal, the net incentive to vote from a legal/policy perspective was both positive and of growing magnitude during the time horizon of my study.

*Evolving sociopolitical landscape.* As discussed in Chapter 4 and chronicled in Appendix B, each of my generational cohorts was presented with a unique set of opportunities

and challenges as a function of seminal events and systemic shocks occurring during their childhoods and adolescences. Two general themes rise above the din of period-specific externalities from a macro-perspective. First, and somewhat ironically, during the year or two just prior to their 18th birthdays the news was especially congested with matters requiring concerted bureaucratic or political attention for each of my study cohorts. Between 1970 and 1972, for example, the Mid-Boomers witnessed the Apollo 13 rescue, the public release of the Pentagon Papers, the Manson trial, the withdrawal of U.S. ground forces from Vietnam, a strategic arms treaty with the Soviets, the Kent State student killings, and the imposition of federal wage and price controls. Between 1978 and 1980, the Late-Boomers were confronted by the Soviet invasion of Afghanistan, the first “test tube baby”, Three Mile Island, the establishment of formal diplomatic ties with China, the Begin-Sadat Mid-East peace treaty, the SALT II nuclear proliferation treaty, the Iranian hostage ordeal, the Chrysler bailout, the congressional Abscam scandal, the Mt. St. Helens eruption, the emergence of AIDS as a national epidemic, and “stagflation.” Between 1990 and 1992, the Gen Xers came face to face with the first Gulf War (Desert Storm), the dissolution of the Soviet Union, the Clarence Thomas U.S. Supreme Court nomination, the U.S. House banking scandal, the Los Angeles riots, and the launch of the Hubble space telescope. Between 2002 and 2004, the Millennials confronted the SARS epidemic, the explosion of space shuttle Columbia, the post-9/11 formation of the federal Homeland Security Department, the second Gulf War (Iraq), the airline “shoe bomber,” the Abu Ghraib scandal, the Enron and Worldcom corporate scandals, and the enactment of No Child Left Behind. All of these events were highly publicized at the time, meaning that even the most inattentive members of my study cohorts would have been hard pressed not to be aware of them. As such, the members of each generational cohort had a personal and very current measure of

government effectiveness when the first national election in which they were eligible to vote rolled around.

Second, as can be readily discerned from the preceding sequence of events, each generational cohort in my study faced a somewhat different mix of issues. Some issues penetrated to the core of the U.S. political structure, whereas others were focused more directly on social values or efforts to provide humanitarian assistance. Not surprisingly, the HERI college freshman surveys revealed shifting activist priorities during the survey years in which my study participants were completing high school (Figure 5.5). For example, the Gen Xers were somewhat more attuned to matters involving social values, and there was a gradual decline in the expressed devotion to help others across study cohorts. Interestingly, however, the students surveyed by HERI placed a relatively consistent – and low – priority on efforts to reform the political structure. The HERI survey respondents were not, of course, fully representative of my study samples. Given the high percentage of study cohort members who continued their formal educations past high school – 77 percent of the Millennials, for example (Table 4.2a) -- the HERI trends should provide at least a rough reflection of the civically relevant attitudinal tendencies of my respondents when they first became eligible to vote.

*New communications technology.* The ever accelerating march of new communications technology is one of the most extensively documented phenomena in recorded history, which should surprise no one inasmuch as creating permanent records is fundamental to the genre. The critical point is that, during the time horizon of my study, technology fundamentally changed the manner in which people obtained information, communicated, pursued recreational interests, conducted business, formed relationships and engaged the outside world in general.

The techno-communications history that parallels the extended 1954-2006 time horizon of my study is a fitting tribute to Marshal McLuhan's (1964) declaration that the "medium is the message." In 1954, the principal birth year of the Mid-Boomers in my study, black and white television was still a novelty, telephonic communications were conducted largely over communal party lines, and commerce proceeded at the pace of two and six cent postage stamps, trucks, trains and steamships. Social and professional relationships were largely developed in-person – consummated by handshakes, occasional hugs and eye-to-eye contact when possible.

By the time my Late-Boomers entered the world, around 1962, a transatlantic telephone cable had been laid, commercial videotapes were in use, civilian jet passenger service had been established, dry heat photocopy technology had been developed, a U.S. presidential election ostensibly had been decided by a televised debate, a communications satellite had been launched, and manned space flight had migrated from the fantasies of Buck Rogers to the real world. Human interactions were still largely conducted in-person, but the pace had quickened and the limitations of time and distance had begun to shrink.

The 1974-vintage Gen Xers in my study began life with the added benefits of commercial satellites, color television on a broad scale, the advent of modern computer technology, consumer video recorders and the first portable telephones. Time and space had continued to contract just as person-to-person contacts had become increasingly mediated by the technological expedients of the day.

The Millennials in my study, who were born primarily in 1986, greeted a techno-environment that came pre-loaded with digital cameras, satellite television service, portable laptop computers, video games, national cellular networks, MTV, and the release of an infant computer platform known as Windows that foreshadowed even bigger changes ahead. They

were the first generation to grow up entirely within the computer age, and they learned very early in life to communicate and form relationships – virtually -- by mastering the technology at hand.

In 2006, the Millennials in my study turned 20, the Gen Xers were 32, the Late-Boomers had hit full stride at age 44, and many of the Mid-Boomers, then 52, were beginning to contemplate retirement. By that time, global internet usage had surpassed the billion person threshold and had prompted big changes in education, commerce, politics and social interactions. Full-size PCs and laptops had become passé for many, while smartphones and small electronic notebooks placed Facebook pages and Twitter accounts more comfortably within arm's reach. In reducing the effective size of the real world, the virtual world had greatly reduced the need for face-to-face contact.

As discussed in Chapters 2 and 3, the impact of new communications technology on civic and political participation has been hotly debated. One literature generally suggests that technology can be socially isolative (see Brickham and Rich, 2006; Genzkow, 2006; Seitz and Summer, 2007). Another body of work suggests that technology has not been isolative in a civic context, but, rather, that it has switched the focus from traditional avenues of expression, such as voting, to other forms of participation, such as internet-based chat rooms and straw polls, that often escape social science measurement (see Dalton, 2006, 2009; Zukin et al., 2006). Both scenarios are consistent with Figure 2.1, which depicts an inverse relationship between age and voter turnout between 1972 and 2008 irrespective of total turnout levels. But that is a tortured comparison because it equates the raw participation rates of different-aged voters in the same elections, and thus fails to account for well-established age-based differences affecting the voter turnout calculus that are unrelated to technology, including many of the components of stability and change discussed in this chapter.

Comparing the voter turnout rates of same-aged voters over different elections produces a very different picture. As shown on Figure 5.1, my respondents demonstrated an ascending voter turnout pattern from the Gen X cohort onward. Moreover, my multivariate micro-analyses demonstrated that daily non-school personal computer use was a positive predictor of age 20 voter turnout for the Millennials and Black Gen Xers (Tables 4.10 and 4.12). Counter to much of the literature, my findings add weight to the proposition that new communications technology is not inherently injurious to young adult voter turnout – either by producing an absolute reduction in turnout or by displacing turnout in favor of less traditional forms of political expression.

### *Profile Summary*

In Chapter 4, we observed from a micro-perspective that each of the generational cohorts in my study was confronted by a unique mix of voting incentives and disincentives as its members progressed from adolescence into young adulthood. The macro-perspective reveals a similar phenomenon across study cohorts. At least impressionistically, for example, the generational setting appears to be consequential as a cross-cohort voter turnout indicator. Observed shifts in parental role modeling, the civic encouragement provided by parents, and parental attitudes regarding partisan attachment and the importance of citizenship training all were directionally consistent with the young adult voter turnout trends depicted by Figure 5.1. These findings are consistent as well with prominent scholarship affirming the importance of parents and families in the formation of sociopolitical attitudes, beliefs and behaviors (see Jennings and Niemi, 1974, 1981; Lewis-Beck et al., 2011; Strauss and Howe, 1991; Verba et al., 1995; Zukin et al., 2006).

Life-cycle considerations appear to enter the voter turnout calculus in several ways that further distinguish my study cohorts from one another. The foregoing discussion provides anecdotal evidence, for example, that the rise in educational attainment and credentialism across my study cohorts may have outpaced real achievement gains (see Collins, 1979). The growing diversity of the U.S. population also appears to have created a drag on voter turnout during the time horizon of my study, given the sad reality that the fastest growing segments of my study cohorts were the least engaged as voters. The changing partisan profiles of U.S. young adults closely matched the voter turnout trends depicted by Figure 5.1, affirming the scholarship of Abramson et al. (2010) and others. Lastly, increased delays in the attainment of adult milestones across study cohorts, such as the delayed marriage and prolonged school enrollment rates, support the expectation of higher voter turnout levels from the Gen X cohort onward.

The net period effects also are somewhat difficult gauge from a young adult voter turnout perspective. The progressive liberalization of the voting rules that took place during the time horizon of my study stands out as a clear voter turnout incentive. In Downsian (1957) terms, the “costs” went down more or less continuously between the mid-1960s and the early-2000s. In the process, entire classes of citizens, notably 18-20 year-olds, were enfranchised. At the same time, however, the HERI survey data suggest that college freshmen consistently under-valued political change versus social change or helping others (Figure 5.5), elevating the possibility that the expanded voting entitlement was not accompanied by a corresponding zeal for voting. Finally, although new technology emerged as a positive voter turnout predictor for the Millennials in my study, noted divisions within the literature and the relatively brief snapshot afforded by the NCES datasets prompt caution in forming any firm conclusions.

## Macro-Empirical Results

The emerging contextual picture is one in which multiple influences coming together during the end of high school period may have operated in concert or at cross purposes with educational attainment (and each other) to account for the observed voter turnout differences of my respondents across study cohorts. It is with this backdrop in mind that I now move to the discussion of my macro-empirical results.

Given my preoccupation with evidence of persistence and change at this stage of the analysis, I structure the discussion to highlight same-measure similarities and differences across cohorts. Consistent with the Chapter 4 scheme and in line with my research questions, it is again useful to segment the empirical results into components: (1) educational attainment, (2) sociodemographic traits, (3) high school academics, (4) high school sociopolitical traits, and (5) life-cycle transitions.

As detailed in Chapter 3 and Appendix A, my base macro-models differ from the micro-models discussed in Chapter 4 in two ways. First, to improve comparability, the macro-models contain only the independent variables that were common to all study cohorts, meaning that the baccalaureate degree, high school social studies, high school service club, high school personal computer use and residential stability measures were excluded. The excluded variables that were common to two or three study cohorts were analyzed separately as add-ons to the appropriate base models. Second, as dictated by my diagnostic tests, the macro-models contained different quadratic (i.e., high school parental SES squared) and interaction terms (i.e., Black\*locus of control and South\*locus of control) than reported for the micro-models.

I adopt a dual focus on bivariate and multivariate cohort differences. The bivariate macro-results are summarized on Table 5.2, and same-measure bivariate cohort differences are



reported on Table 5.3. With the statistical power afforded by my large sample sizes and observed disparities in cell counts, it not surprising that even relatively small bivariate differences vary significantly across study cohorts. Accordingly, I draw attention in the narrative discussion only to differences exceeding 10 percentage points.

That said, I emphasize the multivariate findings due to the macro-contextual nuances discussed earlier in the chapter and the highly contingent nature of the multivariate micro-results reported in Chapter 4. I summarize the voter turnout effects associated with my base macro-models on Table 5.4. My supplemental findings involving the excluded measures are reported on Table 5.5. Tables 5.6 to 5.8, which are at the heart of my macro-analyses, report same-measure odds ratio differences across study cohorts.

#### *Educational Attainment*

My micro-findings affirmed the overall strength and resiliency of educational attainment as a young adult voter turnout predictor but also revealed variability in the attainment effects across study cohorts. The challenge at this juncture is to determine whether the observed shifts were meaningful and, if so, to discern whether they constituted a systematic pattern of change.

*Evidence of persistence and change.* On a bivariate basis, my study cohorts demonstrated remarkable consistency in their voter turnout patterns relative to educational attainment. As shown on Table 5.2, with the possible exception of Late-Boom vocational education, the patterns of relationships between attainment and voting by age 20 ascended across study cohorts; those reporting high school or less voted the least, those having received post-high school vocational training were in the middle, and those reporting at least some college voted with the greatest regularity on a percentage basis. Moreover, except for vocational education students in the Late-Boom cohort, all of these effects were highly significant ( $p < .001$ ). Although

the overall turnout rates obviously varied in the manner depicted by Figure 5.1, the bivariate spread between the lowest and highest voter turnout rates within study cohorts also demonstrated a high degree of consistency -- 22 percent for the Mid-Boomers, 18 percent for the Late-Boomers, 22 percent for the Gen Xers and 25 percent for the Millennials (Table 5.2) -- paralleling the Figure 5.1 trend in which the Mid-Boomers had the largest turnout spread and the participation ranges of the youngest two cohorts increased slightly from the Late-Boom low point. The bivariate differences reported on Table 5.3 further magnify the Mid-Boom baseline comparisons.

The multivariate perspective is quite different. Controlling for other study measures at age 20 (Table 5.4), the voter turnout difference between vocational education students and their peers reporting high school or less was significant only for the Mid-Boomers (odds ratio = 1.209,  $p < .01$ ). Interestingly, the voter turnout differences between college students and high-school-only respondents, which were highly significant across study cohorts ( $p < .001$ ), revealed a pattern that was directionally similar to that depicted on Figure 5.1. Mid-Boom college students voted with the greatest regularity at age 20 (odds ratio = 1.642;  $p < .001$ ). Late-Boomers voted with the least regularity (odds ratio = 1.202;  $p < .001$ ). And the political participation rates of the two youngest study cohorts consisting of Gen Xers (odds ratio = 1.449;  $p < .001$ ) and Millennials (odds ratio = 1.438;  $p < .001$ ) were in the middle.

Most of the observed multivariate differences between cohorts were not meaningful, however. As reported on Table 5.6, none of the observed differences involving vocational education students were significant at age 20 ( $p > .05$ ) across cohorts. And among respondents indicating that they had attended college, significant differences were confined to the Mid-Boom to Late-Boom drop (odds ratio change = -0.440,  $p < .01$ ) and the Late-Boom to Gen X (odds ratio

change = 0.247,  $p < .05$ ) and Millennial (odds ratio change = 0.236,  $p < .05$ ) upticks in age 20 voter turnout.

Interestingly, the age 22 multivariate results revealed an across-the-board strengthening of the vocational education and college effects versus respondents reporting high school or less (Table 5.4). The Mid-Boom (odds ratio = 1.206,  $p < .001$ ) and Late-Boom (odds ratio = 1.392,  $p < .001$ ) vocational education students demonstrated higher voter turnout odds than their high school only counterparts. The age 22 voter turnout odds of college students versus high school only respondents remained highly significant ( $p < .001$ ) and were noticeably stronger for the Mid-Boomers (odds ratio = 1.818;  $p < .001$ ) and Late-Boomers (odds ratio = 1.633;  $p < .001$ ) at age 22 than at age 20. As shown on Table 5.7, however, the magnitude of these changes was nonsignificant between the Mid-Boomers and Late-Boomers ( $p > .05$ ).

*Net impression.* The declining significance of vocational education and aggregate shifts in the college experience measure contributed to non-uniformity in the contribution of educational attainment as a young adult voter turnout predictor. Overall, however, same-measure change between study cohorts was constrained. The emerging picture is one in which the overall power of educational attainment as a young adult voter turnout predictor demonstrated a high degree of resiliency during the time horizon of my study when comparisons were confined to the same attainment levels across study cohorts. The next task is to estimate persistence and change in terms of the other study measures competing with educational attainment as young adult voter turnout predictors.

*Sociodemographic Traits*

The micro-results reported in Chapter 4 were directionally consistent with the literature as well as with theoretical expectations. The goal at this stage of the analysis is to determine whether the observed patterns of change reveal similarly coherent patterns across study cohorts.

*Evidence of persistence and change.* My bivariate results (Table 5.2) are suggestive of at least four notable cross-cohort trends. First, the relative increase in female voter turnout between the Mid-Boom and Millennial periods versus same-cohort males is consistent with national trends. Second, approaching the matter of young adult voter turnout through a race/ethnicity lens exposes raw disparities between White and non-White voter turnout that also roughly parallel national trends between 1972 and 2006. Third, Table 5.2 attests to the well-established importance of English literacy as a young adult voter turnout marker – especially for Gen Xers and Millennials. Fourth, the consistent linkage between parental socioeconomic status and voter turnout within all study cohorts also is in line with theory and research. As reported on Table 5.3, however, the same-measure bivariate differences were most apparent between the Mid- and Late-Boomers and between the Mid-Boomers and Gen Xers ( $p < .05-.01$ ).

The multivariate results reported on Table 5.4 support a more contingent view. First, in the presence of other study measures, female gender was a negative predictor of Gen X voter turnout at age 20 (odds ratio = 0.866,  $p < .001$ ) but was otherwise nonsignificant in my study models ( $p > .05$ ). Second, the age 20 voter turnout odds ratio deficits of Hispanic and Asian respondents ranged from 23 percent to 70 percent in comparison to Whites ( $p < .01-.001$ ), the only nonsignificant finding being for Late-Boom Hispanics ( $p > .05$ ). On a more encouraging note, the voter turnout odds of Black respondents improved greatly during the time horizon of my study, heading into positive territory for the Millennials (odds ratio = 1.237,  $p < .001$ ). Third, my

multivariate findings affirm the growing importance of English fluency across study cohorts – a measure that was nonsignificant for the Mid- and Late-Boomers but was a distinctly positive age 20 voter turnout predictor for the Gen Xers (odds ratio =1.530,  $p < .001$ ) and Millennials (odds ratio =1.665,  $p < .001$ ). This trend closely parallels the growing language diversity of the nation as a whole that occurred during the time period of my investigation. Fourth, on a cross-cohort basis, parental SES revealed itself to be a consistent voter turnout predictor. For my respondents at age 20, a 1 SD increase in parental SES was associated with an 18-22 percent increase in the voting odds ( $p < .001$ ). The same four trends are in evidence for my study respondents at age 22.

The individual components of stability and change at respondent age 20 are well illustrated on Table 5.6. Here we find that the strengthened female and Black voter turnout rates among Millennials were meaningful for the Late-Boomers onward ( $p < .001$ ), as was the eroding voter participation of Gen X and Millennial Hispanics versus Late-Boom Whites ( $p < .01-.001$ ). We also observe that the English fluency shift in predicting age 20 voter turnout was significant for the Gen Xers and Millennials versus Mid- and Late-Boomers ( $p < .05-.01$ ). The nonsignificance of differences along the parental SES dimension ( $p > .05$ ) attests to the consistency of SES' positive contribution to the voter turnout odds of the young adults in my study. The nonsignificant differences reported on Table 5.7 further attest to the stability of these measures as voter turnout predictors for the Mid- and Late-Boomers at age 22.

*Net impression.* These results affirm the long-term importance of gender, race/ethnicity and socioeconomic status as young adult voter turnout predictors. The encouraging trends involving females and Blacks, which occurred well before the much reported “Obama bump” in the 2008 Presidential Election, are countered by the stubborn voter turnout gaps between White respondents on the one hand and Hispanics and Asians on the other.

*High School Academics*

The Chapter 4 discussion presented a mixed picture at the micro-level in which reading achievement was the most consistent young adult voter turnout predictor. Here I am particularly interested in determining whether the cross-cohort lens produced a similar picture.

*Evidence of persistence and change.* On a bivariate basis (Table 5.2), the prevailing macro-trends differed among variable categories. For example, there was an ascending relationship between math and reading achievement on one hand and voter turnout on the other. Moreover, the cross-cohort patterns of change were directionally in line with the aggregate voter turnout patterns depicted by Figure 5.1. In contrast, high school civics coursework was not bivariately associated with the voter turnout of age 20 Mid-Boomers and Late-Boomers, but there was a 13 percentage point gap favoring voters in the Gen X cohort ( $p < .001$ ; Table 5.2). With the exception of Gen X non-Catholic high school alumni, former private high school students outvoted their public high school counterparts at age 20 across-the-board on a bivariate basis ( $p < .01-.001$ ; Table 5.2).

As was the case along the educational attainment dimension, the multivariate results reveal a much more contingent series of relationships. As reported on Table 5.4, for example, math shifted from being a positive voter turnout predictor for Mid-Boomers (odds ratio = 1.082,  $p < .01$ ) to a negative predictor for the Gen X (odds ratio = 0.929,  $p < .05$ ) and Millennial (odds ratio = 0.931,  $p > .05$ ) respondents at age 20, whereas a 1 SD increase in reading achievement was associated with a 7-25 percent improvement in the age 20 voter turnout odds across study cohorts ( $p < .05-.001$ ). High school-type was significant only for the Gen X non-Catholic private school alumni, who demonstrated a 33 percent reduction in their voter turnout odds versus former public high school students at age 20 ( $p < .001$ ; Table 5.4). As shown on Table 5.5, the

age 20 voter turnout odds of Gen Xers who took at least six high school social studies courses were enhanced by 24 percent in the presence of other study measures ( $p < .01$ ), but the civics coursework effects were unremarkable for Mid- and Late-Boomers. The age 22 multivariate comparisons involving my Mid- and Late-Boomers (Table 5.4) were in keeping with the age 20 results.

Tables 5.6 to 5.8 confirm the significance of the observed multivariate shifts. The net downturn in the contribution of high school math achievement to age 20 voter turnout is clearly in evidence on Table 5.6. The consistent contribution of high school reading achievement as a young adult voter turnout indicator also was confirmed, but with the caveat that reading achievement effects were more pronounced for Gen Xers than for respondents in the other study cohorts ( $p < .01$ ; Table 5.6). The negative contribution of non-Catholic private high school attendance to the age 20 voter turnout of Gen Xers versus Late-Boomers was significant ( $p < .01$ ; Table 5.6). The voter turnout improvement associated with civics coursework in the Gen X cohort versus Mid- and Late-Boomers was significant as well ( $p < .05$ -.01; Table 5.8).

*Net impression.* These results reveal clear differences in the contributions of high school achievement, coursework and venue to young adult voter turnout. In this context, reading stands out as a star performer. And although the high school reading achievement effects were modest for the Mid- and Late-Boomers in my study four years post-high school, it is noteworthy that they remained significant at all four years post-high school.

*High School Sociopolitical Traits*

My micro-results presented a mixed picture in which certain measures, such as non-athletic curricular activities, were consistent predictors of young adult voter turnout while other measures emerged and receded as meaningful voter turnout indicators across study cohorts. Here I attempt to disentangle these effects and spot meaningful trends.

*Evidence of persistence and change.* The bivariate findings revealed consistent and positive relationships between age 20 voter turnout and almost all of my sociopolitical measures across study cohorts: daily newspaper access, locus of control, student government participation, organized athletics and non-political clubs (Tables 5.2 and 5.3). The high school service clubs measure was bivariately associated (Table 5.2) with age 20 voter turnout in the three cohorts for which it was available (Late-Boom, Gen X and Millennial). And, although daily personal computer use was negatively associated with Gen X voter turnout on a bivariate basis, this measure was positively associated with the age 20 turnout of the Millennials in my study ( $p < .001$ ; Table 5.2). Thus, with the sole exception of Gen X personal computer use, respondents uniformly voted in higher percentages than expected on the basis of chance alone along each of these bivariate study dimensions, and the ascending pattern between locus of control categories and voter turnout also was pronounced across cohorts. The results reported on Table 5.3 reveal an overall pattern of change along these dimensions that is strikingly similar to the overall voter turnout trends illustrated on Figure 5.1.

As reported on Tables 5.4 and 5.5, the multivariate results suggest that the voter turnout odds ratios associated with these measures were much more conditional in the presence of the full complement independent variables. For example, the daily newspaper access predictor was nonsignificant for the Gen Xers ( $p > .05$ ) but improved the voter turnout odds of other respondents



by 10-43 percent ( $p < .05$ -.001). The locus of control measure, which also was nonsignificant for most Gen Xers ( $p > .05$ ), increased the voter turnout odds of other cohort members by 8-9 percent ( $p < .05$ -.001). High school athletics was a positive voter turnout predictor only for the Gen X respondents (odds ratio = 1.097,  $p < .05$ ). Student government and nonpolitical club participation enhanced the voter turnout odds ratios by 20-39 percent across cohorts ( $p < .01$ -.001). The high school service club and daily personal computer use measures improved the voter turnout odds of Millennials by 16-19 percent ( $p < .001$ ) but were nonsignificant in the other models in which they appeared. The Mid- and Late-Boom results were directionally consistent at respondent ages 20 and 22 and, in fact, strengthened along the student government participation dimension (Table 5.4).

The observed shifts were not always meaningful, however. As shown on Tables 5.6 and 5.8, the most notable changes involved the declining contribution of daily newspaper access among Gen X and Millennial respondents versus Late-Boomers and the growing importance of daily personal computer use for Millennials versus Gen Xers. The age 22 differences (Table 5.7) revealed an increase in the importance of daily newspaper access from the Mid- to Late-Boomers periods.

*Net impression.* These results are in line with expectations. On a general level, they illustrate the sensitivity of empirical voter turnout models to the exclusion (bivariate findings) or inclusion (multivariate models) of relevant covariates and controls. On a granular level, my findings not only provide new evidence of the possible effects of technology on voter turnout odds during the time horizon of my investigation (e.g., the decline of newspapers and growth of computers as information sources), but also highlight the ongoing importance of activity-based extracurricular programs at the high school level.

*Life-Cycle Transitions*

As discussed in relation to each study cohort, my Chapter 4 micro-findings were in keeping with the general view that important adult transitions milestones often point in opposite directions as voter turnout indicators. Here the goal is to pinpoint cross-cohort patterns that might shed light as to whether the mix and/or relative strength of these indicators shifted during the time horizon of my study.

*Evidence of persistence and change.* The bivariate results lend further credence to the countervailing forces scenario. Table 5.2 reveals a clear pattern in which the average age 20 voter turnout percentages of my respondents were universally lower than their peers if they reported being married, having children or serving in the military. The turnout rates were universally higher for respondents who reported current school enrollment at age 20. The relative voter turnout percentages of respondents who indicated current employment or, for the Mid- and Late-Boomers, who reported residing in the same community at age 20 as during high school, were inconsistent across study cohorts. As shown on Table 5.3, cohort differences were most pronounced in comparison to the Mid-Boomers – especially along the current school enrollment dimension ( $p < .01$ ).

My multivariate results (Table 5.4) are notable in several respects. For example, marriage was a significant voter turnout predictor only for the Mid-Boomers, reducing the age 20 odds ratio by 13 percent ( $p < .01$ ). Having children was a negative voter turnout predictor for the Gen Xers at age 20 (odds ratio = 0.842,  $p < .05$ ) as well as for the Mid-Boomers (odds ratio = 0.759,  $p < .001$ ) and Late-Boomers (odds ratio = 0.782,  $p < .001$ ) at age 22. With the exception of the Mid-Boomers at age 22, non-school enrollment was associated with a 12 to 37 percent

reduction in the voter turnout odds across study cohorts ( $p < .05$ -.001). Current employment emerged as a positive voter turnout predictor for the Mid-Boomers, Late-Boomers and Gen Xers (odds ratio improvement = 12-27 percent,  $p < .05$ -.001), but not for the Millennials at age 20 or for the Mid- and Late-Boomers at age 22 ( $p > .05$ ). Military service status was nonsignificant across the board ( $p > .05$ ). The residential stability measure was a significant and positive voter turnout predictor at ages 20 and 22 within the Mid-Boom and Late-Boom cohorts for which this measure was available (odds ratio improvement = 24-35 percent,  $p < .001$ ).

As shown on Tables 5.6 to 5.8, the reported shifts were significant only along the school enrollment and current employment dimensions. In comparison to Mid-Boomers, non-school enrollment was stronger as a negative voter turnout predictor for respondents in the other study cohorts ( $p < .05$ -.001), consistent with other study findings affirming the importance of post-high school education. Having a job was a more influential voter turnout predictor for Gen Xers in comparison to Mid-Boomers ( $p < .05$ ) and a less influential predictor for Millennials in relation to Gen Xers ( $p < .01$ ).

*Net impression.* In aggregate, these findings again demonstrate the sensitivity of voting studies to the methodological controls that are employed. That the results pertaining to having children strengthened between ages 20 and 22 among the Mid- and Late-Boomers may simply reflect sample size differences. Recalling Table 4.2b, the reported percentages doubled during this interval. In other respects, however, these findings provide conditional support for the notions that adult transition milestones affect young adult voter turnout and that key influences apply countervailing pressures to the turnout arithmetic. The overall strength of the school enrollment measures reinforces earlier findings concerning the multiple pathways by which education enters the young adult voter turnout calculus.

## Discussion

Consistent with suspicions that were aroused by the Chapter 4 micro-results, my contextual and empirical macro-findings demonstrate that important educational and non-educational influences shaping the odds of young adult voter turnout were far from static during the time horizon of this investigation. A few caveats bear restating, however. I again caution readers that my contextual profile observations are impressionistic, often anecdotal and infrequently suited to precise measurement. Their purpose is to supplement and enrich the empirical findings – not to replace or compete with them. I also remind readers that, as detailed in Chapter 3 and Appendix A, my macro-empirical models are as closely similar to one another as I could construct them. But they are not identical in all respects.

That said, two general observations bear special emphasis because of their broad applicability across my study cohorts and analyses. First, my macro-results illustrate the importance of model construction and the imposition of methodological controls in civically-focused empirical studies. As shown on Tables 5.2 and 5.3, my bivariate results magnified cross-cohort differences along dimensions that have been hotly debated in the literature -- notably the roles attributed to high school-type and life-cycle transitions in the promotion of young adult civic development and political participation. Many of the reported bivariate differences disappeared or were attenuated when other respondent circumstances and characteristics were brought to bear in my cross-cohort multivariate comparisons. My multivariate macro-analyses, which permitted time-based comparisons and benefited from a rich complement of covariates and controls, point to much more contingent relationships than are often reported in the literature.

Second, my macro-results provide evidence from multiple contextual and empirical vantage points that persistence and change need not be mutually exclusive but, rather, can coexist in a reasonably comprehensible way when young adult voter turnout is the object of interest. As detailed below, a more or less constant interplay between the forces of persistence and change is especially visible in relation to the educational attainment, sociopolitical traits and life-cycle transitions components of my investigation.

With this backdrop, I now turn to the three questions driving my investigation from a macro-perspective. I then conclude the chapter with a general discussion of the theoretical implications of my findings. In the process, I provide additional insights about Brody's (1978) "puzzle of political participation."

#### *Educational Attainment*

My macro-findings affirmed the importance of adopting a longitudinal perspective to fully gauge the role of educational attainment as a voter turnout predictor. Cross-sectional analyses, such as those reported in Chapter 4, are useful in specifying cohort-specific estimates, which may be important in their own right, and which can be generalized to other contexts when there is relative stability along critical predictor dimensions. As we have seen, however, educational attainment was anything but static during the time horizon of this investigation. Average attainment levels shot up dramatically across respondent cohorts and among the parents of my study respondents. Moreover, the bivariate and multivariate relationships between attainment and young adult voter turnout across study cohorts cannot be explained cross-sectionally. I am thus drawn to this question: *In what ways has the contribution of educational attainment as a young adult voter turnout predictor shifted or remained the same since ratification of the 26<sup>th</sup> Amendment?*

My macro-results are largely but not totally responsive to this question. For example, the time horizon of my study and the composition of the NCES datasets did not accommodate empirical tests involving the young adult voter turnout consequences, if any, that may be associated with newly emerging school-types, such as charters, or the explosive growth of online learning platforms as replacements for traditional secondary and post-secondary schools. Nor did my data permit a rigorous examination of the observed parallel between the parental attainment-voter turnout linkage and that of their young adult children. These topics, which my contextual observations elevate as being potentially consequential from a democratic education policy and practice perspective, are high on my future research agenda.

At least three conclusions can be drawn with a high degree of confidence in relation to my study cohorts. First, the overall strength of educational attainment as young adult voter turnout predictor that was observed at the micro-level was very much in evidence from a cross-cohort macro-perspective. The bivariate relationships between attainment and voter turnout were relatively stable across study cohorts, as were the multivariate relationships between college attendance and voter turnout. From both vantage points, my empirical findings roughly paralleled the cross-cohort voter turnout trends depicted by Figure 5.1, lending further credence to the overall stability of the attainment-turnout linkage at least in relation to college attendance.

Second, a general decline in the importance of vocational education as a voter turnout marker was very much in evidence. On a bivariate basis, the percentages of high school only and vocational education respondents who reported having voted by age 20 were both below the norm (Table 5.2) across study cohorts. It is true that the pronounced drop off in the percentage of respondents reporting vocational education across my study cohorts – 11 percent of Mid-Boomers versus 2 percent of Millennials (Table 4.1a) – no doubt accounted to a degree for the

nonsignificant multivariate results. But equally plausible interpretations, based on my contextual observations, are that: (1) the basic distinction between high school and vocational education in separating young adult voters from nonvoters may have weakened during the time horizon of my study; and (2) it is risky in a civic context to view college as a simple extension of vocational education as is sometimes the case in unitary scale attainment studies.

Third, inasmuch as the high school only and vocational education attainment measures both weakened as voter turnout predictors across study cohorts, my findings also provide another reflection of the increased importance of college attendance. Although, the college attainment trend did not explain the voter turnout drop off between the Mid- and Late-Boom periods (Figure 5.1), it was fully consistent with the ascending voter turnout pattern thereafter. Importantly, the overall trend also was consistent with the micro-findings reported in Chapter 4, further suggesting that educational attainment effects were non-uniform during the time horizon of my study.

#### *End of High School Academics and Sociopolitical Traits*

In Chapter 4, we saw that end of high school academics and sociopolitical traits were, in many respects, robust predictors of young adult voter turnout. My macro-findings revealed additional resiliency along these study dimensions, prompting the question: *To what extent have end of high school academics and sociopolitical traits impacting the young adult voter turnout probability changed or remained constant since ratification of the 26<sup>th</sup> Amendment?*

The macro-perspective augments the literature in four principal ways that are potentially impactful on efforts to improve democratic education policy and practice as well as efforts to improve young adult political participation. First, my macro-findings not only attest to the overall importance of English literacy in promoting young adult voter turnout but also suggest

that the democratic stakes may be getting higher in this regard. From a combined bivariate and multivariate perspective, for example, high school reading achievement stood well above math achievement and civics coursework as a strong and consistent voter turnout predictor at respondent ages 20 and 22. Moreover, the importance of English status as a high school family trait greatly strengthened as a voter turnout predictor during the Gen X and Millennial phases of my study when language diversity was beginning to spike among U.S. high school students nationwide – a finding that clearly has cultural as well as linguistic implications. The relatively consistent contributions of daily newspaper access and, for Millennials, daily personal computer use as age 20 voter turnout predictors added further weight to the overall importance of reading and English fluency in a political participation context. From this vantage point, the apparent lack of progress in high school reading achievement evidenced nationally during the time horizon of my study (Appendix B, Table B-4) is particularly disconcerting.

Second, my macro-results suggest that new communications technology is not inherently injurious to young adult voter turnout. Rather, my findings frame technology as a contextually sensitive means of conveying democratically relevant messages that may actually boost voter turnout. My bivariate results (Tables 5.2 and 5.3) showed that the voter turnout percentage went from below average (Gen Xers) to above average (Millennials) during a period in which the reported frequency of daily computer use more than doubled (Tables 4.1b and 5.2). Controlling for other study measures, my supplemental multivariate analyses (Table 5.5) showed that daily personal computer use was a positive voter turnout predictor for the Millennials. Although these findings, which are based on two short-term comparisons, do not lend themselves to the formation of definitive conclusions, they do provide encouragement that technology can be usefully enlisted in the cause of promoting young adult voter turnout. Accordingly, this is



another area that screams for further scholarly attention in a research setting that properly accounts for contextual influences.

Third, my findings underscore the importance of activity-based high school extracurricular programs in promoting young adult voter turnout. High school student government participation and non-political club membership were strongly associated with voter turnout on both a bivariate and multivariate basis (Tables 5.2 and 5.4) at ages 20 and 22, and the nonsignificance of differences between cohorts (Table 5.6) affirmed their persistence. Voluntary service club participation emerged as a net voter turnout booster for the Millennials (Table 5.5). It is beyond the scope of this investigation to determine whether the observed effects were due primarily to the formation of social capital, the modeling of democratic behaviors, the saliency of public issues or something else. For present purposes, however, it is important to note that my empirical findings are consistent both with my contextual observations and with the work of prominent scholars in the field (see Verba et al., 1995; Niemi and Junn, 1998). The disturbing realization from a voter turnout perspective is that respondent participation levels in these activities declined or were relatively flat during the time horizon of my study (Table 4.2b).

Fourth, my findings are consistent with a large literature associating ideological and partisan attachments with voter turnout (see, e.g. Abramson et al., 2010). For example, the voter turnout odds associated with voluntary high school student government participation (Table 5.4) – an activity that frequently entails elections and other partisan simulations – declined moderately during the Late-Boomer and Gen X periods before heading back up for the Millennials in my study. Further impressionistic support is provided by the reported importance my respondents placed on correcting inequities (Figure 5.3) and survey results revealing a drop in college freshman partisanship between 1972 and 1980 followed by gradual increases in 1992

and 2004 (Figure 5.4). All of these trends are roughly consistent with the young adult voter turnout patterns depicted by Figure 5.1.

### *Sociodemographic Traits and Life-Cycle Considerations*

Adult transition milestones and sociodemographics enter the young adult voter turnout picture in two ways. First, they serve as indispensable controls to ensure apples-to-apples comparisons between other study measures. Second, they frequently act as important voter turnout predictors in their own right. Here I ask: *In what manner have sociodemographic and life-cycle influences exhibited stability or change in predicting young adult voter turnout since ratification of the 26<sup>th</sup> Amendment?*

My qualitative and empirical results expose a multi-headed Hydra whose faces often point in different directions. First, high school parental SES was found to be a stable and moderate predictor of age 20 voter turnout across-the-board. This finding was confirmed both on a bivariate (Table 5.2) and multivariate (Table 5.4) basis. Although the bivariate differences were highly significant across study cohorts ( $p < .01$ ; Table 5.3), the total absence of significant multivariate differences between cohorts (Table 5.6) attests to the persistence of SES effects in the presence of respondent educational attainment and other study measures. These findings add weight to my contextual observations regarding the important role played by parents in the sociopolitical development of their offspring.

Second, from a diversity perspective, the emerging macro-picture is decidedly mixed. On a positive note, my results are consistent with recent national trends showing a net increase in the voter turnout of women and Blacks since the 2000 presidential election (Tables 5.2, 5.3, 5.4 and 5.6). As additional data collection waves in the NCES Secondary Longitudinal Study series are released during the next few years, encompassing the 2008 and 2012 elections, I would

expect to observe an acceleration of this trend given reported voter turnout levels in national tracking studies (Census, 2011a, 2012c; McCormick and Giroux, 2012). On the negative side, however, my Hispanic and Asian respondents, who represent the two fastest growing segments of U.S. society, demonstrated stubborn persistence in their lack of voter turnout at ages 20 and 22 (Tables 5.2, 5.4 and 5.6). That recent tracking data reveal an increase in young Hispanic voter turnout during the 2008 and 2012 presidential elections is encouraging but does not guarantee that longer-term disparities will not resurface in future elections. The Asian voter turnout gap is particularly puzzling inasmuch as my Asian respondents universally had the highest aggregate educational attainment of any racial or ethnic category in my study (Figure 5.8). Language, culture, community setting, etc. no doubt played important roles in accounting for the long-term Hispanic and Asian trends. By any yardstick, however, more scholarly attention is needed in this area.

Finally, the life-cycle transitions measures are notable in three respects that reflect shifts in their relative influences across study cohorts. One, my bivariate results revealed that the percentages of married respondents who voted at age 20 fell well below the average in every study cohort (Table 5.2). That marriage receded as a negative voter turnout predictor from a multivariate perspective (Table 5.4) may have more to do with the fact that the percentage of married respondents went down during the course of my study (Figure 5.8) than with any change in the effect of marriage on turnout, per se. A similar pattern is in evidence regarding the negative relationship between having children and voting at ages 20 and 22 (Figure 5.8 and Table 5.4). In both instances, it is reasonable to conclude that the muted voter turnout effects were due primarily to delayed adult transitions. Two, my macro-results generally suggest that having a job at age 20 strengthened and then receded as a voter turnout predictor between the

Mid-Boom and Millennial eras (Tables 5.4 and 5.6). At the same time, there was a gradual increase in the percentage of Gen X and Millennial respondents reporting current employment (Figure 5.10). Three, the percentage of respondents remaining in school at age 20 – another delayed adult transition influence -- went up dramatically during the time horizon of my study (Figure 5.10), and the voter turnout odds penalty for non-school enrollment also went up (Tables 5.4 and 5.6). On a combined basis, although the family, work and education transitions can point in different directions as voter turnout predictors, it is reasonable to conclude that the net reductions in the percentages of married respondents and respondents reporting dependent children combined with higher school enrollment percentages to boost the age 20 voter turnout odds. As such, the increase in transitional *delays* probably had more to with observed changes in the voter turnout odds than did the underlying dynamics of the transitional *milestones* themselves.

### *Theoretical Support and Summary*

My macro-findings, which broaden and refine the micro-results reported in Chapter 4 from a cross-cohort perspective, again provide conditional support for most of the partial theoretical frames outlined in Chapter 2. Overall, my contextual observations and empirical findings provide new support for the notion that young adult voter turnout propensities are cradled within a complex web of generational, life-cycle and period influences. The cross-cohort educational attainment trends not only attest to the strength and resiliency of attainment as a young adult voter turnout predictor – especially at the collegiate-level -- but also lend additional support to the social traits, sociodemographic shifts and social capital frames. Here, for example, the cross-cohort trends reveal educational attainment both as a resource and as a sorting mechanism (D.E. Campbell, 2009; Carlson, 2012; Nie et al., 1996). The end of high school

academic and sociopolitical traits findings increase the currency of the new technology, social traits and social capital frames. There also is implied but impressionistic support for the mobilization frame based on the observed voter turnout trends relative to high school student government and non-political club participation. The sociodemographic traits findings provide dramatic and, in some instances disturbing, evidence in support of the social traits and sociodemographic shifts frames.

These results strengthen my devotion to the use of a broadly gauged and flexible theoretical frame, such as my Target of Participation model, in developing a better understanding of the forces of stability and change underlying U.S. young adult voter turnout. It makes little sense to adopt one or a only a few of the specialized frames, as has been so prevalent in the literature, when they each contribute meaningfully to the overall voter turnout picture. My investigation provides new evidence as well that the relationships between component influences are multi-faceted. Moreover, the pronounced differences between my bivariate and multivariate results underscore the importance of employing empirical models in voting studies that contain adequate controls and covariates. These observations add weight to the view expressed earlier in this chapter that the highly variable results of prominent voting studies may be largely attributable to model specification disparities between them.

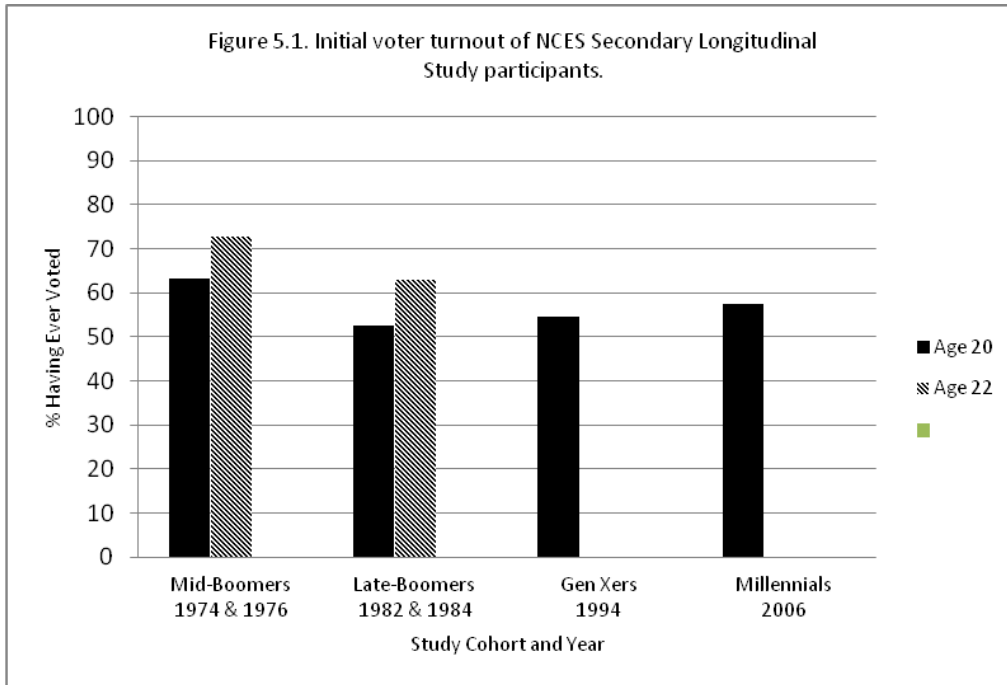
In Chapter 4, I partially addressed Brody's (1978) "puzzle of political participation" from a micro-perspective, noting that his struggle in accounting for the apparent oppositional relationship between educational attainment and voter turnout was as structural as it was data-driven. My macro-analyses shed further light on the matter. The long-term educational trend at the root of Brody's analysis, which extended from 1952 to 1976, covered a 24 year period during which the observed relationship between college attainment and voter turnout was divergent and

in which the opposing trend lines appeared to be relatively uniform. Additionally, Brody introduced a path model to account for 1972 presidential election turnout in which the educational component was fixed and -- here I am guessing -- likely to have been derived from calculations embodying similar assumptions of divergence and linearity. Moreover, the path model used by Brody confirmed that he delimited direct educational effects to the “regularity with which [the] respondent has voted in past elections” and the “respondents level of political involvement” (Brody, 1978, p. 300; Brody and Sniderman, 1977, p. 347), thus confining educational attainment to an indirect pathway to voter turnout through these mediating mechanisms. The Target of Participation admits to multiple educational pathways in which education writ large can enter the voter turnout calculus. The Target is open to interactions between education and many other voter turnout predictors. And the Target flexibly accommodates both direct and indirect educational influences on voter turnout. The empirical results reported in Chapters 4 and 5 support the Target of Participation on all three grounds.

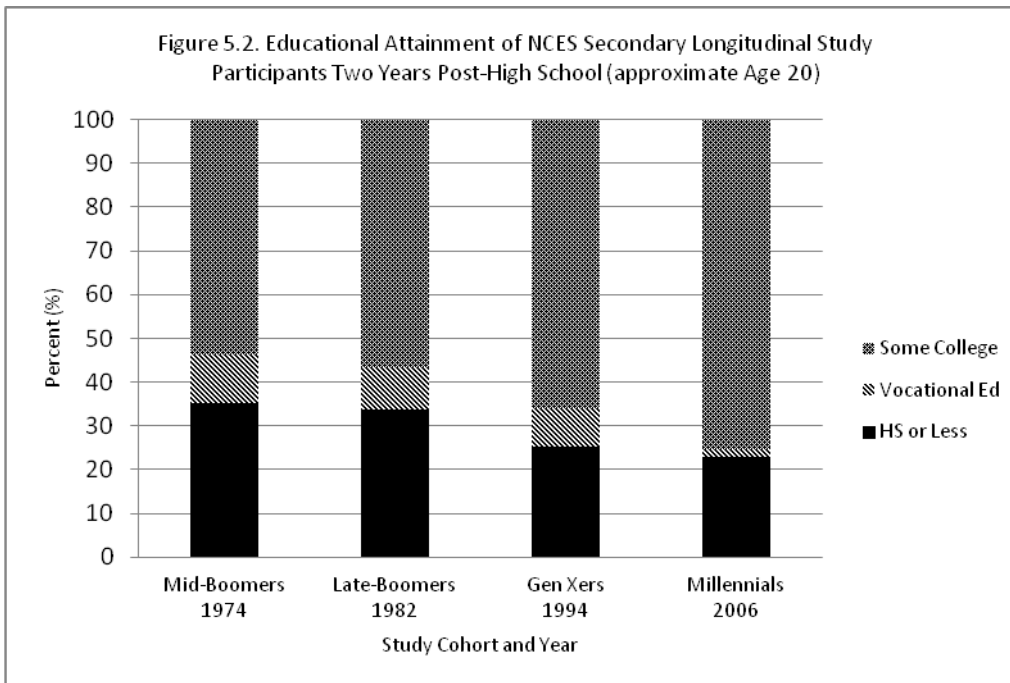
As graphically illustrated by Figures 2.1, 4.1 and 5.1, my investigation reveals a longer (26 year) and more recent trend line along which the observed relationship between educational attainment and voter turnout was irregular and, in fact, reversed directions on at least three occasions between 1972 and 2008. If my reasoning is correct, Brody’s formulation was in part a captive of his 1952 to 1976 observational horizon and was thus incapable of accounting for the more recent trends. In contrast, my macro-models and the Target of Participation on which they are rooted not only account for observed education-voter trends between 1972 and 2006 but are also capable of explaining the earlier trends on which Brody’s (1978) work was based.

In sum, the contextual observations and macro-empirical findings presented in this chapter further illuminate the relationships between education, non-educational considerations

and U.S. young adult voter turnout in the post-26<sup>th</sup> Amendment era. Together, these results and the micro-findings reported in Chapter 4 provide a sound evidentiary and theoretical foundation for policy and practice reforms aimed at improving the status quo. I turn to the consideration of those challenges in Chapter 6.

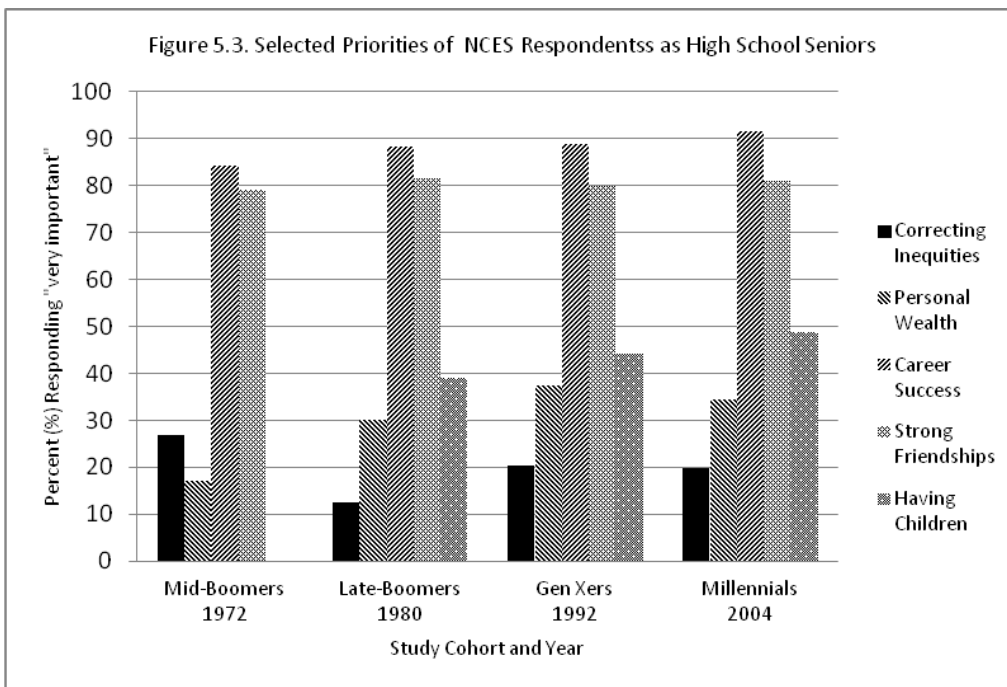


Source: Table 4.2a.

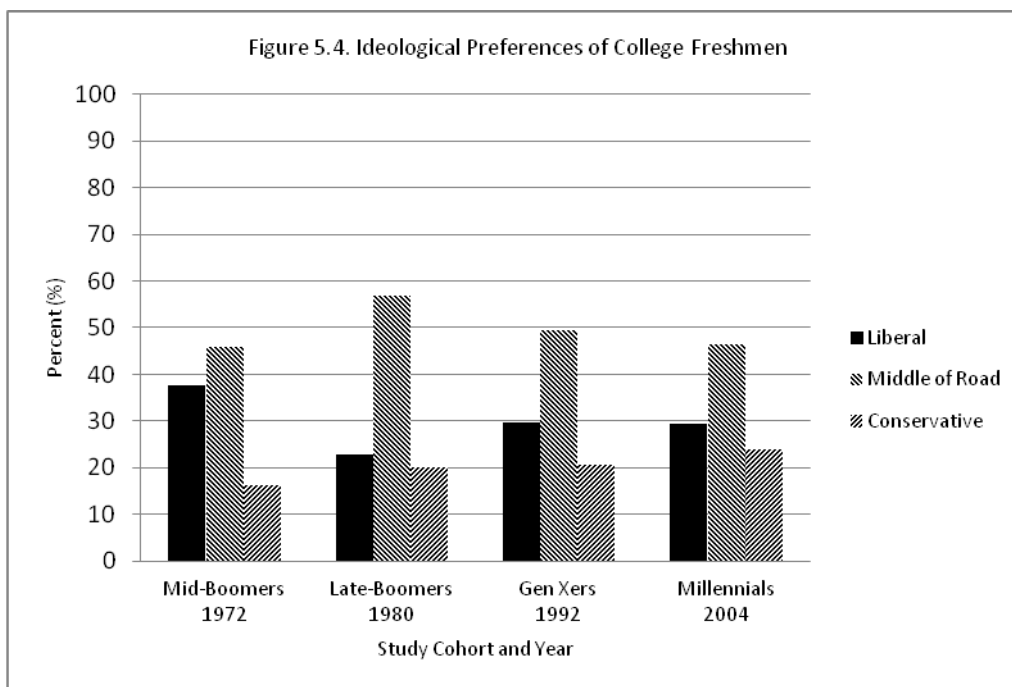


Source: Table 4.2a.

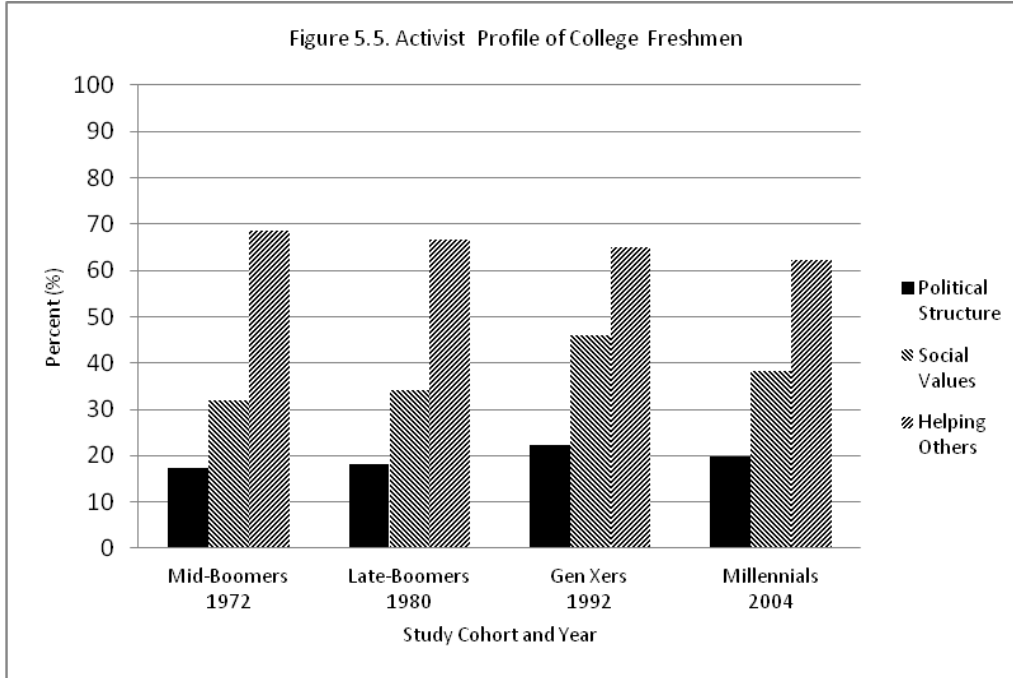




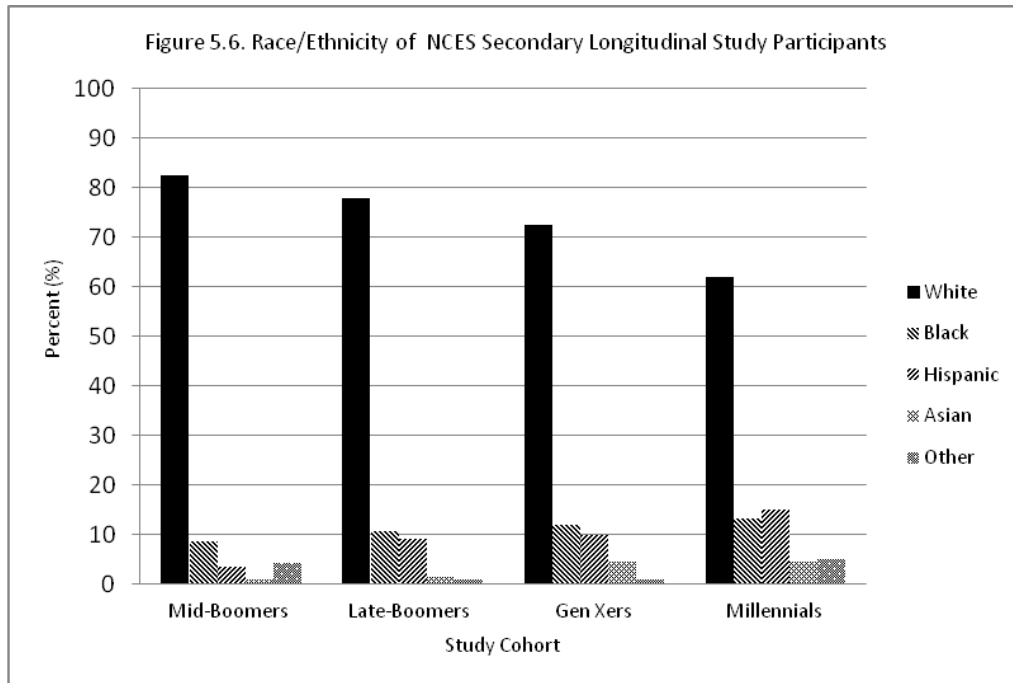
Source: NCEs Secondary Longitudinal Study datasets.



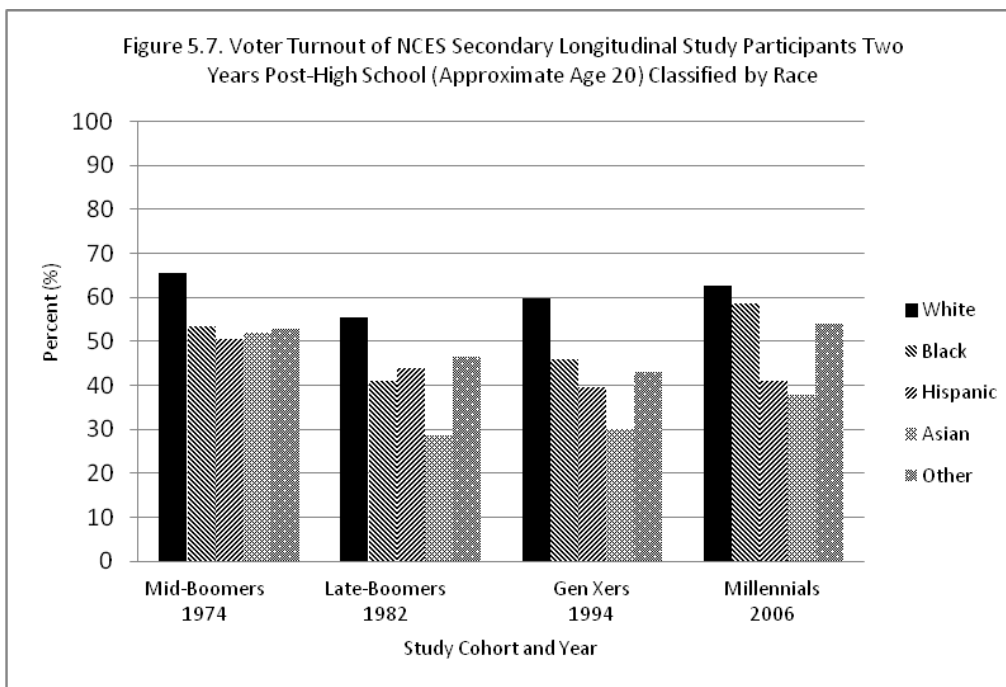
Source: HERI (2007)



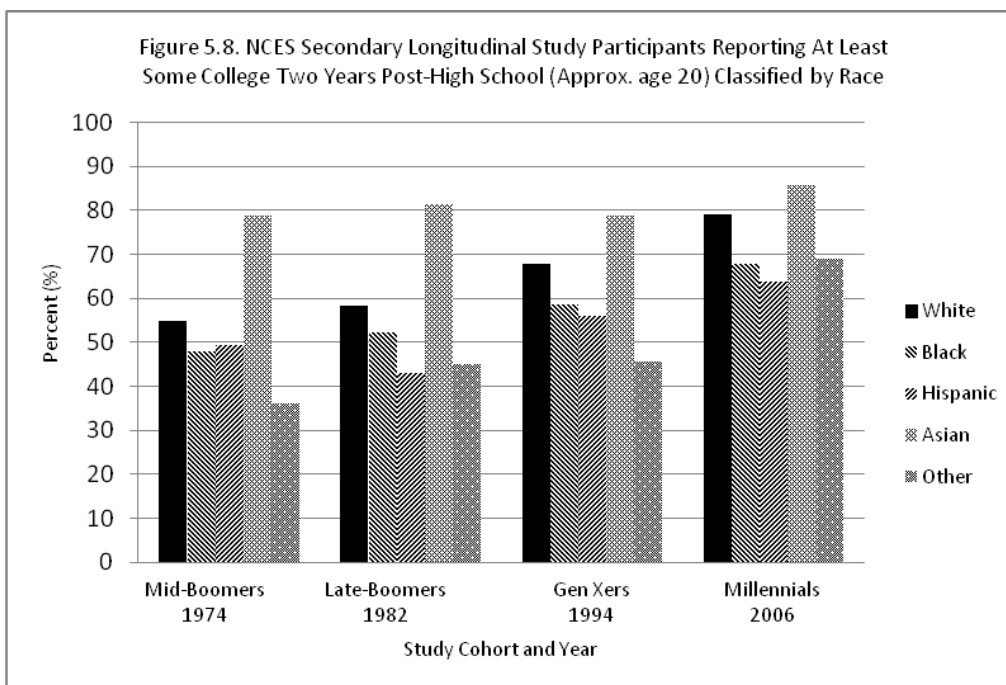
Source: HERI (2007)



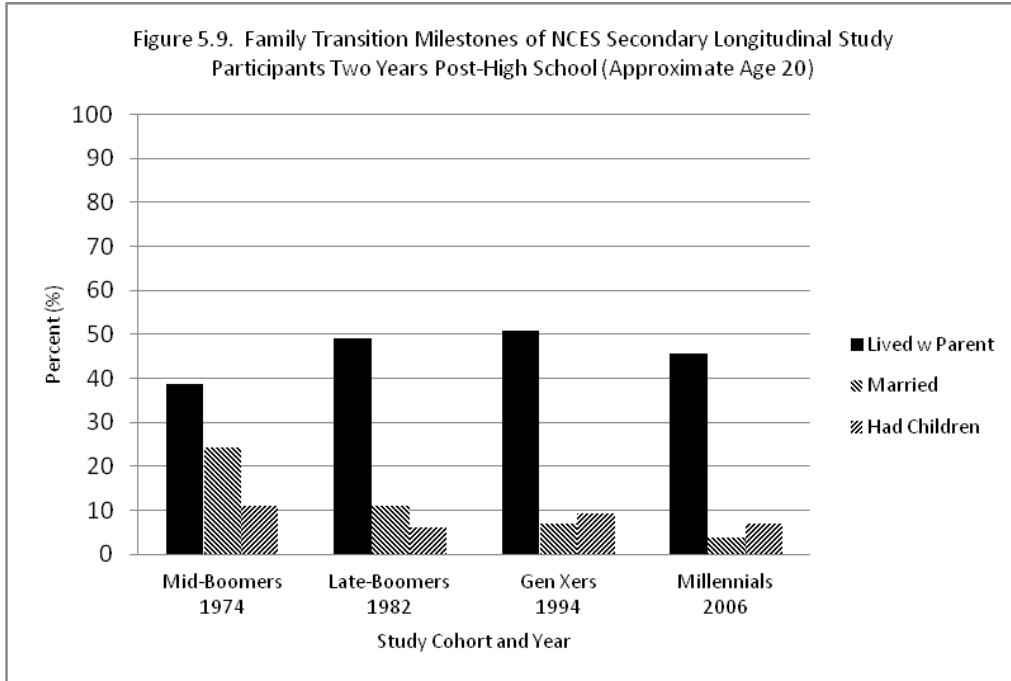
Source: Table 4.2a.



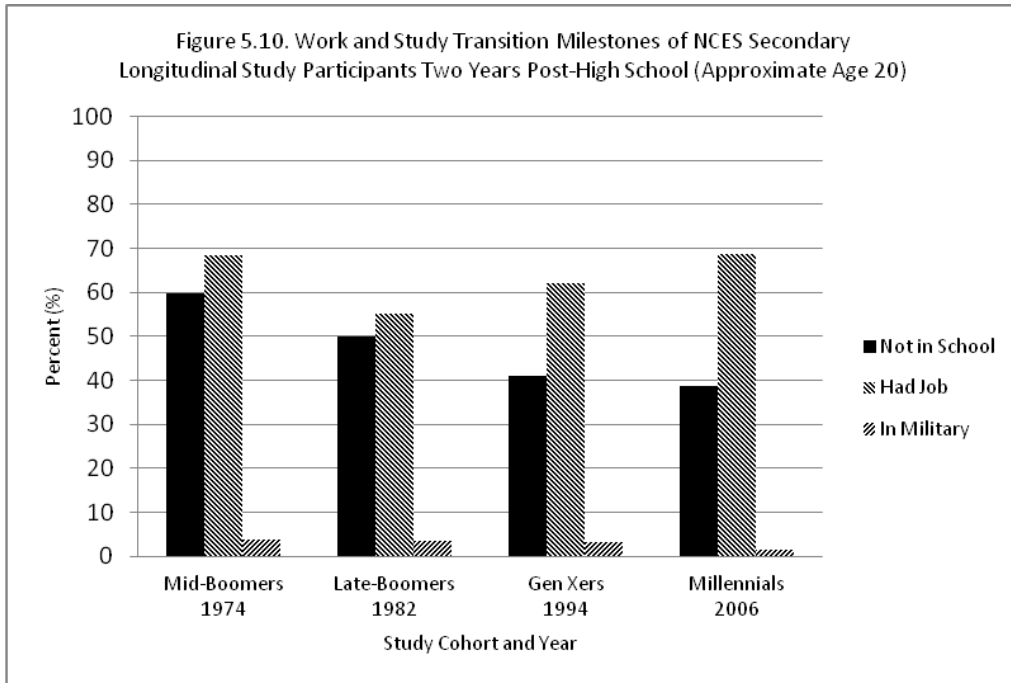
Source: NCES Secondary Longitudinal Study datasets.



Source: NCES Secondary Longitudinal Study datasets.



Source: Table 4.2b and Ingels et al. (2012).



Source: Table 4.2b.

Table 5.1a. Components of change: voter turnout predictors whose magnitude and/or directionality were not consistent across NCES study cohorts two years post-high school (approximate age 20).

Measure	Mid-Boom vs.			Late-Boom vs.		Gen X vs.
	Late-Boom	Gen X	Millenn.	Gen X	Millenn.	Millenn.
<u>Educational attainment</u>						
At least some college <sup>1</sup>	-			+	+	+
<u>HS sociodemographic traits</u>						
Female				-		+
Black <sup>2</sup>					+	+
Hispanic <sup>2</sup>	+			-	-	
English household during HS		+	+	+	+	
<u>HS academics</u>						
Math achievement		-	-	-	-	
Reading achievement		+		+		
6+ social studies semesters		+	NA	+	NA	NA
Other private HS <sup>3</sup>				-		+
<u>HS sociopolitical traits</u>						
HS news access				-	-	
HS athletics						-
HS non-political clubs		+	+			
HS personal Computer use	NA	NA	NA	NA	NA	+
<u>Life-cycle transitions</u>						
Not in school	-	-	-			
Had job		+				-

Source: Tables 5.7 and 5.9. \*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup> Reference category is high school or less. <sup>2</sup> Reference category is White. <sup>3</sup> Reference category is public high school. Plus (+) sign denotes positive change. Minus (-) sign denotes negative change. NA = measure not available.

Table 5.1b. Components of stability: voter turnout predictors whose magnitude and directionality were consistent across NCES study cohorts two years post-high school (approximate age 20).

Measure
<u>Educational attainment</u>
Post-HS voc. education <sup>1</sup>
<u>HS sociodemographic traits</u>
Asian <sup>2</sup>
HS parental SES
<u>HS academics</u>
Catholic HS <sup>3</sup>
<u>HS sociopolitical traits</u>
HS locus of control
HS student government
HS service clubs
<u>Life-cycle transitions</u>
Married
Had own children
In military
Same community as during HS

Source: Tables 5.7 and 5.9. <sup>1</sup> Reference category is high school or less. <sup>2</sup> reference category is White. <sup>3</sup> Reference category is public high school.

Table 5.2. Percent of NCES Secondary Longitudinal Study participants who voted at ages 18-20, classified by selected personal traits.

Measure	Mid-Boomers <sup>1</sup>	Late-Boomers <sup>1</sup>	Gen Xers <sup>1</sup>	Millennials <sup>1</sup>
	1974 (N=13,167)	1982 (N=9,588)	1994 (N=12,240)	2006 (N=11,915)
Overall percentage	63.3	52.5	54.6	57.4
<u>Educational attainment</u>				
% HS grad or less <sup>5</sup>	50.7***	41.5***	39.5***	38.6***
% Post-HS vocational education	57.4***	49.9	43.5***	43.7***
% Some college	72.7***	59.6***	61.9***	63.4***
<u>HS sociodemographic traits</u>				
% Female	61.8***	51.3**	54.3	59.4***
<u>Race/ethnicity</u>				
% White <sup>5</sup>	65.5***	55.6***	59.8***	62.7***
% Black	53.5***	41.2***	45.9***	58.7
% Hispanic	50.7***	44.0***	39.6***	41.1***
% Asian	52.1***	28.6***	30.2***	37.9***
% Other race	52.9***	46.5	43.3***	54.0
% English household during HS	63.7***	51.6***	56.3***	60.3***
<u>HS parental SES<sup>2</sup></u>				
% Less than -0.5 SD	53.2***	42.6***	42.3***	45.5***
% -0.5 SD to 0.5 SD	63.8***	52.7***	56.1***	58.1***
% Greater than 0.5 SD	74.0***	62.4***	65.0***	68.4***
<u>HS region</u>				
% Midwest <sup>5</sup>	66.9***	61.6***	62.2***	62.9***
% Northeast	59.0***	47.9***	54.1	55.8
% South	60.4***	49.1***	51.2***	55.3***
% West	67.3***	49.6**	51.2***	55.7*
<u>HS urbanicity</u>				
% Suburban <sup>5</sup>	64.6	52.7	56.8***	57.3
% Rural	62.3	54.1*	54.6	58.4
% Urban	63.0	49.7**	51.4***	56.8
<u>HS academics</u>				
<u>Math achievement<sup>2</sup></u>				
% less than -0.5 SD	53.0***	43.4***	44.6***	48.2***
% -0.5 SD to 0.5 SD	64.9***	53.0***	53.6***	56.9***
% Greater than 0.5 SD	71.6***	61.5***	65.1***	66.3***
<u>Reading achievement<sup>2</sup> (M)</u>				
% Less than -0.5 SD	53.0***	43.4***	43.7***	46.1***
% -0.5 SD to 0.5 SD	63.6***	52.5***	52.9***	58.2***
% Greater than 0.5 SD	71.3***	60.4***	65.9***	67.4***
% 6+ HS soc. stud. semesters	63.7	53.4	56.6***	NA
<u>HS-type</u>				
% Public <sup>5</sup>	62.9***	51.7***	54.1***	56.5***
% Catholic	66.7*	57.4**	62.0***	68.7***
% Other private	75.9**	64.1***	55.0	65.0***
<u>HS sociopolitical traits</u>				
% HS news access <sup>3</sup>	64.6***	56.4***	56.8***	60.4***
<u>HS locus of control<sup>2</sup></u>				
% Less than -0.5 SD	54.9***	45.3***	49.3***	49.9***
% -0.5 SD to 0.5 SD	63.6***	52.1***	54.1***	58.0***
% Greater than 0.5 SD	69.6***	59.5***	59.5***	63.9***
% HS stud. Govt. or pol. Clubs	74.0***	62.0***	62.2***	67.6***
% HS athletics	66.6***	55.6***	58.6***	60.8***
% HS non-political clubs <sup>4</sup>	65.7***	55.2***	59.3***	62.2***
% HS service clubs	NA	62.2***	58.5***	67.0***
% HS personal computer use	NA	NA	51.4***	62.4***
<u>Life-cycle transitions</u>				
% Married	54.0***	45.2***	42.6***	43.0***
% Had own children	49.2***	38.9***	37.7***	43.9***
% Not in school	56.5***	43.8***	43.0***	43.5***
% Had job	62.7*	52.0	55.3*	57.3
% In military	60.8	43.1***	46.3***	50.6*
% Same community as during HS	64.3*	52.1	NA	NA

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup>Based on pooled imputation estimates. <sup>2</sup>Trichotomized zscore (-0.5 SD, 0.5 SD break points). <sup>3</sup>Use of daily newspaper during HS. <sup>4</sup>Debating, drama, band, chorus, hobby clubs, honorary clubs, school publications, school subject matter clubs, school vocational interest clubs. <sup>5</sup>Reference category for multivariate analyses. NA = not available or near-zero cell count.

Table 5.3. Bivariate differences in the voter turnout percentages of NCES Secondary Longitudinal Study participants two years post-high school (approximate age 20).

Measure	Mid-Boomers vs.			Late-Boomers vs.		Gen Xers vs.
	Late-Boomers	Gen Xers	Millennials	Gen Xers	Millennials	Millennials
<u>Educational attainment</u>						
HS grad or less	-9.2**	-11.2**	-12.1**	-2.0**	-2.9**	-0.9**
Post-HS vocational education	-7.5**	-13.9**	-13.7	-6.4**	-6.2**	0.2**
At least some college <sup>1</sup>	-13.1**	-10.8**	-9.3**	2.3**	3.8**	1.5**
<u>HS sociodemographic traits</u>						
Female	-10.5**	-7.5**	-2.4**	3.0	8.1**	5.1**
White	-9.9**	-5.7**	-2.8**	4.2**	7.1**	2.9**
Black	-12.3**	-7.6**	5.2**	4.7**	17.5**	12.8**
Hispanic	-6.7**	-11.1**	-9.6**	-4.4**	-2.9**	1.5**
Asian	-23.5**	-21.9**	-14.2**	1.6**	9.3**	7.7**
English household during HS	-12.1*	-7.4**	-3.4**	4.7**	8.7**	4.0**
<u>HS parental SES</u>						
Less than -0.5 SD	-10.6**	-10.9**	-7.7**	-0.3**	2.9**	3.2**
-0.5 SD to 0.5 SD	-11.1**	-7.7**	-5.7**	3.4**	5.4**	2.0**
Greater than 0.5 SD	-11.6**	-9.0**	-5.6**	2.6**	6.0**	3.4**
<u>HS academics</u>						
<u>Math achievement</u>						
Less than -0.5 SD	-9.6**	-8.4**	-4.8**	1.2**	4.8**	3.6**
-0.5 SD to 0.5 SD	-11.9**	-11.3**	-8.0**	0.6**	3.9**	3.3**
Greater than 0.5 SD	-10.1**	-6.5**	-5.3**	3.6**	4.8**	1.2**
<u>Reading achievement</u>						
Less than -0.5 SD	-9.6**	-9.3**	-6.9**	0.3**	2.7**	2.4**
-0.5 SD to 0.5 SD	-11.1**	-10.7**	-5.4**	0.4**	5.7**	5.3**
Greater than 0.5 SD	-10.9**	-5.4**	-3.9	5.5**	7.0**	1.5**
6+ HS social studies semesters	-10.3**	-7.1**	NA	3.2**	NA	NA
Public HS	-11.2**	-8.8**	-6.4**	2.4	4.8**	2.4**
Catholic HS	-9.3	-4.7**	2.0**	4.6**	11.3**	6.7**
Other private HS	-11.8**	-2.9	-10.9**	-9.1**	0.9	10.0**
<u>HS sociopolitical traits</u>						
HS news access	-8.2**	-7.8**	-4.2**	0.4**	4.0**	3.6**
<u>HS locus of control</u>						
Less than -0.5 SD	-9.6**	-5.6**	-5.0**	4.0**	4.6**	0.6**
-0.5 SD to 0.5 SD	-11.5**	-9.5**	-5.6**	2.0**	5.9**	3.9**
Greater than 0.5 SD	-10.1**	-10.1**	-5.7**	0.0	4.4**	4.4
HS student government	-12.0**	-11.8**	-6.4**	0.2**	5.6**	5.4**
HS athletics	-11.0**	-8.0**	-5.8**	3.0**	5.2**	2.2**
HS non-political clubs	-10.5**	-6.4**	-3.5**	4.1**	7.0**	2.9**
HS service clubs	NA	NA	NA	-3.7**	4.8	8.5**
HS personal computer use	NA	NA	NA	NA	NA	11.0**
<u>Life-cycle transitions</u>						
Married	-8.8**	-11.4**	-11.0**	7.4**	-2.2	0.4**
Had own children	-10.3**	-11.5	-5.3**	-1.2**	5.0**	6.2**
Not in school	-12.7**	-13.5**	-13.0**	-0.8**	-0.3**	0.5**
Had job	-10.7	-14.5	-5.4	3.3	5.3	2.0
In military	-17.7**	-14.5**	-10.2	3.2*	7.5**	4.3**
Same community as during HS	-12.2**	NA	NA	NA	NA	NA

\*p<.05, \*\*p<.01. Source: Table 5.4.

Table 5.4. Age-based logistic regression analyses of the voter turnout of NCES Secondary Longitudinal Study participants two years post-high school (approximate age 20) and four years post-high school (approximate age 22).<sup>1</sup>

Measures	Two Years Post-High School (Age 20)				Four Years Post-High School (Age 22)	
	Mid-Boomers 1974	Late-Boomers 1982	Gen Xers 1994	Millennials 2006	Mid-Boomers 1976	Late-Boomers 1984
<u>Educational attainment</u>						
Post-HS vocational education <sup>5</sup>	1.209**	1.133	1.029	1.063	1.206**	1.392***
At least some college <sup>5</sup>	1.642***	1.202***	1.449***	1.438***	1.818***	1.633***
<u>HS sociodemographic traits</u>						
Female	0.947	0.991	0.866***	1.051	0.969	1.014
Black <sup>6</sup>	1.271	0.833*	0.830**	1.237***	1.627	1.084
Hispanic <sup>6</sup>	0.762**	0.991	0.743***	0.679***	0.719***	0.872
Asian <sup>6</sup>	0.420***	0.360***	0.305***	0.390***	0.406**	0.486***
Other race <sup>6</sup>	0.865	0.752	0.884	0.829*	0.992	0.600***
English household during HS	1.088	0.973	1.530***	1.665*	1.055	1.012
HS parental SES <sup>4</sup>	1.175***	1.175***	1.195***	1.224***	1.228***	1.104***
HS parental SES squared	1.010	1.032	0.991	1.032	1.033	1.070***
Northeast <sup>7</sup>	0.661***	0.582***	0.690***	0.730***	0.622	0.668***
South <sup>7</sup>	0.993	0.639***	0.708***	0.741***	1.378	0.696***
West <sup>7</sup>	1.039	0.686***	0.804***	1.037	1.046	0.761***
Rural <sup>8</sup>	1.176**	1.205***	1.016	1.058	1.231***	1.268***
Urban <sup>8</sup>	1.109*	0.979	0.958	1.065	1.167***	1.023
<u>HS academics</u>						
Math achievement <sup>4</sup>	1.082**	1.050	0.929*	0.931*	1.082**	1.006
Reading achievement <sup>4</sup>	1.118***	1.072*	1.247***	1.169***	1.062*	1.084*
Catholic HS <sup>9</sup>	0.956	0.935	1.049	1.045	1.079	1.026
Other private HS <sup>9</sup>	1.066	1.014	0.666***	0.895	1.069	1.222
<u>HS sociopolitical traits</u>						
HS news access	1.212***	1.433***	1.084	1.104*	1.244***	1.460***
HS locus of control <sup>4</sup>	1.082***	1.076*	1.021	1.090**	1.127***	1.128***
Black*locus of control	0.893	0.854	0.813**	0.933	0.866	0.854
South*locus of control	0.949	0.958	1.064	1.007	0.878*	0.838*
HS student government	1.388***	1.298***	1.159**	1.220***	1.508***	1.433***
HS athletics	1.011	0.994	1.097*	0.939	1.003	1.000
HS non-political clubs	1.201***	1.239***	1.383***	1.294***	1.181***	1.237***
<u>Life-cycle transitions</u>						
Married	0.870**	0.943	0.954	0.872	1.071	0.933
Had children	0.900	1.000	0.842*	0.919	0.759***	0.782***
Not enrolled in school	0.881*	0.737***	0.714***	0.629***	0.984	0.840***
Had job	1.126**	1.134**	1.269***	1.040	1.030	1.075
In military	0.970	0.994	1.049	1.151	0.986	0.980
Constant	0.981	0.850	0.717*	0.729	1.340*	0.867
Pseudo r-square <sup>2, 3</sup>	0.116***	0.101***	0.143***	0.149	0.115***	0.112***
Percentage Correct <sup>3</sup>	65.8	61.4	64.4	65.8	63.7	63.7

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup> Pooled sample log odds coefficients. <sup>2</sup> Naglekerke formulation. <sup>3</sup> Pooled estimates averaged across imputed samples. <sup>4</sup> Zscore (M=0, SD=1). <sup>5</sup> Reference category is high school or less. <sup>6</sup> Reference category is suburban. <sup>7</sup> Reference category is Midwest. <sup>8</sup> Reference category is suburban. <sup>9</sup> Reference category is public high school.



**Table 5.5. Supplemental age-based logistic regression analyses of the voter turnout of NCES Secondary Longitudinal Study participants two years post-high school (approximate age 20) and four years post-high school (approximate age 22).<sup>1</sup>**

<u>Measures</u>	<u>Two Years Post-High School (Age 20)</u>				<u>Four Years Post-High School (Age 22)</u>	
	Mid-Boomers 1974	Late-Boomers 1982	Gen Xers 1994	Millennials 2006	Mid-Boomers 1976	Late-Boomers 1984
<u>HS academics</u>						
6+ HS social studies semesters <sup>2</sup>	1.019	1.027	1.242**		1.032	1.041
<u>HS sociopolitical traits</u>						
HS service clubs		1.342	1.025	1.194***		
Daily personal computer use during HS <sup>3</sup>			0.946	1.156***		
<u>Life-cycle transitions</u>						
Same residential community as during HS	1.353***	1.244***			1.265***	1.224***

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup> Pooled sample log odds coefficients. Supplemental measures were added individually to base models reported in Table 5.3. <sup>2</sup> Reference category is 5 or fewer semesters. <sup>3</sup> Reference category is once/twice a week or less.

Table 5.6. Voting odds differences of NCES Secondary Longitudinal Study participants in relation to selected personal traits two years post-high school (approximate age 20).

Measure	Mid-Boomers vs.			Late-Boomers vs.		Gen Xers vs.
	Late-Boomers	Gen Xers	Millennials	Gen Xers	Millennials	Millennials
<u>Educational attainment</u>						
Post-HS vocational education <sup>1</sup>	-0.076	-0.180	-0.146	-0.104	-0.070	0.034
At least some college <sup>1</sup>	-0.440**	-0.193	-0.204	0.247*	0.236*	-0.011
<u>HS sociodemographic traits</u>						
Female	0.044	-0.081	0.104	-0.125*	0.060	0.185***
Black <sup>2</sup>	-0.438	-0.441	-0.034	-0.003	0.404***	0.407***
Hispanic <sup>2</sup>	0.229*	-0.019	-0.083	-0.248**	-0.312***	-0.064
Asian <sup>2</sup>	-0.060	-0.115	-0.030	-0.055	0.030	0.085
English household during HS	-0.115	0.442**	0.577*	0.557**	0.692*	0.135
HS parental SES	0.000	0.020	0.049	0.020	0.049	0.029
<u>HS academics</u>						
Math achievement	-0.032	-0.153***	-0.151***	-0.121*	-0.119*	0.002
Reading achievement	-0.046	0.129**	0.051	0.175**	0.097	-0.078
Catholic HS <sup>3</sup>	-0.021	0.093	0.089	0.114	0.110	-0.004
Other private HS <sup>3</sup>	-0.052	-0.400	-0.171	-0.348**	-0.119	0.229*
<u>HS sociopolitical traits</u>						
HS news access	0.221	-0.128	-0.108	-0.349***	-0.329***	0.020
HS locus of control	-0.006	-0.061	0.008	-0.055	0.014	0.069
HS student government	-0.090	-0.229	-0.168	-0.139	-0.078	0.061
HS athletics	-0.017	0.086	-0.072	0.103	-0.055	-0.158*
HS non-political clubs	0.038	0.182*	0.093	0.144	0.055	-0.089
<u>Life-cycle transitions</u>						
Married	0.073	0.084	0.002	0.011	-0.071	-0.082
Had own children	0.100	-0.058	0.019	-0.158	-0.081	0.077
Not in school	-0.144*	-0.167**	-0.252***	-0.023	-0.108	-0.085
Had job	0.008	0.143*	-0.086	0.135	-0.094	-0.229**
In military	0.024	0.079	0.181	0.055	0.157	0.102

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup>Reference category is high school or less. <sup>2</sup>reference category is White. <sup>3</sup>Reference category is public high school.

Table 5.7. Voting odds differences of NCES Secondary Longitudinal Study participants in relation to selected personal traits four years post-high school (approximate age 22).

<u>Measure</u>	<u>Mid-Boomers vs. Late-Boomers</u>
<u>Educational attainment</u>	
Post-HS vocational education <sup>1</sup>	0.186
At least some college <sup>1</sup>	-0.185
<u>HS sociodemographic traits</u>	
Female	0.045
Black <sup>2</sup>	-0.543
Hispanic <sup>2</sup>	0.153
Asian <sup>2</sup>	0.080
English household during HS	-0.043
HS parental SES	-0.124
<u>HS academics</u>	
Math achievement	-0.076
Reading achievement	0.022
Catholic HS <sup>3</sup>	-0.053
Other private HS <sup>3</sup>	0.153
<u>HS sociopolitical traits</u>	
HS news access	0.216*
HS locus of control	0.001
HS student government	-0.075
HS athletics	-0.075
HS non-political clubs	0.056
<u>Life-cycle transitions</u>	
Married	-0.138
Had own children	0.023
Not in school	-0.144*
Had job	0.045
In military	-0.006

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup>Reference category is high school or less. <sup>2</sup>Reference category is White. <sup>3</sup>Reference category is public high school.

Table 5.8. Voting odds differences of NCES Secondary Longitudinal Study participants in relation to selected personal traits two years post-high school(approximate age 20) and four years post-high school (approximate age 22).<sup>1</sup>

<u>Measure</u>	<u>Mid-Boomers vs.</u>		<u>Late-Boomers vs.</u>		<u>Gen Xers vs.</u>
	<u>Late-Boomers</u>	<u>Gen Xers</u>	<u>Gen Xers</u>	<u>Millennials</u>	<u>Millennials</u>
<u>Age 20 comparisons</u>					
<u>HS academics</u>					
6+ social studies semesters <sup>2</sup>	0.008	0.223***	0.215*		
<u>HS sociopolitical traits</u>					
HS service clubs			-0.317	-0.148	0.169
Daily personal computer use during HS <sup>3</sup>					0.210**
<u>Life-cycle transitions</u>					
Same residential community as during HS	-0.109				
<u>Age 22 comparisons</u>					
<u>HS academics</u>					
6+ social studies semesters	0.009				
<u>Life-cycle transitions</u>					
Same residential community as during HS	-0.041				

\*p<.05, \*\*p<.01, \*\*\*p<.001. <sup>1</sup> These supplemental measures were added individually to the base models reported in Table 5.3.

<sup>2</sup> Reference category is 5 or fewer semesters. <sup>3</sup> Reference category is once/twice a week or less.

## CHAPTER 6 – CONCLUSIONS AND RECOMMENDATIONS

*Highlights: In this closing chapter, I focus on concrete actions that leverage the U.S. educational system to improve the persistently low voter turnout of 18-20 year-olds by: (1) expanding post-high school educational opportunities; (2) energizing high school citizenship training; (3) strengthening connections between the high school literacy and civics curricula; (4) enlisting new technology and social networking as civic development allies at the high school level; and (5) making voter registration a formal component of high school civics and college freshman orientation programs. Twelve specific recommendations are listed on Table 6.1.*

As evidenced by the Article V constitutional amendment procedure that was crafted in 1787, the imperfection of governmental institutions would appear to be fundamental to the human condition if America's leading founders are to be believed. Alexander Hamilton devoted his closing argument in favor of constitutional ratification, *Federalist 85* (Scigliano, 2000), to the subject of amendability. Recalling Hamilton's words, *Federalist 85* boils down to the straightforward observation that "I never expect to see a perfect work from an imperfect man" (Scigliano, 2000, p. 561). Thomas Jefferson, who was serving in Paris during the drafting and ratification of the Constitution and who reportedly responded tepidly to the document when he discovered the omission of a declaration of rights and the absence of presidential term limits, wrote James Madison expressing this sentiment in his ultimate acquiescence: "There are indeed some faults which revolted me a good deal in the first moment: but we must be contented to travel on towards perfection, step by step" (Meacham, 2012, p. 214). Were the sentiments expressed by Hamilton and Jefferson primarily philosophically-driven? Were they based on political calculations aimed at securing constitutional ratification? Given the tenor of the times, a strong argument can be made that both considerations probably were at play. But, irrespective of the underlying motivation, extant records confirm that these and other leading founders, such

as Adams and Washington, realized that the nation's governance mechanisms and institutions were imperfect and would require modification from time to time.

The popular vote was one of several mechanisms that would fail the test of perfection and require modification. In an oft quoted understatement, Benjamin Barber (1992) observed that "America was at its founding not a notoriously democratic country" (p. 69). Gans and Mulling (2011) estimated that the 1788 national election turnout was about 12 percent of the voting age population. But this estimate was based on the electoral rules in place at the time. A rough alternative calculation, based on the total adult population recorded in the 1790 census, suggests that, in present-day voting age population terms, the actual turnout in the nation's first federal election was closer to 2 percent<sup>1</sup>. Moreover, the selection of U.S. Senators and presidents was managed indirectly by state legislatures and the Electoral College procedure in which key debates, deal making and final decisions occurred largely within closeted chambers. To borrow again from Jefferson, the "step by step" process that played out during the next 2-1/4 centuries greatly expanded state and federal voting rights on the bases of gender, race/ethnicity, economic circumstance and age. And, as previously summarized, the range of matters that became subject to voter approval was greatly expanded as well.

Still, the institution of voting remains imperfect. As evidenced by President Obama's 2013 State of the Union message<sup>2</sup> and ongoing congressional efforts, procedural defects remain in place that cry out for additional reforms. And, as exemplified by the 2013 U.S. Supreme Court docket, not all state initiatives are necessarily directed toward equity-based voting booth access<sup>3</sup>.

Procedural shortcomings certainly contribute to but do not wholly explain another critical imperfection: poor turnout by those who are currently eligible and able to vote but choose not to

do so. Unfortunately, prominent political observers have set the standard for success very low. In overall voting age population terms, for example, it is common to peg the modern American ideal against an aggregate turnout that was only about 63 percent in the 1960 presidential election and which has not been equaled since that time (see Abramson et al., 2010; Bachner, 2010). For 18-20 year-olds, it is also common to use the 48 percent voter turnout achieved in 1972 – and which has not been equaled since -- as the standard of success (see Census, 2009a; CIRCLE 2012e). If, in fact, we are striving to achieve an American ideal, there is no reason not to set the bar at 100 percent voter turnout – or at least the 82 percent peak that was established in 1876.

I find it equally disturbing that the voter turnout of U.S. 18-20 year-olds has been without exception the lowest of any age group since ratification of the 26<sup>th</sup> Amendment (see Figure 2.1). On average, these young adults have the highest educational attainment of any citizen category on a same-age basis. They have the most recent citizenship training. And they ultimately stand to gain or lose the most as a consequence of government decision making. The American democratic ideal demands that we devote special attention to this dimension of the voter turnout problem. Today's 18-20 year-olds are tomorrow's leaders in whose hands the future of the Republic rests.

It is true that there has been an increase in 18-20 year-old voter turnout during the last three presidential elections. However, as illustrated by Figure 2.1, there have been other upward movements since 1972 that quickly receded to the longer term downward trend. The much heralded 2004 rise in the youth vote leveled off in the 2008 and 2012 elections (Census, 2009a; CIRCLE, 2012a), and as just noted, the youth turnout in all three elections was lower than it was in 1972. Wishful speculation that the Millennials may be permanent and positive game changers

on the election front (see Howe and Nadler, 2009; Levine, Flanagan and Galloway, 2008) is at best premature. Rationalizations based on the misguided belief that other forms of political expression are valid substitutes for voting are also unhelpful. Voting remains the nation's principal mechanism to peacefully allocate political power, control the government and situate citizen interests within the overall structure of democratic self-governance on a broad-scaled and sustained basis.

In this final chapter, I approach the 26<sup>th</sup> Amendment voter turnout issue from several vantage points. I begin by restating my theoretical perspective. I then address study design considerations and further research needs before offering my conclusions, recommendations and closing comments.

#### Theoretical Perspective

The Target of Participation (Figure 2.8) provides an integrated platform on which to base complex voting studies – especially those in which educational considerations are in the forefront. Its basic structure overcomes four limitations of the Funnel of Causality, which, in its various forms, has been a common reference point for political participation research conducted since 1960. Unlike the Funnel, my Target of Participation: (1) does not presume causality but can accommodate it when appropriate; (2) embraces bidirectional and multidirectional relationships between voter turnout predictors, including education; (3) provides multiple entry points for educational attainment, context and content; and (4) accommodates micro- and macro-analyses within a single unified framework. Moreover, the Target is capable of handling virtually any configuration of partial or complete theoretical frames that may be dictated by research needs.



The Target of Participation also is superior to another popular voting study anchor: Brody's (1978) "puzzle of political participation." At the theoretical level, Brody envisioned political participation as revolving around "legal context, individual attributes, and the character of the choice situation" (p. 291), all of which are compatible with and can be incorporated into the Target of Participation. In Brody's model, however, education only entered the voter turnout picture along the single dimension of gross educational attainment. Moreover, the path model used by Brody confirmed that he restricted educational attainment to indirect voter turnout pathways. The Target admits to multiple educational pathways in which education can enter the voter turnout calculus. The Target is open to interactions between education and many other voter turnout predictors. And the Target flexibly accommodates both direct and indirect educational influences on voter turnout. The empirical results reported in Chapters 4 and 5 support the Target of Participation on all three grounds.

Perhaps the greatest strength of the Target of Participation is its overall capacity to embrace change without sacrificing theoretical integrity. This is well illustrated by the march of new technology, which is rapidly changing the ways in which we form relationships, communicate with one another and generally engage the outside world. As discussed, some studies have focused primarily or solely on hypothesized relationships between new technology and political participation. But technology does not reside in a vacuum. The Target of Participation readily accommodated the introduction of a personal computer use measure for my Gen X and Millennial respondents, for example. By placing this measure within the previously defined framework, it was an easy matter to relate the voter turnout effects associated with new technology back to familiar and theoretically grounded principles.

### Study Design Considerations

My study design, which differs notably from procedures used in most voting studies, makes a distinctive contribution to the literature from a methodological standpoint. But, not unlike the voting mechanisms it was developed to investigate, the design is neither flawless nor wholly comprehensive in its coverage. Here I review the principal benefits and limitations of the design as well as the further research needs illuminated by my investigation.

#### *Innovations*

In addition to its unique theoretical attachment to the Target of Participation, my design differed from most other voting studies in three important respects. First, in line with the methodological approaches of Jennings and Niemi (1981) and Zukin et al. (2006), my partial reliance on contextual data sources enabled me to tap into the rich tapestries of generational, life-cycle and period influences across the extended time horizon of my study (1954 to 2006). Such considerations are well beyond the reach of most large-format social science surveys. Second, my empirical analyses took advantage of a greatly under-utilized data source – the NCES Secondary Longitudinal Study series – that enabled me to estimate young adult voter turnout from the first post-26<sup>th</sup> Amendment national election onward. Unlike the datasets on which most voting studies are based, the NCES series contains a rich array of educational attainment, content and contextual measures. Other than an NCES trends tabulation published in 2012, my literature review revealed no prior research that has utilized all four components of this NCES Secondary Longitudinal series in a single fully integrated investigation of political participation. Moreover the major NCES survey components -- the National Longitudinal Study of the High School Class of 1972 (NLS), High School & Beyond (HSB), the National Education Longitudinal Study of 1988 (NELS) and the Education Longitudinal Study of 2002 (ELS) – are soon to be augmented

by additional ELS data as well as initial results from the High School Longitudinal Study of 2009 (HSLs), further expanding the investigative possibilities. Third, as recommended by Erikson and Tedin (2011) and others, my study design permitted the estimation of young adult voter turnout effects from both the micro- (individual) and macro- (group) perspectives inside a uniform theoretical and methodological framework. Past voting studies have typically confined themselves to micro-influences.

### *Limitations*

That my study design is novel does not imply that it is perfect. As previously discussed, the generalizability of my findings is constrained in three principal ways. First, it is not appropriate to regard my contextual observations as if they are one and the same as my empirical findings. The two results streams flowed from separate investigative procedures and largely separate data sources. Moreover, the contextual results are largely impressionistic and not subject to rigorous inferential quantification in direct correspondence to my respondents. Second, the NCEs datasets at the root of my empirical analyses are populated with self-reported observational survey data. Assigning causality with precision is thus largely out of reach irrespective of the statistical methodology employed. Third, as detailed in Chapter 3 and elsewhere, the rich array of NCEs variables still fell short of enabling me to fully operationalize my Target of Participation theoretical frame. In some areas -- such as civics achievement, school-type, partisan attachment, residential stability and financial dependency -- variables were either unavailable or constrained in the public use datasets. In other instances -- such as locus of control and English household status -- variables that were common across datasets were specified in somewhat different forms. These limitations account for some of my nuanced interpretations but still enabled me to reach beyond prior research in notable respects.

### Further Research Needs

My investigation illuminated additional research needs in several areas. Five topics are of greatest interest to me as I move forward with my young adult-focused research agenda. First, the newness of alternative school-types, such as charters, and online learning platforms could not be thoughtfully explored given the structure and vintage of my datasets. Yet civic development truth claims abound from advocates of various school-types. Getting a better handle on venue-specific considerations is essential to developing a comprehensive understanding of the relationships between education and voter turnout. To find in a properly controlled study, for example, that the graduates of predominantly online institutions exhibit different young adult voter turnout patterns than their more traditionally educated peers would have major democratic implications, given the explosive growth of online learning platforms within the U.S. A finding that newly emerging traditional school-types, such as charters, are genuinely associated with differential young adult voter turnout also would be illuminating. In both instances, evidence of voter turnout disparities could undergird civically oriented educational policy, practice and funding reforms. Inasmuch as the most recent NCES Secondary Longitudinal Study installments (i.e., ELS and HSLS) make finer distinctions about school-type and online activity than their predecessor NCES surveys, they might serve as a useful starting point for such investigations. At the same time, however, independent field studies that track students from various institutional categories through young adulthood could open many more horizons on the civic development and voter turnout fronts.

Second, the rapid rise of new communications technology also post-dates most of the datasets used in my current investigation. As noted, some of the techno-focused research is myopic when it comes to rival voter turnout explanations. Planned ELS and HSLS data releases hold

promising potential for a technology-focused replication of my study using NELS (i.e., Gen X) as the baseline study cohort. It is well established that the rapid proliferation of electronic communications media provides young adults with ever widening information choices and that the attentiveness of these young adults to civically relevant messages has been at best episodic during the last several national elections (see Niemi, 2011). We need to find better ways to harness technology for the civic good by devising ways to incent young people to select civically relevant content (Niemi and Junn, 1998). And we need to do so in a way that respects generational and cultural differences in the evolving manners in which young people interact with the external world (see Alesina and La Ferrara, 2000; Cost and Kahn, 2003; Dalton, 2006, 2009; Zukin et al., 2006). The latest NCES Secondary Longitudinal survey installments – NELS, ELS and HSLS – contain several questions aimed at penetrating the school and non-school internet use of respondents, which could inform new thinking on the subject to a degree. But new data sources and investigative techniques need to be considered that more fully address the generational and cultural dimensions.

Third, as noted, my design did not permit careful analysis of the voter turnout problem involving high school dropouts. Despite ongoing improvements in the national high school completion rate, the dropout problem is still acute within certain school districts and especially among disadvantaged constituencies (NCES, 2011). Given the profoundly negative association between dropout status and young adult voter turnout revealed by the U.S. Census and NCES tracking studies cited earlier, it is reasonable to wonder whether high school dropouts tend to respond to different messages or have different information needs than their more educationally advantaged peers when it comes to voting participation. Identifying and acting upon these messages and needs would help ensure that these young adults are not left out of the electoral

equation. Research along these lines could be conducted within the NCES Secondary Longitudinal Study structure and under my Target of Participation umbrella by re-calibrating the study samples (exclusive of NLS and the HSB senior cohort) to focus on populations that are representative of high school sophomores and/or eighth graders (see Figure 3.1).

Fourth, in line with prior research, my results are generally suggestive of a new orientation to civic development at the high school level that is far more holistic and activity-based than traditional civics curricula. Fully exploring that dimension could uncover exciting new possibilities for democratic education reform. One of the limitations of most prior research is that it does not rigorously distinguish between voluntary activities, such as student government, and mandatory activities, such as required community service. And I am aware of no research that effectively tests the voter turnout effects of holistic curricular approaches, such as combining civics with English literacy programs. Although it no doubt would be expensive and time consuming to conduct separate research, my findings are sufficiently robust to consider at least a pilot study to test alternative curricular approaches and pedagogical methods in this area.

Fifth, my investigation provided further evidence that the nation's two fastest growing racial and ethnic categories – Hispanics and Asians – typically demonstrate the lowest young adult voter turnout. This finding is especially troubling inasmuch as: (1) the voter turnout odds of both groups were largely unaffected by the imposition of educational and non-educational controls in my multivariate models, and (2) Asians consistently demonstrated the highest educational attainment of any sociodemographic category. One possible explanation is that there are deeper generational or cultural reasons for the observed trends that escaped my theoretical and statistical models. Another possible explanation is that, beyond regionality and urbanicity,

community circumstances that are unaccounted for in my models are at the root of the problem. This must be sorted out if the electoral system is to have any hope of keeping pace with domestic population trends.

At least three of the identified research needs – testing holistic civics curricula, effectively gauging the generational dimension of new communications technology, and estimating community and cultural explanations for racial and ethnic voter turnout disparities -- involve considerations that typically are beyond the purview of large format observational surveys. For this reason, it is reasonable to consider qualitative and mixed methods approaches in addition to traditional empirical study designs. This would require funding and patience to follow targeted constituencies at least through young adulthood. This also would require ingenuity in the selection of observational instruments and techniques. But the democratic benefits of “cracking the code” on any one of these issues could be transformative in improving U.S. young adult voter turnout on a sustained basis.

#### Summary of Findings and Recommendations

I concluded Chapter 2 with a very broad but simply stated question: *What are the implications for policy and practice?* Several innovative ideas aimed at improving U.S. voter turnout have been endorsed by social science scholars, including: Election Day registration, the elimination of special restrictions for first-time voters, extended voting hours, the expansion of early and absentee voting privileges, immigration reform, adult literacy programs, mobilization efforts targeting disadvantaged constituencies, etc. (see Bachner, 2010; Fitzgerald, 2003; Galston, 2006; PEW, 2012a; Squire, Wolfinger and Glass, 1987; Wong, 2004).

Despite the seductive allure of many of these proposals, I confine the scope of the current discussion to five educational priorities embodying twelve recommendations that flow from my

study results (see Table 6.1). My recommendations are not a cure-all for the persistently low voter of U.S. 18-20 year-olds; the magnitude of the problem well exceeds the scope of any one study. However, I believe a strong case can be made that nationwide implementation of my proposals would get the young adult voter turnout trend line heading upward in a sustainable manner.

My findings converge on the importance of education in promoting young adult voter turnout from multiple angles (see Tables 4.1, 5.1a and 5.1b). First, educational attainment is the most consistent predictor of 18-20 year-old voter turnout across my generational study cohorts. This became apparent both when attainment measures were introduced into my multivariate models in the presence of all other hypothesized voter turnout predictors, and when the voter turnout effects of current school enrollment were estimated at age 20. Second, although the voter turnout results associated with high school civics coursework were mixed, formal civics training was strongly associated with the age 20 voter turnout of Gen Xers – the most recently born study cohort for which this measure was available. Moreover, extracurricular activities that in many ways model civic participation – high school student government, non-political clubs and voluntary service clubs – were strong age 20 voter turnout predictors across study cohorts. Third, the importance of English literacy also entered the voter turnout picture through multiple routes. High school reading achievement was strongly associated with age 20 voter turnout in all of my study cohorts. Daily newspaper access was a positive voter turnout predictor for three cohorts, including the Millennials. English household status during high school also emerged as a strong voter turnout predictor at age 20 within the most racially and ethnically diverse cohorts in my study (Gen Xers and Millennials). Fourth, although the communications technology measure was a late entry in my study models due to the overall time horizon of my study, it



declared its presence as a powerful voter turnout predictor for Millennial respondents. If anything, my results suggest a strengthening of the relationship between technology and civic engagement. Fifth, although my empirical analyses are confined to voter turnout, most states require advance registration, which can be particularly troublesome for highly mobile young adults.

These observations highlight the need to strengthen five U.S. educational priorities that have particularly long legs along the civic and political participation dimension: (1) expanding post-high school educational opportunities; (2) energizing high school citizenship training; (3) strengthening connections between the high school literacy and civics curricula; (4) enlisting new technology and social networking as civic development allies at the high school level; and (5) making voter registration a formal component of high school civics and college freshman orientation programs. As discussed below, these five priorities lend themselves in turn to at least twelve specific recommendations for education policy and practice reform.

#### *Expanding Post-High School Educational Opportunities*

That my sample design filtered out a high percentage of high school dropouts does not imply that I am unconcerned about this constituency. It is well established that the employment, health and civic performance prospects of high school dropouts are substantially lower than those of their peers, and that the dropout percentages are highest within traditionally disadvantaged constituencies (see NCES, 1983, 2011, 2012). In my study, respondents reporting high school or less educational attainment universally demonstrated lower voter turnout than the participants in any other attainment category. I heartily support the continuation of dropout prevention and recovery efforts as a national educational priority -- not only for these reasons but also because high school is the gateway to higher educational attainment possibilities.

Not surprisingly, I found a strong association between family socioeconomic status on the one hand and post-high school student enrollment and educational attainment on the other. The overall strength of my attainment and enrollment measures as voter turnout predictors in turn suggests that the relationship between family wealth and voter turnout likely is mediated to an important degree by education. Accordingly, new energy should be focused on the redirection and augmentation of federal and state resources that are earmarked for post-high school educational grants and scholarships. To help reduce budgetary concerns, such assistance should be based on need. At the same time, however, this assistance should be available for students enrolling in accredited vocational programs and community colleges as well as four-year colleges and universities (Flanagan, 2006; Noddings, 2008).

Recommendation 1: Continue to emphasize and resource high school dropout prevention and recovery programs as a national priority.

Recommendation 2: Expand the availability of need-based grants and scholarships to students attending accredited vocational and community colleges as well as four-year institutions of higher learning.

### *Energizing and Expanding High School Citizenship Training*

High school civics standards are highly variable. As noted by Godsay, Henderson, Levine and Littenberg-Tobias (2012), a civic education standard exists in all states. But only 21 states conduct regular civics assessments – a 38 percent reduction compared to 2001 – and only 9 states link minimum competency in civics to high school graduation. I do not favor excessive reliance on standardized tests, but the paucity of civics test requirements versus mandated reading and math assessment regimes under No Child Left Behind is inescapable. To the extent that what gets measured gets done, I would certainly add minimum competency in civics as a high school graduation requirement nationwide. The relationship between civic knowledge and

adult political participation is far too strong to ignore (see Abramson et al., 2010; Bachner, 2010; D.E. Campbell, 2001, 2006; Niemi, 2011; Niemi and Junn, 1998).

Of course, pencil and paper tests accomplish very little unless the underlying civics curriculum builds attitudinal and behavioral competencies as well. Although my study findings were somewhat mixed as to the value of traditional civics courses, a large literature connects high school civics to the voting booth if it is issue-focused and discussion-based (Bachner, 2010; D.E. Campbell, 2005; Geboers, Geijsel, Admiraal and ten Dam, 2012; McGuire and Waldman, 2008; Niemi and Junn, 1998; Torney-Purta and Wilkenfeld, 2009). The persistently low voter turnout of my study respondents of Hispanic and Asian descent also points up the need to gear resourcing, issue selection and discussion formats to culturally relevant concerns (see Levine and Youniss, 2006; PEW, 2012a; Wong, 2004).

Despite the negative view of high school civics courses that was perpetuated for decades on the authority of Langton and Jennings' (1968) study, more recent scholarship suggests that the modern civics classroom has become more impactful (see D.E. Campbell, 2005, 2008, 2011; D. Hess, 2009; Niemi and Junn, 1998) – a view that is consistent with my finding that civics coursework was a positive predictor of the age 20 voter turnout of Gen X cohort members. Also in line with my study findings, an equally robust literature is suggestive of a close connection between non-athletic high school extracurricular activities and young adult civic engagement (Fredricks and Eccles, 2006; Kirlin, 2003; Thomas and McFarland, 2010). Unfortunately, my findings also revealed that participation in high school student government and service oriented clubs was relatively low and on the decline across study cohorts (Table 4.2b). It would be oxymoronic to suggest mandating voluntary activities. That said, high schools can help fill the apparent void not only by strengthening civics competency requirements and continuing to

improve issue- focused discussion formats, but also by fully embracing extracurricular activities, such as student government and voluntary community service, as essential adjuncts to the civics curriculum. This can be accomplished with greatest efficiency and minimum cost by (1) fully leveraging community partnerships (see Levine and Youniss, 2006) and (2) by reserving incremental funds for school districts that demonstrate the greatest need.

Recommendation 3: Add minimum competency in civics knowledge to state high school graduation requirements nationwide.

Recommendation 4: Adopt issue-focused and discussion-based pedagogical standards for civics instruction.

Recommendation 5: Gear civics messages to culturally relevant student concerns and interests.

Recommendation 6: Increase staff support and resourcing for non-athletic extracurricular activities, such as student government and service clubs.

Recommendation 7: Leverage community partnerships to expand student experiential opportunities and manage costs.

Recommendation 8: Target school districts exhibiting the greatest need for incremental state and federal civics funding.

### *Strengthening Connections Between High School Literacy and Civics Curricula*

The results reported in Chapters 4 and 5 revealed the importance of English literacy as a young adult voter turnout predictor along multiple study dimensions -- notably high school reading achievement, high school news access and English household status. As such -- and irrespective of organizational placement -- the high school English curriculum is integral to the schools' civic mission. In addition to efforts directed toward improving the overall English fluency of high school students, opportunities should be sought to embed civically relevant messages in English coursework. There is no logical reason, for example, to confine the exploration of locally relevant issues (Niemi and Junn, 1998) to the civics classroom. Nor is

there justification to confine literary works that contain strong civics messages, such as Thomas Payne's *Common Sense* or *The Federalist Papers*, to the history classroom. The recommended shift in course content, which no doubt would require local and perhaps state approvals, poses little if any incremental cost exposure. The main obstacle to be overcome is entrenched and myopic curricular standards.

Recommendation 9: Improve literacy programs and funding in school districts having a high percentage of non-English speaking families.

Recommendation 10: Embed civically relevant content within the core English curriculum.

#### *Enlisting New Technology and Social Networking as Civic Development Allies*

Despite research suggesting that certain communications technology modes may be socially isolative, my investigation provided encouraging evidence that technology is not necessarily the enemy of voter turnout. As previously discussed, daily personal computer use was a neutral or positive voter turnout predictor for the Gen Xers and a net positive turnout predictor for the Millennials in my study when other circumstances and traits were taken into account.

Given its rapidly growing impact on the daily lives of high school students and post-high school young adults, newly emerging communications technology is a potentially important civic development tool for at least three reasons. First, it exposes users to social networks that often become political networks. Nationally representative survey results released under Pew Research Center auspices (Rainie, Smith, Schlozman, Brady and Verba, 2012) are telling in this regard: (1) two-thirds of social media users have posted civic or political messages; (2) nearly 40 percent of social network site (SNS) users have used the media to promote political or social issues; (3) 35 percent of social media users have used online media to encourage voting; and (4)

more than 30 percent of social media users have leveraged internet capabilities to encourage political or social activism by others. Second, the internet is uniquely suited to the civic education environment. As noted by Kahne, Ullman and Middaugh (2011), the internet supports the acquisition and selection of “participatory skills and norms” that can be leveraged by educators to channel civic and political development. Third, as a civics teaching tool the new technology is amazingly flexible. As observed by Lenhart et al. (2008), for example, even video games can be configured to deliver civically relevant messages in an entertaining format that enhances exposure and selection. In other words, the new communications technology is remarkably well suited to what Niemi and Junn (1998) described as a civic learning framework that envisions a relatively constant interplay between exposure to and the selection of civically relevant content. Moreover, the techno-driven forces of exposure and selection also can be important voter turnout mobilizers (or demobilizers). It is thus difficult to overstate the importance of the new communications technology in a civic development context.

**Recommendation 11:** Fully integrate technological opportunities to improve exposure to and selection of civic development messages.

#### *Formalizing School-Based Voter Registration Efforts*

In most states, it is necessary to register up to 30 days in advance of voting in local, state and national elections. The high school and college campus venues are well suited to the voter registration mission for several reasons. First, young people typically reach the minimum voting age as high school seniors or college freshman. Second, voter registration easily fits within most concepts of civic development. Third, high school and college campuses are convenient venues for voluntary voter registration efforts such as those conducted by the League of Women Voters. I stop short of Eisner’s (2006) proposal to make young adult voter registration compulsory at the high school and college levels for an abundance of legal, democratic and practical reasons.

However, there is no reason not to maximize voluntary opportunities. At the high school level, voter registration easily could be added to the senior civics curriculum. At the college level, registration could become part of the freshman orientation as suggested by Eisner. In both instances, of course, students would need to meet all of the eligibility requirements within their jurisdictions and school officials would need to be vigilant in protecting the legal and democratic prerogatives of young adults who opt not to register.

Recommendation 12: Make voter registration a voluntary but formal component of high school senior civics and college freshman orientation programs.

#### Closing Remarks

A common experience for the Boomers, Gen Xers and Millennials in my study -- albeit one that was experienced at very different ages and, for some, only vicariously through history books or Hollywood -- was the Apollo 13 rescue mission. That episode poignantly illustrates the notion that seemingly impossible problems can be solved when heroic attention is brought to bear -- first to understand and then to act. In the aftermath of the Apollo 13 mission it was discovered that the short circuit that left the ship in a near lifeless state 174,000 miles from Earth was caused by a production error occurring several months prior to launch. When the emergency occurred on April 14, 1970, Commander Jim Lovell and his crew immediately were faced with two problems: to maintain oxygen and power long enough to return safely to Earth, and to do so using only the materials and tools at hand on the spacecraft.

Some of the NASA officials who were mobilized during the crisis reportedly believed that a safe return was not in the cards for Apollo 13. But they were proven wrong. So, too, many U.S. political scholars, campaign strategists and educators are steadfast in the belief that sagging young adult voter turnout in the post-26<sup>th</sup> Amendment era is irreversible. Some do not think it matters. Others view it as a positive. They should be proven wrong as well.

My basic contention is that the nonvoting option that is routinely exercised by the majority of American young adults robs democracy of both its life sustaining power and its oxygen. I also contend that developing a deeper understanding of the problem inevitably will illuminate feasible solutions. None of my recommendations are cost-free or noncontroversial, but they do offer a pathway to progress fashioned exclusively by the social and political tools at hand. All that is needed is the courage and political will to move forward. Just as the Apollo 13 crew managed to return safely to Earth on April 17, 1970, I am convinced that a safe landing is possible for democracy if policy makers and educational practitioners can unite to solve the young adult voter turnout problem. An oddball bipartisan coalition -- not unlike that which emerged in the 1960s to pass the 26<sup>th</sup> Amendment -- is now needed to resurrect its promise. Where there is possibility, there is also hope.



Table 6.1. Summary of recommendations for policy and practice reform.

<u>Recommendations</u>
<u>Educational attainment</u>
<ol style="list-style-type: none"> <li>1. Continue to emphasize and resource high school dropout prevention and recovery programs as a national priority.</li> <li>2. Expand the availability of need-based grants and scholarships to students attending accredited vocational and community colleges as well as four-year institutions of higher learning.</li> </ol>
<u>High school civics programs</u>
<ol style="list-style-type: none"> <li>3. Add minimum competency in civics knowledge to state high school graduation requirements nationwide.</li> <li>4. Adopt issue-focused and discussion-based pedagogical standards for civics instruction.</li> <li>5. Gear civics messages to culturally relevant and age appropriate student concerns.</li> <li>6. Increase staff support and resourcing for non-athletic extracurricular activities, such as student government and service clubs.</li> <li>7. Leverage community partnerships to expand student experiential opportunities and to manage costs.</li> <li>8. Target school districts exhibiting the greatest need for incremental state and federal civics funding.</li> </ol>
<u>High school literacy programs</u>
<ol style="list-style-type: none"> <li>9. Improve literacy programs and funding in school districts having a high percentage of non-English speaking families</li> <li>10. Embed civically relevant content within the core English curriculum.</li> </ol>
<u>New technology</u>
<ol style="list-style-type: none"> <li>11. Fully integrate technological opportunities to improve exposure to and selection of salient civic development messages.</li> </ol>
<u>Voter registration</u>
<ol style="list-style-type: none"> <li>12. Make voter registration a voluntary but formal component of high school senior civics and college freshman orientation programs.</li> </ol>

## ENDNOTES

## Chapter 2

- 1 Unless otherwise noted, I report voter turnout percentages in terms of the Voting Age Population (VAP) estimates provided by the U.S. Census Bureau's ongoing Current Population Survey (CPS) program. As summarized by Lopez, Kirby, Sagoff and Herbst (2005):

Estimating turnout among young Americans poses several problems. First, all polls and surveys are random samples of a whole population. As samples, they have error and cannot produce exact counts of votes or estimates of voter turnout. Second, there is no consensus among researchers about the best way to count the eligible voting population or, more significantly, which number should be in the denominator of the voter turnout calculation. Finally, since 18- to 20-year-olds were given the right to vote only in 1972, we cannot compare today's youth with young people from past generations. (p. 5)

We are thus left with two challenges in the immediate context of my investigation: data selection and calculation methods. As further noted by Lopez et al. (2005), the three principal data sources all contain imperfections. Federal Election Commission records do not include voter age. Exit polls conducted prior to 2004 commonly excluded absentee and early voters. Extrapolating exit poll data to age-based demographic subgroups often is complicated due to small survey sample sizes. Additionally, methodological differences typically rule out valid cross-poll and cross-election exit poll comparisons in elections conducted prior to the mid-2000s. This leaves the Current Population Surveys (CPS) routinely conducted by the U.S. Census Bureau as the preferred data source for rigorous voting studies. CPS data tend to inflate turnout estimates because they are based on self-reports. But the reliability of these data is enhanced by virtue of the facts that: (1) CPS surveys are typically conducted within weeks of the elections in question (when memories are fresh); (2) the U.S. Census Bureau's methodology has been consistently applied over the span of many elections; and (3) CPS employs large format samples. My research takes advantage of CPS data.

The second issue involves the method of calculation, which can be recast as the dual challenge of selecting the numerator and denominator. The numerator approximates actual voters. The denominator encompasses the general population in which voters are contained. The ratio between the numerator and denominator defines the turnout rate or percentage. My selection of the CPS data source preordains what the numerator will be as well as the source data for the denominator.

Defining the denominator presents two choices. Prior to 2004, the CPS tabulations routinely relied on the U.S. resident population – commonly known as Voting Age Population (VAP) -- in their calculations. This practice understates voter turnout percentages by inflating the denominator based on the inclusion of ineligible voters (Abramson et al. 2010; McDonald, 2011; McDonald and Popkin, 2001). The problem is

particularly acute in regard to felons and non-citizen aliens. As noted by Abramson et al. (2010), voting ineligibility due to convicted felon status rose from 0.4 percent of the general population in 1960 to 1.6 percent in 2008, and the percentage of noncitizen residents increased from 2.2 percent of the voting age population in 1960 to about 8.6 percent in 2008 (p. 90). That is, the ineligible felon and alien population segments alone inflated the 2008 VAP denominator by more than 10 percent. And, as further observed by Abramson et al (p. 92), non-citizen aliens have been growing as a percentage of the total population since 1972, meaning that the magnitude of the distortion has been growing as well.

Efforts are underway to correct the denominator problem. The U.S. Census Bureau has begun to report the citizen population as a VAP alternative. Michael McDonald and Samuel Popkin (McDonald, 2011; McDonald and Popkin, 2001), have been instrumental in creating a Voter Eligible Population (VEP) substitute for the VAP that not only corrects for resident alien and felon status, but also addresses the overseas voting eligible population distortion that resides in the CPS data. McDonald's United States Elections Project (<http://elections.gmu.edu>) contains VEP data commencing with the 2000 presidential election.

Ultimately, I opted to use the VAP standard in my investigation for two reasons. First, the 1972 to 2006 election horizon of my study extends well beyond the availability of VEP data. Second, my principal interest is with age-based comparisons, as opposed to absolute voter turnout, and the VAP approach permits apples-to-apples comparisons on that basis within a consistently applied methodological structure.

- 2 Although my investigation focuses on U.S. 18-20 year-olds, many surveys and tracking studies adopt a different standard in defining young adult status. The disparities involving Figures 2.3 to 2.5 reflect the *New York Times* and Pew Research Center practice of adopting an age 18-29 benchmark. The 2008 end point on the election scale roughly corresponds to the 2006 upper limit of the NCES datasets used in the empirical portion of my study.
- 3 There is no universally accepted birth year range for the designation of generational cohorts. In developing my own convention, I relied on multiple sources (see Howe and Strauss, 2000; Strauss and Howe, 1991; Jennings and Niemi, 1981; Zukin et al., 2006) that led me to the following divisions: (1) Baby Boomers born between 1946 and 1964, meaning that my NLS respondents (76 percent born in 1954) qualify as Mid-Boomers and my HSB respondents (73 percent born in 1962) qualify as Late-Boomers; (2) Gen Xers born between 1965 and 1982, placing my NELS respondents (66 percent born in 1974) within that generation; and (3) Millennials born after 1982, placing my ELS respondents (62 percent born in 1986) within that generation.

## Chapter 3

- 1 The NCES Secondary Longitudinal Study series have been greatly under-utilized in political participation research. A number of studies have used individual surveys. These include: NLS (see Fitzgerald, 1988; Merriam and Yang, 1996) ; HSB (see Bryk, Lee and Holland, 1993; Dee, 2004; Henderson and Chatfield, 2011; Glanville, 1999; Kam and Palmer, 2008, 2011; Mayer, 2011; Preble, 1991); NELS (see Braddock, Hua and Dawkins, 2007; Carlson, 2009; Chapin, 2000, 2005; Frederick, 2011; Frisco, Muller and Dodson, 2004; Hart, Donnelly, Youniss and Atkins, 2007; Lopez and Brown, 2006; McFarland and Thomas, 2006; Peterson, 2007; Reed, undated; Smith, 1999; Thomas and McFarland, 2010) ; and ELS (see Stroup, 2009). The Stroup (2009) study was confined to civic academic outcomes in high school. A few voting studies have employed HSB and NELS (see, e.g., Carlson, 2012; Dee, 2003). My literature review turned up only four studies that utilized all four of the NCES Secondary Longitudinal Study datasets (Bastedo and Jaquette, 2011; Bound, Hershbein and Long, 2009; Ingels, Dalton and LoGerfo, 2008; Ingels, Glennie, Lauff and Wirt, 2012), only one of which (Ingels et al., 2012) evaluated voting behavior and confined itself to univariate frequency counts and bivariate tabulations. Based on April 1, 2013 personal communications with NCES Associate Commissioner Jeffrey Owings and ELS/HSLs Project Officer Elsie Christopher and an April 2, 2013 personal communication with NCES Associate Research Scientist Isaiah O’Rear, the NCES staff is not aware of other studies utilizing all four Secondary Longitudinal datasets.
- 2 NCES Associate Commissioner Jeffrey Owings and NCES Associate Research Scientist Isaiah O’Rear personal communications, September 9, 2012 and September 25, 2012.

## Chapter 6

- 1 Census (1949) estimates place the 1790 total U.S. population at 3,929,214. The closest census estimating the population by age and other social characteristics is 1850, which placed the age 20 and over population at 47.6 percent of the total including women, slaves and emancipated slaves. Assuming that the 1790 population characteristics were similar, this places the modern equivalent of the voting age population denominator at 1,870,306. Based on Gans (2011) estimate that the 1789 popular vote was 41,043, this translates to an adjusted voter turnout percentage of 2.2 percent.
- 2 During his 2013 State of the Union message, President Obama announced the creation of a non-partisan commission to investigate excessive waiting lines on Election Day 2012 and to make recommendations to remedy the situation in future elections. Presumably, the mandate of this commission will extend to other procedural shortcomings as well.
- 3 Section 5 of the Voting Rights Act of 1965 requires jurisdictions having past records of racial discrimination to obtain federal approval before modifying their election requirements and procedures. In *Shelby County Alabama v. Holder*, the constitutional validity of this provision is being challenged. A U.S. Supreme Court decision on the matter is anticipated in 2013.

## REFERENCES

- Abramson, P.R., Aldrich, J.H., & Rohde, D.W. (2010). *Change and continuity in the 2008 elections*. Washington, DC: CQ Press.
- Alesina, A., & La Ferrara, E. (2000). Participation in heterogeneous communities. *Quarterly Journal of economics*. 115, 847-904.
- Alford, J.L., Funk, C.L., & Hibbing, J.R. (2005). Are political orientations genetically transmitted? *American Political Science review*. 99(2), May, 153-167.
- Allison, P.D.  
 \_\_\_\_\_ (1999). Comparing logit and probit coefficients across groups. *Sociological Methods & Research*, 28, 186-208.  
 \_\_\_\_\_ (2002). *Missing data*. Sage university papers series on quantitative applications in the social sciences, 07-136. Thousand Oaks, CA: Sage.
- Almond, G.A., & Verba, S., eds. (1963). *The civic culture revisited*. Newbury Park, CA: SAGE Publications, Inc.
- Amar, A.R. (2005). *America's constitution: A biography*. New York: Random House Trade Paperbacks.
- Bachner, J. (2010). From classroom to voting booth: The effect of high school civic education on turnout. Working paper. Accessed February 2, 2013 from:  
<http://www.gov.harvard.edu/files/Bachner%20Civic%20Education%20Article.pdf>.
- Barber, B.R. (1992). *An aristocracy of everyone: The politics of education and the future of America*. New York: Oxford University Press.
- Bastedo, M.N., & Jaquette, O. (2011). Running in place: Low-income students and the dynamics of higher education stratification. *Educational Evaluation and Policy Analysis*. 33(3), September, 318-339.
- Berensky, A.L., & Lenz, G.S. (2010). Education and political participation: Exploring the causal link. *Political Behavior*. 33, 357-373.
- Belfield, C. (2003). Democratic education across school types: Evidence from the NHES99. National Center for the Study of Privatization in Education (NCSPE). Occasional Paper No. 73, 1-13. Accessed March 3, 2008 from: [www.ncspe.org](http://www.ncspe.org).
- Berkman, M.B., & Plutzer, E. (2005). *Ten thousand democracies: Politics and public opinion in America's school districts*. Washington, DC: Georgetown University press.
- Blais, A. (2000). *To vote or not to vote: The merits and limits of rational choice theory*. Pittsburgh, PA: University of Pittsburgh Press.

*Board of Education v. Dowell*, 498 U.S. 237 (1991).

*Board of Education v. Earls*, 536 U.S. 822 (2002).

*Board of Education v. Rowley*, 458 U.S. 176 (1982).

Bound, J., Hershbein, B., & Long, B.T. (2009). Playing the admissions game: Student reactions to increasing college competition. National Bureau of Economic Research. NBER Working paper 15272.

Bowman, N.A. (2011). Promoting participation in a diverse democracy: A meta-analysis of college diversity experiences and civic engagement. *Review of Educational Research*. 81(1), March, 29-68.

Braddock, J., Hua, L., & Dawkins, M. (2007). Effects of participation in high school sports and nonsport extracurricular activities on political engagement among black young adults. *Negro Educational Review*. 3(58), 201-215.

Brady, H.E. (2008). Causation and explanation in social science. In Brady, H.E., & Collier, D. *The Oxford handbook of political methodology*. New York: Oxford University Press. 217-270.

Brehm, J., & Rahn, W. (1997). Individual-level evidence for the causes and consequences of social capital. *American Journal of Political Science*. 41(3), July, 999-1023.

Brickham, D.S., & Rich, M. (2006). Is television viewing associated with social isolation? *Archives of Pediatrics & Adolescent Medicine*. 160(4), 387-392.

Brin, D. (1998). *The transparent society: Will technology force us to choose between privacy and freedom?* Reading, MA: Addison-Wesley.

Brody, R.A. (1978). The puzzle of political participation. In King, A., ed. *The new American political system*. Washington, DC: American Enterprise Institute.

Brody, R.A., & Sniderman, P.A. (1977). From life space to polling place. *British Journal of Political Science*. 7(3), July, 337-360.

Brokaw, T. (1998). *The greatest generation*. New York: Random House.

*Brown v. Board of Education* [Brown I], 349 U.S. 483 (1954).

*Brown v. Board of Education* [Brown II], 349 U.S. 294 (1955).

Bryk, A., Lee, V., & Holland, P. (1993). *Catholic schools and the common good*. Cambridge, MA: Harvard University Press.

Buckley, J., & Schneider, M.

\_\_\_\_\_ (2003). Government institutions and citizen participation: Can charter schools build a foundation for cooperative behavior. Policy paper.

\_\_\_\_\_ (2004). Do charter schools promote student citizenship? National Center for the Study of Privatization in Education (NCSPE). Occasional Paper No. 91.

\_\_\_\_\_ (2007). *Charter schools: Hope or hype?* Princeton, NJ: Princeton University Press.

Bucy, E.P., & Gregson, K.S. (2001). Media participation: A legitimizing mechanism of mass democracy. *New Media & Society*. 3, 357-380.

Burden, B.C. (2009). The dynamic effects of education on voter turnout. *Electoral Studies*. 28, 540-549.

Campbell, A.L.

\_\_\_\_\_ (2002). Self-interest, social security, and the distinctive participation patterns of senior citizens. *The American Political Science review*. 96(3), September, 565-574.

\_\_\_\_\_ (2003). *How policies make citizens: Senior political activism and the welfare state*. Princeton, NJ: Princeton University press.

Campbell, A., Converse, P.E., Miller, W.E., & Stokes, D.E.

\_\_\_\_\_ (1960). *The American voter*. New York, NY: John Wiley and sons.

\_\_\_\_\_ (1966). *Elections and the political order*. New York, NY: John Wiley and Sons, Inc.

Campbell, D.E.

\_\_\_\_\_ (2001). Bowling together: Private schools, serving public ends. *Education Next*. Fall, 55-61.

\_\_\_\_\_ (2005). Voice in the classroom: How an open classroom environment facilitates adolescents' civic development. CIRCLE Working Paper 28.

\_\_\_\_\_ (2006). *Why we vote: How schools and communities shape our civic life*. Princeton and Oxford: Princeton University press.

\_\_\_\_\_ (2008). Voice in the classroom: How an open classroom climate fosters political engagement among adolescents. *Political Behavior*. 30(4), 437-454.

\_\_\_\_\_ (2009). Civic engagement and education: An empirical test of the sorting model. *American Journal of Political Science*. 53(4), 771-786.

\_\_\_\_\_ (2011). Civic education in traditional public, charter, and private schools: Moving from comparison to explanation. American Enterprise Institute conference, Civics 2.0: Citizenship education for a new generation. October 20, 2011. Originally accessed December 4, 2011 from: [www.aei.org/event/100440](http://www.aei.org/event/100440).

Carleton, W.G. (2010). Teen voting would accelerate undesirable changes in the democratic process. In S. Engdahl (Ed.), *Amendment XXVI: Lowering the voting age* (pp.46-55). Farmington Hills, MI: Greenhaven Press/Gale. (Reprinted from *Yale review*, pp. 149-159, Yale University, 1968).

Carlson, D.

\_\_\_\_\_ (2009). The effect of formal education on political participation: A school-centric perspective. Paper presented at the annual meeting of the Southern Political Science Association.

\_\_\_\_\_ (2012). Out of the classroom and into the voting booth? Analyzing the effects of education on political participation. Unpublished doctoral dissertation. University of Wisconsin – Madison.

Cato Institute (Cato). (2002). *The declaration of independence and the constitution of the United States of America*. Washington, DC: The Cato Institute.

*Cedar Rapids Community School Dist. V. Garret F.*, 526 U.S. 66 (1999).

Center for Information & Research on Civic Learning and Engagement (CIRCLE). Jonathan M. Tisch College of Citizenship and Public Service, Tufts University. Accessed various dates from <http://www.civicyouth.org>.

\_\_\_\_\_ (2012a). Fact sheet. At least 80 electoral votes [in 2012] depended on youth.

\_\_\_\_\_ (2012b). Fact sheet. More analysis of young voters on issues, house candidate support, differences from older voters [2012 presidential election].

\_\_\_\_\_ (2012c). Fact sheet. Who did young people vote for in presidential elections? 1972-2012.

\_\_\_\_\_ (2012d). Fact sheet. #Youth truth: Not all youth vote democratic, and historically the youth vote has often been competitive.

\_\_\_\_\_ (2012e). Fact sheet. Young voters in the 2012 presidential election: The educational gap remains. November 15, 2012.

Center for Research on Educational Outcomes (CREDO). Stanford University, Palo Alto, CA.

\_\_\_\_\_ (2009a). Multiple choice: Charter school performance in 16 states.

\_\_\_\_\_ (2009b). Fact vs. fiction: Analysis of Dr. Hoxby's misrepresentation of CREDO's research.

Chapin, J.

\_\_\_\_\_ (2000). From eighth grade social studies to young adulthood voting and community service: National Educational Longitudinal Study of 1988 eighth graders. Paper presented at the annual meeting of the American Educational Research Association. New Orleans, LA.

\_\_\_\_\_ (2005). Voting and community volunteer participation of 1988 eighth grade social studies students 12 years later. *Theory and Research in Social Education*. 33(2), spring, 200-217.

Coleman, J.S. (1988). Social capital, human capital, and schools: Independent schools need to form a school community out of a set of independent individuals. *Independent School*. Fall, 9-10 and 12-16.

Collins, R. (1979). *The credential society: An historical sociology of education and stratification*. New York: Academic Press



- Conover, P.J., & Searing, D.D. (2000). A political socialization perspective. In McDonnell, L.M., Timpane, P.M., & Benjamin, R., eds. *Rediscovering the democratic purposes of education*. Lawrence, KS: University Press of Kansas, 91-124.
- Costa, D.L., & Kahn, M.E. (2003). Civic engagement and community heterogeneity: An economist's perspective. *Perspectives on Politics*. 1, 103-111.
- Cremin, L.A. (Ed.), (1957). *The republic and the school: Horace Mann on the education of free man*. New York: Teachers College Press.
- Cultice, W.W. (1992). *Youth's battle for the ballot: A history of voting age in America*. New Contributions in Political Science, Number 291. York: Greenwood Press.
- Dalton, R.J.  
 \_\_\_\_\_ (2006). Citizenship norms and political participation: The good news is ... the bad news is wrong. Center for Democracy and Civil Society. Occasional Paper 2006-01 (October).  
 \_\_\_\_\_ (2009). *The good citizen: How a younger generation is reshaping American politics, rev. ed.* Washington, DC: CQ Press.
- Daniel, C., ed. (1987). *Chronicle of the 20<sup>th</sup> century*. Mount Kisco, NY: Chronicle Publications, Inc.
- Dahl, R.A. (1956). *A preface to democratic theory*. Chicago: The University of Chicago Press.
- Dee, T.S.  
 \_\_\_\_\_ (2003). Are there civic returns to education? National Bureau of Economics. NBER Working Paper 9588.  
 \_\_\_\_\_ (2004). Are there civic returns to education? *Journal of Public Economics*. 88, 1697-1720.
- Delli Carpini, M.X., & Keeter, S. (1996). *What Americans know about politics and why it Matters*. New Haven, CT: Yale University Press.
- Dewey, J. (1916, 1944). *Democracy and education: An introduction to the philosophy of education*. New York, NY: The Free Press.
- Dirksen Congressional Center (Dirksen). Retrieved December 1, 2012 from <http://www.congresslink.org>.  
 \_\_\_\_\_ (2012a). Major features of the civil rights act of 1964.  
 \_\_\_\_\_ (2012b). Voting rights act of 1965.
- Downs, A. (1957). *An economic theory of democracy*. New York: Harper and Row.
- Dubin, M.J. (2002). *United States presidential elections, 1788-1860: The official results by county and state*. Jefferson, NC: McFarland & Company, Inc.

*Dunn v. Blumstein*, 430 U.S. 330 (1972).

Durbin, T.M. (1996). The Electoral College method of electing the president and vice president and proposals for reform. Congressional Research Service. The Library of Congress. Washington, DC.

Durlauf, S.N., & Fafchamps, M. (2004). Social capital. National Bureau of Economic Research. NBER Working Paper 10485.

Eberstadt, N. (2012). *A nation of takers: America's entitlement epidemic*. Washington, DC: American Enterprise Institute.

Eisner, J. (2006). Proposals for sustaining the turnout surge. In Levine, P., & Youniss, J. Youth civic engagement: An institutional turn. CIRCLE Working Paper 45.

El-Haj, T.R.A., & Bonet, S.W. (2011). Education, citizenship, and the politics of belonging: Youth from Muslim transitional communities and the "war on terror." *Review of Research in Education*. 35, 29059.

Engdahl, S., ed. (2010). *Amendment XXVI: Lowering the voting age*. Farmington Hills, MI: Greenhaven Press/Gale.

*Engel v. Vitale*, 370 U.S. 421 (1962).

Erikson, R.S., Mackuen, M.B., & Stimson, J.A. (2002). *The macro polity*. New York: Cambridge University Press.

Erikson, R.S., & Tedin, K.L. (2011). *American public opinion*, 8<sup>th</sup> ed. New York: Longman/Pearson.

ESSELECT. (2012). Addressing low retention in online higher education courses. *Education Sector*. Accessed January 19, 2013 from: [www.educationsector.org/](http://www.educationsector.org/).

Fitzgerald, M. (2003). Easier voting methods boost youth turnout. CIRCLE Working Paper No. 1.

Fitzgerald, R. (1988). Civic participation and attitudes of the 1972 senior class. Berkley, CA: MPR Associates.

Fowler, J., Baker, L., & Dawes, C. (2008). Genetic variation in political participation. *American Political Science Review*. 233-248.

Flanagan, C.A. (2006). Community colleges. In Levine, P., & Youniss, J. Youth civic engagement: An institutional turn. CIRCLE Working Paper No. 45.

- Franklin, M.N. (2004). *Voter turnout and the dynamics of electoral competition in established democracies since 1945*. Cambridge, MA: Cambridge University Press.
- Frederick, C. (2011). Schooling for citizenship? Unpacking the relationship between education and voting. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 3(73).
- Fredricks, J.A., & Eccles, J.S. (2006). Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relations. *Developmental Psychology*, 42(4), 698-713.
- Freeman v. Pitts*, 503 U.S. 467 (1992).
- Frisco, M., Muller, C., & Dodson, K. (2004). Participation in voluntary youth-serving associations and early adult voting behavior. *Social Science Quarterly*, 3(85), 660-676.
- Furnish, T. (2010). The twenty-sixth amendment should be repealed. In S. Engdahl (Ed.), *Amendment XXVI: Lowering the voting age* (pp.41-45). Farmington Hills, MI: Greenhaven Press/Gale. (Reprinted from *History News Network*, November 15, 2004, <http://hnn.us/articles/8491.html>).
- Gallup, G. (2010). The majority of Americans favor the twenty-sixth amendment. In S. Engdahl (Ed.), *Amendment XXVI: Lowering the voting age* (pp.128-131). Farmington Hills, MI: Greenhaven Press/Gale. (Reprinted from Gallup Poll news briefing, April 25, 1971).
- Galston, W.A.  
 \_\_\_\_\_ (2001). Political knowledge, political engagement, and civic education. *Annual Review of Political Science*, 4, 217-234.  
 \_\_\_\_\_ (2006). A modest proposal. In Levine, P., & Youniss, J., eds. *Youth civic engagement: an institutional turn*. CIRCLE Working Paper No. 45.
- Gans, C., & Mulling, M. (2011). *Voter turnout in the United States, 1788-2009*. Washington, DC: CQ Press.
- Geboers, E., Geijsel, F., Admiraal, W., & ten Dam, G. (2012). Review of the effects of citizenship education. *Educational Research Review*. Accessed March 12, 2013 from: <http://dx.doi.org/10.1016/j.edurev.2012.02.001>.
- Gemici, S., & Rojewski, J.W. (2010). Overview of propensity score matching: Deriving causal relationships from observational data. Paper presented at the annual meeting of the American Educational Research Association. May 3, 2010.
- Genzkow, M. (2006). Television and voter turnout. *The Quarterly Journal of Economics*, August, 931-972.

- Gilreath, J., (Ed.). (2002). *Thomas Jefferson and the education of a citizen*. Honolulu, HI: University Press of the Pacific.
- Glanville, J.L. (1999). Political socialization or selection? Adolescent extracurricular participation and political activity in early adulthood. *Social Science Quarterly*. 80(2), June, 279-290.
- Godsay, S., Henderson, W., Levine, P., & Littenberg-Tobias. (2012). Tate civic education requirements. CIRCLE Fact Sheet.
- Gottschalk, L. (1950). What are history and historical sources? In Gottschalk, L. *Understanding history: A primer on historical method*. New York, NY: Alfred A. Knopf, Inc.
- Green v. County School Board*, 391 U.S. 430 (1968).
- Green, D.P. (2005). On evidence-based political science. *Daedalus*. 134(3), summer, 96-100.
- Greene, J.P.  
 \_\_\_\_\_ (1998). Civic values in public and private schools. In Peterson, P.E., & Hassel, B.C., eds. *Learning from school choice*. Washington, DC: Brookings Institution Press, 83-106.  
 \_\_\_\_\_ (2000). Review of civic education: what makes students learn, by Richard G. Niemi and Jane Junn. *Social Science Quarterly*. 81, 696-697.
- Grutter v. Bollinger*, 539 U.S. 306 (2003).
- Gratz v. Bollinger*, 539 U.S. 244 (2003).
- Gutmann, A.  
 \_\_\_\_\_ (1987). *Democratic education*. Princeton, NJ: Princeton University Press.  
 \_\_\_\_\_ (2000). Why should schools care about civic education? In McDonnell, L.M., Timpane, P.M., & Benjamin, R., eds. *Rediscovering the democratic purposes of education*. Lawrence, KS: University Press of Kansas, 73-90.
- Hart, D., Donnelly, T., Youniss, J., & Atkins, R. (2007). High school community service as a predictor of adult voting and volunteering. *American Educational research Journal*. 1(44), 197-219.
- Hehir, T. (2010). Charters: Students with disabilities need not apply? *Education Week*. Originally accessed March 1, 2010 from: [www.edweek.org/](http://www.edweek.org/),
- Helliwell, J.F., & Putnam, R.D.  
 \_\_\_\_\_ (1999). Education and social capital. National Bureau of Economic Research. NBER Working Paper 7121.  
 \_\_\_\_\_ (2007). Education and social capital. *Eastern Economic Journal*. 33(1), 1-19.

- Henderson, J., & Chatfield, S. (2011). Who matches? Propensity scores and bias in the causal effects of education on participation. *The Journal of Politics*. 73(3), 646-658.
- Henig, J.R.  
\_\_\_\_\_ (2000). School choice outcomes. In Sugarman, S., & Kemerer, F., eds. *School choice and social controversy: Politics, policy and law*. Washington, DC: The Brookings Institution, 68-107.  
\_\_\_\_\_ (2008). *Spin cycle*. New York: Russell Sage Foundation and the Century Foundation.
- Hess, D. (2009). *Controversy in the classroom: The democratic power of discussion*. New York: Routledge.
- Hess, F.M. (2008). Still at risk: What students don't know even now. Common Core policy paper. Washington, DC. Accessed February 1, 2009: [www.commoncore.org](http://www.commoncore.org).
- Hess, R.D., & Torney, J.V. (1967). *The development of political attitudes in children*. New Brunswick, NJ: Aldine Transaction.
- Highton, B., & Wolfinger, R.E. (2001). The first seven years of the political life cycle. *American Journal of Political Science*. 45(1), January, 202-209.
- Hill, D. (2006). *American voter turnout: An institutional perspective*. Cambridge, MA: Westview Press.
- Hochschild, J.L., & Scovronick, N. (2000). Democratic education and the American dream. In McDonnell, L.M., Timpane, P.M., & Benjamin, R., eds. *Rediscovering the democratic purposes of education*. Lawrence, KS: University Press of Kansas, 209-242.
- Holtz, G.T. (1995). *Welcome to the jungle: The why behind generation x*. New York, NY: St. Martin's Press.
- Howe, N., & Nadler, R. (2009). Yes we can: The emergence of millennials as a political generation. New America Foundation. Accessed March 17, 2013 from: [www.Newamerica.net](http://www.Newamerica.net).
- Howe, N., & Strauss, W. (2000). *Millennials rising*. New York: Vintage Books.
- Howlett, M., & Ramesh, M. (2003). *Studying public policy: Policy cycles and public subsystems*. Don Mills, Ontario, Canada: Oxford University Press.
- Hoxby, C.M., Muraka, S., & Kang, J. (2009). How New York City's charter schools affect achievement. The New York City Charter Schools Evaluation Project. Second report in series. Cambridge, MA.

IBM Corporation (IBM). Accessed various dates: <http://www.ibm.com/spss>.

\_\_\_\_\_ (2011a). *IBM spss advanced statistics 20*.

\_\_\_\_\_ (2011b). *IBM spss missing values 20*.

\_\_\_\_\_ (2011c). *IBM spss regression 20*.

\_\_\_\_\_ (2011d). *IBM spss statistics base 20*.

Ingels, S.J., Dalton, B.W., & LoGerfo, L. (2008). *Trends among high school seniors, 10972-2004* (NCES 2008-320). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Ingels, S.J., Glennie, E., Lauff, E., & Wirt, J.G. (2012). *Trends among young adults over three decades, 1974-2006* (NCES 2012-345). U.S. Department of Educations, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Jennings, M.K., & Niemi, R.G.

\_\_\_\_\_ (1974). *The political character of adolescence*. Princeton, NJ: Princeton University Press.

\_\_\_\_\_ (1975). Continuity and change in political orientations: A longitudinal study of two generations. *The American Political Science review*. 69(4), December, 1316-1335.

\_\_\_\_\_ (1981). *Generations and politics: A panel study of young adults and their parents*. Princeton, NJ: Princeton University Press.

\_\_\_\_\_ (1991). Youth-parent socialization panel study, 1965-1973 [computer file]. University of Michigan, Center for Political Studies. 2<sup>nd</sup> ICSPR ed.: Inter-University Consortium for Political and Social Studies [producer and distributor]. Ann Arbor, MI.

Jennings, M.K., & Stoker, L. (2004). Social trust and civic engagement across time and generations. *Acta Politica*. 39(4), December, 342-379.

Jennings, M.K., Stoker, L., & Bowers, J. (2009). Politics across generations: Family transmission re-examined. *The Journal of Politics*. 71(3), July, 782-799.

Kaestle, C.F. (2000). Toward a political economy of citizenship: Historical perspectives on the purposes of common schools. In McDonnell, L.M., Timpane, P.M., & Benjamin, R., Eds. *Rediscovering the democratic purposes of education*. Lawrence, KS: University Press of Kansas, 47-72.

Kahne, J., & Middaugh, E. (2008). Democracy for some: The civic opportunity gap in high school. CIRCLE Working Paper 59.

Kahne, J., Ullman, J., & Middaugh, E. (2011). Digital opportunities for civic education. Paper presented at American Enterprise Institute conference: Civics2.0: Citizenship Education for a New Generation. October 20, 2011. Accessed December 1, 2011 from: <http://www.aei.org/event/100440>.

- Kam, C.D., & Palmer, C.  
 \_\_\_\_\_ (2008). Reconsidering the effects of education on political participation. *Journal of Politics*. 70(3), 612-631.  
 \_\_\_\_\_ (2011). Rejoinder: Reinvestigating the causal relationship between higher education and political participation. *The Journal of Politics*. 73(3), July, 659-663.
- Key, V.O.  
 \_\_\_\_\_ (1949, 2006). *Southern politics in state and nation*. Knoxville, TN: The University of Tennessee Press.  
 \_\_\_\_\_ (1955). A theory of critical elections. *Journal of Politics*. 17, 3-18.  
 \_\_\_\_\_ (1966). *The responsible electorate*. Cambridge, MA: Harvard University Press.
- Keyes v. School District No. 1, Denver, Colorado*, 413 U.S. 189 (1973).
- Keyssar, A. (2000). *The right to vote. The contested history of democracy in the United States*. New York, NY: Basic Books (Perseus).
- Kirlin, M. (2003). The role of adolescent extracurricular activities in adult political participation. CIRCLE Working Paper No. 2.
- Kleinbaum, D.G., Kupper, L.L., Muller, K.E., & Nizam, A. (1998). *Applied regression analysis and other multivariate methods*. Pacific Grove, CA: Brooks/Cole Publishing Company.
- Knepp, D.L., & Entwisle, D.R. (1969). Testing significance of differences between two chi-squares. *Psychometrika*. 34(3), 331-333.
- Langton, K.P., & Jennings, M.K. (1968). Political socialization and the high school civics curriculum in the United States. *The American Political Science review*. 62(3), September, 852-867.
- Lau, R.R., & Redlawsk, D.P.  
 \_\_\_\_\_ (1997). Voting correctly. *The American Political Science review*. 91(3), September, 585-598.  
 \_\_\_\_\_ (2001). Advantages and disadvantages of cognitive heuristics in political decision making. *American Journal of Political Science*. 45(4), October, 951-971.  
 \_\_\_\_\_ (2011). Advantages and disadvantages of cognitive heuristics in political decision making. In Niemi, R.G., Weisberg, H.F., & Kimball, D.C., pp. 111-140. Washington, DC: CQ Press.
- Lee v. Weisman*, 505 U.S. 577 (1992).
- Lee, V.E., & Bryk, A.S. (1988). Curriculum tracking as mediating the social distribution of high school achievement, Figure 4, Note d. *Sociology of Education*. 61, April, 78-94.
- Lee, V.E., & Ready, D.D. (2007). *Schools within schools: Possibilities and pitfalls of high school reform*. New York: Teachers College Press.

- Leighley, J.E., & Vedlitz, A. (1999). Race, ethnicity, and political participation: Competing models and contrasting explanations. *The Journal of Politics*. 61(4), November, 1092-1114.
- Lenhart, A., Kahne, J., Middaugh, E., MacGill, A.R., Evans, C., & Vitak, J. (2008). Teens, video games, and civics. Pew Internet and American Life Project. Washington, DC.
- Levine, P., Flanagan, C., & Gally, L. (2008). The Millennial Pendulum: A new generation of voters and the prospects for a political realignment. New America Foundation. Accessed February 5, 2013 from: [www.NewAmerica.net](http://www.NewAmerica.net).
- Levine, P., & Youniss, J. (2006). Youth civic engagement: An institutional turn. CIRCLE Working Paper No. 45.
- Levinson, M. (2007). The civic achievement gap. CIRCLE Working Paper 51.
- Lewis-Beck, M.S., Jacoby, W.G., Norpoth, H., & Weisberg, H.F. (2011). *The American voter revisited*. Ann Arbor, MI: The University of Michigan Press.
- Lipsky, D., & Abrams, A. (1994). *Late bloomers*. New York, NY: Random House.
- Loeb, P.R. (1994). *Generation at the crossroads: Apathy and action on the American campus*. New Brunswick, NJ: Rutgers University Press.
- Lopez, M., & Brown, B. (2006). Civic engagement among 2-year and 4-year college students. CIRCLE Fact Sheet.
- Lopez, M.H., Kirby, E., Sagoff, J., & Herbst, C. (2005). The youth voter 2004: With a historical look at youth voting patterns, 1972-2004. CIRCLE Working Paper 35.
- Macedo, S. (2000). *Diversity and distrust: Civic education in a multicultural democracy*. Cambridge, MA and London, England: Harvard University Press.
- MacKuen, M., Erikson, R.S., & Stimson, J.A. (1989). Macropartisanship. *American Political Science Review*. 83, 1125-1142.
- Mannheim, K. (1972). The problem of generations. English translation reprinted in Altbach, P.G., & Laufer, R.S., Eds. *The new pilgrims*. New York: David McKay.
- Marini, M.M., & Singer, B. (1988). Causality in the social sciences. *Sociological Methodology*. 18, 347-409.
- Mayer, A.K. (2011). Does education increase political participation? *The Journal of Politics*. 73(3), July, 633-645.



- McCormick, J., & Giroux, G. (2012). Divided America revealed as women, Hispanics back Obama. *Bloomberg Businessweek*. November 7, 2012. Accessed November 25, 2012 from: <http://www.business.com/news/2012-11-06/>
- McDonald, M.P.  
 \_\_\_\_\_ (2011). Voter turnout: Eligibility has its benefits. In Niemi, R.G., Weisberg, H.F., & Kimball, D.C., eds. *Controversies in voting behavior, 5<sup>th</sup> ed.* Washington, DC: CQ Press, 65-74.  
 \_\_\_\_\_ (2012). Voter turnout. Presidential turnout rates 1948-2008. United States election project. Department of Public and International Affairs. George Mason University. Fairfax, VA. Accessed December 6, 2012 from <http://elections.gmu.edu/voter-turnout.htm>.
- McDonald, M.P., & Popkin, S. (2001). The myth of the vanishing voter. *American Political Science Review*. 95, 963-974.
- McDonnell, L.M., Timpane, P.M., & Benjamin, R. (2000). *Rediscovering the democratic purposes of education*. Lawrence, KS: University Press of Kansas.
- McEwan, P.J. (2008). Quantitative research methods in education finance and policy. In Ladd, H.F., & Fiske, E.B. *Handbook of research in education finance and policy*. New York and London: Routledge, 87-104.
- McFarland, D., & Thomas, R. (2006). Bowling young: How youth voluntary associations influence adult political participation. *American Sociological Review*. 3(71), 401-425.
- McGuire, M., & Waldman, J. (2008). Get real: Teaching about the presidential election: Enabling students to experience a presidential campaign and election firsthand offers a pathway to develop their interest and skills as voters. *Phi Delta Kappan*. 90(2), October, 99-102.
- McLuhan, M. (1964). *Understanding media*. New York: Mentor.
- Meacham, J. (2012). *Thomas Jefferson: The art of power*. New York: Random House.
- Menard, S.  
 \_\_\_\_\_ (2002). *Applied logistic regression analysis, 2<sup>nd</sup> ed.* Sage university papers series on quantitative applications in the social sciences, 07-106. Thousand Oaks, CA: Sage.  
 \_\_\_\_\_ (2010). *Logistic regression: From introductory to advanced concepts and applications*. Thousand Oaks, CA: Sage.
- Mendenhall, W., Beaver, R.J., & Beaver, B.M. (2006). *Introduction to probability and statistics, 12<sup>th</sup> ed.* Belmont, CA: Thompson Brooks/Cole.
- Merriam, S.B., & Yang, B. (1996). A longitudinal study of adult life experiences and developmental outcomes. *Adults Education Quarterly*. 46(2), 62-81.

Milligan, K., Moretti, E. & Oreopoulos, P. (2004). Does education improve citizenship? Evidence from the United States and the United Kingdom. *Journal of Public Economics*. 88, 1667-1695.

*Milliken v. Bradley* [Milliken I], 418 U.S. 717 (1974).

*Milliken v. Bradley* [Milliken II], 433 U.S. 267 (1977).

*Mills v. Board of Education of the District of Columbia*, 348 F. Supp. 866 (D. DC 1972).

*Missouri et al. v. Jenkins*, 515 U.S. 70 (1995).

Moe, T.M. (2000). The two democratic purposes of public education. In McDonnell, L.M., Timpane, P.M., & Benjamin, R., eds. *Rediscovering the democratic purposes of education*. Lawrence, KS: University Press of Kansas, 127-147.

Mood, C. (2010). Logistic regression: Why we cannot do what we think we can do, and what we can do about it. *European Sociological review*. 26(1), 67-82.

Murray, J.P., & Kippax, S. (1978). Children's social behavior in three towns with differing television experience. *Journal of Communication*. 28(1), 19-29.

National Center for Education Statistics (NCES). U.S. Department of Education. Washington, D.C.

\_\_\_\_\_. (1981). National longitudinal study of the class of 1972. School file documentation. Center for Educational Research and Evaluation [producer], 1981. Research Triangle Park, NC.

\_\_\_\_\_. (1983). Bulletin. High school dropouts: Descriptive information from High School & Beyond.

\_\_\_\_\_. (1987). High school and beyond third follow-up (1986) sample design report. National Opinion Research Center [producer] 1987. Ann Arbor, MI.

\_\_\_\_\_. (1994). National education longitudinal study of 1988. Second follow-up: Student component data file user's manual. National Opinion Research Center [producer] 1994.

\_\_\_\_\_. (1995a). High school and beyond fourth follow-up methodology report. National Opinion Research Center [producer] 1985. Ann Arbor, MI.

\_\_\_\_\_. (1995b). National education longitudinal study of 1988. Second follow-up: Transcript component data file user's manual. National Opinion Research Center [producer] 1995.

\_\_\_\_\_. (1996). National education longitudinal study: 1988-1994. Methodology report. National Opinion Research Center [producer] 1996.

\_\_\_\_\_. (1999a). National longitudinal study of the class of 1972 [computer file]. Part 21. Base year (1972) through fourth follow-up (1979), vol. I: User's manual (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.

\_\_\_\_\_. (1999b). National longitudinal study of the class of 1972 [computer file]. Part 22. Base year (1972) through fourth follow-up (1979), vol. I: Appendix a (pdf). ICPSR

- version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.
- \_\_\_\_\_. (1999c). National longitudinal study of the class of 1972 [computer file]. Part 23. Base year (1972) through fourth follow-up (1979), vol. I: Appendices b-c (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.
- \_\_\_\_\_. (1999d). National longitudinal study of the class of 1972 [computer file]. Part 24. Base year (1972) through fourth follow-up (1979), vol. II: Appendix d (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.
- \_\_\_\_\_. (1999e). National longitudinal study of the class of 1972 [computer file]. Part 25. Base year (1972) through fourth follow-up (1979), vol. II: Appendices e-l and appendix m, part 1 (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.
- \_\_\_\_\_. (1999f). National longitudinal study of the class of 1972 [computer file]. Part 26. Base year (1972) through fourth follow-up (1979), vol. II: Appendix m, part 2 (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.
- \_\_\_\_\_. (1999g). National longitudinal study of the class of 1972 [computer file]. Part 27. Base year (1972) through fourth follow-up (1979), vol. II: Appendix n (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.
- \_\_\_\_\_. (1999h). National longitudinal study of the class of 1972 [computer file]. Part 28. Base year (1972) through fourth follow-up (1979), vol. II: Appendix o (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.
- \_\_\_\_\_. (1999i). National longitudinal study of the class of 1972 [computer file]. Part 29. Base year (1972) through fourth follow-up (1979), vol. II: Appendix p (variables 0001-1232) (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.
- \_\_\_\_\_. (1999j). National longitudinal study of the class of 1972 [computer file]. Part 30. Base year (1972) through fourth follow-up (1979), vol. II: Appendix p (variables 1233-2350) (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.
- \_\_\_\_\_. (1999k). National longitudinal study of the class of 1972 [computer file]. Part 31. Base year (1972) through fourth follow-up (1979), vol. II: Appendix p (variables 2351-3524) (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.
- \_\_\_\_\_. (1999l). National longitudinal study of the class of 1972 [computer file]. Part 32. Fifth follow-up: Codebook (pdf). ICPSR version. Chicago, IL: National Opinion Research Center [producer], 1992. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 1999.

- \_\_\_\_\_ (1999m). National education longitudinal study: Base year through third follow-up, 1988-1994 [computer file]. ICPSR version. National Center for Education Statistics [producer] 1996. Washington, DC. Inter-University Consortium for Political and Social Research [distributor] 1999. Ann Arbor, MI.
- \_\_\_\_\_ (1999n). National education longitudinal study: Base year through third follow-up, 1988-1994. Documentation: Descriptive summary report for NELS, 1988-1994. ICPSR version. National Center for Education Statistics [producer] 1996. Washington, DC. Inter-University Consortium for Political and Social Research [distributor] 1999. Ann Arbor, MI.
- \_\_\_\_\_ (1999o). National education longitudinal study: Base year through third follow-up, 1988-1994. Documentation: Methodology report for NELS, 1988-1994. ICPSR version. National Center for Education Statistics [producer] 1996. Washington, DC. Inter-University Consortium for Political and Social Research [distributor] 1999. Ann Arbor, MI.
- \_\_\_\_\_ (2000a). High school and beyond, 1980: A longitudinal survey of students in the United States. Volume I. ICPSR version. National Opinion Research Center [producer] 1981. Ann Arbor, MI. Inter-University Consortium for Political and Social Research [distributor] 2000.
- \_\_\_\_\_ (2000b). High school and beyond, 1980: Sophomore and senior cohort first follow-up (1982) [computer file]. ICPSR version. National Opinion Research Center [producer] 1983. Ann Arbor, MI. Inter-University Consortium for Political and Social Research [distributor] 1990.
- \_\_\_\_\_ (2001). High school and beyond, 1980: A longitudinal survey of students in the United States. Volume II. ICPSR version. National Opinion Research Center [producer] 1986. Ann Arbor, MI. Inter-University Consortium for Political and Social Research [distributor] 1986.
- \_\_\_\_\_ (2003a). High school and beyond, 1980: Senior cohort third follow-up (1986). ICPSR version. National Opinion Research Center [producer] 1986. Ann Arbor, MI. Inter-University Consortium for Political and Social Research [distributor] 1988.
- \_\_\_\_\_ (2003b). 2003 national assessment of adult literacy.
- \_\_\_\_\_ (2004a). Educational longitudinal study of 2002: Base year data file user's manual. NCES 2004-405.
- \_\_\_\_\_ (2004b). National education longitudinal study: Base-year to fourth follow-up 1988-2000: Codebook. Washington, DC. ICPSR version. National Center for Education Statistics [producer] 2002. Washington, DC. Inter-University Consortium for Political and Social Research [distributor] 2004. Ann Arbor, MI.
- \_\_\_\_\_ (2004c). National education longitudinal study: Base-year to fourth follow-up 1988-2000: Data file user's manual. Washington, DC. ICPSR version. National Center for Education Statistics [producer] 2002. Washington, DC. Inter-University Consortium for Political and Social Research [distributor] 2004. Ann Arbor, MI.
- \_\_\_\_\_ (2006). Educational longitudinal study of 2002: Base-year to first follow-up data file documentation, NCES 2006-344.
- \_\_\_\_\_ (2007). Numbers and rates of public high school dropouts: School year 2004-05.
- \_\_\_\_\_ (2008). Education longitudinal study of 2002 (ELS: 2002): Base-year to second follow-up data file documentation, NCES 2008-347.

- \_\_\_\_\_ (2011). Digest of Education Statistics: 2011. Table 116. Percentage of high school dropouts among persons 16 through 24 years old (status dropout rate), by sex and race/ethnicity: Selected years, 1960 through 2010.
- \_\_\_\_\_ (2012). Youth indicators 2011. America's youth: Transitions to adulthood. Table 38. Percentage of U.S. citizens ages 18 to 24 who reported that they registered to vote and voted by sex, race/ethnicity and educational attainment: November 2004 and 2008.
- National Conference of State Legislatures (NCSL). (2012). Initiative, referendum and recall. Accessed December 1, 2102 from <http://www.ncsl.org>.
- National Geographic. (2007). *The knowledge book: Everything you need to know to get by in the 21<sup>st</sup> century*. Washington, DC: The National Geographic Society.
- Neale, T.H. (1983). The eighteen year old vote: The twenty-sixth amendment and subsequent voting rates of newly franchised voting groups. The Library of Congress, Congressional research service. Report No. 83-103. Accessed December 5, 2012 from <http://digital.library.unt.edu/govdocs/crs/permalink/meta-crs-8805:1>.
- New Jersey v. T.L.O.*, 469 U.S. 325 (1985).
- New York Times. (2008). *The complete front pages, 1851-2008*. New York, NY: Black Dog & Leventhal Publishers, Inc.
- Nie, N.H., Junn, J., & Stehlik-Barry, K. (1996). *Education and democratic citizenship in America*. Chicago: The University of Chicago Press.
- Niemi, R.G. (2011). What students know about civics and government. Paper prepared for the American Enterprise Institute Conference, "Civics 2.0: Citizenship education for a new generation. October 20.
- Niemi, R.G., & Junn, J. (1998). *Civic education: What makes students learn*. New Haven, CT: Yale University Press.
- Niemi, R.G., Weisberg, H.F., & Kimball, D.C., eds. (2011). *Controversies in voting behavior*, 5<sup>th</sup> ed. Washington, DC: CQ Press.
- Noddings, N. (2008). Schooling for democracy. *Phi Delta Kappan*. 90(1), September, 34-37.
- Norpoth, H. (1987). Under way and here to stay party alignment in the 1980s? *The Public Opinion Quarterly*. 51(3), autumn, 376-391.
- Oregon v. Mitchell*, 400 U.S. 112 (1970).
- Pampel, F.C. (2000). *Logistic regression: A primer*. Sage university papers series on quantitative applications in the social sciences, 07-132. Thousand Oaks, CA: Sage.

*Pauley v. Kelly*, 255 S.E. 2d 859 (1979).

Paxton, P. (1999). Is social capital declining in the United States? A multiple indicator assessment. *The American Journal of Sociology*. 105(1), 88-127.

Payne, T. (1776). *Common sense*. Accessed March 18, 2013 from: [www.history.org](http://www.history.org)

Peterson, S. (2007). Life in high school and later political behavior. Paper presented at the annual meeting of the New England Political Science Association.

Pew Research center.

\_\_\_\_\_. (2012). Young voters supported Obama less, but may have mattered more. Released November 26, 2012. Accessed December 7, 2012 from <http://www.people-press.org/2012/11/26/>.

\_\_\_\_\_. (2012a). The rise of Asian Americans. Accessed March 17, 2013 from: [www.pewsocialtrends.org/2012/06/19/](http://www.pewsocialtrends.org/2012/06/19/).

Piven, F.F., & Cloward, R.A. (2000). *Why Americans still don't vote: And why politicians want it that way*. Boston: Beacon Press.

Popkin, S.L. (1991). *The reasoning voter*. Chicago: The University of Chicago Press.

Preble, W.K. (1991). Antecedents of political participation: An empirical test of Merelman's political recruitment theory. Unpublished dissertation. University of Maine.

Prior, M. (2011). News vs. entertainment: How increasing media choice widens gaps in political knowledge and turnout. In Niemi, R.G., Weisberg, H.F., & Kimball, D.C., eds. *Controversies in voting behavior, 5<sup>th</sup> ed.* Washington, DC: CQ Press, 41-64.

Putnam, R.D.

\_\_\_\_\_. (1995a). Bowling alone: America's declining social capital – an interview with Robert Putnam. *Journal of Democracy*. 6(1), 65-78.

\_\_\_\_\_. (1995b). Tuning in, turning out: The strange disappearance of social capital in America. *Political Science & Politics*. 28(4), December.

\_\_\_\_\_. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Shuster.

\_\_\_\_\_. (2007). E pluribus unum: Diversity and community in the twenty-first century – The 2006 John Skytte prize lecture. *Scandinavian Political Studies*. 30(2), 137-174.

Rainie, L., Smith, A., Schlozman, K.L., Brady, H., & Verba, S. (2012). Social media and political engagement. Pew Research Center's Internet and American Life Project. Washington, DC.

Ravitch, D. (2010). The secrets of charter school success. *Education Week*. Accessed April 1, 2010 from: [www.edweek.org/](http://www.edweek.org/).

- Ravitch, D., & Finn, C.E., Jr. (1987). *What do our 17-year-olds know?* New York: Perennial Library.
- Ravitch, D., & Viteritti, J.P. (Eds.). (2001). *Making good citizens: Education and civil society*. New Haven, CT and London: Yale University Press.
- Ready, D.D., & Wright, D.L. (2011). Accuracy and inaccuracy in teachers' perceptions of young children's cognitive abilities: The role of child background and classroom context. *American Educational Research Journal*. 48(2), April, 335-360.
- Reed, D.C. (undated). The impact of urban sprawl and suburbanization on civic participation: Growing up in a fragmented community. Unpublished master's thesis. University of Georgia.
- Regents of the University of California v. Bakke*, 438 U.S. 265 (1978).
- Rice, T.W., & Ling, J. (2002). Democracy, economic wealth and social capital: Sorting out the causal connections. *Space & Polity*. 6(3), 307-325.
- Riker, W.H., Ordeshook, P.C. (1968). A theory of the calculus of voting. *American Political Science Review*. 62, 25-43.
- Roe v. Wade*, 410 U.S. 330 (1973).
- Rose v. Council for Better Education*, 790 S.W. 2d 186 (1989).
- Rosenstone, S.J., & Hansen, J.M. (2003). *Mobilization, participation, and democracy in America*. New York, NY: Longman.
- Rubin, B. (2008). Civics and citizenship in students' daily lives: Towards a sociocultural understanding of civic knowledge and engagement. In Rubin, B.C., & Giarelli, J.M. *Civic education for diverse citizens in global times: Rethinking theory and practice*. New York: Erlbaum Associates, 201-218.
- Rubin, B.C., & Giarelli, J.M. (2008). *Civic education for diverse citizens in global times: Rethinking theory and practice*. New York: Erlbaum Associates. I
- Schattschneider, E.E. (1960). *The semisovereign people: A realist's view of democracy in America*. Boston: Wadsworth.
- San Antonio Independent School District v. Rodriguez*, 411 U.S. 1 (1973).
- Santa Fe Independent School District v. Doe*, 530 U.S. 290 (2000).
- Schlesinger, A.M., Jr., ed. (2004). *The almanac of American history*. New York: Barnes & Noble Books.

- Scigliano, R (Ed.). (2000). *The federalist: Alexander Hamilton, John Jay, and James Madison*. New York: The Modern Library.
- Seitz, B., & Summer, H. (2007). Are we disconnected? *Scholastic Scope*. February, 5, 7.
- Singleton v. Jackson Municipal Separate School District, 426 F. 2d 1364 (1970).
- Smith, E. (1999). The making of citizens: Social capital and the political socialization of youth. Unpublished academic thesis.
- Smith, R.M. (2004). The politics of identities and the tasks of political science. In Shapiro, I., Smith, R.M., & Masoud, T.E. *Problems and methods in the study of politics*. Cambridge, MA: Cambridge University Press, 42-66.
- Snyder, T.D., ed. (1993). *120 years of American education: A statistical portrait*. U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.
- Sondheimer, R.M., & Green, D.P. (2010). Using experiments to estimate the effects of education on voter turnout. *American Journal of Political Science*. 54(1), January, 174-189.
- Squire, P., Wolfinger, R.E., & Glass, D.P. (1987). Residential mobility and voter turnout. *The American Political Science Review*. 81(1), March, 45-66.
- Stinchcombe, A. (1968). The logic of scientific inference. In Stinchcombe, A. *Constructing social theories*. New York: Harcourt Brace and World, 15-37.
- Stoker, L., & Jennings, M.K.  
 \_\_\_\_\_ (1995). Life-cycle transitions and political participation: The case of marriage. *The American Political Science Review*. 89(2), June, 421-433.  
 \_\_\_\_\_ (2008). Of time and the development of partisan polarization. *American Journal of Political Science*. 52(3), July, 619-635.
- Strate, J.M., Parrish, C.J., Elder, C.D., & Ford III, C. (1989). Life span civic development and voting participation. *The American Political Science review*. 83(2), June, 443-464.
- Strauss, W. & Howe, N. (1991). *Generations: The history of America's future, 1584 to 2069*. New York: Harper – Perennial.
- Stroup, J. (2009). A study of the high school contextual characteristics that influence youth civic engagement and mathematics achievement. Dissertation. Abstracts International Section A: Humanities and Social sciences, 7(69).
- Sullivan, J.L., & Transue, J.E. (1999). The psychological underpinnings of democracy: A selective review of research on political tolerance, interpersonal trust, and social capital. *Annual review of Psychology*. 50, 625-650.



Sunstein, C.R. (2001). *Republic.com 2.0*. Princeton, NJ: Princeton University Press.

*Swann v. Charlotte-Mecklenburg Board of education*, 402 U.S. 1 (1971).

Tamim, R.M., Bernard, R.M., Borokhovski, E., Abrami, P.C., & Schmid, R.F. (2011). What forty years of research says about the impact of technology on learning: A second-order meta-analysis and validation study. *Review of Educational Research*. 81(1), March, 4-28.

Teixeira, R.A.

\_\_\_\_\_ (1987). *Why Americans don't vote*. Westport, CT: Greenwood Press, Inc.

\_\_\_\_\_ (1992). *The disappearing American voter*. Washington, DC: The Brookings Institution.

Tenn, S.

\_\_\_\_\_ (2005). An alternative measure of relative education to explain voter turnout. *Journal of Politics*. 67(1), 271-282.

\_\_\_\_\_ (2007). The effect of education on voter turnout. *Political Analysis*. 15, 446-464.

Teske, P., & Schneider, M. (2001). What research can tell policymakers about school choice. *Journal of Policy Analysis and Management*. 20(4), 609-631.

*Texas v. Johnson*, 491 U.S. 397 (1989).

Thomas, R.J., & McFarland, D.A. (2010). Joining young, voting young: The effects of youth voluntary associations on early adult voting. CIRCLE Working Paper No. 73.

Time, Inc. (Time). (2012). *Time almanac 2013*. Chicago: Encyclopedia Britannica, Inc.

*Tinker v. Des Moines Independent Community School District*, 393 U.S. 503 (1969).

Torney-Purta, J., & Wilkenfeld, B.S. (2009). Paths to 21<sup>st</sup> century competencies through civic education classrooms: An analysis of survey results from ninth graders. American Bar Association Division for Public Education. Technical Bulletin.

U.S. Bureau of Economic Analysis (BEA). U.S. Department of Commerce. Washington, D.C.

\_\_\_\_\_ (2012a). National economic accounts. Personal income and outlays. Table 1.1.1. Percent change from preceding period in real gross domestic product.

\_\_\_\_\_ (2012b). National economic accounts. Personal income and outlays. Table 2.1. Personal income and its disposition.

U.S. Bureau of Labor Statistics (BLS). U.S. Department of Labor. Washington, D.C.

\_\_\_\_\_ (2012a). Household data annual averages. Table 1. Unemployment status of the civilian noninstitutional population, 1941 to date.

\_\_\_\_\_ (2012b). Consumer price index. All urban consumers U.S. city average, all items.

U.S. Census Bureau (Census). U.S. Department of Commerce. Washington, D.C. Accessed various dates from <http://www.census.gov/>.

- \_\_\_\_\_ (1943). Educational characteristics of the population of the United States, by age: 1940. Table 7. Population 20 years old and over, by years of school completed and age, for the United States, urban and rural: 1940.
- \_\_\_\_\_ (1949). Historical statistics of the United States 1789-1945.
- \_\_\_\_\_ (1965). Voting and registration in the election of 1964. Table 1. Voting participation of persons of voting age, by age, race, and sex, for the United States: November 1964.
- \_\_\_\_\_ (1969). Voting and registration in the election of 1968. Table 1. Age and sex – reported voter participation and registration for persons of voting age, by race, for the United States: November 1968.
- \_\_\_\_\_ (2002a). Selected historical decennial census population and housing counts. Historical census statistics on population totals by race, 1790 to 1990, and by Hispanic origin 1970 to 1990, for the United States, regions, divisions, and states. Table 1. United States – race and Hispanic origin 1790 to 1990.
- \_\_\_\_\_ (2002b). Selected historical decennial census population and housing counts. Historical census statistics on population totals by race, 1790 to 1990, and by Hispanic origin 1970 to 1990, for the United States, regions, divisions, and states. Table 2. Population, housing units, area measurements, and density: 1790 to 1990.
- \_\_\_\_\_ (2006a). Decennial census of the population, 1940-2000. Table 1. Percent of the population 25 years and over with a high school diploma or higher by sex and age, for the United States: 1940-2000.
- \_\_\_\_\_ (2006b). Decennial census of the population, 1940-2000. Table 1. Percent of the population 25 years and over with a bachelor's degree or higher by sex and age, for the United States: 1940-2000.
- \_\_\_\_\_ (2006c). The 2006 statistical abstract. The national data book. Section 7. Elections.
- \_\_\_\_\_ (2009a). Current population surveys 1968 to 2008. Table A-9. Reported voting rates in presidential election years, by selected characteristics: November 1964 to 2008.
- \_\_\_\_\_ (2009b). Population projections. 2009 national population projections (supplemental): summary tables: constant net international migration series. Table 4c. Projections of the population by sex, race, and Hispanic origin for the United States: 2010 to 2050.
- \_\_\_\_\_ (2011a). Table A-1. Reported voting and registration by race, Hispanic origin, sex and age groups: November 1964 to 2010.
- \_\_\_\_\_ (2011b). Current population survey. Table 3. Detailed years of schooling completed by people 25 years and over by se, age groups, race, and Hispanic origin.
- \_\_\_\_\_ (2012a). Statistical abstract of the United States: 2012. Population estimates by age, sex, race/ethnicity. Table 7. Resident population by sex and age: 1980 to 2010.
- \_\_\_\_\_ (2012b). Statistical abstract of the United States: 2012. Population estimates by age, sex, race/ethnicity. Table 10. Resident population by race, Hispanic origin, and age: 2000 and 2009.
- \_\_\_\_\_ (2012c). 2012 Statistical abstract. The national data book. Section 7. Elections.
- \_\_\_\_\_ (2012d). Current population survey. Table A-1. Years of school completed by people 25 years of age and over, by age and sex: Selected years 1940-2011.
- \_\_\_\_\_ (2012e). U.S. census bureau projections show a slower growing, older, more diverse nation in a half century from now. Press release dated December 12, 2012.

U.S. Department of Education (Education). Washington, DC. (1983). A nation at risk: The imperative for education reform. National Commission on Excellence in Education.

- U.S. Department of the Treasury (Treasury). Washington, DC. Accessed March 3, 2013 from: <http://www.TreasuryDirect.gov/govt/reports/pd/histdeb>.
- \_\_\_\_\_. (2013a). Historical debt outstanding – Annual 1950-1999.
- \_\_\_\_\_. (2013b). Historical debt outstanding – Annual 2000-2009.
- Verba, S. (1967). Democratic participation. *Annals of the American Academy of Political and Social Science*. 373(2), September, 53-78.
- Verba, S., Schlozman, K.L., & Brady, H.E. (1995). *Voice and equality: Civic volunteerism in American politics*. Cambridge, MA: Harvard University Press.
- Von Hippel, P.T. (2007). Regression with missing ys: An improved strategy for analyzing multiply imputed data. *Sociological Methodology*, 37, 83-117.
- Wattenberg, M.P. (2008). *Is voting for young people?* New York: Pearson/Longman.
- Whittington, D. (1991). What have 17-year-olds known in the past? *American Educational Research Journal*. 28(4), winter, 759-780.
- Wolfinger, R.E., & Rosenstone, S.J. (1980). *Who votes?* New Haven, CT: Yale University Press.
- Woolley, J.T., & Peters, G. The American Presidency Project. Accessed March 16, 2013 from: <http://www.presidency.uscb.edu>.
- \_\_\_\_\_. (2013a). Presidential elections data.
- \_\_\_\_\_. (2013b). State of the union addresses and messages. Dwight David Eisenhower, 1954. The American presidency project. University of California, Santa Barbara. Retrieved December 1, 2012.
- Wong, J.S. (2004). Getting out the vote among Asian American young people and adults in Los Angeles County: A field experiment. CIRCLE Working Paper No. 19.
- Zirkel, P.A. (2001). *A digest of Supreme Court decisions affecting education, 4<sup>th</sup> ed.* Bloomington, IN: Phi Delta Kappa Educational Foundation.
- Zukin, C., Keeter, S., Andolina, M., Jenkins, K., & Delli Carpini, M.X. (2006). *A new engagement? Political participation, civic life, and the changing American citizen*. New York: Oxford University Press.

## APPENDIX A: EMPIRICAL DESIGN DETAILS

Here I provide additional information regarding key features of my empirical study design and its underlying justification. First, I provide details about two of the more technical aspects of my sample construction: the manner in which I imputed missing data and the weighting procedures. Second, I summarize the diagnostic tests that I conducted to evaluate the strength of my logistic regression models and to determine the need for quadratic and interaction terms. Third, I discuss the principal methodological alternatives that I considered but ultimately ruled out: scaled outcome measures, instrumental variables and propensity score matching.

### Sample Construction

#### *Multiple Imputation of Missing Data*

Not surprisingly, given that my NCES datasets are from large format observational studies, the base samples initially exhibited missing data on variables of interest in my study. As shown on Table A-1, missing data sometimes exceeded the 5 percent ignorability threshold under assumptions of missing completely at random (MCAR) and missing at random (MAR) (Allison, 1999; IBM, 2011b), prompting me to probe deeper to ascertain likely causes and find potential solutions. My review of the voluminous NCES Secondary Longitudinal Study series documentation revealed several “likely suspects”: the survey follow-up and data tabulation procedures; the manner in which non-, partial- and multiple-response items were coded; questionnaire wording and data collection wave follow timing; and growing confidentiality restrictions in the public release of data (NCES, 1981, 1987, 1994, 1995a-b, 1996, 1999a-o, 2000a-b, 2001, 2003a-b, 2004a-c, 2006, 2008).

The missing data problem was of particular concern due to the fact that my multivariate analyses are largely based on logistic regression techniques. The standard practice in

commercial logistic regression packages is to listwise delete cases missing any data (IBM, 2011c, 2011d). The patterns of missing data revealed by Table A-1 suggest that simple application of logistic regression techniques would have substantially reduced the size of my study samples, likely introducing sample bias and clearly reducing between sample comparability.

To overcome this deficiency in a uniform manner that did not undermine cross-cohort comparisons, I used the standard SPSS multiple imputation procedure for each dataset (IBM, 2011b). The longstanding controversy involving the imputation of missing outcome measures (Allison, 1999) prompted me to adopt Von Hippel's (2007) refinement. The Von Hippel method temporarily retains cases with missing outcomes to enrich the estimation of non-outcome missing data in other cases. The outcome deficient cases are then listwise deleted before the analytic sample is finalized.

Tables A-2 to A-5 present comparisons between: (1) the base NCES samples before the deletion of any missing data, (2) samples in which cases with missing data were listwise deleted according to typical logistic regression procedures, and (3) samples created by my multiple imputation procedure. As can be seen, the listwise deletion samples are noticeably different from the comparable base samples in important respects. For example, the listwise deletion samples consistently over-state: (1) the percentages of White respondents, (2) the percentages of respondents having at least some college, and (3) the percentages of respondents who attended Catholic high schools. As discussed in Chapters 2, 4 and 5, each of these characteristics has been associated with voter turnout. The multiply imputed samples, on the other hand, closely resemble their base sample counterparts in these and other respects.

*Weighting Procedure*

As discussed in Chapter 3, my study design calls for analytic samples that project to equivalent populations – in this instance, spring-term high school seniors. The NCES Secondary Longitudinal Study series entails two types of complexity in this regard. First, as with most large scale observational studies, NCES routinely over-samples certain demographics and periodically refreshes study samples to enrich the scope and enhance the practical utility of their studies (see NCES, 1981, 1987, 1999n, 2006, 2008) . Second, as depicted by Figure 3.1, the individual studies in this series did not all commence when respondents were the same approximate ages. The NLS and HSB (senior cohort) studies were initiated when respondents were high school seniors, whereas NELS began with a sample of 8<sup>th</sup> graders, and HSB (sophomore cohort) and ELS initially surveyed high school sophomores. Inasmuch as the HSB sophomore sample was not freshened or re-evaluated for ineligibles prior to the first follow-up (grade 12), it is not capable of projecting to the population of high school seniors (Ingels et al., 2012). Fortunately, NCES provided statistical weights for the other survey samples that -- in addition to correcting for unequal probabilities of selection and differing participation rates – permit their projection to specific populations of interest (see NCES, 2007; Ingels et al., 2012).

In consultation with NCES officials, I adopted the weighting scheme that projects all of my multiply imputed analytic samples to the corresponding populations of spring-term high school seniors (Jeffrey Owings and Isaiah O’Rear personal communications, September 9, 2012 and September 25, 2012). Table A-6 displays the flag and weighting conventions used to create the ten analytic samples on which my micro- and macro-analyses are based. It should be noted that, inasmuch as the NELS and ELS samples were used only for analyses at one age point (two years post-high school), the micro- and macro-samples are identical in those instances.

The projectability of my study samples is constrained in three notable respects. First, the NCES sampling emphasis was on so-called “regular” public and private schools (NCES, 1981, 1987, 1996, 2004). Excluded, for example, were special schools for handicapped or incarcerated young people and, in some instances, vocational schools when students had concurrent enrollment in other public or private schools (NCES, 1999a). Second, in certain instances, respondents exhibiting profound English-language deficiencies were split-off from the primary base samples (NCES, 2008). Third, the necessity of anchoring my comparative samples on the population(s) spring-term high school seniors essentially prevented a rigorous assessment of the voter turnout behavior of high school dropouts. National tracking studies consistently demonstrate that a high percentage of students who dropout do so before their senior year in high school (NCES, 2007).

#### Logistic Regression Diagnostics

Notwithstanding the favorable comparisons between base sample and multiply imputed sample frequencies, I employed additional diagnostic tests along the lines proposed by Menard (2002, 2010) to refine the specifications of my logistic regression models. Menard essentially suggested a protocol involving three tests: collinearity, nonlinearity and nonadditivity. I added a fourth criterion – Hosmer and Lemeshow’s goodness of fit statistic (IBM, 2011c; Menard, 2010) -- to provide an objective standard for adjusting my analytic models on the basis of these tests. Following Menard’s admonition, I adopted a conservative approach in adjusting for nonlinearity and nonadditivity due to the risk of “over fitting” my models with quadratic and interaction terms that primarily reflect random error (Menard, 2002, 2010). The results of my diagnostic tests are displayed on Tables A-7 to A-10.

*Collinearity*

Collinearity is tested by running all base models in an OLS regression program. Because the outcomes are irrelevant and the comparison is purely between predictors and covariates, the tolerance estimates that are generated by this procedure are valid for logistic regression coefficients. A tolerance falling below 0.20 requires further inspection (Menard, 2010). By and large, the tolerance values for my fully specified and age-based comparison models fell within the 0.40 to 0.97 range. Inasmuch as none of the tolerances were below 0.33 (Tables A-9 and A-10), I took no further action in this regard.

*Nonlinearity*

My theoretical curiosity about possible nonlinearities centered on four measures: parental SES, math achievement, reading achievement and locus of control. A nonlinear association between SES and voting has been observed in several studies. My interest in math and reading achievement, which is somewhat more speculative, stemmed from typical nonlinearity patterns in the student learning curve whose linkage to voter turnout does not appear to be well established one way or another in the literature. My theoretical interest in the locus of control measure stemmed from the suspicion that one of the measure's underlying concepts, self-efficacy, may exhibit a nonlinear association with voter turnout. As detailed on Tables A-7 and A-8, goodness of fit under the Hosmer and Lemeshow procedure was somewhat improved by the selective inclusion of quadratic terms in my logistic regression models. Importantly, all of the models used in my macro-analyses were identically specified to preserve comparability.



### *Nonadditivity*

Nonadditivity in a logistic regression context refers to the existence of interaction effects between independent variables. My nonadditivity assessment involved a three-step process. In step 1, I narrowed my focus to the potential interactions of greatest theoretical concern – those involving potential relationships between my sociodemographic and sociopolitical measures. As shown on Tables A-9 and A-10, this approach yielded 270 interaction variables for evaluation. In step 2, I inserted each of the listed interactions into my test models on a standalone basis to check for basic statistical significance. In step 3, I introduced the “likely suspects” into my test models together with the previously identified quadratic terms, using the Hosmer and Lemeshow statistic as an objective arbiter to identify net improvements in goodness of fit. As detailed on Tables A-7 and A-8, my micro-models benefited from the addition of somewhat different mixes of interaction terms. Consistent with my procedure for the inclusion of quadratic terms, I included the same interaction terms in all of the macro-models to preserve comparability.

### Alternative Methods Considered

During the formative stages of my research, I contemplated a wide range of methodological options to pursue my interest in young adult voter turnout and to address common concerns, such as variable specification and latency, related to the interpretation of large-format observational data. As evidenced by the preceding discussions in this Appendix and Chapter 3, my ultimate methodological strategy was anchored on three guiding principles. First, with the few exceptions noted, I confined study measures to those that not only addressed the specific theoretical frames of interest but also presented themselves in forms that were clearly and comparably defined across the NCES Secondary Longitudinal Study series. Second, I

employed multiple imputation and statistical weighting procedures to reduce possible selection effects. Third, I subjected my multivariate models to rigorous diagnostic tests.

That said, three approaches that I considered but eventually ruled out merit additional discussion due to their prominence in the empirical literature (see McEwan, 2008). These are: the construction of scaled political participation outcomes, the adoption of instrumental variables and the use of propensity score matching.

#### *Scaled outcome measures*

Researchers sometimes define political participation very broadly, creating scaled indices as the outcomes of interest (see Kam and Palmer, 2008; Nie et al. 1996; Strate et al. 1989; Zukin et al. 2006). The principal benefits of this approach are that it encourages a holistic perspective on political participation and that the scaled outcome measures typically can be transformed into continuous variables that are suitable for ordinary least squares (OLS) regression analysis. Studies adopting the holistic approach often regard voting as one of many relatively co-equal forms of political expression. A central contention of this investigation is that voting is first among equals; it is the only form of citizen expression commonly available to non-office holders that was clearly specified in the original U.S. Constitution, and it remains the principal means by which governmental power is allocated and American self-rule is sustained. Although there is seductive appeal in the use of OLS techniques to promote flexibility in the comparative evaluation of independent variables across study samples, I resisted the temptation to use scaled outcome measures due to the inherent difficulty in disentangling the individual contributions of scale components.

### *Instrumental variables*

Instrumental variables sometimes have been used in research seeking to establish causal relationships between education and voter turnout (see Dee, 2004; Milligan, Moretti and Oreopolous, 2004; Sondheimer and Green, 2010). Mayer's (2011) view on the matter, which echoes that of Kam and Palmer (2008), succinctly gets to the heart of the matter: "instrumental variables approaches face the difficulty of finding credible instruments that predict assignment to treatment (education) but do not correlate with the outcome (participation)" (p. 633). Another concern is that instrumental variables are not well suited to broad-gauged empirical models, such as those flowing from my Target of Participation theoretical framework, which focus jointly and relatively evenly on multiple educational and non-educational pathways to political participation. I rejected the instrumental variable approach for these reasons.

### *Propensity score matching*

The considerations underlying my ultimate decision to forgo the application of propensity score matching require extended discussion. As summarized by Gemici and Rojewski (2010), propensity score matching seeks to approximate the random assignment of experimental research subjects in observational studies in which the random assignment of respondents is in question along a critical dimension, such as educational attainment. Propensity score matching accomplishes this by dividing respondents into treatment and non-treatment groups that differ on the critical study dimension but are comparable in terms of other important characteristics. As is the case with instrumental variables, the overall goal is to permit causal truth claims.

Kam and Palmer (2008) used propensity score matching to question the traditional view that educational attainment "causes" political participation. Drawing upon data from Jennings and Niemi's (1991) Political Socialization Study in combination with data from the NCES High

School & Beyond (HSB) study, they justified their use of propensity score matching on the grounds that college attendance is not a stand-alone cause of political participation, but, rather, it is a proxy for latent pre-adult experiences and dispositions. Educational attainment was expressed by Kam and Palmer (2008) as a simple dichotomous measure of college attendance. Their political participation outcome measure was an additive index of eight acts including voter turnout. Treatment and non-treatment group propensity score matching was accomplished on the basis of logistic regressions in which college attendance was the outcome and several respondent and parental survey responses thought to bear on the college attendance choice were used as predictors. For the Political Socialization Study sample: the respondent covariates included multiple measures of cognitive ability, external efficacy, civic participation, attitudes and demographic characteristics; and, similarly, the parental covariates included multiple measures of cognitive ability, external efficacy, personal characteristics, civic participation and political participation. For HSB: the respondent covariates included a more extensive but conceptually similar array of covariates; and parental covariates were excluded due to survey constraints. Statistical comparisons involving the political participation levels of their propensity score-matched college attendee and non-college attendee groups confirmed Kam and Palmer's (2008) suspicions that pre-adult experiences and dispositions essentially erase college attendance effects.

Notwithstanding Kam and Palmer's (2008) provocative conclusion, their methodological approach does not compare favorably with my research needs for several reasons. First, as they acknowledge, the propensity score matching approach is highly sensitive to the internal composition of the matching formula as well as the exchangeability of matched treatment and non-treatment pairs (i.e., balancing). In separate research utilizing the same data, Mayer (2011)

provided evidence that the Kam and Palmer (2008) matching scheme itself introduced bias in the estimation of college attendance effects on political participation (see pp. 637-638). Adopting a different matching procedure in which the educational attainment threshold dividing treatment and non-treatment groups was expanded to encompass non-collegiate post-secondary education and training, Mayer (2011) found that educational attainment increased political participation. A separate study conducted by Henderson and Chatfield (2011) also detailed what they characterized as flaws in the Kam and Palmer (2008) matching procedure. Using a genetic matching scheme, Henderson and Chatfield (2011), like Mayer, also observed a positive linkage between education and political participation, cautioning in the process that “no matching approach yields unbiased results” (p. 646). Kam and Palmer’s (2011) response to the Henderson and Chatfield (2001) and Mayer (2011) criticisms, in turn used genetic matching to support their initial conclusions, further clouding the methodological picture. Clearly, propensity score matching is not a panacea to solve selection bias or account for latent influences.

A second and more serious concern from my perspective is that propensity score matching conceals the component measures that are fundamental to my comparative analysis of competing political participation theoretical frames. That is because these measures typically are embedded in the propensity score formulas used to define the treatment and non-treatment groups. In the case of Kam and Palmer (2008), the covariates included in their matching formulas were not even reported in their *Journal of Politics* article but, rather, were relegated to a restricted access *Cambridge Journals Online* appendix. Given my research objectives, it is vital for hypothesized predictors and covariates to be both visible and manipulable.

Third, as well illustrated by the Henderson and Chatfield (2011), Kam and Palmer (2008) and Mayer (2011) studies, propensity score matching often leads to a world of artificial forced

choices. In all three instances, for example, the research focus was confined to a single explanatory dimension of political participation: educational attainment. My research, which is motivated largely by the existence of multiple theoretical explanations of voter turnout, places educational and non-educational considerations more-or-less on a co-equal footing for analytic purposes. My empirical analyses confirmed not only that educational attainment and high school academics are related to one another but also that they are jointly related to many of the non-educational measures in my models (see Chapters 4 and 5).

Fourth, propensity score matching does not address my major methodological concern. For me, the big challenge was to overcome the probable selection effects associated with large chunks of missing NCES data along key analytic dimensions. Just as Kam and Palmer (2008) correctly point out that regression methods typically contribute to study bias by ignoring nonrandom assignment (p. 633), it is equally important to deal with the reality that my principal tool – logistic regression – automatically listwise deletes cases missing any data specified by the study model being run. As demonstrated by Tables A-2 to A-5, listwise deletion can be quite distortive of sample characteristics.

Finally, again recalling Gemici and Rojewski (2010), propensity score matching typically is directed toward research designs seeking to establish causality. Kam and Palmer (2008) and Mayer (2011), for example, anchored their efforts on a single question: whether higher education “causes” political participation. My research is at the same time broader in scope and less bold in its conclusions than theirs. Although I directly estimate voter turnout effects across a broad range of independent variables, my study emphasizes associational rather than causal truth claims.

Table A-1. Study measures missing at least 5 percent of data (on a rounded basis) prior to multiple imputation.

<u>Measures, Study Cohorts and Samples</u>	<u>% Missing<sup>1</sup></u>
<u>Mid-Boomers (NLS)</u>	
Had children Oct 74	6.2
Voted prior to Nov 74	5.7
HS math achievement	4.7
HS reading achievement	4.7
Educational attainment Oct 74	4.7
Married Oct 74	4.5
<u>Late-Boomers (HSB)</u>	
HS math achievement	11.3
HS reading achievement	11.0
Had children Feb 84	10.3
Had children Feb 82	6.1
<u>Gen Xers (NELS)</u>	
HS reading achievement	20.1
HS math achievement	20.1
6+ HS social studies semesters	12.8
HS locus of control	9.4
HS community service clubs	7.8
HS student government participation	6.9
HS athletics	6.6
HS personal computer use	6.5
HS non-political clubs	6.5
<u>Millennials (ELS)</u>	
Had job 2006	67.1
HS efficacy	33.8
HS personal computer use	22.6
HS newspaper access	10.7
English household during HS	6.9

<sup>1</sup>Percentages may differ from Tables A-2 to A-5, which are based on weighted frequencies and the Valid % benchmark.

Table A-2. Multiply imputed Mid-Boom (NLS) outcome, education and sociodemographic variable frequencies versus those in comparable base and listwise deletion samples.<sup>1</sup>

Measures	Base <sup>2</sup>		Listwise Deletion <sup>3</sup>		Imputed <sup>4</sup>	
	(N=14,112)		(N=10,125)		(N=13,167)	
	VALID%	%SYSMIS	VALID%	%SYSMIS	VALID%	%SYSMIS
<u>Outcomes (%)</u>						
Voted prior to Nov 74	62.6	5.5	64.5	0.0	63.3	0.0
Voted prior to Nov 76	72.0	1.4	73.7	0.0	72.8	0.0
<u>Educational Attainment (%)</u>						
Oct 74		4.6		0.0		0.0
HS Grad or less	35.3		34.6		35.2	
Post-HS vocational	10.3		10.0		11.1	
Some college	54.2		55.3		53.5	
Bachelor degree+	0.2		0.2		0.2	
Oct 76		4.3		0.0		0.0
HS Grad or less	31.5		30.8		31.6	
Post-HS vocational ed	10.6		10.1		11.1	
Some college	41.9		41.8		41.3	
Bachelor degree +	16.0		17.3		16.0	
<u>Sociodemographic Traits (%)</u>						
Female	49.9	0.0	51.0	0.0	48.1	0.0
Race		0.0		0.0		0.0
White	82.2		84.8		82.6	
Black	8.9		7.1		8.6	
Hispanic	3.6		3.2		3.6	
Asian	1.1		1.1		1.1	
Other race	4.2		3.9		4.2	
HS Parental SES (%) <sup>5</sup>		0.0		0.0		0.0
<-.5 SD	32.9		32.5		33.0	
-.5 to .5 SD	38.2		38.1		38.0	
>.5 SD	29.0		29.4		29.0	
English household during HS (%)	91.8	0.9	92.4	0.0	91.9	0.0
HS Region (%)		0.0		0.0		0.0
Northeast	24.8		26.3		24.5	
Midwest	30.7		29.2		30.9	
South	27.0		26.8		26.9	
West	17.5		17.7		17.7	
HS urbanicity (%)		1.4		0.0		0.0
Rural	18.5		18.8		18.1	
Suburban	25.3		27.4		25.6	
Urban	56.3		53.8		56.3	
<u>HS educational experience</u>						
Math achievement (%)		4.3		0.0		0.0
<-.5 SD	34.6		31.6		34.2	
-.5 to .5 SD	28.9		33.2		28.8	
>.5 SD	36.5		35.1		37.0	
Reading achievement (%)		4.3		0.0		0.0
<-.5 SD	30.2		32.6		29.6	
-.5 to .5 SD	33.5		35.3		33.9	
>.5 SD	36.3		32.1		36.5	
% 6+ HS soc. stud. Semesters	55.4	1.8	55.8	0.0	55.5	0.0
HS type (%)		3.0		0.0		0.0
Public	92.0		91.3		91.8	
Catholic	7.5		8.1		7.5	
Other private	0.5		0.6		0.7	

<sup>1</sup> Percentages may not total 100% due to rounding. <sup>2</sup> Weighted base sample corrects only for weights  $\leq 0$ . % SYSMIS varies slightly from MI patterns analysis (Table A-1) due to weighting.

<sup>3</sup> Weighted base sample with listwise deletion of cases missing data on measures used in logistic regression analyses. <sup>4</sup> SPSS 20 MI procedure with Von Hippel (2007) refinement. <sup>5</sup> Zscore. NA=not available.



Table A-3. Multiply imputed Late-Boom (HSB) outcome, education and sociodemographic variable frequencies versus those in comparable base and listwise deletion samples.<sup>1</sup>

Measures	Base <sup>2</sup>		Listwise Deletion <sup>3</sup>		Imputed <sup>4</sup>	
	(N=10,158)		(N=6,380)		(N=9,588)	
	VALID%	%SYSMIS	VALID%	%SYSMIS	VALID%	%SYSMIS
<u>Outcomes (%)</u>				0.0		0.0
Voted prior to Feb 82	51.8	3.4	53.2		52.5	
Voted prior to Feb 84	62.3	1.7	63.6		63.0	
<u>Educational Attainment (%)</u>						
Feb 82		0.1		0.0		0.0
HS Grad or less	34.3		31.5		33.9	
Post-HS vocational	9.9		9.5		9.6	
Some college	55.8		59.0		56.5	
Bachelor degree+	NA		NA		NA	
Feb 84		0.0		0.0		0.0
HS Grad or less	30.6		28.1		30.2	
Post-HS vocational ed	9.9		9.7		9.8	
Some college	51.9		53.9		52.2	
Bachelor degree +	7.6		8.3		7.8	
<u>Sociodemographic Traits (%)</u>						
Female	51.1	0.0	54.9	0.0	52.0	0.0
Race		0.0		0.0		0.0
White	77.3		81.3		77.8	
Black	10.9		8.4		10.6	
Hispanic	9.4		7.9		9.2	
Asian	1.5		1.5		1.5	
Other race	0.9		0.9		0.9	
HS Parental SES (%) <sup>5</sup>		2.3		0.0		0.0
<-.5 SD	32.2		32.6		31.9	
-.5 to .5 SD	36.4		36.2		36.8	
>.5 SD	31.4		31.3		31.2	
English household during HS (%)	86.7	2.5	86.4	0.0	86.7	0.0
HS Region (%)		0.0		0.0		0.0
Northeast	23.1		23.7		23.2	
Midwest	28.8		30.7		28.9	
South	30.5		29.2		30.5	
West	17.6		16.4		17.4	
HS urbanicity (%)		0.0		0.0		0.0
Rural	30.8		32.5		31.1	
Suburban	49.4		48.9		49.1	
Urban	19.9		18.7		19.8	
<u>HS educational experience</u>						
Math achievement (%)		12.5		0.0		0.0
<-.5 SD	31.0		33.0		34.9	
-.5 to .5 SD	34.9		30.5		31.2	
>.5 SD	34.1		36.5		33.8	
Reading achievement (%)		12.2		0.0		0.0
<-.5 SD	32.4		29.0		31.3	
-.5 to .5 SD	29.9		29.9		31.8	
>.5 SD	37.7		41.1		36.9	
% 6+ HS soc. stud. Semesters	39.8	1.5	39.9	0.0	40.0	0.0
HS type (%)		0.0		0.0		0.0
Public	90.0		89.3		90.0	
Catholic	6.6		7.3		6.6	
Other private	3.4		3.4		3.4	

<sup>1</sup> Percentages may not total 100% due to rounding. <sup>2</sup> Weighted base sample corrects only for weights  $\leq 0$ . % SYSMIS varies slightly from MI patterns analysis (Table A-1) due to weighting.

<sup>3</sup> Weighted base sample with listwise deletion of cases missing data on measures used in logistic regression analyses. <sup>4</sup> SPSS 20 MI procedure with Von Hippel (2007) refinement. <sup>5</sup> Zscore. NA=not available.

**Table A-4. Multiply imputed Gen X (NELS) outcome, education and sociodemographic variable frequencies versus those in comparable base and listwise deletion samples.<sup>1</sup>**

Measures	Base <sup>2</sup>		Listwise Deletion <sup>3</sup>		Imputed <sup>4</sup>	
	(N=12,288)		(N=8,219)		(N=12,240)	
	VALID%	%SYSMIS	VALID%	%SYSMIS	VALID%	%SYSMIS
<u>Outcomes (%)</u>						
Voted prior to Mar 94	54.6	0.4	58.7	0.0	54.6	0.0
<u>Educational Attainment (%)</u>						
Feb 94		0.0		0.0		0.0
HS Grad or less	25.4		22.3		25.4	
Post-HS vocational	8.8		7.9		8.8	
Some college	65.7		69.8		65.8	
Bachelor degree+	NA		NA		NA	
<u>Sociodemographic Traits (%)</u>						
Female	50.0	0.0	50.2	0.0	49.9	0.0
Race		0.1		0.0		0.0
White	72.4		76.6		72.4	
Black	12.0		10.1		12.0	
Hispanic	10.0		8.4		10.0	
Asian	4.5		4.1		4.5	
Other race	1.1		0.8		1.0	
HS Parental SES (%) <sup>5</sup>		1.7		0.0		0.0
<-.5 SD	31.1		30.8		31.2	
-.5 to .5 SD	37.2		37.0		37.0	
>.5 SD	31.7		32.2		31.8	
English household during HS (%)	93.3	0.5	94.4	0.0	92.6	0.0
HS Region (%)		0.4		0.4		0.0
Northeast	19.5		19.3		19.4	
Midwest	25.8		28.8		25.9	
South	35.0		33.8		35.0	
West	19.7		18.0		19.7	
HS urbanicity (%)		0.6		0.0		0.0
Rural	30.5		34.5		30.5	
Suburban	41.0		40.4		41.0	
Urban	28.5		25.1		28.6	
<u>HS educational experience</u>						
Math achievement (%)		23.0		0.0		0.0
<-.5 SD	32.6		32.4		32.0	
-.5 to .5 SD	32.9		33.0		34.5	
>.5 SD	34.5		34.6		33.5	
Reading achievement (%)		23.0		0.0		0.0
<-.5 SD	32.6		31.7		32.0	
-.5 to .5 SD	29.7		30.9		32.2	
>.5 SD	37.7		37.4		35.8	
% 6+ HS soc. stud. Semesters	82.5	17.6	84.1	0.0	76.8	0.0
HS type (%)		0.4		0.0		0.0
Public	90.3		90.6		90.3	
Catholic	5.7		6.1		5.7	
Other private	4.0		3.3		4.0	

<sup>1</sup> Percentages may not total 100% due to rounding. <sup>2</sup> Weighted base sample corrects only for weights  $\leq 0$ . % SYSMIS varies slightly from MI patterns analysis (Table A-1) due to weighting.

<sup>3</sup> Weighted base sample with listwise deletion of cases missing data on measures used in logistic regression analyses. <sup>4</sup> SPSS 20 MI procedure with Von Hippel (2007) refinement. <sup>5</sup> Zscore. NA=not available.

**Table A-5. Multiply imputed Millennial (ELS) outcome, education and sociodemographic variable frequencies versus those in comparable base and listwise deletion samples.<sup>1</sup>**

Measures	Base <sup>2</sup>		Listwise Deletion <sup>3</sup>		Imputed <sup>4</sup>	
	(N=12,011)		(N=6,203)		(N=11,915)	
	VALID%	%SYSMIS	VALID%	%SYSMIS	VALID%	%SYSMIS
<u>Outcomes (%)</u>						
Voted prior to Jul 06	57.4	0.8	60.6	0.0	57.4	0.0
<u>Educational Attainment (%)</u>						
Jul 06		0.2		0.0		0.0
HS Grad or less	23.2		17.3		23.0	
Post-HS vocational	1.8		1.4		1.8	
Some college	75.0		81.3		75.2	
Bachelor degree+		NA		NA		NA
<u>Sociodemographic Traits (%)</u>						
Female	50.9	0.0	53.7	0.0	50.9	0.0
Race		0.0		0.0		0.0
White	62.0		69.9		62.1	
Black	13.3		9.8		13.3	
Hispanic	15.1		11.5		15.0	
Asian	4.5		4.2		4.5	
Other race	5.1		4.6		5.1	
HS Parental SES (%) <sup>5</sup>		0.3		0.0		0.0
<-.5 SD	32.1		32.3		32.2	
-.5 to .5 SD	35.7		34.5		35.7	
>.5 SD	32.2		33.2		32.2	
English household during HS (%)	90.7	9.6	92.4	0.0	86.9	0.0
HS Region (%)		0.0		0.0		0.0
Northeast	18.9		19.5		19.0	
Midwest	24.7		26.8		24.8	
South	33.9		31.4		33.8	
West	22.5		22.3		22.4	
HS urbanicity (%)		0.0		0.0		0.0
Rural	19.8		20.6		19.8	
Suburban	51.2		54.3		51.2	
Urban	29.0		25.2		29.0	
<u>HS educational experience</u>						
Math achievement (%)		2.3		0.0		0.0
<-.5 SD	30.1		30.5		30.1	
-.5 to .5 SD	36.9		36.0		37.0	
>.5 SD	33.0		33.5		32.9	
Reading achievement (%)		2.3		0.0		0.0
<-.5 SD	31.1		30.5		31.2	
-.5 to .5 SD	37.0		37.6		36.6	
>.5 SD	31.9		31.9		32.2	
% 6+ HS soc. stud. Semesters		NA		NA		NA
HS type (%)		0.0		0.0		0.0
Public	91.6		90.8		91.5	
Catholic	4.8		5.8		4.8	
Other private	3.7		3.4		3.7	

<sup>1</sup> Percentages may not total 100% due to rounding. <sup>2</sup> Weighted base sample corrects only for weights  $\leq 0$ . % SYSMIS varies slightly from MI patterns analysis (Table A-1) due to weighting. <sup>3</sup> Weighted base sample with listwise deletion of cases missing data on measures used in logistic regression analyses. <sup>4</sup> SPSS 20 MI procedure with Von Hippel (2007) refinement. <sup>5</sup> Zscore. NA=not available.

Table A-6. NCES Secondary Longitudinal Study sample weighting and flag selections.<sup>1</sup>

Dataset	Micro-Analyses <sup>2</sup>				Macro-Analyses Two Years Post-HS (~ Respondent Age 20) <sup>3, 4</sup>				Macro-Analyses Four Years Post-HS (~ Respondent Age 22) <sup>3, 5</sup>			
	Weight	Flag	Base N <sup>6</sup>	MI N <sup>7</sup>	Weight	Flag	Base N <sup>6</sup>	MI N <sup>7</sup>	Weight	Flag	Base N <sup>6</sup>	MI N <sup>7</sup>
NLS 72 (BY-F4)	W18		14,112	13,167	W11		14,900	13,959	W18		14,112	13,903
HS&B Srs (BY-F3)	PANELWT3	BYPART FU1PART FU2PART	10,158	9,588	FU1WT	FU1PART	11,227	10,747	FU2WT	FU2PART	10,925	10,684
NELS88 <sup>8</sup> (BY-F3)	F3F2PNWT	G12COHRT F3F2PNFL	12,288	12,240	F3F2PNWT	G12COHRT F3F2PNFL	12,288	12,240				
ELS2002 <sup>9</sup> (BY-F2)	F2F1WT	G12COHRT	12,011	11,915	F2F1WT	G12COHRT	12,011	11,915				

<sup>1</sup>All sample, weight and flag configurations project to the population of high school seniors. <sup>2</sup>Full sample analyses within each NCES secondary longitudinal study. <sup>3</sup>Age-based comparisons between NCES secondary longitudinal studies. <sup>4</sup>Age 20 weighting selections are consistent with July 2012 trends report (NCES 2012-345) that utilizes the same data sources. <sup>5</sup>Weighting selections are consistent with age 20 cohort procedure. <sup>6</sup>Base N is for weighted sample prior to multiple imputation of missing data. <sup>7</sup>MI N is weighted multiply imputed sample after the deletion of cases missing outcome responses (see Von Hippel, 2007). <sup>8</sup>NELS micro- and macro-sample configurations are identical. <sup>9</sup>ELS micro- and macro-sample configurations are identical.

Table A-7. Summary of logistic regression diagnostic measures and specification of quadratic and interaction terms for micro-analysis models.

Diagnostic Tests	Models <sup>2</sup>					
	NLS72 1974	NLS72 1976	HS&B 1982	HS&B 1984	NELS88 1994	ELS02 2006
Goodness of fit <sup>2</sup>						
Base models	0.012**	0.576	0.003***	0.001***	0.119	0.064
Adjusted models						
Female*HS news access, South*locus, Black*HS gov	0.155	0.481				
Locus sq., SES*locus, Hispanic*HS gov, South*HS gov, SES*HS service			0.358	0.162		
Reading sq., math sq., female*HS news, female*HS service, Black*HS computer					0.358	
SES*HS news access, South*HS non-political clubs, female*HS service						0.311
Percent correct <sup>3</sup>						
Base models	66.3	73.0	62.9	65.2	64.5	65.8
Adjusted models	66.4	73.0	62.8	65.8	64.6	65.8
Pseudo r-square <sup>4</sup>						
Base models	0.116	0.115	0.118	0.118	0.145	0.150
Adjusted models	0.118	0.117	0.124	0.124	0.149	0.152

Table A-8. Summary of logistic regression diagnostic measures and specification of quadratic and interaction terms for macro-analysis models.

Diagnostic Tests	Age 20 Comparison Models <sup>1</sup>				Age 22 Comparison Models <sup>1</sup>	
	NLS72 1974	HS&B 1982	NELS88 1994	ELS02 2006	NLS72 1976	HS&B 1984
Goodness of fit <sup>2</sup>						
Base models	0.330	0.008**	0.043*	0.178	0.042*	0.038*
Adjusted models						
SES squared, Black*locus, South*locus	0.271	0.055	0.084	0.205	0.098	0.137
Percent correct <sup>3</sup>						
Base models	65.9	61.3	64.5	65.9	72.3	63.9
Adjusted models	65.8	61.4	64.4	65.8	72.4	63.7
Pseudo r-square <sup>4</sup>						
Base models	0.115	0.100	0.142	0.148	0.114	0.109
Adjusted models	0.116	0.101	0.143	0.149	0.115	0.112

\*p<.05. \*\*p<.01, \*\*\*p<.001. <sup>1</sup> Base and adjusted models contain the same or comparable source study measures across NLS, HSB, NELS and ELS datasets within each age cohort. <sup>2</sup> Goodness of fit estimates are Hosmer & Lemeshow p-values averaged across all imputed samples. Base model estimates do not include quadratic or interaction terms. Adjusted model estimates reflect the addition of optimized quadratic and interaction terms. Other quadratic and interaction measures tested produced lower overall Hosmer & Lemeshow estimates when introduced alone or in combination with other tested measures. <sup>3</sup> Percent correct estimates are average values across all imputed samples. <sup>4</sup> Pseudo r-square estimates are average Nagelkerke values across imputed samples.

Table A-9. Logistic regression collinearity, nonlinearity and nonadditivity diagnostics for fully specified (Model 5) micro-models.

Diagnostic Tests	Models <sup>1</sup>					
	NLS72 1974	NLS72 1976	HS&B 1982	HS&B 1984	NELS88 1994	ELS02 2006
<u>Collinearity<sup>2</sup></u>						
Minimum	0.411	0.491	0.428	0.475	0.331	0.363
Maximum	0.985	0.985	0.983	0.982	0.972	0.974
<u>Nonlinearity<sup>3</sup></u>						
HS parental SES squared	1.024	1.034	1.030	1.063***	0.990	1.030
HS locus of control squared	0.999	1.001	1.068***	1.058***	1.023	1.000
HS math achievement squared	0.984	0.975	1.029	1.040	1.065*	1.028
HS reading achievement squared	0.997	0.987	1.004	1.016	1.076***	1.025
<u>Nonadditivity<sup>4</sup></u>						
Female*HS newspaper access	1.296*	1.164	1.176	1.040	1.223*	0.940
Female*HS locus of control	1.144**	1.091	0.963	1.013	1.103	1.006
Female*HS government	1.080	0.895	0.881	0.636***	0.988	0.927
Female*HS non-political clubs	0.964	0.938	0.942	0.797*	1.254*	1.099
Female*HS community service	NA	NA	0.827	0.778*	1.407*	1.300*
Female*HS personal computer use	NA	NA	NA	NA	1.194	0.974
SES*newspaper access	1.185	1.151	1.020	0.944	1.117	1.199***
SES*HS locus of control	1.041	1.026	1.246***	1.198***	1.014	0.962
SES*HS government	0.914	0.938	1.145	1.069	1.012	0.948
SES*HS non-political clubs	1.028	1.010	0.962	0.974	1.100	0.929
SES*HS community service	NA	NA	1.206**	1.255***	1.100	1.055
SES*HS personal computer use	NA	NA	NA	NA	0.897	1.009
Black*HS newspaper access	1.126	1.081	0.707*	0.806	0.975	0.996
Black*HS locus of control	0.868	0.820*	0.811*	0.801*	0.837*	0.933
Black*HS government	0.698*	0.717*	0.771	0.831	0.693	0.950
Black*HS non-political clubs	1.213	1.067	0.847	0.876	0.966	0.814
Black*HS community service	NA	NA	0.683*	0.676*	0.700	0.788
Black*HS personal computer use	NA	NA	NA	NA	1.449**	1.024
Hispanic*HS newspaper access	0.813	1.010	1.281	1.274	0.948	1.127
Hispanic*HS locus of control	0.827	0.824	0.892	0.899	1.032	1.006
Hispanic*HS government	1.052	1.493	0.709	0.583***	1.250	1.023
Hispanic*HS non-political clubs	0.936	1.114	0.894	0.875	0.850	1.050
Hispanic*HS community service	NA	NA	0.951	0.930	0.926	1.166
Hispanic*HS personal computer use	NA	NA	NA	NA	1.006	0.979
South*HS newspaper access	0.835	0.868	0.974	1.085	1.002	0.914
South*HS locus of control	0.890*	0.866*	0.907	0.838***	1.026	0.996
South*HS government	0.889	0.844	0.805	0.658***	0.776	1.200
South*HS non-political clubs	1.052	1.050	0.918	0.985	0.842*	0.842*
South*HS community service	NA	NA	0.967	1.114	0.918	1.022
South*HS personal computer use	NA	NA	NA	NA	1.154	1.017

\*p<.05. \*\*p<.01, \*\*\*p<.001. NA = measure not available. <sup>1</sup> Model specifications are comparable within but not between NLS, HSB, NELS and ELS datasets. <sup>2</sup> Collinearity estimates are OLS regression tolerance values across all imputed sample runs. <sup>3</sup> Nonlinearity estimates are pooled sample log odds coefficients for squared values of source measures. <sup>4</sup> Nonadditivity estimates are pooled sample log odds coefficients for listed interaction terms.

Table A-10. Logistic regression collinearity, nonlinearity and nonadditivity diagnostics for age-based comparison macro-models.

Diagnostic Tests	Age 20 Comparison Models <sup>1</sup>				Age 22 Comparison Models <sup>1</sup>	
	NLS72	HS&B	NELS88	ELS02	NLS72	HS&B
	1974	1982	1994	2006	1976	1984
<u>Collinearity<sup>2</sup></u>						
Minimum	0.415	0.420	0.333	0.365	0.515	0.494
Maximum	0.985	0.985	0.973	0.968	0.985	0.960
<u>Nonlinearity<sup>3</sup></u>						
HS parental SES squared	1.011	1.034	0.991	1.033	1.036*	1.074***
HS locus of control squared	0.997	1.077***	1.024*	1.000	1.002	1.066***
HS math achievement squared	0.971	1.049**	1.064*	1.031*	0.982	1.044*
HS reading achievement squared	0.988	1.016	1.076***	1.028	0.997	1.025
<u>Nonadditivity<sup>4</sup></u>						
Female*HS news access	1.264*	1.097	1.228*	0.944	1.167	0.984
Female*HS locus of control	1.130*	0.922	1.103	1.005	1.107	0.915
Female*HS government	1.077	0.855	0.981	0.928	0.965	0.690**
Female*HS non-political clubs	1.018	0.952	1.255**	1.103	0.934	0.842
SES*HS news access	1.188	0.995	1.124	1.202***	1.161	1.000
SES*HS locus of control	1.027	1.229	1.014	0.964	1.053	1.210***
SES*HS government	0.930	1.147	1.011	0.951	0.930	1.053
SES*HS non-political clubs	0.998	0.999	1.096	0.934	1.052	0.962
Black*HS news access	1.053	0.791	0.966	0.996	1.096	0.782
Black*HS locus of control	0.873	0.835	0.832*	0.934	0.814**	0.789**
Black*HS government	0.686**	0.784	0.690	0.943	0.740	0.831
Black*HS non-political clubs	1.201	0.747	0.973	0.811	1.023	0.929
Hispanic*HS news access	0.904	1.186	0.947	1.123	0.893	1.141
Hispanic*HS locus of control	0.872	0.841	1.036	1.007	0.863	0.874
Hispanic*HS government	0.934	0.778	1.262	1.018	1.289	0.638*
Hispanic*HS non-political clubs	0.965	1.039	0.848	1.046	1.149	0.869
South*HS news access	0.777*	0.966	1.001	0.913	0.854	1.026
South*HS locus of control	0.928	0.926	1.022	0.997	0.848***	0.803***
South*HS government	0.894	0.776	0.781	1.194	0.898	0.697*
South*HS non-political clubs	1.023	0.877	0.847	0.846	1.031	1.034

\*p<.05. \*\*p<.01, \*\*\*p<.001. <sup>1</sup> NLS, HSB, NELS and ELS age-based comparison models contain same or equivalent measures within but not between age categories. <sup>2</sup> Collinearity estimates are OLS regression tolerance values across all imputed sample runs. <sup>3</sup> Nonlinearity estimates are pooled sample log odds coefficients for squared values of source measures. <sup>4</sup> Nonadditivity estimates are pooled sample log odds coefficients for listed interaction terms.

## APPENDIX B: EVENT HISTORY TABLES

As discussed in Chapters 2 and 3, the generational transfer, life-cycle transitions and external events theoretical frames are heavily invested in major trends and period influences (seminal events) occurring during and prior to the empirical time horizons of interest. Here I present several summary tables to supplement my Chapter 4 and Chapter 5 contextual discussions of these frames. Table B-1, which classifies respondent birth years by study cohort, establishes the generational cohort baselines. The remaining tables classify noted trends and events in relation to the approximate ages of the cohort members. Given the 1954 to 2006 (52 year) overall time horizon of my study, capturing these events on a relative handful of tables – even in highly capsulized form – is unwieldy. The tables included here likely would be criticized by historians at least on grounds of over-condensation. The general goal is not to present an authoritative history, however, but, much more simply, to capture what Mannheim (1972) referred to as “crucial group experiences” or “crystallizing agents” that were especially prominent during the childhoods and adolescences of my study respondents. The tables are organized thematically, as follows:

- Table B-2a: selected national economic, social, educational and political indicators, 1954-1979.
- Table B-2b: selected national economic, social, educational and political indicators, 1980-2006.
- Table B-3: selected results from annual Phi Delta Kappa / Gallup polls of public attitudes toward education, 1973-2010.
- Table B-4: National Assessment of Educational Progress (NAEP) math, reading and civics achievement results, 1969-2006.



- Table B-5: popular culture events including the *Time Magazine* Person of the Year, the Best Picture and other pop-culture attention grabbers, 1954-2006.
- Table B-6: seminal national security and foreign affairs developments, 1954-2006.
- Table B-7: key developments in the domestic affairs arena, 1954-2006.
- Table B-8: education policy and related legal developments.
- Table B-9: major events in the areas of science, technology and nature.

Virtually all of the information contained in these tables is available from multiple public sources. In selected instances, I have reported the same events on more than one table (e.g., the assassination of President Kennedy) due to their applicability to multiple thematic categories. Many events and dates, such as 9-11, are indelibly etched in the collective public consciousness and are not sourced. Where appropriate, however, I identify specialized sources within the table footnotes. As previously noted, Jennings and Niemi (1981) and Zukin et al. (2006) were particularly influential in my decision to augment the empirical analyses with contextual observations organized in this manner.

Table B-1. NCES Secondary Longitudinal Series birth years for study sample cohort members.

Birth Year	Percentage of Cohort Births			
	Mid-Boomers (NLS)	Late-Boomers (HSB)	Gen Xers (NELS)	Millennials (ELS)
1952 or earlier	3.0			
1953	18.6			
1954	75.7			
1955	2.6			
1956				
1957				
1958				
1959				
1960		1.6		
1961		24.0		
1962		72.8		
1963		1.5		
1964		0.1		
1965				
1966				
1967				
1968				
1969				
1970				
1971				
1972			3.6	
1973			29.2	
1974			66.0	
1975			1.2	
1976				
1977				
1978				
1979				
1980				
1981				
1982				
1983				0.2
1984				2.2
1985				35.4
1986				61.7
1987				0.5

Source: NCES Secondary Longitudinal datasets.

Table B-2a. Selected national economic, social, educational and political indicators, 1954 - 1979.

Year	Economic Indicators					Social Indicators <sup>9</sup>				Educational Indicators				Political Indicators <sup>12</sup>		
	CPI <sup>1</sup> (%Δ)	Income <sup>2</sup> (%Δ)	Unempl. <sup>3</sup> (%)	GDP <sup>4</sup> (%Δ)	Save. <sup>5</sup> (%)	Pop. <sup>6</sup> (mil.)	Age 18+ <sup>7</sup> (%)	Male <sup>7</sup> (%)	White <sup>8</sup> (%)	HS+ <sup>10</sup> (%)	Bach.+ <sup>10</sup> (%)	Read <sup>11</sup> (ss)	Math <sup>11</sup> (ss)	President	Senate (Maj.)	House (Maj.)
1954	-0.7	2.2	5.5	-0.6	7.5	165.3	66.9	49.7	89.1	34.3	6.2					
1955	0.4	7.2	4.4	7.2	6.9									Eisenhower	D-48	D-232
1956	3.0	7.0	4.1	2.0	8.5											
1957	2.9	5.5	4.3	2.0	8.4									Eisenhower	D-49	D-232
1958	1.8	3.4	6.8	-0.9	8.5											
1959	1.7	6.0	5.5	7.2	7.5										D-65	D-283
1960	1.4	4.3	5.5	2.5	7.2	179.3	64.3	49.4	88.8	41.1	7.7					
1961	0.7	4.5	6.7	2.3	8.4									Kennedy	D-64	D-263
1962	1.3	6.1	5.5	6.1	8.3											
1963	1.6	5.0	5.7	4.4	7.8									Johnson	D-66	D-259
1964	1.0	8.8	5.2	5.8	8.8											
1965	1.9	7.7	4.5	6.4	8.6									Johnson	D-68	D-295
1966	3.5	7.9	3.8	6.5	8.2											
1967	3.0	7.0	3.8	2.5	9.4										D-64	D-247
1968	4.7	8.6	3.6	4.8	8.4											
1969	6.2	7.9	3.5	3.1	7.8									Nixon	D-57	D-243
1970	5.6	9.2	4.9	0.2	9.4	203.3	66.0	49.0	83.1	52.3	10.7					
1971	3.3	9.0	5.9	3.4	10.0											
1972	3.4	8.4	5.6	5.3	8.9						285				D-54	D-255
1973	8.7	12.6	4.9	5.8	10.5											
1974	12.3	9.6	5.6	-0.6	10.7									Nixon	D-56	D-242
1975	6.9	10.8	8.5	-0.2	10.6									Ford		
1976	4.9	9.7	7.7	5.4	9.4						286					
1977	6.7	10.2	7.1	4.6	8.7									Carter	D-61	D-292
1978	9.0	12.0	6.1	5.6	8.9							300				
1979	13.3	11.4	5.8	3.1	8.8										D-58	D-277

<sup>1</sup> Source: BLS (2012b). Percentages reflect average annual CPI change. <sup>2</sup> Source: BEA (2012b). Percentages reflect annual disposable personal income change in current dollars. <sup>3</sup> Source: BLS (2012a). Percentages are average annual unemployment rates of the civilian non-institutional population. <sup>4</sup> Source: BEA (2012a). Percentages reflect average annual GDP change. <sup>5</sup> Source: BEA (2012b). Percentages reflect average annual personal savings rate. <sup>6</sup> Source: Census (2002b, 2012a). Population is in millions. <sup>7</sup> Source: Census (2004a, 2004b, 2004c, 2012a). Percentages reflect percentages population age 18 and over or male. <sup>8</sup> Source: Census (2002a, 2012b). For the years 1954 and 1960, percentages reflect the total white population. For later years, percentages reflect the white non-Hispanic population. <sup>9</sup> 1954 population and race estimates are interpolated from 1950 and 1960 decennials census data. <sup>10</sup> Source: Census (2006a, 2006b). Percentages reflect persons 25 and over who had at least a high school diploma or bachelor's degree. 1954 estimates are interpolated. <sup>11</sup> Source: NCES (2009). Entries are average scale scores for 17 year-olds. <sup>12</sup> Source: www.about.com/politics. 2001 Senate Democratic majority occurred on May 24 when Senator James Jeffords (VT) switched Party affiliations.

Table B-2b. Selected national economic, social, educational and political indicators, 1980-2006.

Year	Economic Indicators					Social Indicators <sup>9</sup>				Educational Indicators				Political Indicators <sup>12</sup>		
	CPI <sup>1</sup> (%Δ)	Income <sup>2</sup> (%Δ)	Unempl. <sup>3</sup> (%)	GDP <sup>4</sup> (%Δ)	Save. <sup>5</sup> (%)	Pop. <sup>6</sup> (mil.)	Age 18+ <sup>7</sup> (%)	Male <sup>7</sup> (%)	White <sup>8</sup> (%)	HS+ <sup>10</sup> (%)	Bach.+ <sup>10</sup> (%)	Read <sup>11</sup>	Math <sup>11</sup>	President	Senate (Maj.)	House (Maj.)
1980	12.5	11.8	7.1	-0.3	9.8	226.5	71.9	48.7	79.6	66.5	16.2	285				
1981	8.9	11.7	7.6	2.5	10.6								Reagan	R-53	D-242	
1982	3.8	7.8	9.7	-1.9	10.9							298				
1983	3.8	7.8	9.6	4.5	8.7									R-54	D-269	
1984	3.9	11.2	7.5	7.2	10.2							289	Reagan	R-53	D-253	
1985	3.8	6.5	7.2	4.1	8.2											
1986	1.1	5.8	7.0	3.5	7.6					71.7	18.7	302				
1987	4.4	5.4	6.2	3.2	6.5									D-55	D-258	
1988	4.4	8.5	5.5	4.1	6.9							290				
1989	4.6	7.1	5.3	3.6	6.6								GHW Bush	D-55	D-260	
1990	6.1	6.6	5.6	1.9	6.5	248.7	74.3	48.8	75.6	75.2	20.3	290	305			
1991	3.1	4.5	6.8	-0.2	7.0									D-56	D-267	
1992	2.9	6.6	7.5	3.4	7.3							290	307			
1993	2.7	3.9	6.9	2.9	5.8									Clinton	D-57	D-258
1994	2.7	5.3	6.1	4.1	5.2							288	306			
1995	2.5	5.3	5.6	2.5	5.2									R-52	R-230	
1996	3.3	5.5	5.4	3.7	4.9							288	307			
1997	1.7	5.5	4.9	4.5	4.6									Clinton	R-55	R-228
1998	1.6	7.0	4.5	4.4	5.3											
1999	2.7	4.7	4.2	4.8	3.1							288	308		R-55	R-223
2000	3.4	7.7	4.0	4.1	2.9	281.4	74.3	49.1	69.5	80.4	24.4					
2001	1.6	4.4	4.7	1.1	2.7									GW Bush	D-51	R-221
2002	2.4	4.7	5.8	1.8	3.5											
2003	1.9	4.6	6.0	2.5	3.5									R-51	R-229	
2004	3.3	6.1	5.5	3.5	3.6							285	307			
2005	3.4	4.4	5.1	3.1	1.5									GW Bush	R-55	R-232
2006	2.5	6.9	4.6	2.7	2.6					83.6	27.8					

<sup>1</sup> Source: BLS (2012b). Percentages reflect average annual CPI change. <sup>2</sup> Source: BEA (2012b). Percentages reflect annual disposable personal income change in current dollars.

<sup>3</sup> Source: BLS (2012a). Percentages are average annual unemployment rates of the civilian non-institutional population. <sup>4</sup> Source: BEA (2012a). Percentages reflect average annual GDP change. <sup>5</sup>

Source: BEA (2012b). Percentages reflect average annual personal savings rate. <sup>6</sup> Source: Census (2002b, 2012a). Population is in millions. <sup>7</sup> Source: Census (2004a, 2004b, 2004c, 2012a).

Percentages reflect percentages population age 18 and over or male. <sup>8</sup> Source: Census (2002a, 2012b). For the years 1954 and 1960, percentages reflect the total white population. For later years,

percentages reflect the white non-Hispanic population. <sup>9</sup> 1954 population and race estimates are interpolated from 1950 and 1960 decennials census data. <sup>10</sup> Source: Census (2006a, 2006b).

Percentages reflect persons 25 and over who had at least a high school diploma or bachelor's degree. 1986 and 2006 estimates are interpolated. <sup>11</sup> Source: NCES (2009). Entries are average scale scores

for 17 year-olds. <sup>12</sup> Source: www.about.com/politics. 2001 Senate Democratic majority occurred on May 24 when Senator James Jeffords (VT) switched Party affiliations.

Table B-3. Selected results from annual Phi Delta Kappa / Gallup polls of public attitudes toward education, 1973-2010.<sup>1</sup>

Survey Item	Year																
	1972	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2005	2007
	1976	1978	1980	1982	1984	1986	1988	1990	1992	1994	1996	1998	2000	2002	2004	2006	2010
Study Cohort HS Senior Year	Mid-Boom		Late Boom						Gen X						Mill		
General Education																	
% college education "very important"		36			58												75
% math "essential" or "basic" subject		97										90					
% math should be required for college-bound students				94	92	91	94	96									
% math should be required for non-college-bound students				91	87	85	88	90									
% English "essential" or "basic" subject		94										84					
% English should be required for college-bound students				91	88	88	91	92									
% English should be required for non-college-bound students				89	83	81	85	86									
HS Civics/Citizenship																	
% democracy/civics /U.S. govt should be taught to all students			88							93			93				
% citizenship preparation / practice "very important"											86	79		90 <sup>2</sup>			
% history/U.S. govt should be given more emphasis for all stud.								65		62							
% history / U.S. govt. should be required for college-bound students				83	78	76	84	84									
% history / U.S. govt. should be required for non-college-bound students				71	63	61	69	67									

Source: PDK / Gallup. <sup>1</sup> First/last columns cover 5/4 years, respectively. Mid-Boom senior year was 1972. College importance question was asked in 2010. Dual 1983-84 column entries mean same question asked in successive years. <sup>2</sup> Converted from M=9.0 on 10 point scale.

Table B-4. National Assessment of Educational Progress (NAEP) math, reading and civics achievement results, 1969-2006.

Study Cohort and Test Regime	Year																	
	1969	1971	1973	1975	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2003	2005
	1970	1972	1974	1976	1978	1980	1982	1984	1986	1988	1990	1992	1994	1996	1998	2000	2004	2006
Study Cohort High School senior year		Mid- Boom				Late Boom						Gen X					Mill	
Age 17 Math Achievement			304		300		298		302		305	307	306	307		308	307	
Age 17 Reading Achievement		285		286		285		289		290	290	290	288	288		288	285	
Age 17 / Grade 12 Civics Achievement																		
Citizenship (% correct)		73		65														
Social studies (% correct)			64	59														
Civics (0-100 scale score)				61.7			61.3			59.6								
Civics (% correct)									68						66			
Civics (0-300 scale score)															150			151

Source: Steadman (2009)

Table B-5. Seminal events classified by study cohort, 1954-2006 – popular culture.

Person of the Year <sup>2</sup>	Event Best Picture <sup>3</sup>	Other National Attention Grabbers <sup>4</sup>	Typical Cohort Ages <sup>1</sup>			
			NLS	HSB	NELS	ELS
1954 John Foster Dulles	<i>On the Waterfront</i>	Bannister runs sub-4 minute mile				0
1955 Harlow Curtice (GM)	<i>Marty</i>	James Dean dies / Disneyland opens				1
1956 Hungarian patriot	<i>Around the World ...</i>	Dick Clark hosts American Bandstand				2
1957 Nikita Khrushchev	<i>Bridge on River Kwai</i>	Frisbee / <i>Profiles in Courage</i> wins Pulitzer				3
1958 Charles de Gaulle	<i>Gigi</i>					4
1959 Dwight Eisenhower	<i>Ben-Hur</i>					5
1960 U.S. scientists	<i>The Apartment</i>					6
1961 John F. Kennedy	<i>West Side Story</i>	<i>To Kill a Mockingbird</i> wins Pulitzer				7
1962 Pope John XXIII	<i>Lawrence of Arabia</i>	Marilyn Monroe dies			0	8
1963 Martin Luther King, Jr.	<i>Tom Jones</i>	JFK assass. / MLK "Dream" / Veg-O-Matic			1	9
1964 Lyndon Johnson	<i>My Fair Lady</i>	The Beatles on Ed Sullivan Show			2	10
1965 William Westmorland	<i>The Sound of Music</i>	Mini-skirt introduced			3	11
1966 Young people (Boomers)	<i>A Man for All Seasons</i>	Anti-war protests intensify			4	12
1967 Lyndon Johnson	<i>In the Heat of the Night</i>	Big Mac introduced			5	13
1968 U.S. Astronauts (Apollo 8)	<i>Oliver</i>	MLK and RFK assassinations			6	14
1969 Middle class	<i>Midnight Cowboy</i>	Woodstock / Armstrong walks on Moon			7	15
1970 Willy Brandt	<i>Patton</i>				8	16
1971 Richard Nixon	<i>French Connection</i>	Manson gang sentenced / Pentagon Papers			9	17
1972 Richard Nixon / Henry Kissinger	<i>The Godfather</i>	Israeli Olympic athletes killed in Munich			10	18
1973 Judge Sirica	<i>The Sting</i>	<i>Roe v. Wade</i>			11	19
1974 King Faisal and oil	<i>Godfather Part II</i>	Patty Hearst kidnapping / Nixon pardon			12	20
1975 U.S. women	<i>One Flew Over ...</i>	Saturday Night Live begins			13	21
1976 Jimmy Carter	<i>Rocky</i>	U.S. Bicentennial			14	22
1977 Anwar Sadat	<i>Annie Hall</i>	Elvis Presley dies / "Son of Sam" arrested			3	15
1978 Teng Hsaio-p'ing	<i>The Deer Hunter</i>	1 <sup>st</sup> "test tube" baby			4	16
1979 Ayatollah Khomeini	<i>Kramer vs. Kramer</i>	Three Mile Island			5	17
1980 Ronald Reagan	<i>Ordinary People</i>	U.S. hockey wins Olympic gold / Lennon killed			6	18
1981 Lech Walesa	<i>Chariots of Fire</i>	Iranian hostages freed / Reagan shot			7	19
1982 The computer	<i>Gandhi</i>				8	20
1983 Ronald Reagan / Yuri Andropov	<i>Terms of Endearment</i>	M*A*S*H ends			9	21
1984 Peter Ueberroth	<i>Amadeus</i>	Year of the Yuppie			10	22
1985 Deng Xiaoping	<i>Out of Africa</i>	Titanic wreckage found			11	
1986 Corazon Aquino	<i>Platoon</i>	Space Shuttle Challenger explodes / MTV			12	0
1987 Mikhail Gorbachev	<i>The Last Emperor</i>	"Baby M" case (surrogate mother)			13	1
1988 The endangered Earth	<i>Rain Man</i>	"Couch potato" enters pop culture			14	2
1989 Mikhail Gorbachev	<i>Driving Miss Daisy</i>	Tiananmen Square / Berlin Wall falls			15	3
1990 George H.W. Bush	<i>Dances with Wolves</i>	Earth Day 20 <sup>th</sup> anniversary / Mandela freed			16	4
1991 Ted Turner	<i>Silence off the Lambs</i>	Magic Johnson HIV positive			17	5
1992 Bill Clinton	<i>Unforgiven</i>	Johnny Carson's last show			18	6
1993 Mandela/DeClerk/Rabin/Arafat	<i>Schindler's List</i>	Kevorkian arrest			19	7
1994 Pope John Paul II	<i>Forrest Gump</i>	Mandela elected / O.J. Simpson trial			20	8
1995 Newt Gingrich	<i>Braveheart</i>				21	9
1996 David Ho (AIDs research)	<i>The English Patient</i>				22	10
1997 Andy Grove (computers)	<i>Titanic</i>	Princess Diana dies			11	
1998 Bill Clinton / Kenneth Starr	<i>Shakespeare in Love</i>	Unabomber pleads guilty			12	
1999 Jeff Bezos (e-commerce)	<i>American Beauty</i>	Columbine high school shooting			13	
2000 George W. Bush	<i>Gladiator</i>	Supr. Court decides election			14	
2001 Rudy Giuliani	<i>A Beautiful Mind</i>	9-11 / Anthrax scares			15	
2002 The whistleblower (Enron, etc.)	<i>Chicago</i>				16	
2003 The American soldier	<i>Lord of the Rings</i>	SARS / Space Shuttle Columbia disaster			17	
2004 George W. Bush	<i>Million Dollar Baby</i>				18	
2005 Good Samaritans (Bono/Gates)	<i>Crash</i>				19	
2006 You (web connectedness)	<i>The Departed</i>	Hussein hanged			20	

<sup>1</sup> Approximate ages estimated from NCES Secondary Longitudinal Study data. <sup>2</sup> Source: *Time Magazine* (access: www.time.com). <sup>3</sup> Source: www.oscars.org. <sup>4</sup> Principal sources: Daniel (1987), New York Times (2008), Schlesinger (2004) and Time (2012).

Table B-6. Seminal events classified by study cohort, 1954-2006 – national security and foreign affairs.

Event <sup>2</sup>	Typical Cohort Ages <sup>1</sup>			
	NLS	HSB	NELS	ELS
1954 Dien Bien Phu falls to communist Vietnamese / U.S. atomic tests in Marshall Islands / SEATO formed	0			
1955 10 <sup>th</sup> anniversary of United Nations	1			
1956 Intl. Atomic Energy Agency formed / Eisenhower emphasizes aid to oppose Mid-East communism	2			
1957 U.S. joins Intl. Atomic Energy Commission / Sputnik	3			
1958 Defense Education Act emphasizes science and math	4			
1959 Nixon – Khrushchev “kitchen debate” / Castro regime in place	5			
1960 Powers U-2 spy plane shot down over Soviet territory	6			
1961 Bay of Pigs debacle	7			
1962 Cuban missile crisis / Kennedy Berlin Wall speech / U.S. troops to Laos / NATO has nuclear arms	8	0		
1963 U.S. - Soviet “hot line” established / test ban treaty ratified / South Vietnamese military coup	9	1		
1964 Gulf of Tonkin Resolution expands U.S. military presence in Viet Nam	10	2		
1965 1 <sup>st</sup> U.S. combat forces in Viet Nam / U.S. Marines in Dominican Republic / draft quotas double	11	3		
1966	12	4		
1967 Viet Nam troop strength increased to 380,000	13	5		
1968 Tet offensive / North Korea seizes U.S.S. Pueblo intelligence vessel	14	6		
1969 SALT talks begin / Calley war crimes charges	15	7		
1970	16	8		
1971 China trade embargo lifted	17	9		
1972 U.S. ground forces out of Viet Nam / U.S.-Soviet deal on strategic arms / Nixon to China	18	10		
1973 Paris Treaty ends U.S. military involvement in Viet Nam / War powers act enacted / Arab oil embargo	19	11		
1974	20	12	0	
1975 Mid-East peace talks suspended / South Vietnam falls / Mayaguez incident	21	13	1	
1976	22	14	2	
1977		15	3	
1978 Formal diplomatic relations with China established		16	4	
1979 Begin - Sadat peace treaty/ SALT II / Soviet Afghanistan invasion / U.S. hostages taken in Iran		17	5	
1980		18	6	
1981 Iranian hostages released / Soviet grain embargo lifted / Martial law in Poland (aimed at Solidarity)		19	7	
1982 Israeli Army in South Lebanon		20	8	
1983 Korean flight 007 shot down / Beirut U.S. Marine bombing / Granada military action		21	9	
1984 Bhopal disaster		22	10	
1985 TWA flight 847 Beirut hijacking / United nations 40 <sup>th</sup> anniversary			11	
1986			12	0
1987 INF (nuclear) treaty with Soviets / Iran – Contra scandal			13	1
1988 Soviets leave Afghanistan / Lockerbie bombing / U.S. apologizes for WWII Japanese-Amer. internees			14	2
1989 U.S. troops sent to Panama / Tiananmen Square confrontation / Berlin Wall falls			15	3
1990 Noriega surrenders / Mandela freed / Desert Storm - Desert Shield			16	4
1991 Gulf War / 50 <sup>th</sup> anniversary of Pearl Harbor attack / Gorbachev steps down / Soviet Union dissolves			17	5
1992			18	6
1993 1 <sup>st</sup> World Trade Center explosion / “don’t ask don’t tell” / NAFTA / Viet Nam embargo lifted			19	7
1994 Mandela elected / Northern Ireland cease fire			20	8
1995 Oklahoma City bombing / Rabin assassination / Bosnian peace accord			21	9
1996 Atlanta Olympics bombing			22	10
1997				11
1998 American embassies bombed in Kenya and Tanzania attributed to Al Qaeda / Desert Fox				12
1999 Panama Canal officially relinquished / NATO Serbian action / China trade deal				13
2000 China joins WTO				14
2001 9-11 / Anthrax threats / Afghan War /U.S. refuses Kyoto Prot. / shoe bomber / U.S. out of ABM treaty				15
2002 Homeland Security Department formed after 2001 enactment of anti-terror legislation				16
2003 Iraq War /WMDs not found in Iraq / congressional 9-11 committee cites security lapses				17
2004 Abu Ghraib scandal				18
2005				19
2006 Saddam Hussein hanged / Benazir Bhutto assassinated				20

<sup>1</sup> Approximate ages estimated from NCES Secondary Longitudinal Study data. <sup>2</sup> Principal sources: Daniel (1987), New York Times (2008), Schlesinger (2004) and Time (2012).



Table B-7. Seminal events classified by study cohort, 1954-2006 – domestic affairs.

Event <sup>2</sup>	Typical Cohort Ages <sup>1</sup>			
	NLS	HSB	NELS	ELS
1954 U.S. Senate defeats 18 year-old vote constitutional amendment / McCarthy censured by U.S. Senate	0			
1955 I.C.C. bans segregation on interstate buses and trains	1			
1956	2			
1957 U.S. Civil Rights Commission established / U.S. Army escorts students to Little Rock Central High	3			
1958 Alaska statehood approved / NASA created / Faubus defies Supreme Court and closes Ark. schools	4			
1959 Hawaii statehood approved	5			
1960 Civil Rights Act increases federal oversight of voter registration	6			
1961 Peace Corps created / 23 <sup>rd</sup> Amendment (Wash., D.C. voting rights)	7			
1962 <i>Baker v. Carr</i> (fed. reapportionment of state legislatures) / discrimination banned in federal agencies	8	0		
1963 JFK assassination / Wallace admits blacks to U. of Ala. / 200,000 march on Wash., D.C. / Evers killed	9	1		
1964 24 <sup>th</sup> Amendment (poll tax ban) / Civil Rights Act / War on Poverty / MLK receives Nobel Peace Prize	10	2		
1965 Great Society / Selma protestors attacked / Watts riots / Medicare / Voting Rights Act bans tests	11	3		
1966 <i>Miranda v. Arizona</i> (defendant rights) / Department of Transportation / nationwide anti-war protests	12	4		
1967 25 <sup>th</sup> Amendment (presidential succession) / Fed. troops to Detroit / Marshall 1 <sup>st</sup> Black Sup. Ct. Justice	13	5		
1968 MLK and RFK assassinations / anti-war demonstrations at democratic convention	14	6		
1969 Anti-war demonstrations intensify nationwide / Armstrong walks on Moon / Chappaquiddick affair	15	7		
1970 Four students killed during Kent State demonstrations	16	8		
1971 26 <sup>th</sup> Amendment (18-20 year-old vote) / federal wage and price controls / Pentagon Papers published	17	9		
1972 Watergate / Medicare expanded / <i>Dunn v. Blumstein</i> limits voter registration residency to 30 days	18	10		
1973 <i>Roe v. Wade</i> / retail price controls continue / Agnew resigns (taxes) / Ford VP / Watergate hearings	19	11		
1974 Nixon resigns / Ford pardons Nixon / campaign finance reforms enacted	20	12	0	
1975 Voting Rights Act extended to language minority citizens / New York City bailout	21	13	1	
1976 Supreme Court invalidates major provisions of campaign finance reforms	22	14	2	
1977 Pardons for Viet Nam draft evaders / Koreagate scandal / Department of Energy		15	3	
1978 California Prop 13 / Cleveland 1 <sup>st</sup> city to default since Depression / Jonestown killings		16	4	
1979 Three Mile Island / Chrysler bailout / OPEC price hike / inflation rate highest in three decades		17	5	
1980 Congressional Abscam scandal / banking deregulation / windfall profits tax / trucking deregulation		18	6	
1981 Reagan shooting / PATCO strike / economic recovery package enacted / O'Connor to Supreme Court		19	7	
1982 New Federalism initiative / poverty rate highest since 1967 / San Francisco bans handgun sales		20	8	
1983 Social Security solvency legislation / Martin Luther King holiday declared / Korean flight 007 downed		21	9	
1984 Bell system break-up		22	10	
1985 Gramm-Rudman balanced budget legislation enacted / S&L crisis			11	
1986 Iran-Contra scandal			12	0
1987 Fairness Doctrine ended / Greenspan heads Fed / genetic patents allowed / largest one-day DOW drop			13	1
1988 Fed. insider trading rules strengthened / growing AIDs risk to heterosexuals cited / Lockerbie bombing			14	2
1989 Jim Wright resigns (ethics) / S&L bailout / 2 <sup>nd</sup> largest one-day DOW drop / Court permits flag burning			15	3
1990 DOW tops 3,000 / Americans with Disabilities Act / civil rights bill vetoed over quotas			16	4
1991 Clarence Thomas confirmation / Magic Johnson HIV positive			17	5
1992 27 <sup>th</sup> Amendment (congressional compensation) / U.S. House banking scandal / LA riots			18	6
1993 Health care reform legislation defeated / Vince Foster dies / Motor Voter law enacted			19	7
1994 Whitewater scandal			20	8
1995 1 <sup>st</sup> GOP U.S. House majority since 1954 / Supr. Ct overturns federal term limits / Oklahoma City			21	9
1996 Welfare reforms enacted (TANF) / Atlanta Olympics bombing			22	10
1997 Gingrich cited on ethics charges / top year for mergers and acquisitions				11
1998 Gingrich resigns after midterm losses / Exxon Mobil largest U.S. merger / Lewinsky scandal				12
1999 Pres. Clinton acquitted of impeachment charges / U.S. income gap highest on record / Columbine				13
2000 AIDs declared national security threat / presidential election decided by Supreme Court				14
2001 9-11 / Jeffords Party switch produces democratic U.S. Senate majority				15
2002 Kmart, Enron and Worldcom bankruptcies / 1 <sup>st</sup> GOP congressional majorities and president since 1952				16
2003 Tax cuts set to expire in 2012 enacted / Medicare reforms enacted / Mass. approves same-sex marriage				17
2004 9-11 Commission finds no collaboration between Hussein and Al Qaeda				18
2005 Cheney staff director indicted (perjury)				19
2006 Bipartisan Commission finds Iraq situation "grave and deteriorating" / Democrats re-take Congress				20

<sup>1</sup> Approximate ages estimated from NCES Secondary Longitudinal Study data. <sup>2</sup> Principal sources: Cato (2002), Daniel (1987), New York Times (2008), Schlesinger (2004) and Time (2012).

Table B-8. Seminal events classified by study cohort, 1954-2006 – education.

Event <sup>2</sup>	Typical Cohort Ages <sup>1</sup>			
	NLS	HSB	NELS	ELS
1954 <i>Brown I</i> (racial segregation) / U.S. Air Force Academy / School Milk program	0			
1955 <i>Brown II</i> (“all deliberate speed” doctrine) / Friedman school voucher proposal	1			
1956	2			
1957	3			
1958 Defense Education Act (core emphasis on math and science)	4			
1959	5			
1960	6			
1961	7			
1962 <i>Engel</i> (school prayer unconstitutional) / Meredith admitted to U. of Miss.	8	0		
1963	9	1		
1964 Civil Rights Act (desegregation programs) / Economic Opportunity Act (college grants, work-training)	10	2		
1965 Elementary and Secondary Education Act (ESEA) / Head Start	11	3		
1966	12	4		
1967	13	5		
1968 <i>Green</i> (“root and branch” integration doctrine)	14	6		
1969 <i>Tinker</i> (student anti-war arm bands upheld)	15	7		
1970 <i>Singleton</i> (busing permitted to reduce segregation) / magnet schools emerge to promote desegregation	16	8		
1971 <i>Swann</i> (burden of proof on segregated district) / <i>Serrano I</i> (CA funding to reduce disparities)	17	9		
1972 <i>Mills</i> (special ed based on need) / Education Amendments of 1972 (stronger federal role, Title IX)	18	10		
1973 <i>Keyes</i> (extends <i>Brown</i> to Latinos) / <i>Rodriguez</i> (affirmed property tax school funding) / CETA	19	11		
1974 <i>Milliken I</i> (limits busing) / Ford signs anti-busing legislation	20	12	0	
1975 Education for all Handicapped Children Act (“free appropriate education” standard, IDEA precursor)	21	13	1	
1976	22	14	2	
1977 <i>Milliken II</i> (remedial services for past discrimination)		15	3	
1978 <i>Bakke</i> (“compelling justification” doctrine) / CA Prop 13 recasts <i>Serrano</i> funding standard		16	4	
1979 <i>Pauley</i> (W VA outcome test for adequacy) / U.S. Department of Education		17	5	
1980		18	6	
1981 Education Consolidation and Improvement Act (elementary and secondary block grants)		19	7	
1982 <i>Rowley</i> (broadens IDEA standards)		20	8	
1983 <i>A Nation at Risk</i> released / Education of the Handicapped Act (architectural barriers)		21	9	
1984 Education for Economic Security Act (new math and science programs, magnet schools included)		22	10	
1985 <i>TLO</i> (“reasonable suspicion” standard for student searches)			11	
1986 Handicapped Children’s Protection Act (attorney’s fees, preemption clarified)		12	0	
1987 Individuals with Disabilities Education Act (IDEA standards formalized)		13	1	
1988 Budde - Shanker charter school proposal		14	2	
1989 <i>Rose</i> (KY adequacy standard) / Charlottesville summit spurs Goals 2000 initiative		15	3	
1990 Milwaukee voucher program / Excellence in Mathematics, Science and Engineering Act / ADA		16	4	
1991 <i>Dowell</i> (“good faith” doctrine) / Minnesota okays charter schools / High Performance Computing Act		17	5	
1992 <i>Freeman</i> (“incremental compliance” desegregation doctrine) / <i>Lee</i> (further limits school prayer)		18	6	
1993 NAEP Assessment Authorization Act		19	7	
1994 Goals 2000: Educate America Act (focus on voluntary state standards) / Title X (charter schools)		20	8	
1995 <i>Jenkins III</i> (inter-district remedies not permitted for intra-district segregation violations)		21	9	
1996 Contract with America Unfunded Mandates Act (curbs unfunded mandates)		22	10	
1997			11	
1998 Charter School Expansion Act			12	
1999 <i>Garret F</i> (“least restrictive” special ed standard) / Florida voucher plan begins			13	
2000 <i>Santa Fe</i> (bans prayer at school sporting events)			14	
2001			15	
2002 <i>Earls</i> (random drug testing) / <i>Zelman</i> (private school vouchers okay) / No Child Left Behind (NCLB)			16	
2003 <i>Grutter</i> (racial criteria upheld) / <i>Gratz</i> (racial point system not permitted)			17	
2004 IDEIA (extends IDEA and coordinates IDEA standards with NCLB requirements)			18	
2005			19	
2006			20	

<sup>1</sup> Approximate ages estimated from NCES Secondary Longitudinal Study data. <sup>2</sup> Principal sources: Cato (2002), Daniel (1987), NCES (2007), New York Times (2008), Schlesinger (2004), Time (2012) and Zirkel (2001).

Table B-9. Seminal events classified by study cohort, 1954-2006 – science, technology and nature.

Event <sup>2</sup>	Typical Cohort Ages <sup>1</sup>			
	NLS	HSB	NELS	ELS
1954 US nuclear sub launched / private ownership of atomic power plants okayed / 1 <sup>st</sup> televised Cabinet mtg.	0			
1955 1 <sup>st</sup> televised presidential press conference / antiproton discovered	1			
1956 Salk vaccine available to general public / transatlantic telephone cable / commercial videotapes in use	2			
1957 Sputnik / 1 <sup>st</sup> underground US nuclear test	3			
1958 1 <sup>st</sup> US satellite launched (Explorer I) / civilian jet passenger service inaugurated	4			
1959 Unmanned Soviet spacecraft reaches Moon / dry heat photocopier technology developed	5			
1960 1 <sup>st</sup> televised presidential debates	6			
1961 Gagarin first human in space / Alan Shepard first American in space	7			
1962 Glenn, Carpenter and Schirra orbit Earth / Telstar comm. satellite launched / Mariner II passes Venus	8	0		
1963	9	1		
1964	10	2		
1965 1st commercial satellite launched (Early Bird) / 1 <sup>st</sup> commercial desktop computer	11	3		
1966 Half of all TV shows broadcast in color	12	4		
1967 1 <sup>st</sup> successful heart transplant	13	5		
1968	14	6		
1969 Neil Armstrong walks on Moon / university consortium launches Apanet computer network	15	7		
1970 Apollo 13 rescue successful	16	8		
1971 Computer email service devised but not in public use / 1 <sup>st</sup> consumer videotape recorders available	17	9		
1972 DDT banned / new Ethernet computer technology enables local area networks (LANs)	18	10		
1973 Handheld portable phone introduced	19	11		
1974	20	12	0	
1975 Apollo - Soyuz mission signals new space cooperation with Soviets / digital camera introduced	21	13	1	
1976 Satellite TV industry emerges	22	14	2	
1977 Space Shuttle Enterprise completes first test flight		15	3	
1978 1 <sup>st</sup> human embryo conceived in test tube		16	4	
1979 1 <sup>st</sup> cellular phone network begins service in Tokyo, Japan		17	5	
1980 Pac-Man game released in Japan / Mt. St. Helens erupts / AIDS epidemic gains national prominence		18	6	
1981 AIDS epidemic gains national prominence		19	7	
1982 Portable laptop computers available in U.S.		20	8	
1983 1 <sup>st</sup> voyage by Space Shuttle Challenger / 1 <sup>st</sup> U.S. cellular network begins service		21	9	
1984 Apple McIntosh launched		22	10	
1985 Microsoft Windows released / Titanic wreckage found			11	
1986 Space Shuttle Challenger explodes after take-off / Chernobyl disaster			12	0
1987 Prozac approved			13	1
1988 NASA affirms global warming trend / computer viruses seen as threat / video recorder sales double			14	2
1989 1 <sup>st</sup> genetically modified cell injections in humans / Super collider project approved / Hurricane Hugo			15	3
1990 Hubble space telescope launched			16	4
1991 World Wide Web release creates public internet access / Apple PowerBook launched			17	5
1992 Hurricane Andrew			18	6
1993			19	7
1994			20	8
1995 DVDs developed / Streaming process enables real-time radio and video sharing / eBay founded			21	9
1996 Lipitor approved			22	10
1997 Pathfinder lands on Mars / largest U.S. meat recall				11
1998 1 <sup>st</sup> human stem cells produced in lab from embryos / Viagra approved / universe est. 15 billion years old				12
1999 Internet address speculation banned				13
2000 Human genome map completed / international space station in operation				14
2001				15
2002				16
2003 Space Shuttle Columbia disaster / SARS classified as pandemic / 1 <sup>st</sup> manned Chinese Earth orbit				17
2004 Facebook starts commercial operation / South Asian Tsunami				18
2005 Worldwide internet use surpasses billion person mark / 11.5 billion web pages in 75 languages / Katrina				19
2006 iPhone scheduled for 2007 release / global warming trend confirmed / Twitter launched				20

<sup>1</sup> Approximate ages estimated from NCES Secondary Longitudinal Study data. <sup>2</sup> Principal sources: Daniel (1987), National Geographic (2007), New York Times (2008), Schlesinger (2004) and Time (2012).