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The impact of age, education, political knowledge and political context on voter turnout

Roy Edward Snyder III
University of Nevada, Las Vegas

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THE IMPACT OF AGE, EDUCATION, POLITICAL KNOWLEDGE AND
POLITICAL CONTEXT ON VOTER TURNOUT

By

Roy Edward Snyder III

A thesis submitted in partial fulfillment
of the requirements for the

Master of Arts Degree in Political Science

**Department of Political Science
College of Liberal Arts
The Graduate College**

**University of Nevada, Las Vegas
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Roy Edward Snyder III

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School of Life Sciences

Kenneth Fernandez, Committee Chair

Ted Jelen, Committee Member

David Damore, Committee Member

Anne Lukemeyer, Graduate College Representative

Ronald Smith, Ph. D., Vice President for Research and Graduate Studies
and Dean of the Graduate College

December 2011

ABSTRACT

The Impact of Age, Education, Political Knowledge and Political Context on Voter Turnout

by

Roy Edward Snyder

Dr. Kenneth Fernandez, Examination Committee Chair
Assistant Professor of Political Science
University of Nevada, Las Vegas

The following thesis will present an examination of factors that impact levels of voting activity among American citizens from 1972 through 2004. The subject of voter turnout has been thoroughly examined by political scientists over the years, as have aspects of youth voting and the influence of education. Many of the same variables presented by scholars in recent years will be employed in this study. However, these earlier studies tend to look only at individual level variables in explaining voter turnout. This study will contribute to a more complete understanding of voting through the analysis of individual, regional, and temporal variables using interactive logit models and hierarchical linear models. The application of multiple levels of information will help provide additional insights into the complexity of what drives voter turnout within the American electorate. Special emphasis will be placed on the role of education, political knowledge, and age in spurring voter turnout and how education and political knowledge may interact with other important individual and contextual level factors.

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CHAPTER 1

THE PROBLEM OF VOTER TURNOUT

Political scientists and pundits alike have long lamented the relatively low levels of voter turnout exhibited by American citizens. Understanding the levels in voting activity, political interest, and political knowledge among different age groups and levels of education in American society has consistently been a source of interest to political scientists (Wattenberg 2008). Studies have frequently found that the strongest predictors of the probability of voting are age and education (Wolfinger and Rosenstone 1980).

The age of potential voters has received a substantial amount of attention from scholars and reporters. The media frequently reports on the turnout of the youth during elections (Von Drehle 2008). The paradox that drives much of this attention is the fact that the youth of today, and the American electorate as a whole, appear to be particularly suited to increased civic participation due to their increasing average levels of educational attainment and their relatively easy access to political

information and yet they vote and participate in formal politics less than their counterparts in the 1970's.

Current research clearly suggests that young people vote at very low rates and are generally apathetic when it comes to involvement in the political process (O'Toole 2003, MacManus 1996, Dalton 2008), a change in this trend may be on the horizon. Voting activity has increased among 18 – 25 year olds in the 2004 presidential election and the 2006 midterm election and appears to have increased again in the 2008 presidential election (American National Election Survey 2006; McDonald 2009).

However, it is unclear whether or not this increase is part of a larger trend in political activity or simply a result of a change in the political or economic context that is temporarily causing a spike in voter turnout.

Another frequently examined factor is the level of education of citizens. Education is seen as a means to assist citizens to consume information more effectively, and to articulate their needs and preferences more coherently. In other words, education is an important tool to help overcome many different barriers to political participation such as structural or institutional barriers (Teixeira 1987, Macedo 2005).

Much of the research and the data that will be presented in this paper suggest that age and education have a complex relationship to voter turnout and act both directly and contextually to influence individual political behavior. Education is often discussed as a key predictor of voter turnout among youth cohorts and the population as a whole and

has been commonly cited as one of the most important predictors of voter turnout (Wolfinger and Rosenstone 1980, Campbell 2006).

However, despite the increases in education seen in recent cohorts of 18-25 year olds as compared to previous cohorts of the same age group there has not been an equivalent increase in civic participation for young people.

This study will investigate the complex nature of the relationship between voter turnout and education, political knowledge, age and host of other variables at multiple levels. Have these relationships changed over time? Has education become less important? Or is it, as this study postulates, that the role of education is contingent on a variety of other factors. Building on earlier studies of political interest and participation that identify a variety of individual and structural factors that combine to influence levels of civic engagement (Zukin et. al. 2006; Wattenberg 2008) this study explores how the impact of education may vary across space and time.

Purpose

This study will contribute to the work on voter turnout in three primary ways. First, the thesis will assess the impact that age, education, and political knowledge have on individual voter turnout. These factors are well documented in the literature as among the three most important predictors of voter turnout but in recent years their impact, especially that of education, have been called into question by

some in the political science community (Wolfinger and Rosenstone 1980; McDonald 2009).

Second, this thesis will address the complexities of these relationships and the impact of interactions between individual and state and national level variables in predicting voter turnout. This study will go beyond traditional approaches that focus on individual level or structural variables by focusing on how such variables interact with one another. Of special interest is how variation in education levels influence voter turnout and how education interacts with other individual and structural variables especially age. The study will use interaction terms and hierarchical linear models (HLM) to gain a better understanding of how the effects of individual level characteristics, such as education, vary across time and across political contexts.

Finally, the study will demonstrate that single level explanations of voter turnout are not adequate. The use of HLM will allow for an examination of how individual factors interact with contextual variables in influencing the likelihood to vote and obtain civic knowledge. This approach will expand the current understanding of the influence of individual, regional, and contextual variables on civic activity by giving an insight how these variables interact with one another instead of analyzing the influence of each level of data on its own (McDonald 2009).

This study will examine the presence of potential activating contexts through the use of multilevel analysis. A multi-level analysis will provide

a better understanding of the exact nature of the relationship between individual level variables and civic engagement by accounting for regional differences and changes in generational experiences. The addition of contextual variables will give a more complete understanding of why levels civic engagement seems to be falling while increases in levels of education and the decline of structural barriers to voting suggest that we should be experiencing significant increases in civic engagement (O'Toole 2003).

The influence of education in context

This study will examine the impact of education on voter turnout and political knowledge and how this impact may vary across different individual and spatial contexts (e.g., race, region). It will also help gain a better appreciation of how the influence of education has changed over time from 1972 to 2008 and how it varies across regions. If people are, in fact, not showing up to vote is it a result of a decrease in the impact of education on successive age cohorts? In 1972 voter turnout among 18-25 year olds and voter turnout as a whole were relatively high despite a drop in overall turnout for all ages from the elections of the 1950's and 1960's (NES 2004). The United States Census Bureau Current Population Survey shows that in 1976 nearly 50% of 18 – 25 year olds cast a ballot. This was the first presidential election in which 18 – 20 year olds were able to vote. In that same year approximately 64% of those over 65 cast a ballot. Twenty-eight years later, in the election of 2000, a

mere 33% of 18 – 25 year olds voted. In stark contrast the percentage of those over 65 voting in the 2000 election rose to around 68%. For those individuals in the 25 – 64 age group and for the population as a whole voter turnout has declined over the past twenty-eight years.

While it is the decline in the 18 – 25 year old vote that has been most dramatic and has received most of attention from political scientists this general decrease across the population indicates a change in the nature and understanding of political participation in the United States that warrants further examination (Teixeira 1992). It is also interesting to note the only age demographics to see increases or maintain levels of voter turnout compared to their 1972 numbers were those in which the individuals in question began their political lifecycles in the 1960's and 1970's. This is important because once a voter has been activated and begins voting they tend to continue to vote (Campbell 2006). This study will argue that certain variables can 'prime' voters but that effect often does not lead voting until the individual is 'activated' by some contextual factor. This concept will be explored further in the following sections.

A similar trend can be found in the area of political knowledge. According to an analysis of the National Election Studies by Wattenberg (2008) the average score on the political knowledge index for 18 – 29 year olds in 1964 was 68%, eight points higher than the over 65 age cohort. By 2000 these numbers had reversed. While both age cohorts declined those in the 18 – 29 age demographic scored only an average of 33%

while the over 65 age cohort scored near 50%. This is surprising since the average level of education for all ages has risen dramatically over the same time period (Junn and Niemi 1998). The exact nature of this decline has generally only been studied at the individual level. This study will seek to add to that by examining the trend on three levels: individual, regional, and temporal. This will be done by examining a pair of two-level hierarchical linear models. This study contends that the examination of the data and literature will reveal that education has an important impact on the probability to vote both directly and indirectly by changing the way people of various levels of education are impacted by state and temporal variations.

Defining priming, activation, and active engagement

This study will test the hypothesis that people are not more disengaged politically because of a lack of education, income, or opportunity to vote but because, unlike their counterparts of the 1970's or their politically engaged peers, they have not been activated as voters. Factors such as high levels of education act as priming agents that set the stage for future political activity; thus youth voters are primed to start voting at high levels as indicated by education, access to information (technology, internet, social media, etc.), and high levels of local community service found with young Americans. These components, along with other characteristics typically identified as being linked to active engagement, are found in increasingly large numbers

both in the general population and among successive cohorts of 18 – 25 year olds.

What this study will argue is that many voters have not been voting in high numbers in spite of their predisposition to political activity because they need to be ‘activated’. The term ‘activated’ in this study is used to describe local and national level factors that will push primed voters to obtain political knowledge and start voting. There are a number of activating characteristics that pushed large numbers of people into civic engagement in the 1970’s that have not been replicated in ensuing decades. Using HLM it is possible to look beyond just the priming variables that are traditionally linked to voting and political activity and look at what factors actually spur the activation of voting. These activating variables exist on the temporal and geographic levels rather than the individual level and that it is a lack of these activating variables that have led to the levels of political apathy seen today.

The term political engagement will be used throughout this paper to refer to the acts of voting and obtaining political knowledge, thus an engaged citizen is one who votes and possesses relatively high levels of political knowledge. While political knowledge will be tested separately many of the same independent variables are linked to each and those who vote are far more likely to be politically knowledgeable than those who do not vote. Conversely, those who are more politically knowledgeable are more likely to vote.

There are a number of factors identified by prior research that contribute to the low voter turnout and political knowledge but in many cases these relationships are misleading. Education, access to information, and structural openness of the democratic system are all linked strongly to voter turnout, all are increasing since the 1970's, but voting and knowledge is still declining. Numerous studies have shown that these variables are still strongly correlated to predicting civic engagement so there should be other explanations for these declines.

The following chapters will explore the potential impacts of education as a standalone factor in voter turnout as well as its interaction effect as a priming characteristic. Chapter two will offer a review of relevant literature on education and voter turnout as well as a description of how other factors at the individual, state, and national level impact voter turnout. Other theories on voter turnout will be reviewed as well. Chapter three will detail the data and methodology utilized in testing the hypotheses presented in the study and how the data has been analyzed. In chapter four I will present the individual level models of voter turnout and focus on the state and national level models in chapter five. Chapter five will also include the introduction of a number of interaction models to assess the contextual relationship between voting and other key variables at all three levels of analysis. Chapter six will explore the question of context in even more detail utilizing hierarchical linear models. Chapter seven will offer ideas about

the possible extension of this research and the contributions of the findings to the current research on the impact of education on voter turnout.

The importance of voting

This discussion of the concern raised by low levels of voter turnout carries with it an assumption that higher levels of turnout would be better. This is not a universally accepted axiom. There is an interesting underlying debate over whether or not increased voter turnout would be better or worse for the American democratic system. Much of the classic literature suggests that more should be done to increase turnout levels. Regarding voter turnout E. E. Schattschneider (1960) famously commented “abstention reflects the suppression of the options and alternatives that reflect the needs of the nonparticipants” (102). His analysis suggests that those who do not vote or participate in politics often share qualities and preferences that are easily ignored because of their alienation from the system. In addition to a sign of alienation and the limitation of possible change and policy reform that concerns Schattschneider Dalton (2008) and Teixeira (1992) suggest that low turnout levels indicate that citizens are not satisfied with government, that they have disengaged from politics, and that the culture of democracy that binds American society may be in danger of unraveling.

Not all political scientists and political observers share this concern regarding voter turnout. Pulitzer prize winning columnist and

Charles Krauthammer (1990) once postulated that low voter turnout was actually a sign that people were content with the political system. He views low turnout levels as a blessing that brings with it political stability. This argument is bolstered by the findings of Leighley (1991) and Jakee and Sun (2006) that increased participation leads to larger numbers of uneducated voters. Rather than increase levels of political knowledge these studies suggest that increased voter turnout would lead to levels of uninformed voting that would actually have meaningful electoral consequences. Despite these suggestions there is an overwhelming literature that suggests that increased voter turnout is a positive outcome in participatory democracies and this study will continue under that assumption.

CHAPTER 2

REVIEW OF RELATED LITERATURE

There have been many proposed explanations for why voter turnout in the United States is so low, why it has been decreasing over the past four decades, and why it is particularly low for young Americans today. Literature on this subject has posited a number of causes of low voter turnout ranging from a historical apathy toward voting and civic duty, socioeconomic status, the structural characteristics of the American political system, socialization, or any combination of these factors. The literature reviewed here focuses on how individual characteristics, statewide geographic context and national temporal changes impact voter turnout. This review will set the stage for the pending assessment of the role of age, education, and political knowledge in influencing political behavior and how education in particular is intertwined with other factors in a unique way to influence individual

political activity. Each of the studies discussed below present findings on variables that this study hypothesizes are not only potentially important in their own right but also may have an interactive relationship with an individual's level of education, political knowledge, or age.

Current research is often limited to looking at these factors in isolation and discussing the impact of individual variables on political engagement. This approach has yielded interesting discussions of voting behavior and political knowledge but is unable to give a complete understanding of the relationship between variables at multiple levels. Some pundits and political observers have suggested that this decline is related to changes in individual characteristics of American citizens but this study will suggest that it is contextual variations that explain this lack of civic engagement (Dalton 2008). The challenge facing this study is how to untangle the complex, multilevel relationship between these factors and levels of civic engagement.

Individual factors that impact civic engagement

The most basic and most studied factors related to civic engagement are individual level variables. Variables such as race, education, gender, socioeconomic status and age are widely held to be highly intertwined with voting activity and political knowledge. All of these variables play centrally in this study as their impact on both voting and civic knowledge are well documented in current literature (Zukin et. al. 2006, Wattenberg 2008, Dow 2009, Wolfinger and Rosenstone 1980).

It is clear that political scientists have successfully demonstrated both statistical and substantive links between these factors and levels of civic engagement. But an examination of empirical studies shows that the impacts of these factors vary across studies and, as this study posits, change depending on regional characteristics and temporal contexts. Thus a study of individual level variables alone cannot adequately explain levels of civic engagement. Still an overview of the literature on this subject provides a useful starting point for the forthcoming discussion of civic activity.

The primary variables of interest in this study are age, political knowledge and education. Age is one of the most widely studied variables related to levels of civic engagement and it is widely understood that, in general, young people know less about politics than older Americans and vote less often than older Americans (Zukin et. al. 2006, O'Toole 2003). More troubling is the fact that the rate that the youth vote has been in decline even though levels of education and access to information, have been increasing for this age group. Therefore the question of why young people have displayed a steady and sustained decrease in civic engagement between 1972 and 2002 is one that has fueled a great deal of research.

Education has often been identified as one of the most significant factors explaining the likelihood of voting, however, as discussed above, increases in the average level of education has not produced a more

engaged citizenry, especially with the youth. Despite this, education still has a measureable impact on voter turnout. Powell (1986) found that a citizen with a ninth grade education is ten percent more likely to vote than one with a sixth grade. The impact increases with greater educational attainment. Those who completed high school are seventeen percent more likely to vote and a college graduate is thirty-five percent more likely to vote than a citizen with a sixth grade education. This effect is far greater in the United States than in other democracies in the world making education in America uniquely important to voter turnout.

It is interesting that the slump in voting in recent years comes as average levels of education, a common predictor of high voter turnout, has increased across the board in the United States (National Center for Education Statistics 2006). While the more educated are still more likely to vote than those with less education many well-educated citizens are choosing not to exercise their right to vote. Teixeira's (1987, 1992) arguments about the nature of the American voting system may indirectly cast some light on one of the factors influencing this trend. It takes a certain amount of political sophistication to understand why one vote is not likely to matter. It may be that an increasingly cynical electorate is part of the reason that so many well educated but now unmotivated citizens are disconnected from the world of politics. In addition, some scholars suggest that the democratization of education has diluted the impact of education on political behavior (Nie, Junn, and

Stehlik-Barry 1996). They point to levels of relative educational attainment as being more important; thus as the education gap closes the importance of education as a predictor of voter turnout is diminished (Tenn 2005). Despite these findings education continues to be regarded as one of, if not the, most important predictors of voter turnout (Wolfinger and Rosenstone 1980, Campbell 2006).

Education may be connected to a variety of other factors as well. Differences in voting rates between whites and minorities may be in part due to differences in education. However, the education gap has closed somewhat in terms of educational attainment by race and women have become more educated overall than men over the past four decades. A sense that voting is a civic duty can also impact the propensity to vote at an individual level. Teixeira (1987, 1992) finds that voting is seen as a way to fulfill civic duty and as an act of patriotism by many Americans. When this feeling of meaningful participation declines it should be expected that participation in the political process will decline as well. Individuals with different levels of education may have different levels or perceptions of civic duty.

These individual characteristics all help to indicate a person's likelihood to vote but none are able to stand alone as a causal factor in individual voter turnout. In addition to this Jacobson and Kernell (1981) find that national variations in economic conditions and presidential approval have substantial impacts on the electorate on an aggregate

level. Therefore, analysis of civic engagement focused solely on individual level variables will fall short of offering a full and compelling explanation of what drives individuals to vote and follow politics. Individual variables may not be able to explain why in recent elections, there was an increase in youth turnout, instead macro level or cohort factors may need to be examined to understand this dynamic. The impact of these variables is complicated by variations in regional and temporal contexts that interact with individual characteristics. In order to more fully account for the variations that are seen in civic engagement a more complex model that includes regional differences and differences in context among age cohorts must be developed.

State level variables that impact voter turnout

State level issues that impact voting activity include factors that increase the costs of voting such as registration requirements; decrease the benefits of voting, such as partisan districts; and the political culture of a given state or region. It has been argued by a number of scholars that the state and local variations have a substantial impact on the likelihood of a person to cast a ballot. Anything that makes voting more costly, more difficult, or less beneficial in actuality or in perception is anticipated to lower turnout. Elections that are not competitive or do not feature high profile races, strict registration laws, or high information barriers are all examples of policies or conditions at the regional level that may influence voter turnout.

Registration laws. One impediment to active engagement that has been widely examined by scholars is the structural restraints that citizens face in trying to exercise their right to vote. Many political scientists have theorized that a lack of active engagement is caused, at least in large part, by a number of impediments at the state and local level (Teixeria 1992).

Opportunity costs are higher in the United States as a result of a variety of structural characteristics of elections in this country. A regional variation that has garnered a great deal of attention from political scientists is voter registration laws. Voting in the United States generally requires advanced registration by the citizen and updating that registration is the responsibility of the individual not a task taken on by the government. In recent years many states have begun to liberalize their registration laws which some scholars suggest will increase voter turnout Teixeira 1987, 1982, Leighley and Nagler 1992).

Initiatives and referendums. Teixeira (1992) casts the issue of low voter turnout as a problem of rational choice. Voting is not a costless activity; it requires voters to expend both intellectual and tangible capital in order to make informed decisions. Information costs alone can be detrimental to voter turnout. The complexity of ballot initiatives and referendums in combination with a large number of traditional local, state, and national level political races are increasing the length of ballots and the amount of information that voters need to gather in order

to feel informed. There is no formal requirement that voters must be informed before casting a ballot but research shows a correlation between the likelihood to vote and the amount of political knowledge possessed by an individual (Wattenberg 2008, Zukin 2006). Those people who are likely to vote often feel compelled to gather at least a minimal amount of political knowledge which takes both time and effort. In this case the increasing democratization of the American political system through the expansion of initiatives and referendums may paradoxically be driving the suppression of voter turnout by increases the informational demands of political participation.

From a cost-benefit prospective almost every change in the voting process at the state level in the last fifty years has made it easier to vote and despite this voter turnout has been steadily declining (Nagler 1991, Tucker 2004, Wolfinger and Rosenstone 1980). An increasing number of states now allow same day registration or have moved the cut-off date for registration closer to the election date. In addition, a number of private civic groups and state and local governments have stepped up outreach efforts, voter transportation, and increased accommodation of voters with disabilities. Further, states have also increased efforts to make voting easier via touch screen voting systems, absentee ballots, and extended early voting times (Leighley and Nagler 1992, Wolfinger and Rosenstone 1980). If costs are really the issue then it would seem unlikely that voter turnout would continue to decline during the period he studies.

This brings serious doubt to claims that voting costs are the primary concern and that their impact on turnout is substantial. Teixeira does offer some suggestions that he claims will alleviate low turnout. These suggestions include decreasing the difficulty of changing voting locations when moving and allowing more flexibility in registration deadlines including the nationwide extension of same day registration. The effects of these changes are estimated at no more than fifteen percent and would still only raise the 1988 voter turnout figure to sixty-five percent. Teixeira acknowledges that this is no higher than voter turnouts in the 1960's and still far lower than other democracies. Looking at the impact of high costs in context with other variables at multiple levels will give a better understanding their true role in suppressing voter turnout. The analysis provided by Teixeira and others indicates that it is likely that structural barriers at the state level have some role in suppressing voter turnout but the nature of that impact is complicated by individual and temporal factors.

Decline of political competition. One change at the state level that has not had a positive benefit on voter turnout is the decline in political competition. Scholars have indicated that a decline in the perceived benefits of civic activity in this system may be a factor in falling turnout rates (Teixeria 1992, Macedo 2005). The United States employs a winner-take-all, single member district, system that is dominated by only two major parties that hold office in a bicameral legislature, thus reducing

the incentive to vote and the benefits of casting a ballot (Teixeria 1992). Teixeira shows that there has been a nearly thirty-two percent decrease in the number of people who feel that the government is highly responsive to their needs and preferences since 1960. This trend is paralleled by similar decreases in campaign involvement (24.4 percent), political efficacy (25 percent) and campaign interests (6.3 percent). Other scholars have noted similar trends in political activity (Dalton 2008, Zukin et. al. 2006).

This reduction in the number of competitive elections can have a real impact on voter turnout. Macedo (2005) finds increases in political cynicism and a belief that voting does not truly impact the direction of policy. It is true that the 2004 presidential election was vehemently contested but on a national level individual votes often mean very little in most states. On the Congressional level only fifteen House races were decided by less than four percentage points and only one incumbent Senator lost their seat. If single votes do not matter in presidential elections and local elections are predetermined by the partisan makeup of states or congressional districts then voters have little psychological motivation to head to the polls or become knowledgeable of political events.

These factors may also be suppressing levels of political knowledge in the United States. Powell (1986) and Jackman (1987) find that in addition to registration requirements, the lack of competition in many

American elections –both statewide and nationally- has led to a decreased sense of urgency on the part of the electorate. According to Powell, many Americans see no sense in voting or becoming politically knowledgeable when there is little chance that their participation in the electoral process will have any effect on the outcome of the vote. Powell predicts that this factor, along with registration laws suppress voter turnout by as much as ten percent compared to other democracies with no registration requirements and competitive elections.

This assertion is strengthened by the findings that the lack of competition in elections not only diminishes overall turnout but also the turnout and effectiveness of participation among minority groups and the young (Hajnal 2009). The proliferation of “safe-seats” through cooperative or unilateral redistricting measures undertaken by Republican and Democratic state legislatures along with high incumbent reelection rates have combined to push many citizens away from the voter booth. Potential voters of all levels of education are negatively affected by the lack of competition in many campaigns. These low intensity races garner less media attention and controversy that can often spur voters to the polls. If voter turnout in primary elections increased dramatically in these areas then it could be argued that this would have little electoral impact but recent studies have shown that this is not the case. Thus the decline is both real and consequential (Tucker 2004). A lack of competitive election results in fewer citizens seeking information on

political races and thus contributes to lower overall levels of political knowledge.

The role of temporal factors on civic behavior

The impact of national economics on turnout. The role of temporal factors such as economic conditions, war, or other contemporary events such as generational causes can be hypothesized to have an impact on the propensity to vote however there is little on the interactions between individual, regional, and temporal variables. The state of the national economy has a predictable impact on presidential approval ratings; a relationship that is both intuitive and well documented over time (Edwards, Mitchell, and Welch 1995). Given the importance of the economy and the demonstrated importance of personal financial situations in choosing a candidate to vote for (Jessee 2009; Sigelman and Tsai 1981) it is reasonable to theorize that poor economic conditions could inspire voters to head to the polls to effect political change. This assertion is supported by the findings of Radcliff (1992) and Rosenstone (1982) which shows that a declining economy will spur voter turnout. However, the validity of these findings is not universally accepted.

Radcliff himself discusses the possibility that a poor economy could actually further alienate people from the political process as they focus on resolving personal financial problems or relocate to new areas to find work. Blais (2006) and Fornos, Power, and Garnard (2004) find that the economy has virtually no impact on voter turnout. If these findings

hold to be true then the temporal variable of the economy should not be statistically or substantively significant in this study. However, due to the degree of ambiguity in the literature on this subject the variable warrants consideration as an activator for voters.

National attitudes, war, and trust. Additionally, on a temporal level issues of cultural upheaval or strong disapproval of current politicians or the current direction of the country may also contribute to the decision to vote or not vote and engage in politics. There are two contradictory arguments regarding the impact of the national mood on voter turnout, mirroring the debate over the effect of a struggling national economy. Some scholars contend that the national mood has little impact on voter turnout (Uhlener 1989). However, others have suggested that when citizens perceive the nation as being headed in the wrong direction, either economically or due to an unpopular war or scandal then political participation increases (Cotton 1986, Rosenstone 1982). Other studies find mixed results for a variety social and economic factors that elicit emotional responses from the electorate. Some emotions such as the response to the Vietnam war, increase turnout; while political corruption, such as Watergate, seem to decrease participation (Cebula 2004). Other studies, however, suggest that people mobilize when they are unhappy, even when they do not think their vote will change the outcome of their election (Copeland and Laband 2002). This study will use a variety of

national attitudes in addition to economic productivity and war as operationalized by Cebula (2004) and Uhlaner (1989).

Voter turnout also tends to decline as trust in government declines. Studies show that people in the post-Vietnam War era have little trust in government. Powell finds that in 1986 only thirty-four percent of Americans trusted the national government to do what is right most of the time. This was down eight percent from 1974 and between 1960 and 1974 there had already been a double digit decrease in percentage of Americans that trusted government. In the wake of the Vietnam War, the Watergate scandal, and Pentagon papers incidences, this decline is far from surprising. However, as Powell notes, the trend does not abate in the years immediately following the incidents that caused the level of trust in government to decline. On the contrary, citizens' feelings of national political efficacy and trust in government continued to decline well into the 1980's.

Support for this argument can also be found in Campbell's *Why We Vote* (2006). In recounting a story of a precinct in Boston, Massachusetts in which only a single vote was cast during a 1989 city council election, Campbell reveals that the individual voted only because they felt a sense of civic duty. However, it is also clear that this duty of citizenship was not strong enough to motivate any of the other 275 registered voters in the precinct to turn out to vote. Campbell goes on to argue that there are a variety of factors that shape civic engagement beginning at a young

age. Notably, the study finds significant support for the argument that contextual factors influences voter turnout and political activity in general. Campbell also finds that in places of uniform political ideology the idea of civic duty is a more powerful motivator while in places of ideological heterogeneity political activity is motivated more often by political considerations.

Evidence of interaction effects

Teixeria (1992) suggest that education and increasing occupational status (based on average annual income) are actually stabilizing forces that are working to offset the negative impact of a variety of other factors. The study predicts that education and occupation have actually combined to increase voter turnout by sixty-seven percent since 1960. This increase, however, has been offset by other factors to result in a net predicted decline of seven percent. If this model is accurate then education, income, and age are still having the historically expected impact on voter turnout and civic knowledge, staving off a forty-six percent larger decline in voter turnout over the past fifty years that is predicted in this model. In the end the probit model introduced by Teixeira predicts that seventy-three percent of the observed decline in voter turnout is attributable to changes in levels of involvement in politics, political efficacy, and declines in social connectedness, based on National Election Study data. Again, education plays a potentially vital role in the nature of these changes.

Higher levels of education are generally expected to increase political efficacy and social relationships that lead to political behavior. These trends have been well documented in the past (O'Toole 2003). These declines are linked to decreasing benefits gained from civic participation. However, this model is not capable of sorting out whether or not these declines are solely attributed to changing temporal characteristics or if there are regional and individual variations impacting the change as well. Teixeira claims that individual gains are offsetting the losses incurred from a decline in tangible benefits but this relationship needs more investigation as does the relationship between education and the psychology of citizenship.

Teixeira and Macedo (2005) both explain the contradiction of a highly educated electorate that does not vote by proclaiming that rising levels of education and the aging of the American population are actually offsetting what would be even lower voter turnout if these two variables were not moving in their present direction. In either case it seems evident that the costs of voting incurred by citizens of any democracy are heightened in the United States by a variety of factors that extend beyond simple information costs and travel related expenses and that the benefits of voting, both tangible and psychological, are declining. However, given the current state of American politics, it is not clear that either costs or benefits alone can explain nationally low and decreasing

civic participation. This is especially true since these factors vary widely by state and region.

Teixeira further suggests that the increase in voter turnout due to the easing of registration laws will be most pronounced on those least likely to vote to begin with. That is those who are less educated, younger, and less affluent will benefit the most from more liberal registration laws.

This idea was articulated by Wolfinger and Rosenstone (1980) and perpetuated by textbooks and civics courses ever since (Patterson 2002). This relationship makes intuitive sense if you consider the complexity of politics and the amount of information that citizens must process in order to make educated voting decisions. Complex tasks such as civic engagement and political analysis are assumed to require a certain degree of education. Voter registration is no different in that it is easy to imagine that the more educated a citizen is the less daunting and complex the task of voter registration will be.

In addition, it is likely that the better educated citizens will be more aware of registration deadlines, the process of registration, and the date of upcoming elections (Wolfinger and Rosenstone 2008). The nature of this relationship is not universally accepted. Nagler (1991) contends that the impact of registration laws identified by Wolfinger and Rosenstone are a result of model specification and the nature of the probit analysis they use and not any real impact of the registration laws.

In a separate model Nagler disaggregates the data and analyzes it individually. In the process of these analyses Nagler finds that, contrary to popular belief, liberalizing registration laws is no more important to increasing the turnout of the uneducated as it is to increasing the turnout of those with education. Using multiplicative interaction terms, Nagler finds that strict registration laws do not have a greater effect on the uneducated or lower income population than on those with higher levels of education or greater income. Therefore, if Nagler is correct, young voters and those with comparatively less formal education are at no greater inconvenience when it comes to registration requirements than the rest of the population.

These findings complicate the estimations of the effect of liberalizing registration laws presented by Teixeira but does not negate the idea that such reforms have some impact. Nagler does not dismiss the idea that registration laws can impact voter turnout but rather he finds that it would not affect those already prone to low turnout any more than it would affect those who would be expected to vote already based on other factors. There is still a general consensus across the literature that structural barriers can play a role in voter turnout. The question of whether or not age and education levels compound those barriers is debatable but Wolfinger and Rosenstone present enough evidence that a relationship may exist to warrant inclusion here. It is the goal of this study to place the impact of these barriers in proper context to gain a

better understanding of their impact relative to and in combination with the education effect. Regardless of structural variation it is the contention of Wolfinger and Rosenstone that education is the most important variable in assessing voter turnout (1980).

This study shows that the significance of regional and temporal variables does not negate the significance of individual factors traditionally used to study voter turnout. Campbell (2006) also finds broad support for the importance of geographic context both in terms of where a person is born and where they live in adulthood. Interestingly, Campbell suggests that the impact of where one grows up on voter turnout is not seen in immediate turnout but rather manifests itself at a later date in what he calls a “sleeper effect” (172).

It is also reasonable to assume that people of different levels of education are impacted differently by economic conditions. Education indirectly impacts individual economic circumstances by providing a higher average income and increased job stability for those with more education. Older individuals and those with higher levels of education also tend to understand economic changes in a more sophisticated way and follow macro level economic changes. However, those with lower levels of education may be more susceptible to downturns in the economy which complicates the relationship between education, the economy, and voter turnout. The interaction between education and economic conditions will be assessed in later models.

Alternative explanations of turnout: the genetic effect

In recent years a new line of thinking about political behavior has emerged that centers on the role of genetics in predicting levels of civic engagement. These approaches largely began with twin studies that suggested that voter turnout may be an inherited trait (Fowler, Baker, and Dawes 2008). In technical terms these theorists seem to focus on the idea that individuals with “high MAOA polymorphism and long 5HTT polymorphism” are more likely to vote in elections than those without these genetic traits (Fowler and Dawes 2008). This literature points out that even the well constructed models of voter turnout consist of dozens of variables and explain relatively small amounts of the variation in civic engagement. Their answer is that it is genetics and not socialization, individual characteristics, geographic context, or temporal change that have the largest impact on voter turnout.

Certainly an individual’s genetic makeup will have an impact a number of aspects of human behavior (Joseph 2009). While this is not disputed it is also not the case that these genetics studies should be blindly accepted. In the cases of twin studies, especially, Joseph (2009) points out that the underlying assumption of equal environments is a myth that compromises all of the findings of those analyses. Beyond issues with the way that many of these studies are conducted and the fact that the basic knowledge that human behavior is impacted by genetic traits is not new or revolutionary information there is this line of

research has been criticized for its practicality as well. Heritability studies in other fields have consistently failed to produce useful conclusions and even if we accept all of the assertions of the genetic argument it is unclear how that helps solve the dilemma of low turnout or why turnout rates vary from state to state or even across nations. Finally, even the most ardent genetic theory supporters do not refute that environmental variations at all three levels discussed above have an impact on political actions (Fowler and Dawes 2008). Thus even if the genetic theory holds weight it is both valuable and necessary to confront the way in which individual and contextual characteristics impact voter turnout.

Moving beyond the literature

The literature on voting behavior in general and on voter turnout in particular tends to focus on the role of individual level characteristics (Wolfinger and Rosenstone 1980). Many scholars have begun to take into account other, macro-level conditions but the conclusions tend to be narrow in scope. This study seeks to bridge that divide by focusing on how education and age influence political behavior and interact with a variety of other variables to help explain individual voter behavior. Thus the relationship between education and political behavior is both direct and indirect, presenting a far more complex situation than much of the literature would suggest.

This study will reexamine the findings of Nagler and Leighly (1992) and Wolfinger and Rosenstone (1980) in order to affirm the continued importance of individual factors. Additionally, the role of state political culture will also be examined in light of continued decline in overall voter turnout through the 2002 elections and the unexpected decline in youth voting during that time in spite of movements in individual variables that should signal increased voting activity. Finally, this study will go beyond this boundary and consider the hypothesis that the declines in voter turnout exist for reasons outside of individual or regional factors. These factors need to be activated by some larger force in many citizens, especially the young, in order to deliver the anticipated result of voter mobilization. If this hypothesis holds true then these activating effects will be present in elections yielding high turnout and absent when turnout is low.

Citizens who have not yet experienced an activating event will be less likely to vote than citizens that have, regardless of individual or systemic characteristics. Thus, a citizen who lived through the Vietnam War and the subsequent draft should be more likely to vote than a citizen not impacted by those events regardless of regional or individual differences that would otherwise make the “primed” but not activated citizen appear more likely to vote.

The literature on voting and political behavior is vast and the conclusions varied but several consistent trends emerge. Throughout the

literature the importance of age, education, and political knowledge are consistently shown to be key factors. In addition their importance as individual factors influencing potential voter turnout these variables also interact with other factors. These observations underscore the importance of understanding how these interactions impact individual political behavior.

CHAPTER 3

DATA, METHODOLOGY, AND DESCRIPTIVE ANALYSIS

This study will offer a more complete view of why people choose to become civically engaged and why others do not. The study will use binary logit models with fixed-effects and hierarchical-linear models (HLM) that will help analyze the variables that contribute to an individual's likelihood to vote in a new way. The HLM process will allow for analysis of the complexity of the relationship between education and other variables at the state and national level. This will be done by running two HLM models, one for state level political contexts and one for national level temporal variations.

It is the goal of this study to offer new insights into this topic by using multi-level data to explain what cannot be measured adequately with single level variables and interaction terms alone. The dependent variable of primary interest is whether or not an individual voted in a given

election year. A number of explanatory variables will be used with an emphasis on education and the variance in the impact of education on different age groups and geographic populations as well as the complexity of the relationship between education and contextual variables at the state and national level.

The data for this study is taken primarily from the American National Election Survey (ANES) from the years 1972 – 2004 for both midterm and presidential election years. The ANES was chosen as the source of data for two primary reasons. First, the data set is commonly used in the literature that is available and has been reliable in other studies and second, the data set is politically focused and offers the broadest array of consistently asked political questions over the time frame being studied. Using the same data set as much of the other related literature allows the results of this study to be easily compared to other similar studies and makes the results of both the binary logit models and the HLM models more generalizable.

There are some disadvantages in using this data set to study such a broad range of time. Some key questions have changed which has negated the use of certain variables that may have been interesting to consider, though this problem is less acute with the ANES than it would have been with other potential sources of data. Also, certain variables that are known to be significant have missing values for some years, rendering them useless for a multi-year analysis. Most notably the

variable for family income rank is missing in the year 2002. Therefore in the combined models and the model for the individual year 2002 a variable measuring employment status is used instead of income to avoid the problems caused by missing data.

Regardless of the challenges presented by this data set it does have an abundance of political questions and is focused on politics and voting behavior thus making the data more useful in a study that is centered on voter turnout. Other data sources considered were the General Social Survey and the Current Population Survey from the United States Census Bureau, but neither of those offered as a robust array of political questions as the ANES. These other data sets do have an abundance of relevant questions but none are as comprehensive in terms of measuring political attitudes. They were, however, useful in gathering certain geographic and national level data. The economic data at the national level was gathered from the Bureau of Labor Statistics including data on changes in unemployment at the state and national level and changes in gross domestic product. Voter turnout statistics at the national and state level were gathered from the National Election Project at George Mason University. A detailed discussion of key variable at each level is offered in the following sections.

Assessing common relationships

Many of the relationships discussed thus far can be assessed in simple terms before more complex models are introduced. A cursory test

of the impact of some of the key variables from the literature above in conjunction with education yield the expected result based on the findings of prior research. For example, higher levels of trust in government and higher levels of education are both significant and have a positive impact on the likelihood to vote. In a binary logit analysis containing just education and government trust, trust has a beta value of .144 and education has a beta of .488 both significant at the .000 level. A state having an initiative process is predicted to increase voter turnout as well with a beta value of .138. Increased political knowledge also performed well in preliminary tests. Political knowledge and education are highly correlated variables showing that as education increases so does political knowledge. Political knowledge has a beta value of .631 statistically significant at the .001 level. Levels of political efficacy, the idea that an individual can have an impact on government actions and policy, was the least significant of the variables tested in these preliminary models. The political efficacy measure was statistically significant but has a beta value of just .007 and the R square value of that test was the lowest of any of the models run. This may be caused by the overall cynicism of the American electorate as a whole.

Individual data

The first level of data explored involves explanatory variables that are individual level measurements and are expect to influence whether or not a respondent voted in an election. These variables are drawn from

the American National Election Survey cumulative data file. The logit models analyzed in the proceeding chapters specify that variation in Y (vote) at level-1 is accounted for by race, family income (or employment status in 2002), respondents level of education, gender, respondents age and age cohort at the time of the election, the strength of the respondent's partisan feelings, respondent's level political knowledge as measured by the ANES general political knowledge variable, the respondent's level of trust in government, how long the respondent has lived in their primary residence, and whether or not the respondent is currently married.

The raw data required a number of transformations and refinements in order create a data set that would allow for an accurate analysis of voter turnout. Race is coded in two ways, one variable for African Americans and another variable indicating that the individual is a minority but not black. The differentiation between blacks and other minority groups proves to be influential in later analysis of voting. A variable for age cohort was also created to include all persons between the ages of 18 and 25 in each election year. The research question is concerned with the both the decline in overall participation and the decline in participation among successive age cohorts making this grouping more useful in the analysis of the findings of this study.

To account for partisan strength a new variable was created using data from the ANES which measured partisanship on a 5 level scale from

strong Democrat, lean Democrat, no affiliation, lean Republican, strong Republican. This was transformed into the partisan strength variable that codes strong Republicans and strong Democrats together and the leaning or non-partisans into a second group. The theory is that strong partisans, regardless of whether or not they are Republican or Democrat, will be more likely to turn out than those with little or no ties to the two major political parties.

Both the political knowledge and the government trust variables are index variables that rank individuals based on their responses to a number of related questions asked by the ANES. Political knowledge will be measured by the ANES variable testing a respondent's political knowledge on a scale of one (being very high) to five (being very low). These variables are used as they were originally coded in the ANES data set.

Income in individual years is measured by placing respondents in a quartile rank of national incomes. This measure helps to eliminate the problem of accounting for inflation, cost of living differences, and wage increases over the spectrum of the data pool by measuring income not in dollars but in relation to their relative family income. For the year 2002 and in the combined models which include all years a variable for employment is used in the place of income because the income data was not gathered in the year 2002. This potentially creates a problem but the substitution of employment for income had little or no impact on the

performance of other variables in the model and employment was still significant in every model. Therefore, it is unlikely that this substitution has any substantial impact on the results of the study¹.

Geographic data

Geographic variables, the second level variables in my statistical models, are important to consider in assessing the likelihood to vote but are often ignored in the literature. The few scholars who have given serious consideration to these factors often do so at the expense of individual factors, offering them as an alternative explanation instead of a complementary one. Studies conducted by Nagler (1991), Wolfinger and Rosenstone (1980), and Zukin (2006), are examples of some of these works that examine the impact of voter registration laws, initiatives, and income levels which vary across states and localities.

This study identifies a number of geographically specific variables that theoretically may impact a person's likelihood to vote. A states level of political competition based the Major Party Index created by Robert Saldin (Ceaser and Saldin 2005)². The overall level of voter turnout in each state is also accounted for. Both of these variables were created with data from the United States Election Project. States registration

¹ Individual variables measuring the amount of political media exposure a respondent has encountered and party contact with respondents have both been used by scholars to predict individual voter turnout in other studies but are not included here because of the large amount of missing data for each variable in the ANES data set, especially prior to 1980.

² The MPI is based on two-party vote share in three national and three statewide political races in each state. The index is computed by weighting the Republican vote share in the most recent presidential election and gubernatorial election 25% each and the each congressional and state legislature race (House and Senate) 12.5% each. Louisiana is not included in this data set and therefore has no state competition data.

requirements were tested as well but the variable proved to not be consistent or significant in the models tested despite evidence from Teixeira (1987) and others that registration laws act as a barrier to voting. The primary reason for the lack of consistency is that most of the liberalized registration laws have been enacted after 2004, the last year of data included in this study.

Also included is a dichotomous variable indicating whether or not the state has an initiative or referendum process. It can be argued that the presence of these ballot measures can increase turnout by giving voters more control and thus a higher stake in the outcome of votes or, conversely, that it depresses turnout by complicating elections and increasing the information costs associated with voting (Tolbert, Gummel, and Smith 2001). This data was compiled through research on what states have initiative and referendum allowances and when those laws were passed. All information on this matter was verified using information from official state records.

A state's educational culture is included through the use of per pupil expenditures in real dollars in each election year.³ Finally, the states median income level is included as an element of state culture. Both state education expenditures and state income data was gathered from the Current Population Survey produced in each year by the United States Census Bureau.

³ A measure of a states median level of education was preferred; however this data is only available from 1980 to 2004.

A variable was also created to account for whether or not a senate race was contested in the person's state of residence in each election. This is especially important in midterm election years when the absence of a senate race and no national campaign to draw voters may depress voter turnout significantly. This data was gathered through research of state senatorial election cycles.

National data

In addition to individual factors and state level variables this study hypothesizes that national trends also impact the individual's decision to vote or not. The temporal variables that vary at a national level should have some impact on individual civic participation. Some of the primary considerations include war, economic conditions, and generational movements that exist nationwide (Cotton 1986). This is logical since these events receive a lot of attention from the media and it can be assumed that such environmental effects are frequently felt by all citizens of voting age in some way (Kendall 2004).

The primary variable employed by this study to measure economic conditions nationally is calculated using the annual change in percent of the gross domestic product (GDP) during the year leading up to the election and the percentage change in the unemployment rate during the year preceding the election (Lewis-Beck and Tien 2008). These variables account for growth or retraction of the economy measured by the percentage change in the gross national product and the strength or

weakness of the national job market as measured by the change in unemployment. Similar methods have been used in other studies related to the impact of economic conditions on elections. The data for both unemployment and gross domestic product were gathered from the Bureau of Labor Statistics and the Bureau of Economic Analysis. In measuring gross domestic product the percentage change reflects real GDP. For unemployment percentages the non-adjusted rates were used. These decisions reflect a desire to maintain consistency in the data.

The variable of war is a dichotomous variable that will measure whether or not the United States was engaged in a major military conflict at any time during the election year in questions. Only large scale conflicts will be considered in this study for several reasons. First, the conflict must have been large enough to garner broad and sustained public attention. Covert operations that the public was not made aware of will not impact the national mood in the way a full scale conflict would. Additionally, small troop movements or isolated conflicts such as Operation El Dorado Canyon, in which the United States bombed suspected terrorist targets in Libya in 1986 only received brief media coverage and did not become a major policy issue or an event significant enough to impact voter turnout. The major conflicts that will be included here are the Vietnam War (1959 – 1975), the Persian Gulf War (1990 – 199), the War in Afghanistan (2001 – present), and the Iraq War (2003 – 2010).

There are several studies showing the impact of war on popularity polls for presidents and congressional actors alike but little study of the impact of war on voter turnout or political engagement (Kernell 1977, Rosenstone 1982). Other scholars have noted the negative electoral consequences of war felt by the presidents who are in office when the conflict begins (Cotton 1986, Karol and Miguel 2007). Karol and Miguel illustrate that even in elections in which the sitting president wins despite being involved in a major international conflict there are still negative electoral consequences. Further evidence of the electoral impact of war is offered by Mayhew (2005) who finds that wars fought by the United States have consistently resulted in long term realignments in the American electorate. The literature suggests that there is substantial public interest in war and that this interest does translate at the voting booth. While none of these studies discuss voter turnout they do show a connection between war and electoral processes.

Finally, this study will employ a final variable measuring the attitude or mood of the nation. This is the most difficult variable to operationalize because attitudes vary across regions and are often difficult to quantify. The most thorough assessment of the national mood that is available across the time frame of this study is the Harris Interactive Alienation Index series. This poll allows for the assessment of feelings of alienation nationally in any given year based on feelings of political and economic efficacy. The responses to each of the questions

shown in Table 3.1 are evaluated and an index measure on a scale of one through 100 is calculated with one being the least alienated and 100 being most alienated. In addition to this the national ideological mood is accounted for using the national mood index created by Erickson, Mackuen, and Stimson (2002). This measure uses thirty-one questions from the General Social Survey among other data sources and uses the survey responses to create a measure of the national mood on a liberal to conservative scale. The larger the index number the more liberal the national mood in any given year. Because of the timing of elections and the nature of this study the biennial estimates from November 1 to October 31 are utilized to capture the national mood as it would most likely impact electoral choice and voter turnout.

TABLE 3.1 – Harris Interactive Alienation Index

ALIENATION – INDIVIDUAL QUESTION TREND

"Now I want to read you some things some people have told us they have felt from time to time. Do you tend to feel or not feel (READ LIST)?"

	1972	1977	1985	1990	1992	1994	1995	1996	1997	1998
	%	%	%	%	%	%	%	%	%	%
The rich get richer and the poor get poorer	67	77	79	82	83	78	79	76	78	72
What you think doesn't count very much anymore	50	61	62	62	62	66	71	65	63	60
Most people with power try to take advantage of people like yourself	43	60	65	64	71	70	72	67	69	58
The people running the country don't really care what happens to you	46	60	57	53	60	63	60	59	57	54

You're left out of things going on around you	25	35	48	44	48	49	51	43	43	33
The people in Washington are out of touch with the rest of the country*	N/A	N/A	N/A	N/A	83	83	81	75	76	76

www.harrisinteractive.com/vault/Harris-Interactive-Poll-Research-Alienation-Index-2009-11.pdf

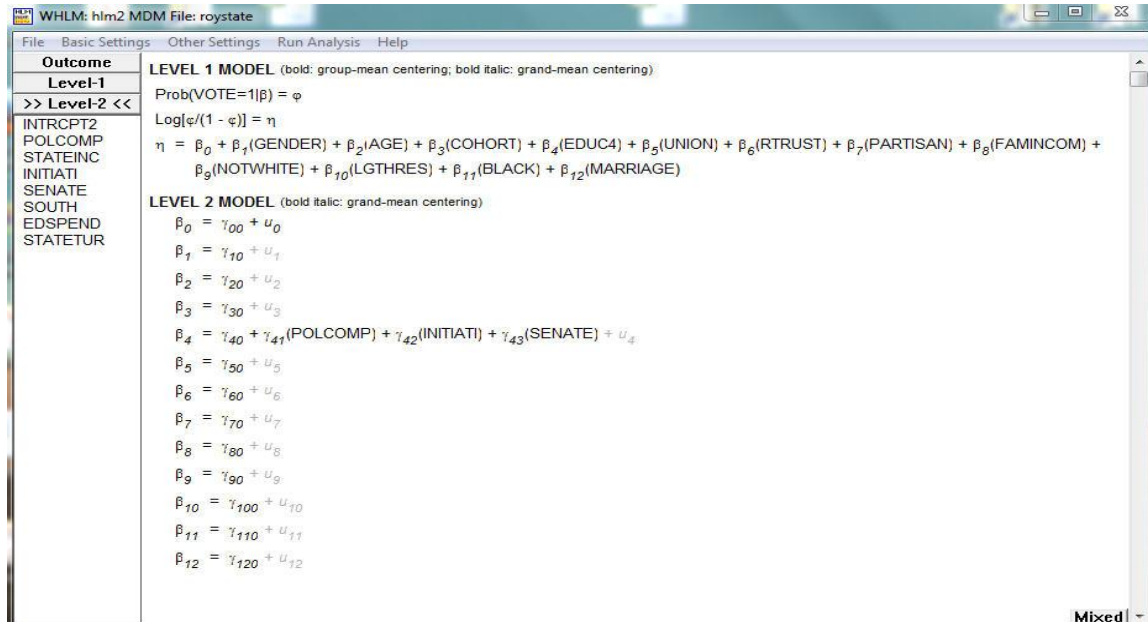
Methodology

Because the dependent variable is dichotomous a logit model is used to examine how different independent variables described above help predict the likelihood of a respondent voting. The data is pooled across years so serial correlation can be an issue. Katz and Beck (1995) recommend using dummy variables in order to assess the impact of attitudinal variables and other variables that cannot be ordered with any numeric precision. Additionally, Lewis-Beck (1980) finds that the use of dichotomous variables “do not cause the regression estimates to lose any of their desirable properties” (67). The benefit of being able to use non-ordinal variables and still use regression models makes the implementation of a binary logit model ideal for this type of study (Liao 1994).

In addition, because it is hypothesized that regional and temporal factors will influence voting behavior I use multiple levels of data. Because the analysis includes more than one level of information (individual survey responses, state level data, and national data) the use of a traditional regression models may be inappropriate because the

hierarchical structure of the data may violate the assumption of independence of errors (Raudenbush and Bryk 2002). To correctly estimate such a model an HLM model for dichotomous variables (hierarchical generalized linear model) is used. HLM is statistical model that allows specifying and estimating relationships between variables that have been observed at different levels of a hierarchical structure. It uses group-level variables to explain variation in the individual-level parameters. The advantage of the HLM models is that such models can estimate exactly how second-level variables influence the relationship between first-level variables and the dependent variable. Fixed-effects models, on the other hand, simply control for all potential regional or temporal effects through the use of dummy variables. The HGLM was estimated using the software HLM 6.0. Figure 3.1 shows a sample screen shot from the HLM 6.0 software. This screen shot shows a sample of a two-level HLM model measuring interactions between state level variables and education.

Figure 3.1



Descriptive findings

The data collected in this study suggests many of the same trends that we find in the literature. Studies nearly uniformly suggest that voter turnout rates are lower for young people than they are for older populations. According to this data 60.9 percent of all individuals throughout the time series reported having voted while 31.2 percent self-reported not voting. When the data set is narrowed to 18-25 year olds the voting percentage drops dramatically to just 41.7 percent having voted and 49.3 percent not voting. The magnitude of the difference between voter turnout for the population as a whole and for 18-25 year olds is

striking but also consistent with the findings of other studies of voter turnout (Zukin et. al. 2006).

In addition to this, levels of political knowledge for 18-25 year olds were lower than the levels for the population as a whole. McDonald (2009) found similar patterns in levels of youth knowledge and voter turnout. McDonald, Zukin, and a host of other researchers confirm what this data suggest: that young people from 1972-2004 vote less and know less about politics. According to ANES data 7.6 percent of all individuals scored “very low” on the political knowledge index and 11.4 percent scored “very high.” When the population is restricted to 18-25 year olds the “very low” score jumps to 11.7 percent while the “very high” level falls to just 5.5%. This, taken with the findings of Powell (1986) that increases in education are directly associated with increased likelihood to vote, would suggest that levels of education across the population and within the 18-25 age group are falling. However, this does not hold true in the data or in the findings of the literature. It is widely recognized that overall levels of education are increasing (Patterson 2002, Teixeira 1992).

The data collected here suggests that beginning in 1994 and persisting through 2004 more individuals have an educational attainment of more than high school. Data shows that in 1972 approximately 70.7 percent of respondents had a high school diploma or less. Over time people began to report high levels of education. In 1992 just 52.8 percent of respondents had a high school diploma or less,

barely a majority of the sample, and by 2004 an estimated 61.5 percent of respondents had at least some college level academic work.

Disparities in education related to voter turnout are also apparent in this data set. The data indicates that 55.3 percent of total respondents have a high school diploma or less while 44.2 percent have some college or a college degree. When looking at voter turnout in these educational groups the data shows that 71.3 percent of those individuals with more education than just a high school diploma report having voted while only 52.9 percent of individuals with a high school diploma or less report voting. However, it is interesting that for those in the 18 – 25 age cohort with more than a high school diploma voter turnout is reported by 54.7 percent of individuals, however for individuals in the over 25 age group with the same reported level of education the data shows that 73.8 percent reported having voted. This suggests that education alone is not enough to significantly increase voter turnout.

This finding represents the core of what the binary logit and HLM analysis in the following chapters will seek to explain. For all of the influence accorded to education as a factor that increases individual civic participation, it is apparent from this data that it does not act alone. Further support for this is found when the data is broken down by year. Running frequency tables for each year with for 18-25 year olds accounting for education and voting we find that in 1972 approximately 52.9 percent of 18-25 year olds reported voting and 58.4 percent had a

high school diploma or less. By 1992 voter turnout for 18-25 year olds in the survey fell to 50 percent while educational attainment rose with 55.3 percent of respondents having at least some college education. The election of 1996 represents a low point in which only 40.5 percent of 18-25 year old respondents voted but education levels did not fall accordingly, down only modestly to 56.1 percent reporting more than a high school education. The year 2000 saw similar numbers for 18-25 year olds with 44.8 percent voting and 54.7 percent reporting some college education or higher. Even in 2004 when voter turnout for 18-25 year olds began to spike it is not the kind of increase that other researchers suggest we should see with such dramatic increases in education. In 2004 54 percent of 18 -25 year olds reported voting and 56.7 percent of respondents had more than a high school diploma. That is more than sixteen percent more people with some college level education but just 1.1 percent higher reported voter turnout than in 1972. Running this analysis with the 18-25 year old age cohort allows us to see the increases in education over the timeframe of the study. As average levels of education increase for the population as a whole dramatic increases in voter turnout should follow.

Research by Powell (1986) and others suggests that such increases in educational attainment should yield far greater benefits in terms of voter turnout. I would argue that it is not that Powell is wrong or that other studies that focus on race, age, structural barriers, or any of the

other myriad of factors related to voter turnout are the right answer but rather that all these factors, at multiple levels, are influential in different ways. There is overwhelming evidence that education is a key variable but I contend that it is in many ways a priming variable which must be augmented by other factors in order to push individuals to vote. Those with relatively high levels of education are more primed, more sensitive, to other changes or conditions that make people more likely to vote, thus amplifying the effect of education in the presence of these other factors in individuals who are well educated. It is true that education provides individuals with civic skills to overcoming barriers to voting, but as these barriers have been reduced over the years, education may have a more complex relationship with voting than traditional textbooks suggest. In the next two chapters I will discuss the impact of education on voter turnout in contextual models, looking for relationships and interactions between education and other factors known to impact voter turnout.

CHAPTER 4

THE COMPLEX RELATIONSHIP BETWEEN EDUCATION AND VOTER TURNOUT: A STATISTICAL ANALYSIS

This chapter will explore the complexities of the relationship between education, age, and political knowledge and voting by creating a series of models that will analyze the role of each independent variable in promoting voter turnout. Each variable will be examined in multiple contexts and as a part of interaction terms with other key variables. As discussed previously, education is often seen as the key variable in promoting civic engagement (Wolfinger and Rosenstone 1980, Sigelman et. al. 1985). Even when controlling for other individual factors such as race, class, or income Sigelman, among others, has found education to stand out as the most prominent factor. However, as we have also seen, levels of education for Americans are at an all-time high while voter turnout rates have plummeted. Only in the most recent elections of 2004

and 2008 have we seen the beginnings of recovery in voter turnout. Even in these elections, however, the turnout remains far below that of the 1960's and far lower than we should expect them to be given the dramatic increases in education over the past thirty years. Despite this disconnect, education is still widely regarded as the most important factor in voting and is, at the very least, nearly always accounted for in studies of voter turnout and civic engagement (Campbell 2006).

A series of logit models are designed and analyzed in this chapter to highlight the importance of context in discussing the impact of education on voting and the impact of education, political knowledge and age in particular. The results of these models will answer some of the key questions we have asked thus far concerning voter turnout in the United States and it will also give a baseline from which to judge the impact of using the HLM model and the extent to which it expands our understanding of the relationship between multiple levels of variables. The first set of models run in this chapter includes individual level variables and interaction terms. This will include a separate analysis of the 18-25 age group as a distinct group. The goal in pulling out 18-25 year-olds is to check for anomalies in the performance of key variables in the younger generation and to judge the differences in what influences young people compared to the population as a whole.

Additionally, models for each year and decade will be run to look for changes in what impacts the likelihood to vote over the past thirty-

two years. Finally, the full individual model will be run multiple times, each time with a different individual level interaction term. The interaction terms in this chapter will help demonstrate the complex relationship between education, other individual characteristics, and voter turnout. They will also help set the stage for the contextual analysis that will follow in chapter 5. The next chapter will explore a set of models that include state and geographic variables as well as national, temporal, variables and interaction terms. Finally, the study will look at a mixed model that tests the significance of variables at all three levels. This will lay the groundwork for the next step, the implementation of HLM analysis in chapter 7.

The results of these models should support the hypotheses discussed in the previous chapter related to the complexity of the impact of education. First, we expect education to be significant and have a positive impact on the likelihood to vote in the individual models and in the mixed models that will follow. We also expect that many other variables will be significant but not as consistently important as education or the related term political knowledge. This study also expects that other variables at different levels (state and national) will also have a significant impact on voter turnout.

The use of interaction terms is a key component of this study and will be discussed extensively in the following analysis. These interaction terms should demonstrate the important impact that education has on

voter turnout both directly as a stand-alone factor and indirectly as one component of an interaction term. Campbell (2006) suggests that we should also expect that the impact of education interacts with other variables to increase their impact on voter turnout among the more highly educated. Campbell focuses on contextual climate variables such as school, community, and parental engagement. This study will take a broader focus and look at the interaction effect between education and individual, national and state level variables such as war, national economic performance, income, age, and feelings of alienation at the national level.

It is the expectation that the performance of these variables in the model will be statistically and substantively significant as education is introduced as an interaction term because of the complex relationship between education and voting. It is the contention of this study that education does not work alone in increasing the likelihood of voting. Rather, the higher an individual's level of education the more primed they are to vote. High levels of education open individuals up to the influence of other factors that push them into civic engagement. If these results play out in the following models it may help explain why increases in education have not translated into record voter turnout. It is not that education is no longer effective or important but rather, that the activating variables are not pushing people to the polls in the numbers they did in the past (Patterson 2002, O'Toole 2003).

Individual Level Model – Testing Basic Assumptions

The first model is presented in Table 4.1 and will assess the significance of a variety of individual characteristics on a person's likelihood to vote. The variable of greatest interest is education, represented by a two-level measure of education indicating whether a person had any education beyond high school or not (a four-level measure was also tested with no change in results). Other demographic factors such as age, gender, and race are included in the models as well as they are routinely found to impact levels of civic engagement. Prior studies have demonstrated that these individual variables are often statistically important in examinations of voter turnout (Zukin et. al. 2006, Wolfinger and Rosenstone 1980). The independent variables in this model also include, union membership, employment status, strength of partisan feelings, level of political knowledge, and age cohort.

Table 4.1 Impact of Individual Level Variables on Voter Turnout

	Individual Model	18- 25 year old cohort
	Logit	Logit
Constant	-3.578 (.106)	-.102 (.034)
Education	.570*** (.04)	.710*** (.095)
Knowledge	.550*** (.02)	.540*** (.047)
Black	-.082 (.05)	.205 (.134)
Age	.011*** (.001)	.035* (.020)

Union	.204*** (0.04)	.105 (.108)
Cohort	-.286*** (.05)	N/A
Employed	.230*** (0.04)	.293*** (.111)
Married	.366*** (0.03)	-.039 (.097)
Partisan Strength	.286*** (0.02)	.402*** (.045)
Trust	.004*** (0.001)	.002 (.002)
Male	-.170*** (0.03)	-.231*** (.087)
Length of current residence	.010*** (.001)	N/A
Minority not black	-.285 (.06)	-.322** (.151)
Student	N/A	.308** (.161)
# obs	25566	3481
Cox & Snell R ²	.183	.275
chi ²	5177.9	1120.815

*** indicates that the variable is significant at the .01 level

** indicates that the variable is significant at the .05 level

* indicates that the variable is significant at the .10 level

State and year dummy variables were included in this model but not reported in the table for the sake of space

The results are consistent with much of the evidence from previous literature and with expectations. Both knowledge and education are statistically significant, providing evidence that they do, indeed, impact the likelihood of a person voting as education and political knowledge increase. This is to be expected and the context of that impact will be assessed in subsequent models. According to the analysis women are statistically more likely to vote than men, a trend that has increased in recent years (Dalton 2008). All variables except for the race variable “black” indicating that the individual is black, were significant at the

.001 level. This is surprising in that the general assumption of political scientists is that African Americans are less likely to vote than whites (McDonald 2009). Statistically, it is true that a smaller percentage of blacks choose to vote than whites. However, when tested as a causal factor for civic participation being black does not appear to make a respondent less likely to vote than their non-black counterparts in any of the models tested. This suggests that it is not race alone but socioeconomic factors that decrease civic participation for many blacks. Minorities that are not black were less likely to vote. There are a number of barriers that hinder non-black minority voting that may not impact the majority of blacks including language, recent immigration status, and community acceptance (Campbell 2006). Both age and cohort variables in the model are statistically significant indicating that youth, 18-25 years old, do not vote as much as their older peers and that even beyond the age of twenty-five the likelihood of a person to vote increases with age. The model was run with dummy variables controlling for states and years.

Individual effects among 18-25 year olds

Running models with the data restricted to 18-25 year olds yields some interesting findings as well. Comparing the results of the full individual model with the model run with only 18-25 year olds displayed in Table 4.2 we find that there are some significant differences in what impacts potential voters under twenty-five as opposed to what drives

voters as a whole. Within this age group the data suggests that those who are students are more likely to vote than those who are not students and overall level of education also continues to be important. Also, political knowledge and gender are both significant predictors with women being more likely to vote than men and more knowledgeable respondents being more likely to have voted. Comparing the level of significance among the education related variables it seems that current involvement in school is not the most important factor in voter turnout, though it is still statistically significant at the .05 level. Rather, it appears as though it is the overall level of education and their level of political knowledge that matters most, both of which increase with age and political experience but also with time spent in formal educational settings. This complex relationship between, age, formal education, political knowledge, and social capital offers even greater support for the importance of studying variables at multiple levels and the potential importance of interaction terms which will be tested in later models.

An interesting characteristic is found when the model is run in decade blocks. When limiting the sample to 18-25 year olds within successive decades the significance of education is strong and positive through the 1970's and 1980's but is not statistically significant in the 1990's or between 2000 and 2004, though it would be significant at the .10 level in this last time period. This may suggest that the impact of education on voter turnout among 18 - 25 year olds has declined in over

the past twenty years. This offers some evidence that refutes the suggestions of Macedo and Teixeira that education is propping up what would otherwise be even lower voter turnout rates over the past twenty years.

It should also be noted that when the blocks are run with all ages included education is positive and statistically significant in each of the four decades. In light of this discrepancy it may be that education is taking longer to have an impact on the civic engagement of individuals in the post 1980's period or that they lack the activating effects that pushed educated individuals to vote in the 1970's and 1980's. This would support the primary hypothesis of this study; that education primes individuals to vote but needs other factors at the regional or national level to activate these primed individuals.

Table 4.2 Individual Variables by Decade Block and Age Cohort

	1970's	1970's	1980's	1980's
	All Ages	Age 18-25	All Ages	Age 18-25
Constant	-4.219*** (3.13)	-4.636*** (.935)	-4.133*** (.465)	-5.215*** (1.101)
Education	.627*** (.076)	.888*** (.085)	.612*** (.075)	.738*** (.180)
Knowledge	.647*** (.033)	.719*** (.085)	.711*** (.066)	.756*** (.101)
Black	-.031 (.111)	-.355 (.285)	.180* (.105)	.259 (.259)
Age	.016*** (.002)	.041 (.038)	.019*** (.002)	.027 (.040)
Union	.128* (.074)	.140 (.176)	.034 (.082)	.038 (.220)
Gender	-.002	.140	-.300***	-2.72

	(.062)	(.176)	(.002)	(.174)
Respondent Trust	.003*** (.001)	.003 (.003)	.004*** (.001)	.003 (.003)
Partisan Strength	.361*** (.032)	.464*** (.080)	.417*** (.034)	.417*** (.089)
Family Income (Employed 2000-2004)	.191*** (.033)	.041 (.074)	.247*** (.035)	.246*** (.079)
Student	.019 (.194)	-.009 (.285)	.196 (.204)	.191 (.273)
Marriage	.416*** (.069)	.151 (.167)	.342*** (.071)	-.106 (.185)
Length of Current Residence	.015*** (.002)	.027*** (.008)	.020*** (.002)	.035*** (.009)
Constant	17.382 (.089)	.356*** (.990)	-3.940*** (.917)	-.984*** (2.263)
	1990's	1990's	2000's	2000's
	All Ages	Ages 18-25	All Ages	Ages 18-25
Education	.367*** (.061)	.252 (.189)	.725*** (.115)	.618* (.354)
Knowledge	.336*** (.029)	.263*** (.087)	.691*** (.056)	.833*** (.195)
Black	.073 (.087)	.437* (.254)	.476*** (.173)	1.507*** (.564)
Age	.008*** (.002)	-.041 (.039)	.016*** (.004)	-.028 (.085)
Union	.172** (.073)	.077 (.244)	.107 (.158)	-.571 (.533)
Gender	-.159*** (.053)	-.283* (.156)	-.170 (.109)	-.305 (.361)
Respondent Trust	.003* (.001)	.001 (.003)	.006** (.002)	.003 (.007)
Partisan Strength	.137*** (.027)	.113 (.084)	.452*** (.055)	.223 (.186)
Family Income (Employed 2000-2004)	.107*** (.028)	.049 (.074)	.349*** (.129)	1.247*** (.424)
Student	-.255 (.148)	-.439** (.222)	-.146 (.225)	1.266* (.668)
Marriage	.219*** (.058)	.235 (.196)	.419*** (.109)	-.395 (.416)
Length of Current Residence	.004** (.002)	-.002 (.009)	.011*** (.003)	.045** (.020)
# obs	9254	1041	4530	409
Cox & Snell R ²	.126	.127	.217	.343
chi ²	1031.541	115.771	682.902	118.485

*** indicates that the variable is significant at the .01 level
** indicates that the variable is significant at the .05 level
* indicates that the variable is significant at the .10 level

Individual Interactive Effects

The following analysis will use interactive logit models to explore the relationship between education and voting more deeply. The results of these models are found in Table 4.3. The use of interaction terms can help demonstrate the complexity of the relationship between education and other explanatory variables and show which variables amplify the impact of education. Interaction effects exist when the impact of an independent variable on the dependent variable (voting in this case) changes with the inclusion of a third “moderator” variable (Jaccard 2001). These models suggest that education not only has an independent and direct impact on voting but that it also is a key moderator variable that has an impact on several other variables at multiple levels.

This study uses product terms which are the most common type of interaction term used in logit analysis. To do this the values of education and the focal independent variable are multiplied. In the model the standard hierarchically well-formed model is employed, meaning that both, unchanged independent variables are included with the interaction term (Jaccard 2001). This approach differs from traditional approaches to education because typically education is looked in isolation and not as a moderator variable. When education is examined contextually it is often only looked at in its relationship to socioeconomic variables at the individual level. There is relatively little study of the impact of education on focal variables at the national or state level.

There are a number of variables that may amplify the impact of education on voter turnout. The literature discussed previously gives reason to believe that there are a variety of interaction effects that warrant the further examination of their relationship with education. First, age and education interactions should be significant. Table 2 shows the model used to test age*education interaction. The creation of this term is based on the findings in previous literature that age has been a historically strong predictor of voting. We have also already seen this relationship in our discussion of the descriptive statistics examined in the previous chapter. It is clear that older individuals with the same level of education are, indeed, more likely to vote (Teixeira 1992). Based on the results of the model it does appear that an interactive effect with age and education exists and that the interaction term is statistically significant. It appears that age has a multiplicative effect on the impact of education.

Table 4.3 Key Interaction Terms at the Individual Level

	Individual Model	Interaction Age/Edu	Interaction Edu/Know	Interaction Trust/Edu	Interaction Cohort/Edu
	Logit	Logit	Logit	Logit	Logit
Constant	-3.578*** (.106)	-3.563*** (.218)	-3.542*** (.218)	-3.553*** (.218)	-3.625*** (.218)
Education	.570*** (.04)	.267*** (.050)	.250*** (.057)	.335*** (.045)	.525*** (.037)
Knowledge	.550*** (.02)	.523*** (.017)	.379*** (.031)	.532*** (.017)	.549*** (.016)
Black	-.082 (.05)	.064 (.050)	.062 (.050)	.071 (.051)	.054 (.050)

Age	.011*** (.001)	.002 (.002)	.011*** (.001)	.011*** (.001)	.011*** (.001)
Union	.204*** (0.04)	.134*** (.039)	.143*** (.039)	.137*** (.039)	.134*** (.039)
Cohort	-.286 (.05)***	-.259*** (.052)	-.269*** (.052)	-.280*** (.052)	-.441*** (.161)
Employed	.230*** (0.04)	.238*** (.037)	.243*** (.037)	.243*** (.037)	.252*** (.037)
Married	.366*** (0.03)	.380*** (.032)	.394*** (.032)	.390*** (.032)	.396*** (.032)
Partisan Strength	.286*** (0.02)	.299*** (.016)	.295*** (.016)	.295*** (.016)	.293*** (.016)
Trust	.004*** (0.001)	.003*** (.001)	.003*** (.001)	-.007*** (.002)	.004*** (.001)
Student	.158* (.093)	.226** (.093)	.214** (.093)	.196*** (.093)	.178*** (.093)
Male	-.170*** (0.03)	-.153*** (.017)	-.165*** (.032)	-.166** (.032)	-.170*** (.032)
Length of current residence	.010*** (.001)	.011*** (.001)	.011*** (.001)	.011*** (.001)	.011*** (.001)
Minority not black	-.285 (.06)	-.219*** (.058)	-.224*** (.058)	-.220*** (.058)	-.236*** (.058)
Age and education	N/A	.004*** (.001)	N/A	N/A	N/A
Knowledge and education	N/A	N/A	.063*** (.010)	N/A	N/A
Education and trust	N/A	N/A	N/A	.004*** (.001)	N/A
Cohort and Education	N/A	N/A	N/A	N/A	.059 (.059)
# obs	25566	25566	25566	25566	25566
Cox & Snell R ²	.183	.194	.193	.193	.193
chi ²	5177.9	5507.3	5488.3	5497.5	5448.9

*** indicates that the variable is significant at the .01 level

** indicates that the variable is significant at the .05 level

* indicates that the variable is significant at the .10 level

State and year dummy variables were included in this model but not reported in the table for the sake of space

The interaction term multiplying knowledge and education is also statistically significant in the model. Education and political knowledge are closely tied in a number of the studies discussed previously (Nie et. al. 1996). The interaction between these two variables in this model

demonstrates that the impact of education is more potent on those with higher levels of education. Formal education gives individuals the tools to understand and utilize political information when it is encountered and, in turn, increase the likelihood to vote. When considered as an interaction term the significance of this variable further demonstrates the power of education to enhance the importance of other related variables. This gives quantifiable justification to the assertion that an educated person who also possesses higher levels of political knowledge will be even more likely to vote than an educated person with relatively lower levels of political knowledge or a politically knowledgeable person with a lower overall level of education.

A third interaction term tested the theory that educated people tend to understand governmental processes better and therefore express less mistrust toward the government than those with less education was also significant. Multiplying education and trust yielded a positive and statistically significant result. This finding suggests that higher levels of trust in government and higher levels of education have a multiplicative effect on the likelihood of an individual to vote as education increases. This result was true with both the dichotomous measure of education and the four level measure of education. Put another way, a person with a higher level of trust in government and a higher level of education is far more likely to vote than an equally education counterpart.

The next step is determining whether or not the youth grow out of their apathy and begin to vote later in life. While this study does not have access to panel data or follow-up data from early survey participants we will attempt to address this question in other ways.

Individual changes over time

In order to assess changes in the impact of education, age, and political knowledge on the likelihood of voting the models were run individually for each year. In these models family income was the economic variable included except in 2002. Due to missing data for that year the economic variable used in that model reflects employment status as employed or unemployed instead of quartile income rank. No distinction was made between full and part-time employment. The findings suggest that the impact of education has been consistently significant in a majority of individual years for both midterm and presidential elections. While several other variables such as gender, marriage, length of residence, and income, varied in their significance over time education was significant in all but three years. These years are 2004, 1986 and 1982.

The magnitude of the impact of education is unclear from these results but it suggests that, if not in a direct sense, at least indirectly education is one of the most significant factors leading to voting. Also interesting to note is that age was significant in every year as was the level of political knowledge. This suggests that individuals who are older

and more politically informed were more likely to vote in every election between 1972 and 2004. The consistency of these three variables speaks to the importance of each of them in determining the likelihood to vote.

We have also seen, through the testing of interaction terms above, that these variables are not isolated. Age and knowledge interaction terms with education were each statistically significant. This provides even greater strength to the argument that no single individual factor works alone to explain voter turnout. These models test individual characteristics impact on voter turnout for all ages but youth voter turnout and the importance of education on young peoples' civic engagement it is one of the main concerns of this study. As such it is important before moving on to other contextual variables to examine the impact of individual characteristics on the 18-25 cohort specifically. Chapter 5 continues the analysis by using state and temporal context to assess the impact of variables on multiple levels interact with education, age, and political knowledge to change the probability of individual to vote.

CHAPTER 5

THE IMPACT OF EDUCATION AND AGE IN A CONTEXTUAL SETTING

Aside from the impact of individual characteristics on voter turnout many studies have assessed the impact of structural and geographic factors. These studies typically focus on voter registration requirements as a barrier to voting, the use of initiatives or referendums in a state, or other variations at the state level such as political culture (Tolbert and Smith 2005, Patterson 1990, Nagler and Leighly 1992). The suggestion that these studies make is that there are important factors beyond the individual that keep people from voting in the United States. There is certainly a great deal of support for the idea that variables at the state and national level can have an impact on politics in general, the political mood of the nation, and voter choices at the ballot box. It is also true that many of these factors appear to have at least some impact on an individual citizen's likelihood to vote (Tolbert and Smith 2005). What

is not often addressed in these studies, however, is the interaction of these state and national variables with individual characteristics. It is the suggestion of this study that the true impact of temporal and state level variables can only be understood when explored in the context of a multi-level analysis. Individual variation changes the impact of state and temporal variables and it is the interaction of all three levels that will truly help political scientists predict and explain an individual's decision to vote or not to vote.

The preliminary models run at the state level suggest that a few geographic variables do have an impact on individual voter turnout (see Table 5.1). Nearly all studies assessing voter turnout or state by state variations in political behavior contain a control variable for the South. As with other studies the data here shows that the South is statistically significant and individuals in the South are less likely to vote than the rest of the country. Certainly in the South there is a strong culture of disassociation with political activity that stems from a variety of sources including single party domination, history of discrimination and disenfranchisement of large numbers of minority voters who remain, largely, politically inactive.

Also significant was the presence of a senate race in the state during the election. Especially in mid-term elections when there is not a presidential election to draw national attention the presence of a Senate race makes an important difference in drawing an individual's attention

to the election. The lack of political competition in many House districts and the historically low level of interest in local elections mean that when a state has no Senate seat up for grabs and there is not a presidential race then individuals are much less likely to vote (Tucker 2004, Powell 1986). The initiative variable was not significant at the .05 level, but is significant at the .10 level but has a beta value of .05, suggesting a weak impact on voter turnout. The fact that initiatives do not seem to spur individuals to vote is consistent with the findings of Everson (1981) who suggested that the presence of initiatives had a limited impact on political participation and only mattered in a few isolated instances when the initiative or referendum is highly contentious. These can be seen anecdotally in the accounts of gay marriage, marijuana legalization, and abortion initiatives having a significant impact on key segments of the population to turnout in higher numbers than would be normally expected for their sub-groups. These isolated accounts of impactful initiatives are heightened by their tendency to occur in presidential election years in 2000, 2004, and 2008. This may have pushed many to assume that the impact of initiatives on voter turnout is of greater magnitude than it is in reality. These findings run contrary to the claims of Tolbert and Smith (2005) who suggested that individuals in states with initiative processes would be both more knowledgeable about politics and more likely to vote.

Just as interesting as what was significant was what was not significant. Tests of state levels of education funding and median state incomes are not statistically significant⁴. Even the closeness of an election did not seem to push people to vote in either a national or statewide measure. These were the types of variables that studies conducted by Nagler and Leighley (1992), Jackman (1987), and Powell (1986) suggested were relevant to individual political activity. In terms of the impact of education variables there are surprising results in even simple correlation tests.

The data also shows no significant relationship between a state's median level of education (available post-1980 only) and individuals voting or between a state's level of educational spending and voting even though there is a strong, positive, and significant correlation between individual levels of education and voting. This seems to suggest that even though individual levels of education matter in voter turnout states with higher levels of education do not necessarily see that translate into higher voter turnout. This further demonstrates the complex nature of the impact of education on voter turnout and lends support to the idea that the impact of education is relative and not direct. These tests could only be completed for the years 1980 and later due to the availability of education spending data and median state income data.

⁴ Median state income was significant at the .000 level when individual variables and control variables were excluded, however the beta value is .000 and the variable loses its significance in more complete models.

In the model excluding median state income and education spending, include cases from the entire time frame of this study 1972 to the 2004, statewide measures fare even worse. Only the control variable for the South and statewide turnout were statistically significant at the .001 level with a Senate race and political competition being significant at the .10 level. Initiatives, education spending, and state turnout all fail to yield statistically significant results. While not significant at the .01 level it is interesting that both political competition and the presence of a senate race were significant at the .10 level. This suggests that in states where the political climate is more interesting and more competitive that voters are more likely to turnout in larger numbers.

Table 5.1 State level contextual variables

	1980 - 2004	1972 - 2004
	Logit	Logit
Political competition	-.027 (.006)	.352* (.028)
Initiative	-.006 (.046)	.043 (.028)
Senate	.182** (.046)	.040* (.027)
South	-.146** (.065)	-.203*** (.040)
Edspend	N/A	.000 (.000)
Stateturnout	.014*** (.005)	.022*** (.003)
Stateinc	.000 .000	N/A
stateeduc	-.001 (.008)	N/A
Constant	-.6988**	-.475***

	(.413)	(.180)
# obs	10610	28942
Cox & Snell <i>R</i> ²	.047	.049
<i>chi</i> ²	506.908	1467.010

*** indicates that the variable is significant at the .01 level

** indicates that the variable is significant at the .05 level

* indicates that the variable is significant at the .10 level

Year dummy variables were included in this model but not reported in the table for the sake of space

National level temporal variables

Table 5.2 presents the results of the national variable models.

There are three models presented in Table 5.2. The first tests the impact of the five national level variables on voter turnout with no other variables included. The second model tests the same variables but also includes individual variables and dummy variables for states as control variables. The final model run contains all three levels of independent variables; individual, state, and national. There have been relatively few studies that discuss the impact of national or temporal variables on voter turnout. When national level contextual variables are tested in the model the results are somewhat surprising as well. There are two variables that were consistently significant, national voter turnout and war. When national turnout is high individuals are more likely to vote, which seems obvious and intuitive. The data also suggests that war has a depressing effect on voter turnout. The results show that war is significant at the .10 level with a negative beta value. This demonstrates that individuals are less likely to vote in years in which the nation is engaged in a conflict

during that election year. These findings are consistent when the model is run with only temporal variables and when state and individual factors are also included in the model.

The models did not show any statistically significant impact for the economic index outside of the isolated national model or for individual national economic changes. This is consistent with the findings made by Blais (2006) and Fornos (2004) that the national economy has little to no impact on voter turnout. This does not mean that the economy does not matter in making the choice of who to vote for or that individual economic circumstances do not play a role in an individual's decision to vote or not to vote. It does, however, suggest that individuals are far more concerned with personal financial situations than they are with macro-level economic conditions.

The national alienation index and national mood measure were significant in each of the models run. It appears that the national mood toward government does have an impact on an individual's likelihood to vote. The results of the models suggest that when the national electorate feels more alienated by government that voter turnout increases. When the national mood trends more conservatively the opposite is true and turnout is predicted to decrease. This is theoretically sound in that low voter turnout is typically seen as good for conservative candidates and when the nation trends conservatively liberals tend to stay away from the polls (Wattenberg 2008).

As we have seen with national turnout, when an election has an aura of excitement or intense competition surrounding then individuals are more likely to vote. Also we have seen that in times of war people seem to be less likely to vote (Cotton 1986). This may be a signal that individuals are reluctant to push for political change in times of conflict and are thus less likely to vote.

The lack of strength in terms of the statistical significance of many of the state level variables is the most surprising result found in the study. Based on the results of the descriptive statistics and the review of literature discussed in previous chapters I expected many of the economic and cultural variables at the state and national level to be both statistically and substantively significant. The apparent lack of significance at the state level highlights the importance of individual characteristics but also suggests that state level solutions can only go so far in addressing problems of low voter turnout.

Table 5.2 National Level Contextual Variables

	National variables alone	National variables with individual variables and control for states	National variables w/state and individual
	Logit	Logit	Logit
National Mood	-.005*** (.005)	-.029*** (.009)	-.028*** (.008)
Naturnout	.061*** (.002)	.060*** (.003)	.061*** (.003)

Alienation	.007*** (.002)	.005*** (.002)	.005*** (.002)
Beckeconomyindex	-.037*** (.010)	-.016 (.013)	-.020 (.013)
War	-.101*** (.034)	-.104** (.050)	-.133*** (.041)
Education	N/A	.327*** (.023)	.330*** (.021)
Constant	-2.039*** (.239)	-3.475*** (.569)	-3.801*** (.022)
# obs	28261	22746	22746
Cox & Snell <i>R</i> ²	.037	.195	.191
<i>chi</i> ²	1060.393	4922.067	4822.481

*** indicates that the variable is significant at the .01 level

** indicates that the variable is significant at the .05 level

* indicates that the variable is significant at the .10 level

State and year dummy variables and individual and state level variables that were included in this model are not reported in the table for the sake of space

Interaction effects between education and contextual variables

The final set of binary logit models reported in Table 7 test interaction effects between an individual's level of education and state and national level variables in the data set. If the hypothesis of this study is correct, that the impact of education on civic activity is complicated and not as straightforward as other studies have suggested, then it is expected that many of these interaction terms will be significant. Education is expected to amplify the impact of changes at other levels. Education has been portrayed thus far as a priming variable, important by itself but not sufficient to explain levels of civic engagement. These interaction terms can help clarify the role of education in promoting civic engagement relative to changes in these activating variables.

The first set of models tests the four state and national level variables that were significant on their own in previous models. As expected each of the four interaction terms are statistically significant and amplify the impact of education. There is one interesting incongruity that appears in the interaction term between education and war. The variable war has a negative impact on an individual's likelihood to vote. The beta value for war tested with individual and national level variables and controlling for variation across states with dummy variables is $-.068$ with a $.065$ level of significance. When the interaction war*education is run the result has a positive beta value of $.228$. The unaltered term for war still has a negative value of $-.567$. This suggests that more educated individuals are more likely to vote in times of war, perhaps reflecting the greater attention to international events and increased feelings of political efficacy among the more highly educated classes.

Another interesting effect is found in the interaction term combining education and South. Those living in the South were less likely to vote in all of the models but the interaction term between education and South is positive and also significant and the $.001$ level. It seems that education is even more important a predictor of voter turnout in the South than it is in other areas of the country.

The final models in this analysis also seem to support the activation hypothesis. In spite of the fact that alienation, the economy index variable, and national unemployment were not statistically

significant when tested in the national model the interaction term between education and each of these variables are highly significant. In addition to this each individual term is significant in the model when run with the interaction term. However, in each case the interaction term and the variable impact voting in opposite directions. For example, the previously insignificant economic index variable becomes significant in the model and has a beta of $-.197$ while the interaction term is also significant with a beta value of $.0080$. This pattern is seen across all of the interaction terms tested at the national level but it does not extend to state level variables. This may indicate that the activation effect is isolated to widespread or widely felt national changes as opposed to local or geographic variations that are less likely to be experienced differently by those with different levels of education.

Clearly though education has an amplifying effect on the impact of other variables. The interaction terms presented in table 5.3 are among the most interesting but significant interactions were revealed in other terms as well. The interaction term for national mood*education was significant at the $.05$ level with a negative coefficient while mood*knowledge was significant at the $.01$ level with a positive coefficient. Education is not merely one of the factors that influence levels of political activity it also plays a key role in the performance of other variables acting as an activating factor among those with higher levels of education. However, when these other characteristics are not

present then education may play a less prominent role in spurring political activity. This is a possible explanation for why civic participation has been decreasing even while education levels have increased. Increased levels of education has created a large pool of prospective voters ready to be influenced by the onset of activating variables at the national, and to a lesser extent, statewide levels.

It also should be noted that when the dataset is limited to the youth cohort some of these interaction effects fail to materialize. This may be due largely to the limited size of the sample remaining which is less than three hundred valid cases but may also reflect some differences in the impact of education on younger respondents. Young people have often not yet finished their education which also would impact the value of these interaction terms and their performance in the model. Finally, there are relatively few significant interaction terms at the state level suggesting that statewide variations may not have the impact or interactive relationship originally hypothesized in the study.

Table 5.3 State and National Level Interaction Terms

	Education * Senate	Education * South	Education * Turnout	Education * War	Education *Ecoindex	Education* Alienation
	Logit	Logit	Logit	Logit	Logit	Logit
Education	.424*** (.046)	.482*** (.039)	-.106* (.061)	.422*** (.038)	.144*** (.053)	.152** (.064)
Activating variable	Senate -.245*** (.084)	South -.637*** (.095)	Turnout .030*** (.003)	War -.789*** (.092)	Eco Index -.197*** (.023)	Alienation -.012*** (.004)

Interaction Term	.132*** (.031)	.150*** (.035)	.010*** (.001)	.315*** (.037)	.080*** (.008)	.005*** (.001)
Constant	-3.705*** (.231)	-3.723*** (.230)	-5.400*** (.298)	-5.586*** (.298)	-6.001*** (.279)	-6.004*** (.279)
# obs	23330	23330	25316	25316	25316	25316
Cox & Snell R ²	.187	.187	.195	.192	.193	.192
chi ²	4815.612	4816.061	5489.863	5400.820	5442.048	5394.487

*** indicates that the variable is significant at the .01 level

** indicates that the variable is significant at the .05 level

* indicates that the variable is significant at the .10 level

State and year dummy variables and other independent variables were included in this model but not reported in the table for the sake of space

Thus far the data presented here has shown that individual factors seem to be the most significant in determining the likelihood of a person to vote or not to vote in any given election. However, we have also seen that none of these variables act alone and that there are some geographic and temporal factors that may be impacting the way in which individuals make the decision to vote. The binary logit models and descriptive statistics have helped shed some important light on factors that help activate potential voters who have been primed to vote by certain personal characteristics but these models have limitations in how much they can tell us about the interaction between the different level variables. Due to these limitations a different statistical technique, hierarchical linear modeling, will be used to further assess whether or not the relationships discussed above hold true or if there is more interaction going on than previously thought.

CHAPTER 6

UNDERSTANDING THE COMPLEXITY OF VOTER TURNOUT: A MULTI- LEVEL ANALYSIS

Thus far this study has utilized the more commonly applied logit analysis technique to build models that explore why individuals vote with data from a variety of sources ranging from individual characteristics, to statewide contextual information, and finally national temporal factors. In addition, the study has used multiplicative interaction terms in order to examine possible interaction effects between education and other explanatory variables as it has been hypothesized that the importance of education on voter turnout is not just direct but also indirect with people of varying levels of education and political knowledge experiencing and reacting to contextual changes differently. The results have been interesting and enlightening in terms of the role of education and political knowledge in changing the probability of voter turnout and the

varying impact of these variables across different age groups and contextual settings. However, as discussed in chapter three, these logit models are limited in the extent to which they can be used to explore multi-level relationships. In order to gain a better understanding of the apparent complexity of these relationships observed in the logit models the study will now turn to hierarchical linear models.

Two separate two-level hierarchical linear models will be used to explore the interactions of several explanatory variables (age, political knowledge, education) with a variety of contextual variables at the state level and at the temporal level. Two models are used rather than a single three-level model because there is no direct link between the geographic variation of the state level data and the temporal variation of national level data. A three-level model could be used, for example, if the data were found at expanding levels of the same type such as individual data, precinct data, and state data. This is not possible given our model so two separate models are specified. The first model is interpreted using the population-average model with robust standard errors. This interpretation is chosen because in this study we are concerned with how the probability of casting a vote varies among individuals with different levels of education or knowledge and how these variables change the impact of other explanatory variables in the model at level two. These are not unit-specific questions but rather population-average

estimates and thus warrant the use of the population-average model with robust standard errors (Raudenbush and Bryk 2002).

The following table (6.1) summarizes the results of the multi-level HLM model testing state level contextual interactions. Table 6.1 displays the results of the full model in model 1.⁵

Table 6.1 State HLM Model Results

Fixed Effects	Model 1 – State HGLM
Models for Intercept	Logit Coefficient
Intercept	-3.616045*** (.106381)
Model for Knowledge	
Intercept	-0.075866 (.290120)
Initiative	0.068425** (0.033205)
Political Competition	.170455 (.303607)
State Income	-0.000012 (0.000006)
Senate	0.138910 (0.298032)
Education Spending	0.000173 (0.000134)
State Turnout	.010719 (.002773)
Gender	-.170455*** (.303607)
Model for Age	
Intercept	0.027151** (.011678)
Initiative	.001504 (.001503)
Political Competition	0.001542 (0.013319)
State Income	N/A
Senate	-0.031788** (.012652)
Education Spending	-0.000001 (0.000005)
State Turnout	0.000063 (0.000121)

⁵ the model was also run with the data restricted to 18-25 year olds, the results of which were nearly identical and were thus omitted from the table for the sake of space.

Model for Cohort	
Intercept	-0.226171*** 0.051443
Initiative	N/A
Political Competition	N/A
State Income	N/A
Senate	N/A
Education Spending	N/A
State Turnout	N/A
Model for Education	
Intercept	0.421455 (.314216)
Initiative	-0.065902* (.036022)
Political Competition	-.040574 (.326287)
State Income	.000016* (0.000008)
Senate	0.037187 (0.312970)
Education Spending	-0.000368** (.000150)
State Turnout	-0.004141 (0.003010)
Union	0.148168*** (0.038370)
Trust in Government	0.003525*** (0.000651)
Partisan Strength	0.275830*** (0.015318)
Minority (not black)	-0.232467*** (0.055638)
Employed	0.220684*** (0.036144)
Length of Residence	0.010543*** (0.000939)
Student	0.186248** (0.088901)
Black	0.049174 (0.049369)
Marriage	.377012*** (0.031374)
Random Effects	
Intercept	
Variance Component	0.02404***
Standard Deviation	0.15506
Chi-square	121.54687
Reliability Estimate	.570
N (respondents)	31575
J (states)	48

*** indicates that the variable is significant at the .01 level

** indicates that the variable is significant at the .05 level

* indicates that the variable is significant at the .10 level

Assessment of the impact of state level variations by education

The model in table 6.1 includes all fourteen individual variables specified in the previous logit models in chapter 5 (age, education, political knowledge, employed, African American, other minority, married, length of residence, union membership, trust in government, student, 18-25 age cohort, gender and partisan strength) as the level one variables and five state level contextual variables (political competition, state initiatives, Senate race, state education spending, and state voter turnout). The interaction terms run at the state level yielded few significant results in the logit models tested in chapter five. This led to the conclusion that the activation effect may be primarily limited to more widely experienced national variations.

The results of the hierarchical linear model produced very similar findings. When the model is run with interactions for age, education, and political knowledge simultaneously only a handful of the interaction terms yield statistically significant results and even those results are relatively weak. The terms for knowledge and initiative and age and senate race are both significant at the .10 level. The senate race coefficient is negative suggesting that when there is a senate race in a state that age is less significant. The coefficient for initiative and knowledge is positive indicating that in states with an initiative process political knowledge is more important. The interaction term for education and education spending is significant at the .05 level with a negative

coefficient. This suggests that education is less important as a predictor of voter turnout in states that spend more on education. These findings make sound theoretical sense and remain consistent when the sample is restricted to test for interaction effects among 18-25 year olds. A large number of initiatives on the ballot place a greater information burden on voters. It is reasonable that individuals with more education can deal with the burden more effectively and thus would not be put off by the presence of initiatives or referendums on the ballot. For these individuals the initiatives may even spur voter turnout by increasing the relevance and excitement of the election (Wattenberg 2008, Zukin 2006).

Despite a lack of overwhelming evidence of interactive effects at the state level the few variables of significance do give some idea of the potential complexity of the relationship between formal education, political knowledge, and voting. Both education and knowledge seem to have a direct and indirect influence on individual political behavior. These findings show support for Smith and Tolbert's (2005) assertions that the presence of ballot initiatives in a state can increase voter turnout in a state. More importantly however, the findings suggest that the presence of initiatives will have a greater impact on the probability of voting among individuals with higher levels of political knowledge.

HLM findings at the national level

The HLM results above confirmed several of the findings from the logit models in chapter 5. Both methods found that age, education, and political knowledge interact with state contextual variables to influence the likelihood of voting. A multi-level analysis using HLM to examine how these independent variables interact with national contexts also confirm the results from the logit models in chapter 5. The interaction terms at the national level revealed that national context does influence the impact of both education and political knowledge on voter turnout and these effects are mirrored in the HLM results. These results show that the importance of education and political knowledge in influencing political behavior varies across geographic area and across time and this variation occurs in predictable ways that can be explained using contextual variables.

Table 6.2 National HLM Model Results – Population Average Model

Fixed Effects	Model 1 – National HGLM	Model 2 – Cohort Interaction
Models for Intercept	Logit Coefficient	Logit Coefficient
Intercept	-4.020570*** (.349081)	-3.858711 0.238104
Model for Knowledge		
Intercept	3.256398*** (.307140)	0.370142** 0.188815
National Mood	-0.072084*** (.006211)	N/A
National Turnout	0.020418*** (.002810)	0.008950*** 0.002879
Alienation Index	-0.005821*** (.001907)	-0.006500*** 0.001865
National Unemployment	-0.063572*** (0.019072)	-0.081332*** 0.020719

War	0.129350*** (.042583)	0.167710*** 0.048375
Gender	-0.160018*** (.031908)	-0.148765*** 0.034588
Model for Age		
Intercept	0.185100*** (0.017319)	0.007151 0.012071
National Mood	-0.003811*** (.000347)	N/A
National Turnout	0.000669*** (.000156)	0.000388** 0.000185
Alienation Index	-0.000250** (0.000101)	-0.000178 0.000114
National Unemployment	-0.006901*** (0.001038)	-0.005116*** 0.001296
War	0.001717 (0.002342)	-0.002774 0.003061
Cohort		
Intercept	-0.235342*** (0.055343)	-1.181043** 0.573284
National Turnout	N/A	0.012061 0.009064
Alienation Index	N/A	0.010333** 0.005130
National Unemployment	N/A	0.059225 0.064504
War	N/A	-0.331790** 0.148855
Education		
Intercept	-5.970190*** (.468941)	-0.723672*** 0.232396
National Mood	0.132605*** (.009062)	N/A
National Turnout	-0.010732** (0.004108)	0.023773*** 0.003552
Alienation Index	-0.009233*** (0.002712)	-0.000240 0.002266
National Unemployment	-0.182158*** (0.027338)	-0.071163*** 0.024491
War	0.063010** (0.063010)	-0.007156 0.059765
Union	0.216778*** (0.038397)	0.147095*** 0.041657
Trust in Government	0.003037*** (0.000666)	0.003467*** 0.000740
Partisan Strength	0.284418*** (0.015618)	0.273068*** 0.017120
Minority (not black)	-0.247632*** (0.055306)	-0.203467*** 0.060313
Employed – Model 1 Family Income – Model 2	0.237488*** (0.036711)	0.133422*** 0.018176
Length of Residence	0.010188*** (0.000945)	0.009917*** 0.001022
Student	0.183831* (0.089957)	0.119370 0.104766
Black	-0.035406 (0.047748)	-0.014502 0.052698
Married	0.397631***	0.236431***

	(0.031404)	0.037127
Random Effects Intercept		
Variance Component	1.91729***	0.68710***
Standard Deviation	1.38466	0.82892
Chi-square	1186.52135	2449.40507
Reliability Estimate	.975	.994
N (respondents)	32,121	32,121
J (years)	17	17

*** indicates that the variable is significant at the .01 level

** indicates that the variable is significant at the .05 level

* indicates that the variable is significant at the .10 level

State and year dummy variables were included in this model but not reported in the table for the sake of space

National level variables and education

National level interaction terms once again showed a number of interesting results (Table 6.2). In terms of education the HLM model reports that education is more important when the national unemployment rate is lower and when overall national turnout is lower. Solt (2010) finds that states with greater income disparity experience lower levels of turnout in gubernatorial elections. On the national level it seems that the better the economy the more important education is in predicting voter turnout. This could be interpreted to mean that during good economic times certain citizens are less motivated to vote, thus education level is a more important predictor in who votes. This explanation would seem to contradict Solt who suggests that poor economic conditions keep those with a lower economic status away from the polls but income disparity is different than a good economy overall. The data tested in this study suggests that when the economy is doing

poorly an individual's level of education is less important of a predictor of voter turnout. It seems that a bad economy motivates more people to vote across the population and education becomes a less powerful predictor. It could be that Solt, who focused on gubernatorial elections and variations within states, is capturing a different relationship that what is tested in this model.

On a national level it would seem that when unemployment is relatively low those with less formal education may lack the motivation to vote. The coefficient for turnout is negative, thus education appears to more important when national turnout is lower. This may indicate a lack of excitement at the national level leading to overall lower turnout levels making education an even more important predictor of voter turnout as only those with a vested knowledge and interest turnout to vote. The finding is supported by Campbell (2006) and Pacheco (2008) that political competition in states fosters an increase in voting, especially for young voters and those with less education. This suggests that a lack of political competition (whether statewide or nationally) decreases voter turnout especially among those that have lower levels of education. Finally, when the national mood trends more liberal education is more important a predictor of voter turnout.

National level variables and political knowledge

Like education political knowledge has a complex interactive relationship with voting. Political knowledge and education are highly

correlated variables as we saw in chapter two but denote a more specific type of knowledge acquisitions that seems to uniquely prime individuals to vote. The interaction terms for political knowledge are statistically significant across all four of the national level variables tested. It seems that not only are those with increased levels of political knowledge are more likely to vote they are also more responsive to national changes such as international conflict, changes in unemployment, levels of alienation, and overall national attention as measured by national turnout levels.

Specifically, political knowledge is more influential when national turnout is higher and when the nation is at war. Like other findings this finding compliments the work of prior research that established a connection between voter turnout and international conflicts (Cotton 1986). Both coefficients are positive and both are significant at the .01 level. When levels of alienation are lower as measured by the Harris Interactive Alienation Index discussed in chapter three then political knowledge is also more important and significant at the .01 level. Additionally when national unemployment goes down political knowledge is again more important and is significant at the .01 level. When there is less to draw political attention from citizens, when the economy is better, feelings of alienation are down, or there is no war, then levels of political knowledge will be an increasingly important predictor of individual turnout (Cotton 1986). It is theoretically possible given these findings to

suggest that greater levels of political knowledge make individuals more aware of changes at the national level and thus the interaction terms between these factors and political knowledge are highly significant (Campbell 2006, Dalton 2008). Political knowledge seems to be less important when the national mood trends more liberal. This is the opposite interaction effect that is seen with mood and education.

According to the results of these models political knowledge, even more than formal education itself, is crucial in priming voters. The results also demonstrate that the activating variables at the national level that were hypothesized to be important in chapter three are indeed statistically significant.

The HLM model results presented here confirm the fundamental importance of education in predicting voter turnout that is echoed throughout the literature (Wolfinger and Rosenstone 1980). Political knowledge, education, and age have both a direct impact on voter turnout and indirect interaction effects. The multi-level models presented here demonstrate that, especially at the national level, these interaction effects have a substantial impact on voter turnout levels. This further demonstrates the nature of the activation hypothesis presented in chapters three and five. The impact of education and political knowledge on voter turnout is increased in certain contexts that make these variables more important predictors of turnout. The multi-level models predict that as political and temporal contexts change individuals with

higher levels of education will be even more likely to vote. Conversely, there are political and temporal characteristics that make education and political knowledge less important predictors of turnout. The conclusion drawn from these models is that education and political knowledge are priming variables and that their impact on voter turnout varies in predictable ways.

CHAPTER 7

REFLECTIONS ON THE IMPORTANCE OF AGE, EDUCATION, AND KNOWLEDGE IN CIVIC PARTICIPATION AND CITIZEN ENGAGEMENT

Voter turnout is the most basic and most common form of political engagement in a democracy. It is clear from the literature and the results of the models tested throughout this study that education and age are among the most significant factors in promoting an engaged citizenry (Wolfinger and Rosenstone 1980, Dalton 2008). Political knowledge, formal level of education, and age have continuously been shown to be the most substantive and statistically significant factors in voter turnout (Wattenberg 2008). Those with higher levels of education and higher levels of political knowledge tend to vote more frequently and those with higher educational attributes are more likely to cast a ballot come election time. To this end, in order to support high levels of political

engagement it is necessary to have an educated and knowledgeable electorate Teixeira 1992).

This becomes more important in times of narrow-casting which allows political information to be bypassed at will and high levels of cynicism toward government among much of the population. This change in media has come with the rise of cable and satellite television and the internet which gives nearly infinite options to people when choosing what media content to engage at any given moment. In the 1960's and 1970's a family sitting around the television after dinner would almost certainly be watching the evening news. In today's world they can easily bypass news and political information and between the internet, smart phones, tablet computers, and cable television every member of a family may be engaged with a different type of media simultaneously. It is likely that none of this information is politically informative. The ability for individuals to select the subject matter, if not the very substance, of the information they encounter by choosing to interact with television, the internet, radio, magazines, or other media that is narrowly tailored to specific interests results in large numbers of individuals who actively avoid general political information (Zukin 2006, Wattenberg 2008).

In addition to the importance of education as a direct and individual effect on the likelihood to vote we have also seen the importance of education in another role. This study hypothesized that education, knowledge, and acted as priming variables making individuals

capable of responding to contextual changes in their states and at the national level. In addition there are state and national changes that can reduce the importance of education and political knowledge in predicting voter turnout. The impact of education in particular has been of primary concern in this study. It is clear from the findings presented in this analysis that the relationship between education and the probability to vote is not constant. It is, however, possible to predict how and when that impact varies.

One assumption of most regression models is that the effect of an independent variable on the dependent variable is additive (Berry and Feldman 1985). In other words the slope of the relationship is the same for different values of different independent variables. If this additive assumption is violated, changes to the model are required. The addition of interaction terms is one manner in which this study attempts to understand how the relationship of age and education may differ across time and space. Hierarchical Linear Models (HLM) are also used to estimate the impact different contexts have on the slopes of these explanatory variables. Both the interaction terms analyzed in the logit models and the two-level hierarchical linear models demonstrate the complex nature of the relationship between education, age, and political knowledge, and their influence on the probability of voting.

An individual's level of education and level of political knowledge can heighten or reduce the impact of certain other variables at the

national and state level. Living in a state with an initiative process increases the importance of education and political knowledge. At the national level political knowledge and education more important when unemployment is higher, when the nation is at war, and when national feelings of political alienation are lower.

Knowing the potential impact of education and knowledge on both the individual directly and the way that individuals may react to changes at various levels of their political worlds can help increase our understanding of why some people vote and why they choose do so in certain elections. This is by no means a definitive study in voting behavior. No one model can possibly account for all of the reasons that a person may choose to vote or not vote. However, it is important to understand that these characteristics do not work in isolation. In this area there is room for expansion and future research that may be able to even more clearly assess the impact of education, age, and knowledge on voter turnout. As the youth voters of the 1970's become the elderly voters of the early 2000's and a new generation of voters begin to exercise their political rights more complete data will become available and these techniques may be utilized to explore some of these relationships in even greater detail.

Understanding Contextual Effects: The insights of hierarchical linear models

The use of hierarchical linear models in this study proved to be extremely useful and enlightening. These models helped to confirm and further demonstrate the ability of education and political knowledge to influence voter turnout directly and through interaction effects. These models give strong support to the priming and activation hypothesis offered at the outset of the study. As discussed in chapter six, the nation being at war makes education more important than when the nation is not at war. Following this activation hypothesis this study suggests that education alone can be an important predictor of voter turnout but that in times of war education become even more important. Education primes individuals to vote but many voters are activated by the onset of war making education an even more important predictor of voter turnout. Though state level predictors did not prove to be as significant as was originally anticipated the strength of the significance of the temporal variables in their interactions in both the logit and the HLM models show a notable trend that warrants consideration and additional study.

Additional studies may consider using precinct or county level data in addition to statewide factors. The state level contextual variables did not perform well in the HLM models but it may be that these variables measured changes that take place in a middle ground, not widely felt by

many in the community and not large enough to have national implications. It may be that there are more local or state level variations that have the significant interactions with education and political knowledge but were not measured in the available data for the entire time span of this study. Statewide variations such as registration laws may prove to have important interactive effects but due to limitations in the data and the scope of this study could not be analyzed (Alvarez, Ansolabehere, and Wilson 2009).

Overall, the HLM models performed well in assessing the complexity of the relationship between education, political knowledge and voter turnout at the national level. At the state level only the interaction terms for initiative and education and initiative and knowledge are significant. While state level context cannot be written off as irrelevant the results of the HLM models do suggest that national level temporal changes have much greater interaction effects with education, age, and political knowledge than local context does. This suggests that larger macro level changes are more significant in moving voter turnout than statewide variations. It is clear from these models that key changes at the national level vary in importance in the prediction of voter turnout based on levels of education and political knowledge. Surprisingly, it seems that levels of political knowledge are even more important than formal education though it should be noted that those variables are highly correlated. In either case the result of these analyses give strong

support to the hypotheses set out at the beginning of this study. That is to say that education and political knowledge are extremely important individual level predictors of the probability of voting but that they also have an activating effect that changes based on variations at the state and, more importantly, the national levels (Campbell 2006, Zukin 2006).

Challenges, lingering questions, and future research

This study began as an examination of the youth vote and turnout levels among young people. The research question originally posed dealt with why increasing levels of education among the youth in America has not translated to increased political activity in the same manner that would be predicted based on the strong relationship between education and voter turnout observed in the literature. Answering this question turned out to be more difficult than originally thought. One challenge is that young people have yet to finish their educational lifecycles and older people are enrolling in college more frequently than ever before so the increases in education are not limited to eighteen to twenty-five year olds. In addition to this, the data for those eighteen to twenty-five is far more limited than for the population as a whole. Finally, as the models developed and research progressed it became clear that the complexity of the impact of education and knowledge on the probability to vote was not isolated to young people. For these reasons the scope of the study was expanded to encompass the broader, and perhaps more valuable, question of the impact of education on individuals of a variety of ages

and social contexts. The emphasis on the complex interactions between education and other variables as well as the changing nature of the impact of education remained the core of the study throughout.

Other challenges came from the data itself. Many key variables are not available for the entire span of the data set including the 2002 National Election Survey family income measure. This complicated the analysis and hampered certain models as a substitute variable was needed to test the impact of individual levels of income. This substitute was an employment variable which performed well but may not have provided the explanatory power of the income variable. If nothing else it hampered interpretation and limited the conclusions that could be drawn regarding the importance of income and any possible interactions between income and education. The only other option was to omit data from 2002 respondents which had a far more adverse impact on the models. Additionally, data on median levels of educational attainment by state is theoretically important but the data is so fragmented until the late 1980's that there is no reliable way to include the measure.

Voter registration requirements are also a factor in voter turnout levels as discussed in the literature review. This variable is not included because the ten states and the District of Columbia that allow same day registration (for presidential elections only in Connecticut and Rhode Island) did not enact these laws until 2006. Estimates of the impact of same day registration for overall voter turnout in these states range from

3% - 9% (Alvarez et. al. 2009). Due to the timing of these laws it would be advisable that any follow-up to this work include same day registration states as a variable. There was not enough variation in the timing of registration closure dates to warrant including registration dates as variable in this study. Additionally there is no readily available index measure for ease of registration that I could identify. This is an area that warrants examination in future studies as the literature suggests that the impact of same day registration is potentially powerful.

Finally, as Lipsitz (2009) demonstrates, political competition within states can be a significant factor in encouraging voter turnout. This study attempts to capture that by looking at a state's level of political competition in national elections but in Lipsitz study that phenomenon is measured by the "battleground or spectator" status of the state in a given presidential election. While Lipsitz' study is much narrower in scope it is nonetheless interesting in the conceptualization of the political competition variable. This leads to a potentially interesting avenue for future research. It is possible that the disappointing results of the statewide contextual measures are a result of misspecification or variables that do not truly capture the desired effects. This would primarily result from limitations in the data caused by the extensive time frame covered in this study which makes some data unavailable over the entire range of years. Overall, for the purposes of this work, there are more benefits to this extensive time frame than there are drawbacks

however future studies may be able to test key theories discussed here with more refined data sets allowing for the inclusion of some of these potentially significant state level variables.

Results of the study and conclusions

The preceding analysis has demonstrated that education and political knowledge play a key role in opening up individuals to variations at the state and national level. The importance of education and political knowledge vary with geographic and temporal context. Certain variations at the state and national level make education less important as a predictor of turnout for example when the national economy is worse education is a less important predictor of turnout. In other situations, such as times of war, levels of political knowledge become a more important predictor or the probability to vote. A review of the literature and cursory review of descriptive data led to the formation of the hypothesis that formal education and increased levels of political knowledge act in two ways to impact voter turnout not just in youth voters but in the general population.

First, they are directly related to the likelihood to vote as reported in nearly every significant study of voter turnout and political behavior in the United States. Second, they act as priming variables that make those with greater education and knowledge more inclined to be influenced by variations at the state and national level. After a thorough examination of dozens of factors influencing voter turnout at both the youth and general

population levels using both interactive logistic models and two-level hierarchical linear models several interesting results emerged. There is substantial evidence that these contextual interaction effects exist and that the priming and activation hypothesis has strong merits worthy of future consideration and study. In addition, while the state level variations were not as important as hypothesized there are changes at the geographic level that play an important role in influencing voter turnout. An examination of lower level geographic units and the inclusion of new data that has only recently become available or will be available in the near future may yield more positive results. Finally, the strength of the interaction effects at the national level and degree to which education and political knowledge influence the performance of the temporal variables and their significance in predicting voter turnout is striking. The HLM model shows, for example, that in times of war education and political knowledge both matter more in predicting voter turnout. This demonstrates that not only does education have a direct individual level affect based on overall level of education of the individual but that it also has an indirect affect that is dependent on whether or not the nation is engaged in a conflict.

Above all else it is the finding of this study that education and political knowledge remain the most important predictors of an individual's probability of voting. The original research question asked, in part, if education had lost its influence in spurring voter turnout since

more people today have higher levels of education but turnout has declined. A definitive answer to this question remains elusive but it is certain that education is still among the most important factors to consider in studying voter turnout, but the effects of education vary across space and time (Wolfinger and Rosenstone 1980).

What may be a more important finding of this study is the importance seen in the final HLM models discussed in chapter six which showed that the interaction effects of political knowledge were even more widely significant than those with education. A possible answer to the original research question is that education is still important but the degree to which that education imparts political knowledge is crucial to the effective priming of voters at every age. This would be especially important in young voters who have not had time to amass larger levels of political knowledge through informal means outside of the education arena. Thus it is my contention that educating young people is still crucial in bringing about higher levels of voter turnout but that education must include the building of relatively high levels of political knowledge in order to be most effective (Dalton 2008). In addition this acquisition of education and political knowledge has an impact beyond its direct effect in increasing the importance of contextual changes at the national level for those with higher levels of education and knowledge.

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VITA

Graduate College
University of Nevada, Las Vegas

Roy Edward Snyder III

Home Address:

6321 Bruma Avenue
Las Vegas, NV 89122

Degrees:

Bachelor of Arts, Political Science, 2005
University of Iowa, Iowa City

Thesis Title: The Impact of Age, Education, Political Knowledge and Political
Context on Voter Turnout

This Examination Committee:

Chairperson, Dr. Kenneth Fernandez, Ph. D.
Committee Member, Dr. David Damore, Ph. D.
Committee Member, Dr. Ted Jelen, Ph. D.
Graduate Faculty Representative, Dr. Anna Lukemeyer, Ph. D.