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Is Perception Reality?: Assessing the Ballot of the Uninformed

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IS PERCEPTION REALITY? ASSESSING THE BALLOT OF THE UNINFORMED

By

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To what has gotten me through: Jeremiah 29:11-13;
and to my parents, for showing me it is okay to reach for the moon and land amongst the stars;
Thanks for your endless love and support.

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ABSTRACT

This manuscript serves to reexamine previous literature regarding the use of different information environments to help guide the political decisions of the uninformed electorate. Sixteen years ago, Larry Bartels approached the issue of whether varying levels of political knowledge influences the behavior of the electorate and their political decisions. This manuscript reevaluates the effects of high levels and low levels of political knowledge in efforts to determine if a difference exists between the two electorates. The findings suggest that indeed there does appear to be a difference between the uninformed and informed electorate based on whether they have low levels or high levels of knowledge.

INTRODUCTION

In its most simplistic form democracy is defined as rule by the people. Democracy requires a certain level of citizen participation and civic knowledge to function successfully. Many citizens base their selection of representatives on what they want to get accomplished and what they know about the official (Lau and Redlawsk 2006). Yet others rely on the use of heuristics to guide their decisions. (Campbell et al 1960; Lau and Redlawsk 2006; Berleson, Lazarfield, and McPhee 1954)

Regardless of the manner by which citizens decide how to participate, a certain level of competence is required in order to make informed decisions about politics. For half a century, scholars have sought to measure and explain the competency of the general public. More fundamentally, scholars have debated whether a proficient understanding of politics by the masses is required in order to sustain a functional democracy (Campbell et al 1960; Lau and Redlawsk 2006; Bennett 1996). In this tradition, Lupia (2001) coins the term *civic competence* to refer to a "citizen's ability to accomplish well-defined tasks in roles such as voter, juror, bureaucrat or legislator." Citizens must possess some amount of knowledge to be able to complete the duties designated by *democracy*, but the question still remains how much? Research has shown that most of the public lack ample political knowledge (Lau and Redlawsk 2006; Berleson, Lazarfield, and McPhee 1954; Sniderman 1993). With so few citizens knowledgeable about the political world, one wonders if electoral outcomes affected by this deficiency. It is this preoccupation with knowledge which will guide this paper: do higher levels of political knowledge yield different electoral outcomes than those citizens who rely on low levels of political knowledge to drive their decisions?

In the coming sections I will explore this idea of civic competence and its relationship to political knowledge, and build on theories that highlight the importance of political knowledge. I will then assess the relevant and important question here: do high levels of political knowledge matter? The implications of this question will provide the foundation needed to construct a hypothetical electorate and conduct a simulation in order to explore whether (a) there is a difference between an uninformed and an informed electorate and (b) whether or not this difference has statistical and/or substantial significance. The basis for this project follows that of Larry Bartels's "Uninformed Voters" (1996). Bartels theorized that information shortcuts allowed uninformed citizens to act as if they were informed. He tested his theory by constructed a hypothetically fully informed electorate and assessing it's deviations from that of an uninformed electorate. Bartels relied on a measure on the American National Election Survey of political knowledge to test the levels of the uninformed and to create his hypothetically informed electorate. Bartels found no evidence to support a statistical difference between an informed and an uninformed electorate. There exist, however, a question of validity regarding Bartels's measure of political knowledge. The measure inadequately measures an individual's level of political knowledge because it is susceptible to bias. Through the replication and measurement adjustment of his political knowledge variable, I hope to address these issues head on in order to uncover the true implications of an (un)informed electorate.

CONSIDERING THE THEORETICAL FRAMEWORK

Nearly twenty years ago, Larry Bartels (1996) set out to examine whether an uninformed electorate deviated significantly from an informed one. He relied on a rather novel approach to uncover the answer to this question by constructing a simulated hypothetical electorate and comparing the results of it with that of the uninformed electorate on vote choice.

Some previous research suggests that there is no statistically significant difference in the outcome of political vote choice between the uninformed and informed because the uninformed rely on heuristics and other information cues as a tactic to gain leverage on their lack of information; citizens, in the end, make the "correct" voting decision (Lupia 1996; Lodge, Steenbergen and Brau 1995; Popkin 1993). Heuristics can be defined as the tools which allow citizens to categorize, rank, and process information to determine what may or may not be important or relevant at a specific time (Lupia 1996).

These shortcuts can come disguised in different ways, yet they provide a vehicle which allows voters to rank their preferences in order to make informed decisions. Lau and Redlawsk (2001) argue that there are five common cognitive heuristics in which voters use to engage in politics and act as if they are fully informed: party affiliation, ideology, endorsements, viability information, and candidate appearance. Party affiliation is arguably the most widely used heuristic available to the general public (Lodge and Hamill 1986; Rahn 1993). It allows the public to identify with a candidate's ideology, by way of their party, and cast their vote. It is assumed that an individual has previously and independently decided to be a member of a party that shares the same common interests and values as the individual; thus, when it is time to vote for a candidate or policy issue, they rely on this shortcut to make their preferences more salient. In other words, they do not need to know the specific details about the candidate or policy

because they can rely on the fact that they identify with the party and, subsequently, with the candidate that the party deems fit to lead (Lodge and Hamill 1986; Lau and Redlawsk 2001; Rahn 1993). It is through these cues that an uninformed individual can behave as if they were fully informed and make their most optimal voting decision (Lupia 1996; Popkin 1993; Ryan 2011).

Other camps highlight a difference between informed and uninformed voters and find that it is important to emphasize the characteristics that make these two electorates different. Within this continuum an informed citizen is one who can be characterized as having stable, consistent, and constrained opinions; they are interested in politics and can conceptualize the processes and institutions governing the political environment. Moreover, they participate in politics frequently and effectively, and can grasp and regurgitate political information (Carpini and Keeter 1992). Others have argued that rational choice theory is the primary driving force responsible for the way in which citizens behave, operate, and make decisions (Aldrich 1993; Downs 1957). Aldrich (1993) notes that preferences, i.e. the attitudes, beliefs, and values of an individual, determine behavior; therefore, it can be used as an explanation of why citizens actively choose to participate in politics.

Whether examining one end of the spectrum (the uninformed) or the opposite end (the informed), one key distinction can be made in efforts to differentiate between each end of the spectrum: investigate the levels of political knowledge in the respective areas. Bartels sets out to accomplish this very task, utilizing the theories associated with information shortcuts and cues to affirm that there exists no difference between the uninformed and the informed electorate. Yet the measure by which he uses to quantify political knowledge is flawed.

Operationalizing Political Knowledge

Bartels operationalizes whether a voter is informed or uninformed by examining the magnitude of their knowledge of politics. Low levels of political knowledge indicate an uninformed voter, while higher levels of political knowledge indicate an informed voter. Following Zaller (1985), Bartels relies on a five-level summary evaluation made by the survey interviewer to determine the level of political knowledge that an individual displays. Zaller (1985) argues that using this one general question from the interviewer's perspective is statistically no different from using the battery of political knowledge questions found on the American National Election Survey. Bartels uses this measure to create comparability overtime—the ANES objective knowledge questions vary in content from one election to the next. . Yet I argue that this decision has negative consequences on both conceptual and operational grounds.

Statistically, Zaller (1985) indicates that his measure has an estimated reliability of .78, while the factual knowledge questions on the ANES have an estimated reliability between .80 and .85[1]. Bartels (1996) further attests that this difference is largely marginal, especially when taking into consideration that there exist other estimates that have reliability coefficients of ~.4 to .6. He concludes that it is statistically sound to use Zaller's method of measuring political knowledge. Bartels argues further that the simpler measure provides leverage against the possible inconsistent discrepancies that arise from using different questions across six different studies between 1972 and 1992; it essentially provides a stable measure to carry throughout the studies. Yet, if the measure is biased, overtime stability is questionable.

From a theoretical position, there are some assumptions that are made by evaluating the level of political knowledge from the perspective of an interviewer, which can be susceptible to

[1] The objective measure that I create has as reliability score of .7483. Although this is lower than Bartels's reliability for his subjective measure, it does not mean the validity of this measure is compromised.

bias, in comparison to assessing these levels through a more objective source. Although Bartels measures uninformed voters by relying on levels of political knowledge, he does so in a subjective manner: the opinion of the interviewer *about* the interviewee. This poses its own threat to the validity of the political knowledge measure because it can be susceptible to interviewer bias.

Borrowing from psychology, there are a few noteworthy interviewer effects to consider in evaluating the potential of interviewer bias. First, is the concept of self-fulfilling prophecy that is defined as the prediction of an individual which becomes true through the implicit belief and behavior between individuals (Dipboye 1982). It rests on the premise that first impressions are important: the initial impression that the interviewer has about the respondent effects not only how the interviewer evaluates the participant, but also the recall abilities of the interviewee (Dipboye 1982). Pay particular attention to the grayed boxes and dotted arrows below.

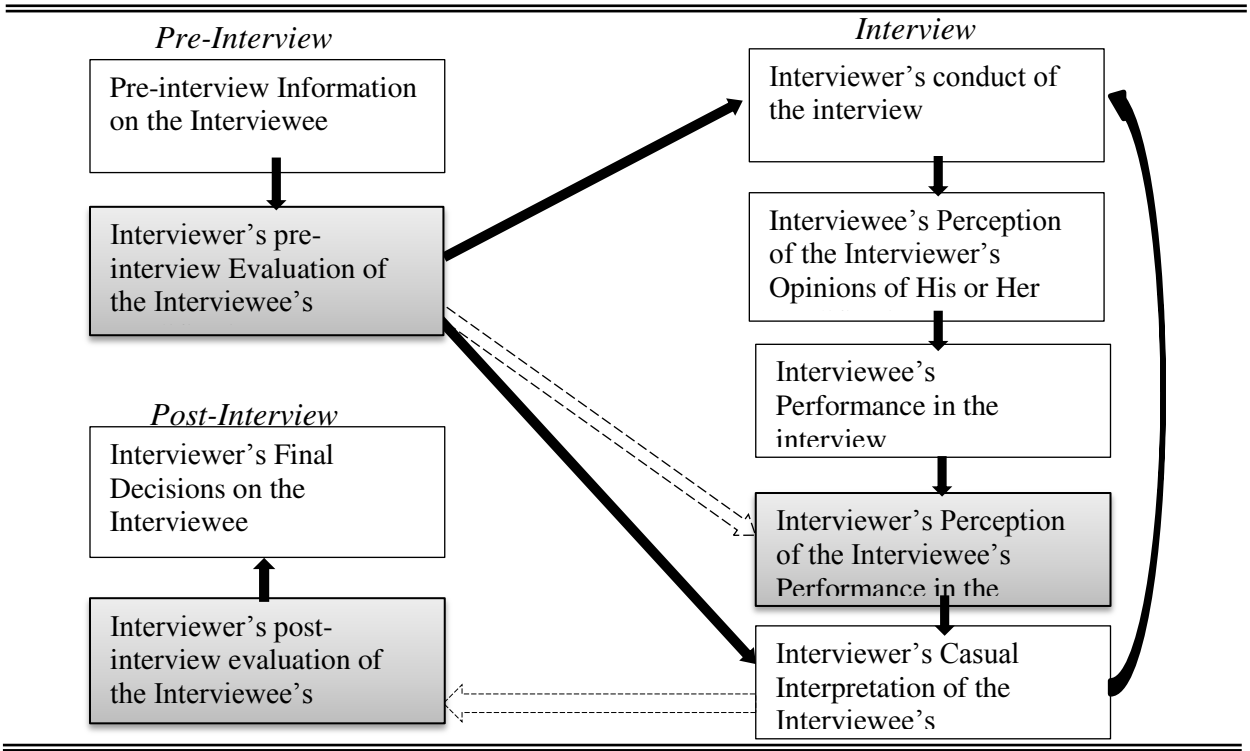

FIGURE 1: A Model of Self-Fulfilling Prophecy in the Interview (Dipboye 1982, p.580)

As you can conclude from Figure 1, the interviewer's pre-interview evaluations of the interviewee effects their perception of that individual's performance, which in turn affects the overall outcome of the interviewer's evaluation of political knowledge (Dipboye 1982).

Second, there exists an emphasis on social context which can affect interviewer bias. The social context idea explores the symmetrical relationship of positive and negative attractions between the interviewer and the interviewee (Williams 1964). Essentially, when two people are attracted to each other, both physically and conversationally, successful positive communication occurs. When two people are negatively attracted to each other, it can strain the communication environment. This can be cited as further evidence to question Bartels's assessment of political knowledge. It supports my claim by confirming the implicit influences that occur during an interview, further justifying a need for an objective measure.

The last of the interview effects to consider here are the interviewer's race, stereotype threat, and political bias. These effects should be examined from the perspective of how they can bias the open-ended opinion questions, which can overall bias the evaluation of political knowledge. First, the race of an interviewer on the interview is a well-documented observed relationship which cites bias as an unwanted outcome. There exists an eagerness on behalf of the interviewee to appease the racial expectations of the interviewer (Davis and Silver 2003; Jamieson & Kenski, 2000). This can be problematic especially when considering the open-ended political opinion responses. There exists a level of social desirability to not reveal certain opinions or to participate lackadaisically in the interview if the respondent feels threatened by the race of the interviewer (Anderson, Silver, & Abramson, 1986; Welch, 1977). The caveat here is that the interviewer bases their assessment of political knowledge on their evaluation of the

entire interview; therefore, if some respondents are hesitant to discuss aspects of politics for reasons of fear or fail to speak a lot regarding a political phenomenon, they will receive lower evaluations of political knowledge. The opposite can also be true. Those individuals who can comfortably speak about political phenomena may receive higher evaluations while their actual level of knowledge may be lower.

Similar to the threat of the interviewer's race is another concept developed within the psychology field: stereotype threat. This theory argues that when a member of a marginalized group participates in a survey, the stereotypes associated with the affected out-group can undermine the performance of that individual because the individual is more concerned with disconfirming the negative expectations of the interviewer about *them* and *their group*. Consequently, they may not pay attention attentively to key aspects of the interview because their focus lies in diminishing the negative stereotypes against them. (Davis and Silver 2003; McGlone, Aronson, Konrynoqicz 2006). Evidence of stereotype threat can be found not only in racial tensions but also gender gaps. As McGlone, Aronson, and Konrynoqicz (2006) argue, negative stereotypes about women's minority status in politics and government and their political acumen can both inhibit the results of survey responses by female respondents. Because of the stigmatization associated with marginalized groups, stereotype threat remains a serious bias in survey responses.

Lastly, partisan bias can have a tremendous bearing on the interviewer's evaluation of knowledge. Although a less documented concept, partisan bias can influence the interviewer's evaluation in two major ways. First, it suggests that an interviewer can positively or negatively evaluate the political opinions of the participant depending on whether the opinions are in alignment or misalignments with the interviewer's own partisanship (Healy and Malhorta 2013).

Next, it can sway the atmosphere of how the interview is conduced, inhibiting the quality of responses received during the open-ended portion of the survey (Healy and Malhorta 2013). While the consequences of partisan bias has yet to be fully tested, it is important to note them nevertheless as potentially biased factors that can influence data quality.

In sum, these factors impede upon the reliability of political knowledge survey responses, especially when using the subjective measure of knowledge. Critics may contest that there is no need to evaluate the responses of the interviewee here, but there is. As alluded to before, a great number of open ended political opinion questions compose the ANES. These questions can be a part of the interviewer's overall evaluation of the respondent's political knowledge, but they should not be; thus, there is a need to partial out their effects.

From a statistical perspective, the distribution of the subjective measure in comparison to the objective measure seems to yield conflicting information. After performing a density analysis of each measure, Figure 2 reflects that the subjective measure overwhelmingly has stark differences between the number of cases in each category[2], whereas the objective measure seems to reveal a more leveled distribution. Observe that one of the most riveting differences between the two exists in the "average" category. We can observe that Bartels's measure has an extraordinarily high number of average cases compared to the objective measure. The variation between these two measures suggests that the subjective measure may be overestimating many of its cases.

[2] Category scaled to 0=low knowledge, .2=fairly low knowledge, .5=average, .8=fairly high knowledge, 1=high knowledge

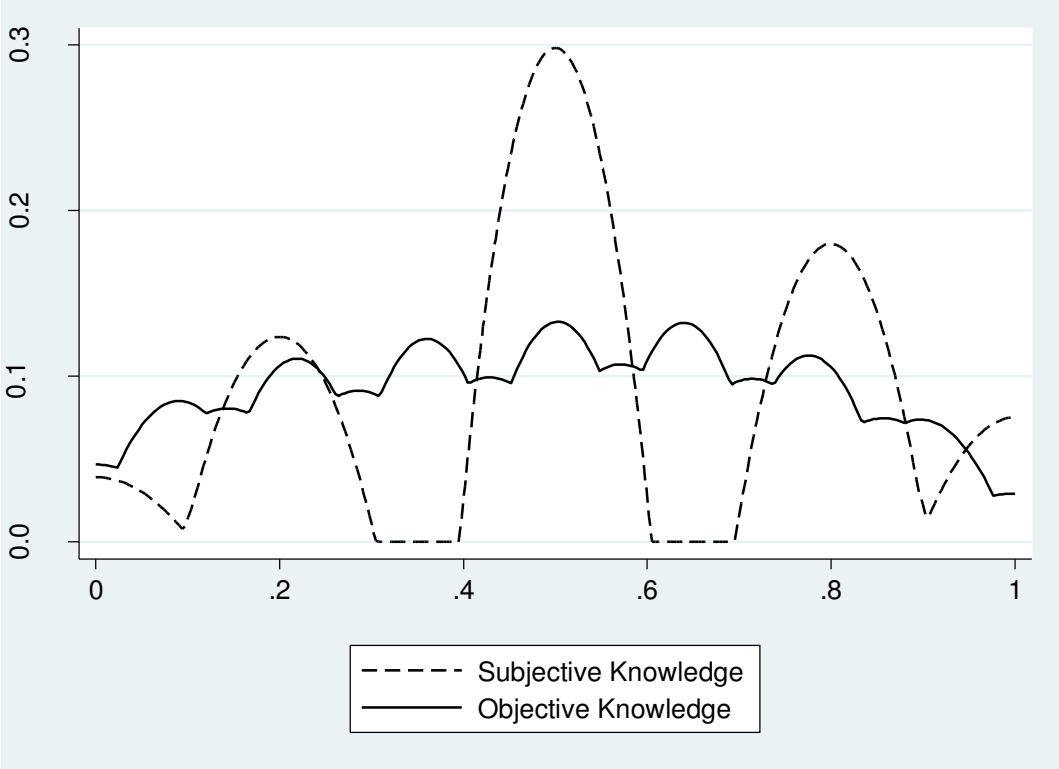

FIGURE 2. Kernel Density Report of Objective and Subjective Political Knowledge Scales

The level of correlation between the objective and subjective measure can provide insight into the estimate of political knowledge. With 95% confidence, we can assert that the correlation between the two is .6272 and is significant. This suggests that the subjective and objection measures are correlated with each other, but not necessarily highly correlated. Moreover, the graph between these two measures reveals that the subjective measure seems to be misestimating some of its cases. Consider Figure 3 below:

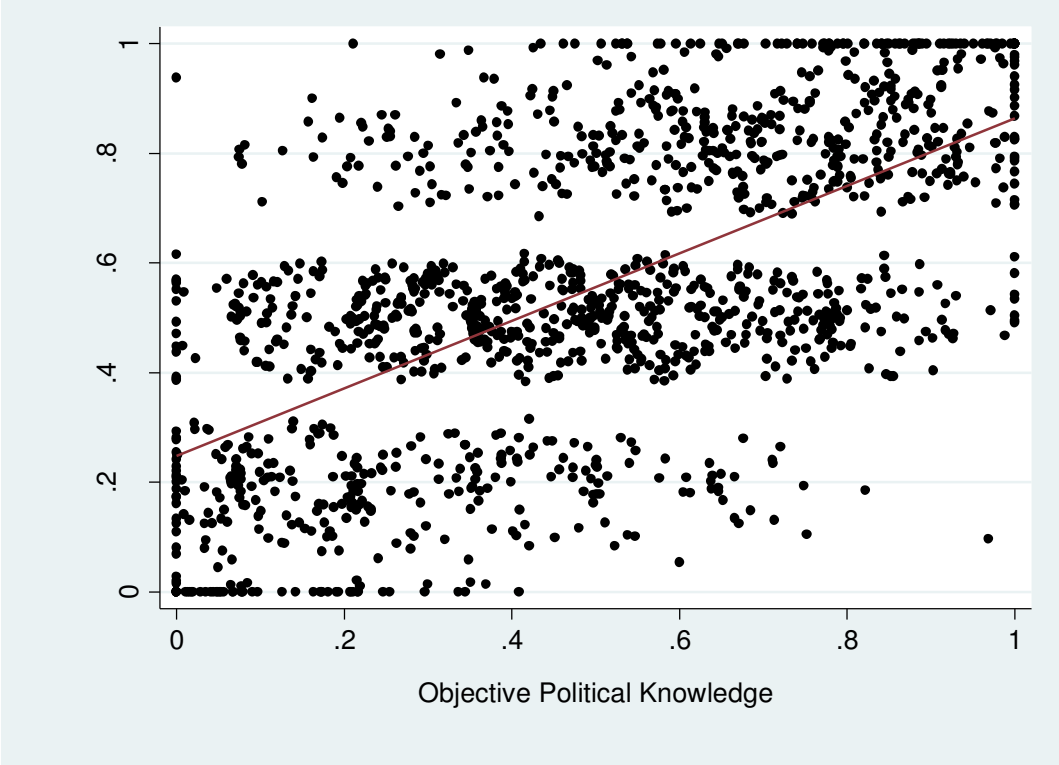

FIGURE 3. Scatterplot of Objective and Subjective Political Knowledge Scales

There are a few problematic areas to highlight in this figure. First, there appears to be a number of cases which score relatively average to high in the objective battery of political knowledge, yet the interviewer records these cases as having low political knowledge. Following this same premise is the opposite effect: there are a number of cases that score relatively low on the objective political knowledge questions (below .4), yet they are given significantly high evaluations from the interviewer. In fact, these respondents score well over .6, suggesting that the interviewer considered them to be highly knowledgeable about political information when in actuality they were not. Lastly, the most perplexing example of estimation variation occurs between the .4 and .6 indices of the subjective political knowledge categories. This range categorizes the designated point of "average" political knowledge. But, the objective political

knowledge measure reveals that these cases vary greatly. In fact, these respondents scored anywhere from 0 to 1 on the objective knowledge questions yet were evaluated as average. This suggests that the interviewer used the average category as a default for those participants which they were unsure about. In sum, this graphical representation exposes the underestimation and overestimation of the subjective political knowledge questions at various points. The display echoes the previous discussion of interviewer effects and provides evidentiary support in favor of using a more objective measure.

It should be noted that the objective measure of political knowledge is not without flaw. One of the most immediate concerns with the objective questions is that they provide an opportunity for respondents to guess at the answer (Mondak and Davis 2001). Those individuals who guess correctly are no more knowledgeable about the subject at hand than those who answer incorrectly or "Don't Know." Further analysis reveals that this "guessing game" has often been cited as the primary force that creates a gender gap between males and females on political knowledge batteries. Males get more questions right compared to females on political knowledge questions (Mondak and Anderson 2004). Yet one of the major concerns with this gap is that it does not provide an accurate portrayal of knowledge because men tend to guess more than women, who prefer to respond "Don't Know" (Mondak and Anderson 2004). Although these issues compromise the validity of the measure, the measure still provides more leverage against the bias found with the subjective measure.

Based upon the development of the informed and uninformed electorate, and the current research, which presents the evaluation of political knowledge, I argue that there exists a significant difference between the subjective measure and objective measure of political knowledge. It can be argued that interviewer assessment is a function of the respondent's real

knowledge and interviewer bias. While we are unable to know for sure to what extent bias affects the interviewer's assessment, we do have a component of the function: the respondent's real knowledge. In an ideal world, interviewer bias would be set to zero; therefore making the evaluation of the interviewer's assessment solely comprised of the real political knowledge measure. This measure, then, is fundamental to understanding whether a difference exists between an informed and uninformed electorate. I hypothesize that the objective measurement will show that the respondent is even less knowledgeable about politics, requiring an increased adjustment of the levels of political knowledge in the construction of the "informed" electorate (compared to the subjective evaluation). Therefore, there will be a discernible difference between the uninformed electorate and the simulated informed electorate, which differs from Bartels's conclusion that there exists no difference between these two groups.

RESULTS AND DISCUSSION

Data

I rely on the post-election survey from the American National Election Study conducted in 1992 as the primary source for data. This election sampled a cross-section panel of 2,255 respondents regarding the election season; however, we will focus on the post-election study of 1992, which reports vote choice rather than vote intention.

I have identified indexes of knowledge that deal specifically with familiarity about civic, party, and public figures within the political world. The batteries of questions ask respondents to give the political office of a list of four names: Vice President Dan Quayle, United States Chief Justice William Rehnquist, Russian President Boris Yeltsin, and Speaker of the House Tom Foley. This set of questions provides the respondent with the political figures, and then tests their knowledge of their ability to recall specific office positions. I also use a set of questions which intend to capture the level of knowledge that an individual has in regards to the duties of government. The first question asks which branch of government has the final responsibility to decide whether a law is constitutional, and the second question asks which branch nominates judges to the federal courts. These questions combined will create the variable *objective political knowledge* because require the respondent to think critically and recall factual political information in order to answer these questions correctly.

Our dependent variable of interest, *Republican Vote*, is the propensity of a respondent to vote for the Republican candidate, George H.W. Bush, or the Democratic candidate Bill Clinton. The empirical model employed will be probit regression, following that of Bartels. This will estimate the probability that an individual, with our conditions accounted for, will be vote Bush (1) or Clinton (0). The explanatory variable of interest is political knowledge. As stated

previously, Bartels relies on Zaller's methodological contribution of political knowledge as a way to operationalize his measure. Here, I have changed the approach that Bartels employs from using a rather subjective construction to an objective construction.[3] A total of seven questions were coded as 1 if the respondent answered correctly and 0 if the respondent answered either incorrectly or did not know the answer. Any missing values were excluded from the new variable. Once each of these questions were constructed into a dichotomous variable, the questions were then tallied up to determine how many questions a respondent answered correctly.

Following Bartels, the same controls were used to determine the propensity of the Republican vote and can be found in Appendix B. *Age* is a demographic included within the ANES survey and was not augmented in any manner. *Age Squared* was constructed and included in the model to account for any non-linear relationships. *Education* is coded into 7 categories: 8 grades or less, 9-11 grades, high school diploma or equivalency, more than 12 years of schooling (but no college degree), junior or community college level degree, BA level degree, and advanced degree. *Income* was included as a control variable and has been imputed to account for missing data values. Regions were also included as controls, and included *East, Central, South,* and *West.* Religion is a demographic found within the ANES, and it is coded for *Protestant, Catholic, Jewish,* and *All Others.* Finally, *Black, Female, Married, Homeowner, Housewife, Retired, Clerical, Professional,* and *Union Household* are each controls that have been coded as a binary variables, with 1 representing having the characteristic and 0 representing not having the characteristic. If "Inappropriate", "Don't Know", or "Not Applicable" were answered to any of the binary variables, they were excluded from the model as missing values.

[3] See Appendix A for the seven political knowledge questions

Methodology and Probit Analysis

First, I ran a basic probit regression model of the Republican vote, Bartels's political knowledge measure, and all other independent variables. Similarly, I ran another probit model of the Republican vote, which included the objective knowledge measure, and all other independent variables. The results can be seen in Table 1, which is continued on page 16. Unlike Bartels's analysis, the result of the subjective political knowledge measure does matter in the outcome vote. In fact, the influence of the subjective political knowledge measure becomes significant at the .001 level. Moreover, Bartels's measure had a reduction of errors in the prediction of the *Republican Vote* by 30.58%. Further analysis reveals that this model predicts a vote for Clinton correctly 78% of the time and a vote for Bush 63% of the time.

The objective political knowledge measure, however, yielded no significant result. Furthermore, the performance of the model in general was somewhat less than Bartels's model. For example, the objective model reduced errors in prediction of the *Republican* Vote by 28.36%. Also, the model predicts a vote for Clinton correctly 77% of the time and a vote for Bush 62% of the time. It is important to note that both models do not include an examination of the interaction between all other independent variables and political knowledge, which Bartels includes. Consequently, further investigation is truly needed to show that a difference exists between an informed and uninformed electorate, and that political knowledge is responsible for that difference.

TABLE 1. Probit Model: Subjective and Objective Political Knowledge on Vote Choice

Variable	Subjective Political Knowledge (SE)	Objective Political Knowledge (SE)
Constant	.144	.084
	(.515)	(.515)
Political Knowledge	-.615***	-.240
	(.246)	(.249)
Age	-.046**	-.047**
	(.023)	(.022)
Age Squared	.0004*	.0004*
	.0002	(.0002)
Income	.029**	.026**
	(.013)	(.013)
Education	.055	.038
	.045	(.045)
Black	-1.367***	-1.370***
	(.227)	(.229)
Female	-.219**	-.220**
	(.114)	(.115)
Married	.295**	.275**
	(.128)	(.127)
Homeowner	.261*	.261*
	(.138)	(.137)
Retired	.248	.301
	(.228)	.(.228)
Clerical	.171	.179
	(.153)	(.153)
Professional	-.171	-.183
	(.161)	(.159)
Union House	-.488***	-.494***
	(.150)	(.151)
East	-.058	-.076
	(.159)	(.158)
South	-.074	-.084
	(.142)	(.142)
West	.158	.168
	(.161)	(.161)
Protestant	.659***	.616***
	(.145)	(.144)
Catholic	.294*	.251
	(.165)	(.164)
Jew	-.867**	-.924**
	(.438)	(.440)
Log Likelihood	-381.12	-383.01691
N	680	679

*** $p < .01$ ** $p < .05$ * $p < .10$

Simulations

Bartels performs a simulation of his model to construct a hypothetical electorate in which political knowledge can be set to a desired value. In this model he creates interactions between the subjective measure *political knowledge* and all controls; he includes these in the original probit analysis. Following this, I estimated a probit regression by incorporating the interactions between political knowledge and all other independent variables used. To obtain the predicted equation, I used the coefficients from the probit regression to designate what the equation would be. Next I simulated what the predicted low and the predicted high results would be for both the subjective and objective political knowledge measures.

In the construction of both low and high knowledge, I predicted the equations rather dramatically. For the low group, I assumed that no one had any knowledge regarding politics; and thus, set political knowledge to 0. This, of course, sets all of the multiplicative interaction terms to zero. For the high knowledgeable group, I assume that everyone has the highest amount of knowledge, and set the political knowledge measure to 1. The results were then constructed into a 0 to 1 (Clinton, Bush respectively) scale. Within low knowledge, those who scored between 0 and .5 should vote Clinton and those who were between .5 and 1 should vote Bush. The same construction was applied to high knowledge.

Table 2 shows the cross tabulation between the predicted low and predicted high knowledge measure using Bartels's subjective measure. The model reduces errors in the prediction of the *Republican Vote* by 32.37%, while it correctly predicts a Clinton vote 78% of the time and a Bush vote correctly 65% of the time.

TABLE 2: Cross Tabulation of Subjective Predicted Low and High Knowledge[4]

		Predicted High Subjective Knowledge		
		Clinton	Bush	Total
Predicted Low Subjective Knowledge	Clinton	257 (37.79)	24 (3.53)	281 (41.32)
	Bush	287 (42.21)	112 (16.47)	399 (58.68)
	Total	544 (80.00)	136 (20.00)	680 100.00

In examining Table 2, we observe that the marginal distribution for each variable report the predicted vote share for the alternative simulated states. A simulated electorate of poorly-informed voters predicts a Bush win of roughly 59% to 41%. The simulated electorate of fully-informed voters, however, predicts a Clinton victory of 80% to 21%. These drastic differences pose the question, what is the source of this change? But, what is interesting is what is occurring inside these cells. For example, those with low predicted knowledge end up switching from voting for Bush to voting for Clinton in the simulated world by roughly 42%. Those with high levels of knowledge are already voting for Clinton by approximately 38% and are less likely to make a switch. The rate of switching at high levels of political knowledge from Clinton to Bush is 3.5%. This is small relative to the switch from Bush to Clinton. This evidence suggests that information levels do matter in voting decisions and confirm that varying levels of knowledge can affect predicted vote outcome.

Table 3 shows the cross tabulation between the predicted low and predicted high objective measure. The results present similar model performance to the subjective model. For instance, the objective model reduces errors in the prediction of the *Republican Vote* by 32%

[4] Frequency and (percentage) represented in cells

(compared to the subjective 32.37%). Furthermore, the model predicts Clinton voters correctly 78% of the time and Bush voters correctly 64% of the time. While the performance of the models remains similar, the objective model produces far different results compared to Bartels's subjective cross tabulation. For example, the marginal distribution of a simulated electorate of poorly-informed voters predicts a *Clinton* win of roughly 79% to 21%. This is a staggering difference compared to what Bartels's measure produces. Also, the simulated electorate of a fully-informed electorate predicts a *Bush* win by approximately 90% to 9.5%. At present, the marginal distributions of the subjective and objective model predict winners in opposite directions. Inside the cells, the low predicted knowledge voters switch for Bush to voting for Clinton in the simulated world by only 1.18%. Those simulated to have higher levels of knowledge, however, switch from voting from Clinton to voting for Bush by 70%. Both of these switches vary greatly compared to Bartels's subjective political knowledge measure

TABLE 3: Cross Tabulation of Objective Predicted Low and High Knowledge

		Predicted High Objective Knowledge		
		Clinton	Bush	Total
Predicted Low Objective Knowledge	Clinton	57 (8.39)	478 (70.40)	535 (78.79)
	Bush	8 (1.18)	136 (20.03)	144 (21.21)
	Total	65 (9.57)	1,027 (90.43)	679 (100.00)

Conclusion

So, what can be concluded from this analysis? There are several discrepancies which warrant further investigation. First, as demonstrated throughout this manuscript, Bartels's model does

have some flaws. One of the biggest issues is that the model is poorly specified because it fails to include some key controls: ideology and partisanship. As demonstrated through the cross tabulation analysis, there are sweeping switches between votes based on varying levels of political knowledge. It is unclear exactly what fully accounts for these switches. It is well-documented in Political Science that ideology and partisanship are key factors in determining political outcomes like voting behavior; yet neither of these controls are included. If ideology and partisanship of the electorate were controlled for and switches between votes based on knowledge level still occurred, then we would have even stronger support that the level of political knowledge does indeed matter.

Next, it would be further helpful to control for the ideology and the partisanship of the interviewer. The underestimation and overestimation differences that exist between the subjective and objective measure, as discussed previously, can be a serious bias. While I am confident that many of the bias issues were addressed, I still believe that the ideology of the interviewer may be a strong indication as to why these extreme differences occur, and occur in large numbers.

Most importantly, however, is to realize that contrary to the results of Bartels information does seem to matter. It appears that not only does information matter, the amount of information that an individual has can produce sweeping differences in the electorate. This is significant because it suggests that more knowledge about politics can indeed help the electorate make informed decisions about politics.

APPENDIX A

ANES OBJECTIVE POLITICAL KNOWLEDGE QUESTIONS, 1992

The explanatory variable *Objective Political Knowledge* was constructed as a composite of seven questions on the ANES study. The questions were as follows:

(a) Would you say that one of the parties is more conservative than the other at the national level? If so which one? (V925914 & V925915)

(b) Now we have a set of questions concerning various public figures. We want to see how much information about them gets out to the public from television, newspapers, and the like. The first name is _____. What job or political office does he now hold?

1. Dan Quayle (V925916)

2. William Rehnquist (V925917)

3. Boris Yeltsin (V925918)

4. Tom Foley (V925919)

(c) Who has the final responsibility to decide if a law is constitutional or not…is it the president, the Congress, the Supreme Court, or don't you know? (V925920)

(d) And whose responsibility is it to nominate judges to the Federal Courts…the President, the Congress, the Supreme Court, or don't you know? (V925921)

APPENDIX B

LIST OF CONTROLS USED

1. *Age* (V923903): measured in years
2. *Age Squared* (V923903): measured in years and squared
3. *Educatio*n (V923908): coded into 7 categories: 8 grades or less, 9-11 grades, high school diploma or equivalency, more than 12 years of schooling (but no college degree), junior or community college level degree, BA level degree, and advanced degree. Inappropriate (4 respondents), Don't Know (3 respondents), and Not applicable (58 respondents) are coded as missing.
4. *Income* (V924104): measured in thousands, imputation required to account for missing values.
5. Regions (V923014): were coded for 1=east, 2=central, 3=south and 4=west, following the designation from the ANES.
6. Religions (V923830): were coded for 1=Protestant, 2=Catholic, 3=Jewish, 4=All Others, following the designation from the ANES.
7. The following are coded as binary variables, with 1 representing having that characteristic, and 0 representing not having that characteristic. Any "Inappropriate," "Don't Know," or "Not Applicable" answers were excluded :
   Black (V926247), *female* (V924201), *married* (V925639), *homeowner* (V924135), *housewife (*V923914), *retired (*V923914), *clerical* (V923955), *professional* (V923955), *union household (*V924101)

APPENDIX C

ESTIMATES FOR FULLY INTERACTIVE MODELS

TABLE 4: Estimates for Fully Interactive Models

Variable	Subjective Political Knowledge (SE)	Objective Political Knowledge (SE)
Constant	.304	.242
	(1.377)	(1.274)
Political Knowledge	-.823	-.331
	(2.193)	(2.171)
Age	-.028	-.074
	(.062)	(.055)
Age Squared	.0002	.0007
	.001	(.0006)
Income	.014	.037
	(.036)	(.031)
Education	.094	.052
	(.133)	(.128)
Black	-1.343***	-885**
	(.557)	(.465)
Female	.291	.346
	(.317)	(.298)
Married	.521	.308
	(.366)	(.332)
Homeowner	.083	.224
	(.369)	(.337)
Retired	.687	.184
	(.673)	.(.618)
Clerical	.405	.604
	(.425)	(.393)
Professional	-.020	.236
	(.547)	(.527)
Union House	-.449	-.369
	(.391)	(.365)
East	-.064	.211
	(.454)	(.397)
South	-.290	.045
	(.384)	(.355)
West	.157	.978**
	(.445)	(.436)
Protestant	-.233	-.351
	(.393)	(.378)
Catholic	-581	-.448
	(.450)	(.417)

TABLE 4- Continued

Variable	Subjective Political Knowledge (SE)	Objective Political Knowledge (SE)
Jew	-22.303	-4.617
	(667.210)	(3.231)
Age*Political Knowledge	-.037	.045
	(.097)	(.092)
Age Squared*Political	.0004	-.0007
Knowledge	(.001)	(.001)
Income*Political Knowledge	.025	-.013
	(.057)	(.052)
Education*Political	-.069	-.070
Knowledge	(.185)	(.196)
Black*Political Knowledge	-.004	-1.335
	(.912)	(1.044)
Female*Political Knowledge	-.786*	-1.036**
	(.472)	(.482)
Married*Political Knowledge	-.336	-.035
	(.546)	(.528)
Homeowner*Political	.342	.091
Knowledge	(.560)	(.546)
Retired*Political Knowledge	-.665	.320
	(1.014)	(1.026)
Clerical*Political Knowledge	-.403	-.754
	(.668)	(.704)
Professional*Political	-.214	-.598
Knowledge	(.720)	(.740)
Union House*Political	-.105	-.234
Knowledge	(.623)	(.648)
East*Political Knowledge	.046	-.589
	(.689)	.652
South*Political Knowledge	.372	-.283
	(.586)	.579
West*Political Knowledge	.553	-1.371**
	(.670)	(.681)
Protestant*Political	1.476**	1.686***
Knowledge	(.609)	(.600)
Catholic*Political Knowledge	1.459**	1.130*
	(.702)	(.661)
Jew*Political Knowledge	22.512	4.767
	(667.212)	(3.572)
Log Likelihood	-372.72392	-368.61349
N	680	679

*** $p < .01$ ** $p < .05$ * $p < .10$

APPENDIX D

STATA SIMULATION CODE

```
*Bartels's Measure:*

probit rep_vote bpknow age agesq educ xinc3 blk fem mar hown hw reti cler prof uhouse /*
*/ east south west prot cath jew age_bk agesq_bk educ_bk inc_bk blk_bk fem_bk mar_bk /*
*/ hown_bk hw_bk reti_bk cler_bk prof_bk un_bk east_bk s_bk w_bk prot_bk cath_bk jew_bk

predict Y_hat

gen predict=normal(.304 + (-.823*bpknow) + (-.028*age) + (.0002*agesq) + (.094*educ) /*
*/ + (.014*xinc3) + (-1.342*blk) + (.291*fem) + (.521*mar) + (.083*hown) + (.687*reti) + /*
*/ (.405*cler) + (-.020*prof) + (-.449*uhouse) + (-.064*east) + (-.290*south) + (-.157*west) /*
*/+ (-.233*prot) + (-.581*cath) + (-22.30*jew) + (-.037*age_bk) + (.0003*agesq_bk) +(-
.069*educ_bk)+(.025*inc_bk)+(-.004*blk_bk)/*
*/+(-.786*fem_bk)+(-.336*mar_bk)+(.342*hown_bk)+(-.667*reti_bk)+(-.403*cler_bk)+(-
.214*prof_bk) + (-.105*un_bk) + (.046*east_bk) + (.372*s_bk)/*
*/+ (.553*w_bk) +(1.476*prot_bk) +(1.489*cath_bk)+(22.51*jew_bk))

corr Y_hat predict


*predicted low
gen predicted_low_bk=normal(.304 + (-.823*0) + (-.028*age) + (.0002*agesq) + (.094*educ) /*
*/ + (.014*xinc3) + (-1.342*blk) + (.291*fem) + (.521*mar) + (.083*hown) + (.687*reti) + /*
*/ (.405*cler) + (-.020*prof) + (-.449*uhouse) + (-.064*east) + (-.290*south) + (-.157*west) /*
*/+ (-.233*prot) + (-.581*cath) + (-22.30*jew) + (-.037*0) + (.0003*0) +(-.069*0)+(.025*0)+(-
.004*0)/*
*/+(-.786*0)+(-.336*0)+(.342*0)+(-.667*0)+(-.403*0)+(-.214*0) + (-.105*0) + (.046*0) +
(.372*0)/*
*/+ (.553*0) +(1.476*0) +(1.489*0)+(22.51*0))

*predicted high
gen predicted_high_bk=normal(.304 + (-.823*1) + (-.028*age) + (.0002*agesq) + (.094*educ) /*
*/ + (.014*xinc3) + (-1.342*blk) + (.291*fem) + (.521*mar) + (.083*hown) + (.687*reti) + /*
*/ (.405*cler) + (-.020*prof) + (-.449*uhouse) + (-.064*east) + (-.290*south) + (-.157*west) /*
*/+ (-.233*prot) + (-.581*cath) + (-22.30*jew) + (-.037*age) + (.0003*agesq) +(-
.069*educ)+(.025*xinc3)+(-.004*blk)/*
*/+(-.786*fem)+(-.336*mar)+(.342*hown)+(-.667*reti)+(-.403*cler)+(-.214*prof) + (-
.105*uhouse) + (.046*east) + (.372*south)/*
*/+ (.553*west) +(1.476*prot) +(1.489*cath)+(22.51*jew))
```

```
* Predicted Vote, Low Bartels *
gen PR_low_bk=.
replace PR_low_bk=0 if predicted_low_bk >= 0 & predicted_low_bk <.5
replace PR_low_bk=1 if predicted_low_bk>=.5 & predicted_low_bk<=1

* Predicted Vote, High Bartels *
gen PR_high_bk=.
replace PR_high_bk=0 if predicted_high_bk>=0 & predicted_high_bk<.5
replace PR_high_bk=1 if predicted_high_bk>=.5 & predicted_high_bk<=1

sum PR_low_bk
sum PR_high_bk
tab PR_low_bk PR_high_bk, cell chi2

*++++++++++*
*My Measure*
*++++++++++*

probit rep_vote polknow age agesq educ xinc3 blk fem mar hown hw reti cler prof uhouse /*
*/ east south west prot cath jew age_pk agesq_pk educ_pk inc_pk blk_pk fem_pk mar_pk /*
*/ hown_pk hw_pk reti_pk cler_pk prof_pk un_pk east_pk s_pk w_pk prot_pk cath_pk jew_pk

predict Y_hat2

gen predict2=normal(.304 + (-.331*polknow) + (-.074*age) + (.0007*agesq) + (.052*educ) /*
*/ + (.037*xinc3) + (-.885*blk) + (.346*fem) + (.308*mar) + (.224*hown) + (.184*reti) + /*
*/ (.604*cler) + (-.236*prof) + (-.369*uhouse) + (-.211*east) + (-.045*south) + (.978*west) /*
*/+ (-.351*prot) + (-.448*cath) + (-4.617*jew) + (-.045*age_pk) + (.0006*agesq_pk) +(-
.070*educ_pk)+(.013*inc_pk)+(-1.335*blk_pk)/*
*/+(-1.036*fem_pk)+(-.035*mar_pk)+(.0911*hown_pk)+(.320*reti_pk)+(-.754*cler_pk)+(-
.598*prof_pk) + (-.234*un_pk) + (-.589*east_pk) + (-.283*s_pk)/*
*/+ (-1.371*w_pk) +(1.686*prot_pk) +(1.130*cath_pk)+(4.767*jew_pk))

corr Y_hat2 predict

*predicted low
gen predicted_low_pk=normal(.241 + (-.331*0) + (-.074*age) + (.0007*agesq) + (.052*educ) /*
*/ + (.037*xinc3) + (-.885*blk) + (.346*fem) + (.308*mar) + (.224*hown) + (.184*reti) + /*
*/ (.604*cler) + (-.236*prof) + (-.369*uhouse) + (-.210*east) + (-.045*south) + (.978*west) /*
*/+ (-.351*prot) + (-.448*cath) + (-4.617*jew) + (.045*0) + (.0009*0) +(-.0700)+(-.013*0)+(-
1.335*0)/*
*/+(-1.036*0)+(-.035*0)+(.091*0)+(.320*0)+(-.754*0)+(-.598*0) + (-.234*0) + (-.589*0) + (-
.283*0)/*
*/+ (-1.370*0) +(1.686*0) +(1.130*0)+(4.767*0))

*predicted high
```

```
gen predicted_high_pk=normal(.241 + (-.331*0) + (-.074*age) + (.0007*agesq) + (.052*educ) /*
*/ + (.037*xinc3) + (-.885*blk) + (.346*fem) + (.308*mar) + (.224*hown) + (.184*reti) + /*
*/ (.604*cler) + (-.236*prof) + (-.369*uhouse) + (-.210*east) + (-.045*south) + (.978*west) /*
*/+ (-.351*prot) + (-.448*cath) + (-4.617*jew) + (.045*age*1) + (.0009*agesq*1) +(-
.070*educ*1)+(-.013*xinc3*1)+(-1.335*blk*1)/*
*/+(-1.036*fem*1)+(-.035*mar*1)+(.091*hown*1)+(.320*reti*1)+(-.754*cler*1)+(-
.598*prof*1) + (-.234*uhouse*1) + (-.589*east*1) + (-.283*south*1)/*
*/+ (-1.370*west*1) +(1.686*prot*1) +(1.130*cath*1)+(4.767*jew*1))

* Predicted Vote, Low Mine *
gen PR_low_pk=.
replace PR_low_pk=0 if predicted_low_pk >= 0 & predicted_low_pk <.5
replace PR_low_pk=1 if predicted_low_pk>=.5 & predicted_low_pk<=1
*pr low is clinton if between 0 and .5
*pr low is bush if .5 and 1
*thus, if you have low levels of knowledge, if you are between 0 and .5 you vote for clinton and
if between
*.5 and 1 you vote Bush

* Predicted Vote, High Mine *
gen PR_high_pk=.
replace PR_high_pk=0 if predicted_high_pk>=0 & predicted_high_pk<.5
replace PR_high_pk=1 if predicted_high_pk>=.5 & predicted_high_pk<=1
*pr high is clinton if between 0 and .5
*pr high is bush if between .5 and 1
*thus if you have high levels of knowledge and between 0 and .5 Clinton,
*high levels of knowledge between .5 and 1 bush

sum predicted_low_pk predicted_high_pk
tab PR_low_pk PR_high_pk, cell chi2
```

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BIOGRAPHICAL SKETCH

Sherí Sullivan was born in Raleigh, North Carolina, but has lived in Plano, Texas since the age of one. She graduated from Ursuline Academy of Dallas in 2007. She attended Vanderbilt University and received her Bachelor of Arts in Spanish and Political Science in 2011. Sherí completed her Master of Science in Political Science at The Florida State University in 2013.