The Micro Foundations of Presidential Approval

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Abstract

The "miracle of aggregation" has become the key to understanding how an uninterested and uninformed electorate can produce systematic and responsive presidential approval. This paper, however, presents a set of theoretical considerations, which predict that not only do the least informed contribute to aggregate measures of presidential approval, but that the most and least informed update their attitudes in tandem. To test this hypothesis of uniform opinion change, I analyze subgroup and individual level presidential approval with quarterly, monthly, and daily data. The results suggest a reconsideration of how we think about public opinion in the United States. Although subtle differences exist across information groups, all segments of the public translate economic and political information into their presidential evaluations.

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"Do you approve or disapprove of the way [the incumbent] is handling his job as president?" is the longest running and most frequent poll question asked to the American public. And answers to this question exert a tremendous influence on U.S. politics. Shifts in presidential approval ratings help steer behavior and outcomes in all three branches of government (Abramson, Aldrich & Rohde 1995, Brace & Hinckley 1992, Brody 1991, Canes-Wrone & DeMarchi 2002, Edwards 1980, Fiorina 1981, Gronke & Newman 2003, Gronke, Kock & Wilson 2003, Marra & Jr. 1989, Neustadt 1960, Rivers & Rose 1985, Rohde & Simon 1985, Sigelman 1979, Yates & Whitford 1998, Yates 2002). Yet, the linkage between presidential approval and political outcomes may be less democratic than appears. The existing literature suggests that only a small minority of the public—the most informed and politically sophisticated—move presidential approval.

Erikson, MacKuen, & Stimson (2002, 107) conclude their analysis of presidential approval by stating, "Although we have presented evidence of an impressive economic intelligence on the part of the U.S. electorate, it is worth repeating that this result depends on the powers of aggregation." Similarly, recent experimental research finds that the most informed are the most likely to update their presidential evaluations in response to media coverage of an event. Miller and Krosnick (2000, 312) state that for media priming to influence presidential evaluations, "one must have the requisite knowledge to interpret, store, and later retrieve and make inferences from news stories they see, hear, or read."[1] When politicians react to changes in presidential approval, the voice of the most informed may be all that matters.

The finding that information elites dominate presidential approval is perhaps not surprising, given the dominant influence of the economy and international events on presidential evaluations (Brody 1991, Erikson, MacKuen & Stimson 2002, McAvoy

[1]For additional perspectives on who is most susceptible to media priming see (Hill 1985, Iyengar 1979, Iyengar & Krosnick 1984, Iyengar & Kinder 1987, Krosnick 1990, Krosnick & Brannon 1993, Weaver, Graber, McCombs & Eyal 1981).

2006*a*, MacKuen 1983, MacKuen, Erikson & Stimson 1992, Mueller 1973). Public opinion literature shows that for difficult issues, the most politically informed are the most likely to receive and thus respond to new information (Bartels 1994, Converse 2000, Delli Carpini & Keeter 1996, Druckman 2005, Schneider & Jacoby 2005, Sniderman 1993, Zaller 1992). Indeed, the least informed segment of the public consistently makes the most error prone economic assessments (Aidt 2000, Conover, Feldman & Knight 1987, Duch, Palmer & Anderson 2000, Krause 1997, Krause & Granato 1998, Holbrook & Garand 1996, Anderson 2007) and is largely tuned out and factually uninformed about foreign affairs (Bennett 1996, Converse 1964, 241, Page & Shapiro 1992, 9-11). The coherent and predictable movement of presidential approval appears to be a classic example of the "miracle of aggregation." Uninformed survey responses cancel, leaving the signal of the most politically informed segment of the public (Converse 1990, Converse 2000, Converse 2006, Erikson, MacKuen & Stimson 2002, Page & Shapiro 1992, Stimson 2004). As Converse (1990, 382) explains, aggregate opinion "is very recognizable because it is undoubtedly shaped in large measure by the small minority of the electorate that is nearly as well informed about these matters as our elite informants."

This paper, however, presents an alternate view of presidential approval. I show that given the directional nature of messages that relate to presidential performance (Brody 1991), we should not only expect the least informed to contribute to aggregate measures of presidential approval but we should see the most and least informed update their assessments of the president in tandem. The following section develops the theoretical considerations which lead to this hypothesis of uniform opinion change. I then examine a variety of data sources in order to test the hypothesis at quarterly, monthly, and daily intervals using sub–aggregate and individual–level analyses. The results suggest a reconsideration of how we think about public opinion in the United States. Although subtle differences exist across information groups, all segments of the public translate economic and political information into their presidential evaluations.

Demystifying the Miracle of Aggregation

As Erikson, MacKuen, and Stimson (2002, 78) note, "Five decades of research on political behavior have painted a portrait of voters who know next to nothing and prefer to think about issues other than politics." The "miracle of aggregation" has become the key to understanding how an electorate comprised largely of uninterested and uninformed individuals can produce systematic and responsive presidential approval. This paper, however, presents an alternate model of aggregate opinion. I begin with a discussion of message reception, the first precondition of opinion change.

Message reception has become inextricably linked with political awareness. Not only do the politically aware encounter the most messages but they are more likely to comprehend—that is, receive—the messages they encounter (Zaller 1992). Thus, when the media unite in support an issue, such as a rally event, the politically informed should steer aggregate approval ratings. These individuals receive the most information and should in turn produce the fastest and strongest response. In contrast, when media depict an issue along partisan lines, the middle information group should drive aggregate approval. These individuals are attentive enough to receive the incoming information but are not so attentive as to have strong partisan attachments (Zaller 1992, Zaller 1994). Regardless of message type, the expectations for the least informed are minimal; they generally do not pay attention to political messages.[2]

I contend, however, that when directional messages are easy to classify, it is the proportion of messages an individual receives, not the number of messages, that matters for opinion change. Suppose that during time period t, there are 20 positive messages and 10 negative messages about the president. Also suppose that a politically unaware person has a .1 probability of receiving a message and a politically aware person has a .9

[2]As Zaller (1992, 16) points out, "People at this level of inattentiveness can have only the haziest idea of the policy alternatives about which pollsters regularly ask them to state opinions, and such ideas they do have must be relatively innocent of the effects of elite discourse."

probability of receiving a message. The politically aware individual will be expected to receive nine times as many messages as the unaware individual, but both will receive the same proportion of positive messages. Regardless of the probability of message reception, if a person receives a message, the conditional probability that the message is positive is .67. In practice, because politically unaware individuals receive fewer messages, they will receive a noisier estimate of the available information. Nevertheless, the proportion of messages received should be similar for both groups.[3]

Of course, not all media sources present the same balance of positive and negative news about any particular issue. Some media sources, for example, may consistently portray the president in a more positive or negative light. Because individuals tend to seek out information that confirms their predispositions (Taber & Lodge 2006), any partisan emphasis in news programming should lead to cross–sectional differences in message reception. For opinion change, however, it is the changing proportion of messages that matters. If at time point t+1 the economic outlook changes or the president encounters a notable policy success or failure, all news sources should reflect these changes. In other words, I assume that any partisan bias depicted by a news source is constant. The overtime variation, however, will reflect objective events.[4] Although individuals likely receive different proportions of positive or negative information, the

[3]In this example, the joint probability that a person receives a message and that the message is positive is much greater for the politically aware individual than the politically unaware individual (.603 and .067, respectively). It must be remembered, however, that the probability that the politically aware individual receives a message and that the message is negative is also much greater (.297 and .033, respectively). Although the politically aware individual will receive more messages than the unaware individual both will receive roughly twice as many positive messages as negative messages. The ratios are equal.

[4]For evidence that different news sources portray the news in similar ways, see (Hallin 1984, Kellstedt 2000, Schneider & Jacoby 2005, Zaller & Chiu 1996). The few sources of information which never vary the intensity of the information they present (consider, for example, an extremely partisan website) would not be expected to contribute to any overtime opinion change.

proportion of positive messages should increase and decrease at the same time, regardless of individuals' political awareness level.

Message Classification

Proportional message reception hinges on how easy or hard messages are to classify on a two–sided continuum. When messages are difficult to classify, individuals must rely on memory based information processing to comprehend the message.[5] The beginning of a competitive presidential primary provides an example of difficult to classify messages. Messages about multiple candidates from the same party do not easily map on to the standard Left–Right dimension. Only politically attentive individuals who can relate new information about each candidate to previous stores of information about each of the candidates would be expected to comprehend and use the incoming information. In contrast, as messages become easier to classify, the proportion of messages received becomes more important than the number of messages received. Economic news serves as an example of easy to classify information; higher unemployment is bad, recession is bad, cheaper gas prices are good. When the economy improves (or falters), the proportion of positive economic signals should increase (or decrease) in tandem for all segments of the public.

My definition of easy message classification parallels Carmines and Stimson's (1980) description of easy issues, which elicit a "gut response" that does not require elaboration. I contend, however, that messages about complex and cognitively difficult issues can still be easy to classify if they provide a directional signal. The expectation that individuals can rely on the direction of a message as opposed to the details of the message builds on the literature which shows that individuals can use simplifying procedures,

[5]Here, the cognitive requirements of memory based information processing are consistent with Petty and Cacioppo's (1986*a*, 1986*b*) concept of message "elaboration" and Chaiken's (1980) description of systematic processing.

such as cues and heuristics, to make political decisions (Iyengar 1990, Lupia 1994, Lupia & McCubbins 1998, Popkin 1991).[6] The expectations of proportional message reception differ from this information short cuts literature, however, in two ways. First, these scholars argue that when individuals value accuracy, they can use heuristics to make seemingly "informed" decisions in the absence of full information (Lupia 1994, Lupia & McCubbins 1998). Proportional message reception does not predict that uninformed individuals will formulate the attitudes they would have formed with more information. The expectation is that even though the most and least informed may differ cross–sectionally, the two groups will update their attitudes in tandem. Second, as opposed to relying on heuristics strategically, I propose that individuals receive directional cues in an ongoing and largely passive process.[7] Proportional message reception should occur continuously—not just during elections when the motivation for accuracy increases.

Figure 1 models the expectations for message reception as a function of political awareness and ease of message classification. The right front side of the figure, which corresponds with difficult to classify issues, depicts the standard memory based expectation that the quantity of messages received will increase as level of political awareness increases (MacKuen 1984, Zaller 1992). The left half of Figure 1 shows expectations of message reception as message classification becomes easier. Note that the vertical axis for the left half of the figure reflects the change in the proportion of messages received.[8] The left half of the figure shows that as messages become easier to classify, the proportion of positive (or negative) messages received becomes increasingly

[6]The notion that individuals can use simplifying procedures to make decisions is also consistent with dual–processing models of persuasion, such as Petty and Cacioppo's (1986*a*, 1986*b*) Elaboration Likelihood Model and Chaiken's (1980) Heuristic–Systematic Model.

[7]Lupia and McCubbins (1998, 25), for example, refer to a "calculus of attention" which predicts when individuals will attend to information which will likely aid their decision.

[8]More technically, this axis reflects the absolute value of the change in the proportion of messages. Because the direction of change is arbitrary, we can use the absolute value, which will range from 0 to 1.

uniform across political awareness level. Again, this does not mean that individuals receive the same number or even the same proportion of messages. Rather, if messages are easy to classify, the proportion of messages changes in tandem regardless of level of political awareness.

[FIGURE 1 ABOUT HERE]

After an individual receives a message, the message must be accepted for it to influence new opinions. The dominant view in public opinion literature is that political awareness is inversely related to the likelihood of accepting a new message. (Converse 1962, McGuire 1973, MacKuen 1984, Zaller 1991, Zaller 1992). The most politically aware are most able to recognize which messages conflict with prior dispositions and to counter argue or discount these messages (Zaller 1992). This expectation would seemingly apply to the proportion of messages received. If the information environment turns against the president, a highly aware supporter should ignore or discount the increase in negative messages. As a result, only the least politically aware would respond to the increased proportion of negative messages. I contend, however, that the ease of message classification also moderates message acceptance. Messages that are easy to classify should be easier to compare to prior dispositions. This expectation is particularly strong for issues that relate to presidential approval, where presidential vote or party identification can serve as cues to predisposition toward the president. Figure 2 models the expected relationship between message acceptance, political awareness, and ease of classification. The probability of message acceptance is highest at the top–front portion of the Figure. The right front panel shows that for difficult to classify issues, as political awareness increases, the probability of message acceptance decreases. This pattern reflects the dominant expectation in the literature. The left side of the figure shows the varying influence of ease of message classification. As classification becomes easier, message acceptance becomes increasingly uniform across sophistication levels.

[FIGURE 2 ABOUT HERE]

We are most interested, however, in opinion change. Prior research models the probability of opinion change as a function of message reception times message acceptance (MacKuen 1984, Zaller 1992). Figure 3 depicts the probabilities of opinion change that result from multiplying Figure 1 (Message Reception) times Figure 2 (Message Acceptance). The front panel of Figure 3 shows the expected patterns of opinion change for difficult to classify messages as political awareness increases. As Zaller (1992) predicts, the middle information group is the most responsive. When messages are difficult to classify, the most informed will receive the most messages, but they will also be best equipped to discount messages which conflict with their predispositions. Individuals in the middle group, who receive and accept new messages, are the most likely to update their attitudes. As messages become easier to classify, however, the probability of opinion change becomes more evenly distributed. For the easiest messages, the least politically aware may be even slightly more responsive.

[FIGURE 3 ABOUT HERE]

On the surface, the expectation in Figure 3 for the least politically aware and easy issues parallels the prediction of Zaller's (1992) Receive–Accept–Sample model. Yet, the substantive expectations of the two models differ greatly. For Zaller, easy messages are exceedingly simple and ubiquitous (Zaller 1992, 125-125). The constant barrage of candidate sound bites during a presidential election might represent an "easy learning situation." Consistent with this perspective, the vote choices of the least informed show the most responsiveness to presidential campaigns (Converse 1962, Zaller 2004). I propose, however that easy message classification is the norm, not the exception in American politics. As long as individuals can recognize the direction of the messages they encounter, even a complex issue with only moderate media exposure should be considered an "easy" issue. Because information that relates to presidential approval is typically two–sided (Brody 1991, Erikson, MacKuen & Stimson 2002), the reception of messages that relate to the president should not depend on the simplified and voluminous information present during campaigns. Furthermore, since it is the

proportion, not the number of messages that matters for easy to classify messages, I predict that all segments of the public will consistently update their assessments of the president in tandem. Some responses will still be random and some individuals will never update their presidential evaluations, but movement should come from all segments of the population.

Data and Analysis

I begin by examining presidential approval from Eisenhower to Reagan for the most, middle, and least educated (college, high school, and elementary school) segments of the public. The data come from George Edwards and Alec Gallup's (1990) compilation of all Gallup approval polls from 1953 to 1988. Previous literature predicts that two patterns might appear in the data. Aggregation theory predicts that due to their attentiveness, the approval ratings of the most informed will fluctuate the most. Although many of the most politically aware will not change their presidential evaluations, due to their strong partisanship, those who do move (such as highly aware Independents) should move the most. The middle education group should show some movement. Almost no movement will stem from the least educated because this group offers mostly random survey responses, which cancel when aggregated (Erikson, MacKuen & Stimson 2002, Stimson 2004). Alternatively, we might see that the middle education group will show the most movement. This group should be alert to incoming information but disinterested enough to not be completely committed partisans (Zaller 1992). The theory outlined above offers a third prediction; all information groups will generally move together. Because messages that relate to the president's performance should be easy to classify, all segments of the public should respond in tandem to the changing information environment.

Before assessing which of these three patterns emerge, I examine the validity of using education as a measure of political attentiveness. Because education level is

often the only available indicator (as is the case here), it is often used as a proxy for political knowledge (Alvarez & Brehm 2002, Baum 2003, Erikson, MacKuen & Stimson 2002, Krause 1997, Krause & Granato 1998, MacKuen 1984, Sniderman, Brody & Tetlock 1991, Stimson 2002). Yet previous research that finds distinct patterns of opinion change between the most and least informed (e.g. Bartels 1994, Schneider & Jacoby 2005, Zaller 1992) typically uses American National Election Survey (NES) data, which include a series of factual political questions that allow a more direct measure of political information level.

To ensure that subsequent analyses are not unduly affected by using education as a measure of political attentiveness, I turn to the NES. While the biannual nature of the NES does not permit the analysis of short term opinion change, it is possible to compare the approval ratings of the least educated and the least politically informed from 1972 to 2004.[9] If the two series are highly correlated, we will have evidence that using a measure of political information—if it were available—would not change the results. By contrast, if the two series move distinctly, education and political information do not tap the same concept. The comparison shows that from 1972 to 2004, the percent who approve of the president among the least educated and the least politically informed correlate at $r = 0.87$.[10] Although education level and political

[9]The NES did not ask a presidential approval question prior to 1972. The measure of political information is an index based on the following criteria: correctly identifying which political party controls the House, which party controls the Senate, and correct (relative) placement of the parties on defense spending, government service, aid to Blacks, liberal/conservative scale, and the interviewer rating of respondent's political information level. The least educated reflects respondents with only an elementary school education. I matched the percent with the lowest political information level as closely as possible with the percent with an elementary school education each year.

[10]Given the present concern that disaggregating presidential approval by political information level, as opposed to education level, might influence the results, the overtime comparison of the two groups' presidential evaluations is the most appropriate assessment of the consequences (or lack thereof) of using education as a proxy for political knowledge. Furthermore, considering that perfect correlation between the two series is not

information level are distinct concepts (Luskin 1987, Luskin 1990), the high correlation between the two groups suggests that using political information (if it were available) would not significantly alter the results.

Now we can turn to Figure 4, which shows quarterly presidential approval, by education level, from 1953 to 1988.[11] Parallel opinion change is the dominant pattern.[12] Each education group follows the standard pattern of high approval ratings during the "honeymoon" period, followed by decreasing approval throughout the president's time in office. The short term ups and downs also seem consistent across educational groups. Some cross–sectional differences exist, particularly approval toward Reagan, but the three series move together.

[FIGURE 4 ABOUT HERE]

Although consistent with expectations, the parallelism in Figure 4 does not confirm the theory of proportional message reception. The most informed, for example, may incorporate new information more quickly, perhaps responding to new information immediately, while the approval ratings of the least informed tend to change two or three months later. The quarterly data in Figure 4 would not uncover these differences. If only the most informed respond immediately to changes in the economy or political conditions, we must reject proportional message reception. A second possibility is that a few attentive individuals with low formal levels of education drive the subgroup results. Again, this result would contradict the proportional message reception, which contends that for easy to classify issues, political awareness is not necessary to notice

expected because of slight differences in the number of respondents in each subgroup, 0.87 is a remarkably high correlation. It is interesting to note, however, that the individual level correlation of education level and political information level is an impressive r = 0.52.

[11] I averaged the monthly subgroup marginals to create the quarterly time series.

[12] Consistent with the visual impression of Figure 4, the approval ratings of the most and least educated correlate at r = 0.71. The correlations of the Grade School and High School series and the High School and College series correlate at r = 0.91 and r = 0.92, respectively. This evidence of parallel opinion change is consistent with time series analysis of other issue domains (Page & Shapiro 1992, Soroka & Wlezien 2006).

economic or political changes. The following section tests these possibilities by analyzing the determinants of monthly changes in presidential approval with subgroup and individual level data.

The Responsive Electorate

Models of aggregate presidential approval consistently show that the public, as a whole, responds to prominent political events and to changes in the economy. The connection between these issues and presidential approval allows a more direct test of proportional message reception. In the cognitive sense, the economy is a difficult issue. Most citizens are not able to store and recall basic economic information. Anderson's (2007, 281) survey of the economic voting literature finds that, "the relationship between the state of the economy and voter behavior, at the level of individuals, is highly contingent and varies systematically because of biases in sources of information and differences in citizens' motivations and cognitive abilities."[13] Directionally speaking, however, the economy is an easy issue. Message reception and acceptance should follow the expectations of the left side of Figures 1 and 2. That is, all information groups should translate changes in the economy into their presidential evaluations.

The same contrast applies to the international and domestic political events that have been found to influence presidential evaluations. Scholars consistently describe foreign affairs as a difficult issue domain (McClosky, Hoffman & O'Hara 1960, Hill & Hurley 1999). And even for salient domestic events, public knowledge is notoriously low. In 1972, for example, only 22 percent of respondents could correctly describe what Watergate was about (Delli Carpini & Keeter 1996, 81). From the perspective of memory based models, the majority of respondents who could not describe Watergate

[13]Similarly, Erikson, MacKuen, and Stimson (2002, 447) conclude, "Political reactions based on the economy, for instance, are based on the collective information of those who do hold economic knowledge, not the unpredictability of uninformed actors responding in isolation."

was ill prepared to process subsequent information that tied President Nixon to this event. In contrast, if it is the direction of messages that matters, Watergate becomes an easy classification issue; burglary and illegal phone tapping are bad.

Some salient events are not, however, easy to classify. Consider the U.S. backed invasion of the Bay of Pigs, Cuba. The Bay of Pigs satisfies Mueller's (1973, 209) three criteria of a rally event. Thus, we might expect that the use of force would lead to a barrage of easy to classify messages, which correspond to support for the President. Yet, in the aftermath of the Bay of Pigs, it was not clear that the U.S. was the invading force. Front page headlines, such as, "U.S. Seeking Data on Raids in Cuba," "Roa, In U.N., Lays Bombing to U.S.; Stevenson Denies Charge," and "Invasion of Cuba Reported Begun by a Rebel Force" illustrate the complexity of classifying these messages.[14] Only politically attentive individuals, who could relate these headlines to their existing stores of information about Cuba would be expected to "receive" this information. Thus, for certain events, messages may require memory based processing, and the most or middle groups may be the most responsive. Most of the time, however, messages should be easy to classify, leading all groups to respond in tandem.[15]

Below, I test the expectations of proportional message reception. Although some variation may emerge, the model predicts that all segments of the population will consistently update their presidential evaluations in response to changing economic and political conditions. The dependent variable is the monthly presidential approval rating for each education group, from 1953 to 1988. I use two measures of the economy, the inflation rate (the consumer price index) and the unemployment rate. These economic indicators serve as a proxy for the changing proportion of available economic information. I assume that when inflation and unemployment rise (or fall), the proportion of positive economic messages decreases (or increases). The economic measures

[14]Front page headlines from *New York Times*, April 16 and 17, 1961.

[15]The media, after all, have a strong incentive to make their stories accessible to as wide an audience as possible. Providing directional cues about the nature of the message is one way to do accomplish this goal.

correspond with the same month as the measure of presidential approval. Not all individuals will change their approval rating when the economy changes, but those who do should do so almost immediately.

The political events events come from Erikson, MacKuen, & Stimson (2002, Table 2.5). These seventeen events primarily reflect U.S. involvement in foreign affairs, such as summits and military action, and domestic political scandals, such as Watergate and Bert Lance's resignation from the Office of Management and Budget. I have grouped events into two variables, those that correspond with "Rally" events and those that correspond with "Punishment" events. These Rally and Punishment events should produce changes in the proportion of supportive and oppositional messages that relate to the president. I expect those who do respond to respond immediately, so each event receives a 1 at the time point of the next survey, and 0 otherwise. Although the magnitude of response will likely vary, depending on the clarity of messages, the overall expectation is that each subgroup will respond to relevant information, and thus contribute to aggregate opinion.

I use a single equation error correction model (ECM) to estimate the model. Although a variety of dynamic models could be used to estimate the determinants of presidential approval, ECMs offer the advantage of modeling both short and long term effects (Beck 1991). In the following models, short–term effects reflect the expected immediate change in the percent approving of the president for each change in the independent variable. A statistically significant long–term effect suggests that an equilibrium relationship exists between the independent and dependent variable. In other words, a shift in the independent variable leads to a shift in assessments of the president in subsequent months. The Error Correction Rate (Percent Approve$_{t-1}$) indicates how quickly any long–term effects take place. Specifically, this coefficient indicates the portion of the long–term effect (if one exists), which takes place in each subsequent time period. Although not shown, the models also control for presidential administration

and the number of US soldiers killed in Vietnam.[16]

The results in column one, which includes all respondents, are consistent with prior analyses of presidential approval. We see evidence of a highly responsive public that updates its evaluations of the president in response to changing economic and political information. Increases in inflation and unemployment predict a decrease in the percent of the public who approves of how the president is handling his job. Rally events and punishment events also predict an immediate change in approval in the expected direction. Each of these variables, except inflation, also exert long term influence on approval. The long term effect suggests the influence of economic and political news persists beyond a single time point. Only Vietnam Deaths does not influence approval.[17]

We are most interested, however, in whose attitudes contribute to aggregate presidential approval. Columns 2, 3, and 4, which reflect the presidential approval ratings of the least, middle, and most educated segments of society, show that all education groups update their presidential evaluations in response to changing political and economic information. Furthermore, each group appears to incorporate this information immediately into assessments of the president. Those with an elementary school education actually appear the most responsive to changes in the inflation and unemployment rates.[18] Additionally, the relationship between changes in the unemployment rate and changes in the percent approving of the president is only significant for the least edu-

[16]Controls for presidential administration include a series of dummy variables for each administration and a dummy variable to capture the honeymoon effect at the start of each administration. Monthly US casualties in Vietnam obtained from the Vietnam Veterans Memorial Fund (`http://www.vvmf.org/index.cfm?SectionID=110&AdvancedForm=true`).

[17]The lack of relationship may result because I include the number of soldiers who died each month throughout the entire U.S. involvement. Other studies often only include deaths which occurred during Johnson's presidency.

[18]Although the principal economic variable was the Index of Consumer Expectations, these results are consistent with McAvoy's (2006*b*) analysis of presidential approval from 1989 to 2000.

cated.[19] Given their inability to accurately describe economic conditions, these results are consistent with the expectation that the least informed incorporate shifts in the proportion of positive messages about the economy into their presidential evaluations. The long term effects of inflation and unemployment appear to differ across groups. While only the most educated appear to translate changes in the inflation rate into their future presidential evaluations the lowest and middle education groups are the ones who incorporate messages that correspond with unemployment into their future presidential evaluations.

All education groups also respond to Rally and Punishment events. These events produce short and long term effects on presidential approval. These results are consistent with Baum's (2002) analysis of how use of force in times of crisis influences presidential approval. It is interesting to note, however, that these results apply to a wider variety of issues and during a time period that largely precedes the era of soft news described by Baum (2003).[20] The relationship between Vietnam deaths and presidential approval is only significant for the lowest education group and this relationship reflects a long term effect. Despite subtle differences across education groups, these results paint a picture of a highly responsive electorate.[21] All segments of the popu-

[19]While the lack of relationship between unemployment and presidential approval for the higher education groups is somewhat surprising, these results reflect the oft cited sentiments of a White House economist during the Ford administration, "One hundred percent of the people have been hit by inflation. Only 10 percent really worry about unemployment" (*New York Times*. April 21, 1975. p.46).

[20]These results do not, however, conflict with Baum's (2002, 2003) prediction that the least informed have become more responsive to rally events in the soft news era. In fact, proportional message reception is consistent with this expectation. As news becomes more entertainment like, messages should be simplified and the direction of the message should be easier to classify making proportional message reception more prevalent.

[21]I also repeated the analysis shown in Table 1 using Zellner's (1962) system of seemingly unrelated regression equations (SUR) to jointly estimate the three subgroup equations. The theoretical expectation that different information groups update their attitudes in tandem in response to the same types of messages

lation incorporate changing political and economic information into their presidential evaluations.

[TABLE 1 ABOUT HERE]

The Micro Story

The above analysis shows impressive responsiveness to political events and changes in the economy for each education subgroup. Yet, it is possible that these results still depend on aggregation. If the majority in any group responds randomly or does not update its response, a few individuals could still drive the subgroup results (Converse 2006). To examine this possibility, I turn to individual level approval data from the Eisenhower Presidency. Focusing on Eisenhower provides several advantages. First, the Eisenhower data are the oldest in the series, so we can evaluate individual responsiveness prior to the current information environment. Second, the Roper Center has made the individual level data available for 61 surveys during the Eisenhower presidency, providing an almost bi-monthly series of individual approval ratings. Third, for the first three years of Eisenhower's presidency, the inflation rate did not trend upwards. Because the inflation rate is a stationary time series during this period, we can be confident that if a negative relationship between inflation and approval emerges, the association does not reflect a spurious correlation between rising inflation and declining approval as the presidential "honeymoon" fades.

The dependent variable indicates whether the respondent approved (1) or disapproved (0) of Eisenhower. In order to evaluate responsiveness to current economic information we also need to control for whether individuals approved or disapproved

suggests that any error variance due to omitted variables should be correlated across subgroups. The SUR model estimates the residual correlation across equations. The results of the SUR analysis strengthen the above conclusions. All significant relationships remain in the SUR model. Furthermore, both the short and long term relationships between the economic variables and approval are statistically significant for all education groups.

of Eisenhower at the previous time point. No direct measure of prior approval exists, however, because each survey includes a distinct sample. Fortunately, the surveys do ask who the respondent voted for in the previous presidential election. Responses to this question provide a proxy for previous attitudes toward the president. A vote for Eisenhower in the previous election implies past approval for the president. On the other hand, a vote against Eisenhower suggests prior disapproval. A concern with using presidential vote as a proxy for prior approval of the president is that responses to the approval question and the vote question might be endogenous. That is, if an individual responds that he or she approves of the president, in order to maintain response consistency that person may then respond that he or she voted for the president (even if this was not the case). This pattern does not, however, emerge. The percent approving of the president and the percent responding that they voted for the president only correlate at r = 0.24 (p=.08). The low correlation suggests that respondents did not conflate approval with vote choice. The Presidential Vote variable is coded as 1 if the respondent reported voting for Eisenhower and 0 if the respondent voted for another candidate or did not vote.[22]

The inflation rate serves as the indicator of economic messages. I rely on the inflation rate because in the previous analysis each subgroup responded to changes in inflation. The present goal is to analyze the micro foundations of these subgroup relationships. The theory predicts a negative and significant relationship will again emerge. As inflation rises (or falls), the probability of approving of the president will decrease (or increase). An insignificant relationship will provide evidence that subgroup results were indeed the product of a few individuals amidst "a sea of noise" (Converse 1990, 382).[23]

[22]Coding this variable as 1 for voted for Eisenhower and 0 if the respondent voted against Eisenhower reduces the sample size but does not change the results reported in Table 2.

[23]Unfortunately, with the pooled cross sectional design, we cannot estimate individual responsiveness to Rally and Punishment events.

I use logit analysis to estimate the probability that an individual approved of how President Eisenhower was handling his job as president. Because the variance is not equal across surveys, I report robust standard errors clustered around each time–point. In addition to the variables described above, the analysis controls for respondents' party identification. The relationship between PID and probability of approving of Eisenhower is expected to be negative, because higher values correspond with Democrat and lower values correspond with Republican. Although not shown, the models control for respondents' religion, race, gender, age, occupation, town size, and region.

Table 2 presents the results of the analysis. The first column shows the results for all respondents. The large sample size (N=81,000) means we should not place much emphasis on statistical significance. All coefficients, however, are in the expected direction. Democrats are less likely to approve of Eisenhower than Republicans. Those who voted for Eisenhower are more likely to approve of his job performance than those who did not. And increases in the inflation rate correspond with a decreased probability of approving of the president. Columns 2, 3, and 4 examine these relationships for three education groups, those with a 4th grade education or less, those with a high school degree, and those with a college degree. The Grade School and College groups correspond to the least educated 7.8 percent of respondents and the most educated 8.9 percent of respondents.[24] All coefficients are in the expected direction and all are statistically significant. PID and vote choice appear to be strongly related to presidential approval for all education groups. The most educated, however, demonstrate the most constraint between PID, vote choice, and current presidential approval. The expected effect of the inflation rate on the probability of approving for the president is equal for both the most and least educated. The economic responsiveness reported in the subgroup analysis is not the result of a few informed individuals updating their

[24]For ease of exposition, I do not show the results for all education categories. Thus, the number of respondents analyzed in columns 2, 3, and 4 does not total the number in column 1. The results, however, are robust across all education categories.

presidential evaluations in each group. Responsiveness exists at the individual level, even for the least educated 8 percent of respondents.

[TABLE 2 ABOUT HERE]

In contrast to the "miracle" of aggregation, all segments of the public appear to translate economic information into their approval ratings. Certainly, not everyone updates their assessment of the president when they encounter new information, but those who do appear to be equally distributed across information groups.

Where are the Opinion Leaders?

The conventional wisdom in public opinion literature is that the most informed are the quickest to update their political attitudes (Bartels 1994, Schneider & Jacoby 2005). Yet, for presidential approval the most and least informed respond to most prominent political events and to information about the economy virtually in tandem. In this section, I try to uncover *any* temporal difference in approval of the president between the most and least informed segments of society. For this task, I turn to the National Annenberg Election Survey (NAES), which consists of 81,422 interviews conducted from October 2003 through November 2004. Although the results may not generalize beyond election years, the size and frequency of this survey allow a daily analysis of how different segments of the population updated their approval of the president.[25]

I begin by comparing the daily approval ratings of those with a college degree or more (the most educated 37.9 percent of respondents) and those with a high school degree or less (the least educated 32.9 percent of respondents) to see if any day to day similarities emerge. To account for the increased sampling error due to analyzing subgroups at daily intervals, I smooth the series with a 15 day moving average. The daily series correlate at an astonishing r = 0.85. Having established that strong similarities

[25]The NAES conducted a similar survey in 2000 but the survey did not ask the standard presidential approval question.

exist between the most and least educated, even at daily intervals, I test whether any temporal differences exist.[26]

I use a vector autoregressive (VAR) model to estimate the relationship between three education groups; those with less than a high school degree (the least educated 7.3 percent of respondents), those with some college education (the middle 17.7 percent of respondents), and those with a graduate degree (the most educated 14.4 percent of respondents). The VAR model estimates the relationship between each approval series and the lagged values of each of the series. I choose this specification, because given the previously observed patterns of uniform opinion change, I do not want to restrict any relationships between series. After estimating the VAR model, I use a Granger causality test to test whether the lagged values of a particular series forecast the current values of another series. Table 3 reports the results of the Granger causality test for the unsmoothed series of the three education groups. I estimated the VAR model with three lags because 3 lags minimizes Akaike's information Criterion (AIC).[27]

The cell entries in Table 3 reflect the p-value from the test of Granger causality. If the p-value is less than .05, we reject the null hypothesis that no relationship exists between the lagged values and the current value of the series of interest. Thus, for column 1, because both p-values are less than .05, we conclude that the lagged values of those with some college education and the lagged values of those with a college degree forecast the current presidential evaluations of those with less than a high school degree. The presidential evaluations of the most educated appear to precede the evaluations

[26]Granger tests of the monthly series analyzed above show no systematic evidence that one group's approval ratings forecast another group's evaluations.

[27]I also estimated the model with 10 lags because including too few lags will produce biased and inefficient estimates. With 10 lags, the results are nearly identical to the results in Table 3. Additionally, tests for serial correlation in the residuals show no problems for either specification. I use the unsmoothed series because smoothing introduces information from future time points into the current observation, creating a potential endogeneity problem. A Granger test with two lags, using the smoothed series, however, also produces results consistent with those reported above.

of the least educated, at least by a couple of days. The second column suggests that both the least educated and most educated forecast the middle group. This result, while counterintuitive, serves to emphasize how similar the three series are. The third column suggests that the evaluations of the lower education groups do not forecast the approval ratings of the most educated. If any temporal differences exist, it appears that the most educated 14 percent of respondents may be a few days ahead of the least educated 7 percent of respondents.

[TABLE 3 ABOUT HERE]

The Granger causality test provides information about whether values of one series forecast values of another series, but the test does not provide information about the causal relationship between the series. The approval of the most educated may forecast the approval of the least educated because information follows Katz and Lazarsfeld's (1955) two–step flow of communication; the most educated encounter the information directly and then information trickles down as these information elites talk to their families, neighbors, or co–workers. Alternatively, it may be that these subtle differences emerge because the least educated encounter the news a day or two after the most educated, perhaps tuning in just a couple of times a week, while the most educated read or watch the news everyday. Proportional message receptions would be consistent with either causal story. But what is most important is the evidence that the differences between the most and least educated are on the order of days, not quarters or years as previously thought.

Conclusions and Implications

Erikson, MacKuen, and Stimson (2002, 435) conclude, "[F]or macro–level analysis, it is the systematic behavior that matters. And that systematic behavior rarely stems from voters at their least attentive." These results show, however, that systematic and responsive behavior comes from all strata of society. The even distribution of

opinion responsiveness through the electorate suggests a need to reconsider aggregation theory. Nevertheless, these results substantiate Erikson, MacKuen, and Stimson's macro story. *The Macro Polity*, after all, explains how the electorate—as a whole—updates its political attitudes and how these changes influence the U.S. political system (Erikson, MacKuen & Stimson 2002). Not only is this macro story intact, but it appears that Erikson, MacKuen, and Stimson understated how much of the electorate contributes to the macro political system in the United States.

The evidence that all segments of the public update their presidential evaluations also bridges a gap between the public opinion and presidency literature. Presidents devote substantial resources to public relations (Tatalovich & Daynes 1984, Lowi 1985) and to conducting and analyzing public opinion polls (Jacobs & Shapiro 1995, Druckman & Jacobs 2006). It is hard to reconcile why a strategic president would spend time and money communicating with and monitoring the mass public if only a few informed individuals dominate presidential evaluations. But, if all segments of the public respond to the proportion of positive messages about the president, the increased role of media relations and opinion polls in presidential politics makes sense.

An important question is whether proportional message reception applies to other issues. Although the literature generally regards foreign affairs and the economy as difficult issues, I have argued that because news about these issues is usually easy to classify, proportional message reception should lead to uniform opinion change across education groups. Given the fact that in a two party system, nearly all political messages fall along a two sided continuum (Zaller 1991, Zaller 1992, Rabinowitz & Macdonald 1989) and that media consistently use frames to simplify information (Berinsky & Kinder 2006) easy message classification and proportional message reception may apply to many more issues. Other time series analyses which have uncovered parallel patterns of opinion change (Ellis, Ura & Robinson 2006, Page & Shapiro 1992, Soroka & Wlezien 2006) provide initial support for this claim.

Yet, even if the findings only apply to presidential approval, the results raise questions about the quality of representative democracy in the United States. On one hand, this analysis shows that public opinion—at least presidential approval—constitutes much more of the public than previously thought. Fears that opinion polls reflect only the attitudes of the most informed do not bear out.[28] On the other hand, this study does not speak to the quality of responsiveness within the electorate. The similarities between education groups could imply that all segments of the public meet the basic standard of democratic competence by obtaining new information about the political and economic environment and incorporating this information into their presidential evaluations. Alternatively, these results could imply that even the most educated fall short of the democratic ideal by ignoring policies and context and instead reacting to the changing proportion of media messages. This type of blind responsiveness seems a far cry from a "miracle."

[28] A related concern, though not addressed here, is that those who respond "don't know" or "no opinion" do not receive representation (Berinsky 2004).

References

Abramson, Paul R., John H. Aldrich & David W. Rohde. 1995. *Change and Continuity in the 1992 Elections: Revised Edition*. Washington, DC: Congressional Quarterly Press.

Aidt, Toke S. 2000. "Economic Voting and Information." *Electoral Studies* 19:349–362.

Alvarez, R. Michael & John Brehm. 2002. *Hard Choices, Easy Answers*. Princeton, NJ: Princeton University Press.

Anderson, Christopher J. 2007. "The End of Economic Voting? Contingency Dilemmas and the limits of Democratic Accountability." *Annual Review of Political Science* 10:271–296.

Bartels, Larry M. 1994. "The American Public's Defense Spending Preferences in the Post-Cold War Era." *Public Opinion Quarterly* 58:479–508.

Baum, Matthew A. 2002. "Sex, Lies, and War: How Soft News Brings Foreign Policy to the Inattentive Public." *American Political Science Review* 96:91–109.

Baum, Matthew A. 2003. *Soft News Goes to War*. Princeton: Princeton University Press.

Beck, Nathaniel. 1991. "Comparing Dynamic Specifications: The Case of Presidential Approval." *Political Analysis* 999:51–87.

Bennett, Stephen Earl. 1996. ""Know-Nothings" Revisited Again." *Political Behavior* 18:219–233.

Berinsky, Adam J. 2004. *Silent Voices: Public Opinion and Political Participation in America*. Princeton: Princeton University Press.

Berinsky, Adam J. & Donald R. Kinder. 2006. "Making Sense of Issues Through Media Frames: Understanding the Kosovo Crisis." *Journal of Politics* 68:640–656.

Brace, Paul & Barbara Hinckley. 1992. *Follow the Leader: Opinion Polls and the Modern Presidents*. New York, NY: BasicBooks.

Brody, Richard A. 1991. *Assessing the President: The Media, Elite Opinion, and Public Support*. Stanford, California: Stanford University Press.

Canes-Wrone, Brandice & Scott DeMarchi. 2002. "Presidential Approval and Legislative Success." *Journal of Politics* 64:491–509.

Carmines, Edward G. & James A. Stimson. 1980. "The Two Faces of Issue Voting." *American Political Science Review* 74:78–91.

Chaiken, Shelly. 1980. "Heuristic Versus Systematic Information Processing and the Use of Source Versus Message Cues in Persuasion." *Journal of Personality and Social Psychology* 39:752–766.

Conover, Pamela Johnston, Stanley Feldman & Kathleen Knight. 1987. "The Personal and Political Underpinnings of Economic Forecasts." *American Journal of Political Science* 31:559–583.

Converse, Philip E. 1962. "Information Flow and the Stability of Partisan Attitudes." *Public Opinion Quarterly* 26:578–599.

Converse, Philip E. 1964. The Nature of Belief Systems in Mass Publics. In *Ideology and Discontent*, ed. David E. Apter. Ann Arbor: University of Michigan Press.

Converse, Philip E. 1990. Popular Representation and the Distribution of Information. In *Information and Democratic Processes*, ed. John A. Ferejohn & James H. Kuklinski. Chicago: University of Illinois Press.

Converse, Philip E. 2000. "Assessing the Capacity of Mass Electorates." *Annual Review of Political Science* 3:331–354.

Converse, Philip E. 2006. "Researching Electoral Politics." *American Political Science Review* 100:605–612.

Delli Carpini, Michael X. & Scott Keeter. 1996. *What Americans Know About Politics and Why it Matters*. New Haven: Yale University Press.

Druckman, James N. 2005. "Does Political Information Matter." *Political Communication* 22:515–519.

Druckman, James N. & Lawrence R. Jacobs. 2006. "Lumpers and Splitters: The Public Opinion Information that Politicians Collect and Use." *Public Opinion Quarterly* 70:453–476.

Duch, Raymond M., Harvey D. Palmer & Christopher Anderson. 2000. "Heterogeneity in Perceptions of National Economic Conditions." *American Journal of Political Science* 44:635–652.

Edwards, George C. III. 1980. *Presidential Influence in Congress*. San Francisco: W.H. Freeman and Co.

Edwards, George C. III & with Alec M. Gallup. 1990. *Presidential Approval: A Sourcebook*. Baltimore: Johns Hopkins University Press.

Ellis, Christopher R., Joseph Daniel Ura & Jenna Ashley Robinson. 2006. "The Dynamic Consequences of Nonvoting in American National Elections." *Political Research Quarterly* .

Erikson, Robert S., Michael B. MacKuen & James A. Stimson. 2002. *The Macro Polity*. New York: Cambridge University Press.

Fiorina, Morris P. 1981. *Retrospective Voting in American National Elections*. New Haven: Yale University Press.

Gronke, Paul & Brian Newman. 2003. "FDR to Clinton, Mueller to?: A Field Essay on Presidential Approval." *Political Research Quarterly* 56:501–512.

Gronke, Paul, Jeffrey Kock & J. Matthew Wilson. 2003. "Follow the Leader? Presidential Approval, Presidential Support, and Representatives' Electoral Fortunes." *Journal of Politics* 65:785–808.

Hallin, Daniel. 1984. "Vietnam and the Myth of the Oppositional Media." *Journal of Politics* 46:1–24.

Hill, David B. 1985. "Viewer Characteristics and Agenda Setting by Television News." *Public Opinion Quarterly* 49:340–350.

Hill, Kim Quaile & Patricia Hurley. 1999. "Dyadic Representation Reappraised." *American Journal of Political Science* 43:109–137.

Holbrook, Thomas M. & James C. Garand. 1996. "Homo Economus? Economic Information and Economic Voting." *Political Research Quarterly* 49:351–375.

Iyengar, Shanto. 1979. "Television News and Issue Salience: A Reexamination o fthe Agenda-Setting Hypothesis." *American Politics Quarterly* 7:395–416.

Iyengar, Shanto. 1990. Shortcuts to Political Knowledge: The Role of Selective Attention and Accessibility. In *Information and Democratic Processes*, ed. John A. Ferejohn & James H. Kuklinski. University of Illinois Press chapter 7, pp. 160–185.

Iyengar, Shanto & Donald R. Kinder. 1987. *News that Matters: Television and American Opinion.* Chicago: University ofChicago Press.

Iyengar, Shanto, Donald R. Kinder Mark D. Peters & Jon A. Krosnick. 1984. "The Evening News and Presidential Evaluations." *Journal of Personality and Social Psychology* 46:778–787.

Jacobs, Lawrence R. & Robert Y. Shapiro. 1995. "The Rise of Presidential Polling: The Nixon White House in Historical Perspective." *Public Opinion Quarterly* 59:163–195.

Katz, Elihu & Paul F. Lazarsfeld. 1955. *Personal Influence: The Part Played by People in the Flow of Mass Communications.* Glencoe, IL: Free Press.

Kellstedt, Paul M. 2000. "Media Framing and the Dynamics of Racial Policy Preferences." *American Journal of Political Science* 44:245–260.

Krause, George A. 1997. "Voters, Information Heterogeneity, and the Dynamics of Aggregate Economic Expectations." *American Journal of Political Science* 41:1170–1200.

Krause, George A. & Jim Granato. 1998. "Fooling Some of the People Some of the Time? A Test of Weak Rationality with Heterogeneous Information Levels." *Public Opinion Quarterly* 62:135–151.

Krosnick, Jon A. 1990. "Americans' Perceptions of Presidential Candidates: A Test of the Projection Hypothesis." *Journal of Social Issues* 42(2):159–182.

Krosnick, Jon A. & Laura A. Brannon. 1993. "The Impact of the Gulf War on the Ingredients of Presidential Evaluations: Multidimensional Effects of Political Involvement." *American Political Science Review* 87(4):963–975.

Lowi, Theodore J. 1985. *The Personal President.* Ithaca, NY: Cornell University Press.

Lupia, Arthur. 1994. "Shortcuts Versus Encyclopedias: Information and Voting Behavior in California Insurance Reform Elections." *American Political Science Review* 88:63–76.

Lupia, Arthur & Mathew D. McCubbins. 1998. *The Democratic Dilemma: Can Citizens Learn What they Need to Know?* Cambridge, U.K.; New York: Cambridge University Press.

Luskin, Robert C. 1987. "Measuring Political Sophistication." *American Journal of Political Science* 31:856–899.

Luskin, Robert C. 1990. "Explaining Political Sophistication." *Political Behavior* 12:331–361.

MacKuen, Michael. 1984. "Exposure to Information, Belief Integration, and Individual Responsiveness to Agenda Change." *American Political Science Review* 78(2):372–391.

MacKuen, Michael B. 1983. "Political Drama, Economic Conditions, and the Dynamics of Presidential Popularity." *American Journal of Political Science* 27:165–192.

MacKuen, Michael B., Robert S. Erikson & James A. Stimson. 1992. "Peasants or Bankers: The American Electorate and the U.S. Economy." *American Political Science Review* 86:597–611.

Marra, Robin F. & Charles W. Ostrom Jr. 1989. "Explaining Seat Change in the U.S. House of Representatives, 1950-1986." *American Journal of Political Science* 27:165–192.

McAvoy, Gregory E. 2006*a*. "Stability and Change: The Time Varying Impact of Economic and Foreign Policy Evaluations on Presidential Approval." *Political Research Quarterly* 59:71–83.

McAvoy, Gregory E. 2006*b*. "Who Provides Stability? Partisanship and Political Knowledge in a "Rational Public"." Paper Prepared for the Annual Meeting of the Midwest Political Science Association, Chicago.

McClosky, Herbert, Paul J. Hoffman & Rosemary O'Hara. 1960. "Issue Conflict and Consensus Among Party Leaders and Followers." *American Political Science Review* 54:406–427.

McGuire, William J. 1973. Persuaision, Resistance, and Attitude Change. In *Handbook of Communication*, ed. Ithiel de Sola Pool, Frederick W. Frey, Wilbur Schramm, Nathan Maccoby & Edwin B. Parker. Chicago: Rand McNally.

Miller, Joanne M. & Jon A. Krosnick. 2000. "News Media Impact on the Ingredients of Presidential Evaluations: Politically Knowledgeable Citizens are Guided by a Trusted Source." *American Journal of Political Science* 44(2):301–315.

Mueller, John. 1973. *War, Presidents and Public Opinion.* New York: Wiley.

Neustadt, Richard E. 1960. *Presidential Power.* New York: John Wiley and Sons.

Page, Benjamin I. & Robert Y. Shapiro. 1992. *The Rational Public: Fifty Years of Trends in Americans' Policy Preferences.* Chicago: University of Chicago Press.

Petty, Richard E. & John T. Cacioppo. 1986*a*. *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York: Springer-Verlag.

Petty, Richard E. & John T. Cacioppo. 1986*b*. The Elaboration Likelihood Model of Persuasion. In *Advances in Experimental Social Psychology*, ed. Leonard Berkowitz. New York: Academic Press.

Popkin, Samuel L. 1991. *The Reasoning Voter: Communication and Persuasion in Presidential Campaigns*. Chicago: University of Chicago Press.

Rabinowitz, George & Stuart Elaine Macdonald. 1989. "A Directional Theory of Issue Voting." *American Political Science Review* 83:93–121.

Rivers, Douglas & Nancy L. Rose. 1985. "Passing the President's Program: Public Opinion and Presidential Influence in Congress." *American Journal of Political Science* 29:183–106.

Rohde, David W. & Dennis M. Simon. 1985. "Presidential Vetoes and Congressional Response." *American Journal of Political Science* 29:397–427.

Schneider, Saundra A. & William G. Jacoby. 2005. "Elite Discourse and American Public Opinion: The Case of Welfare Spending." *Political Research Quarterly* 58:367–379.

Sigelman, Lee. 1979. "Presidential Popularity and Presidential Elections." *Public Opinion Quarterly* 43:532–534.

Sniderman, Paul M. 1993. The New Look of Public Opinion Research. In *Political Sciene: The State of the Discipline II*, ed. Ada W. Finifter. Washington, DC: The American Political Science Association.

Sniderman, Paul M., Richard A. Brody & Philip E. Tetlock. 1991. *Reasoning and Choice: Explorations in Political Psychology*. Cambridge: Cambridge University Press.

Soroka, Stuart N. & Christopher Wlezien. 2006. "Heterogeneity and Homogeneity in Opinion-Policy Dynamics." Paper presented at the annual meeting of the American Political Science Association, Philadelphia, PA.

Stimson, James A. 2002. The Micro Foundations of Mood. In *Thinking about Political Psychology*, ed. James H. Kuklinski. United Kingdom: Cambridge University Press chapter 8, pp. 253–280.

Stimson, James A. 2004. *Tides of Consent: How Public Opinion Shapes American Politics*. New York and London: Cambridge University Press.

Taber, Charles S. & Milton Lodge. 2006. "Motivated Skepticism in the Evaluation of Political Beliefs." *American Journal of Political Science* .

Tatalovich, Raymond & Byron W. Daynes. 1984. *Presidential Power in the United States*. Monterey, CA: Brooks/Cole Publishing.

Weaver, David H., Doris A. Graber, Maxwell E. McCombs & Chaim E. Eyal. 1981. *Media Agenda-Setting in a Presidential Election: Issues, Images, and Interest*. New York: Praeger.

Yates, Jeff. 2002. *Popular Justice: Presidential Prestige and Executive Success in the Supreme Court*. Albany: State University of New York Press.

Yates, Jeff & Andrew Whitford. 1998. "Presidential Power and the United States Suprmeme Court." *Political Research Quarterly* 51:539–550.

Zaller, John. 1991. "Information, Values, and Opinion." *American Political Science Review* 85:1215–1237.

Zaller, John. 1994. Elite Leadership of Mass Opinion. In *Taken by Storm*, ed. W. Lance Bennet & David L. Paletz. Chicago: University of Chicago Press.

Zaller, John. 2004. Floating Voters in U.S. Presidential Elections, 1948-2000. In *Studies in Public Opinion: Attitudes, Nonattitudes, Measurement Error, and Change*, ed. Saris Willem E. & Paul M. Sniderman. Princeton: Princeton University Press.

Zaller, John & Dennis Chiu. 1996. "Government's Little Helper: U.S. Press Coverage of Foreign Policy Crises: 1945-1991." *Political Communication* 13:385–405.

Zaller, John R. 1992. *The Nature and Origins of Mass Opinion.* New York: Cambridge University Press.

Zellner, Arnold. 1962. "An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias." *Journal of the American Statistical Association* 57:348–368.

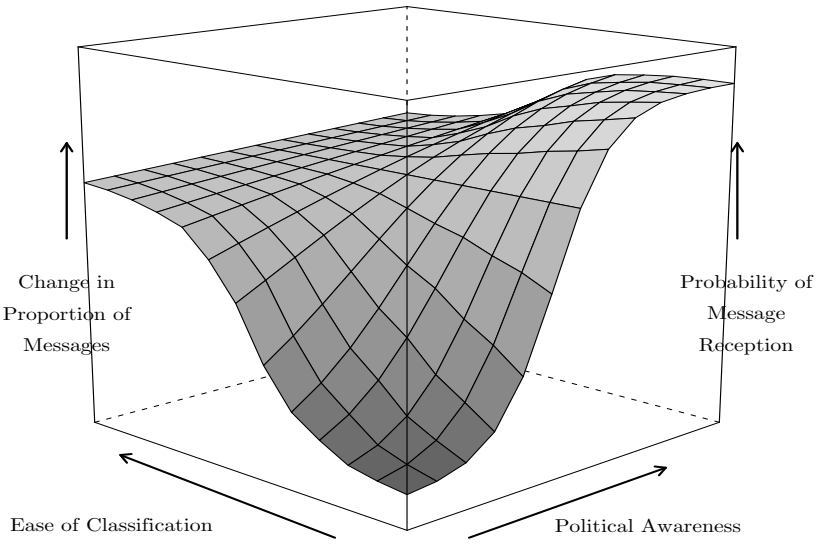

Figure 1: Message Reception

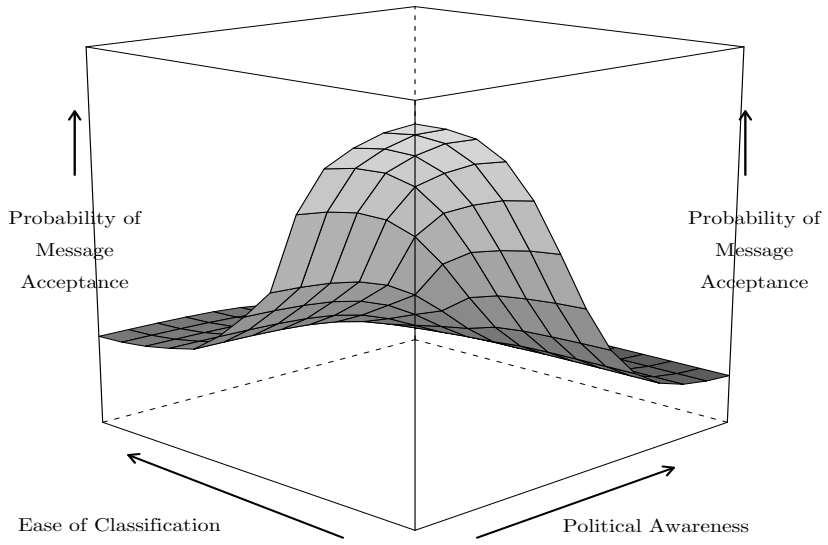

Figure 2: Message Acceptance

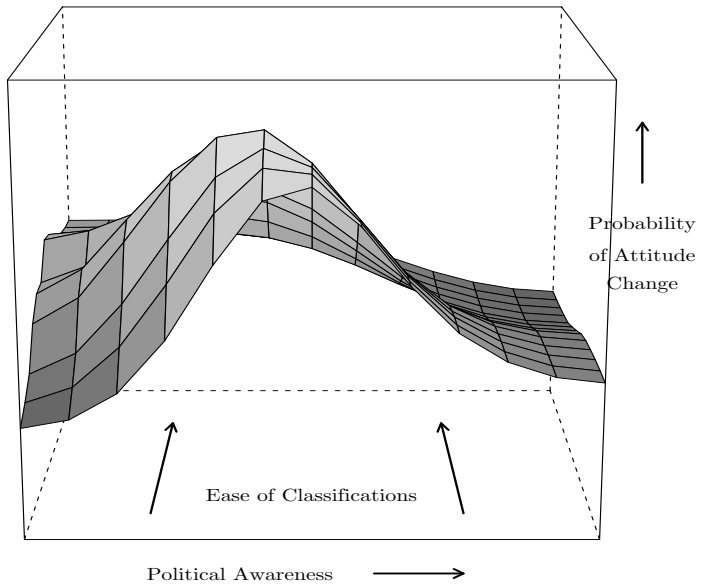

Figure 3: Opinion Change

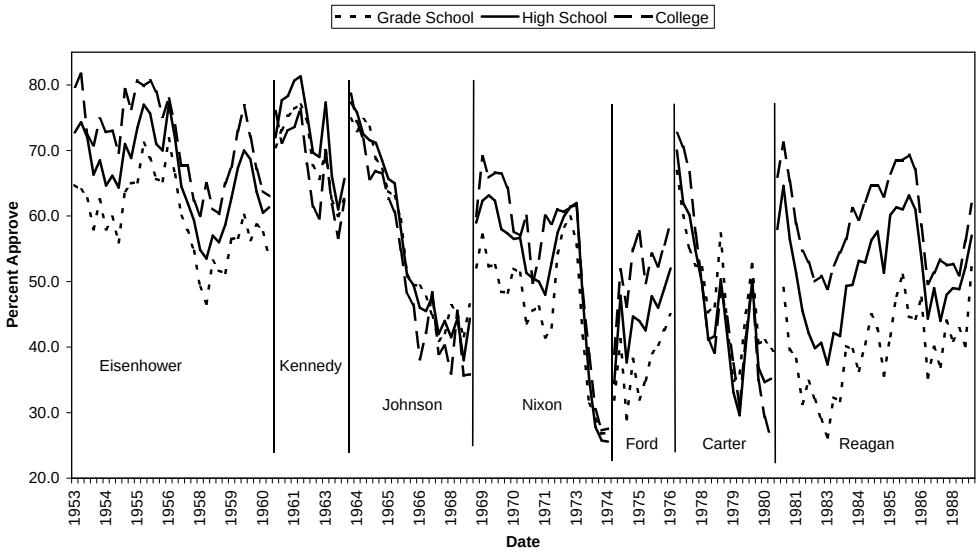

Figure 4: Quarterly Presidential Approval, 1953–1988

Table 1: The Determinants of Monthly Changes in Presidential Approval, by Education Level: 1953–1988

	All Respondents	Grade School	High School	College
Short–Term Effects				
Δ Inflation	-2.97*	-5.52*	-3.03*	-2.92*
	(0.94)	(1.38)	(1.02)	(1.23)
Δ Unemployment	-0.57*	-1.05*	-0.47	-0.74
	(0.34)	(0.51)	(0.37)	(0.45)
Δ Rally	5.63*	4.05*	6.75*	3.64*
	(1.08)	(1.60)	(1.17)	(1.41)
Δ Punishment	-6.77*	-6.03*	-7.00*	-5.10*
	(1.46)	(2.18)	(1.60)	(1.92)
Δ Vietnam Deaths	-0.56	-0.15	-1.32	-0.43
	(1.51)	(2.25)	(1.64)	(1.98)
Long–Term Effects				
Inflation_{t-1}	-0.02	-0.05	-0.03	-0.10*
	(0.04)	(0.06)	(0.04)	(0.05)
$\text{Unemployment}_{t-1}$	-0.32*	-0.68*	-0.41*	-0.30
	(0.18)	(0.27)	(0.20)	(0.23)
Rally_{t-1}	3.94*	5.07*	3.41*	5.12*
	(1.08)	(1.60)	(1.17)	(1.42)
Punishment_{t-1}	-3.99*	-3.61*	-3.94*	-6.06*
	(1.46)	(2.18)	(1.59)	(1.92)
$\text{Vietnam Deaths}_{t-1}$	-0.26	-1.90*	-0.52	-0.44
	(0.71)	(1.07)	(0.77)	(0.92)
Error Correction Rate				
$\text{Percent Approve}_{t-1}$	-0.10*	-0.24*	-0.11*	-0.15*
	(0.02)	(0.03)	(0.02)	(0.02)
Constant	11.21*	21.60*	12.97*	22.23*
	(5.41)	(7.47)	(5.85)	(7.24)
R^2	0.42	0.25	0.38	0.39
N	421	421	421	421

Note: standard errors in parentheses; *=p<0.05, one–tailed tests. Controls for administration and honeymoon effects not shown. Each column estimated separately.

Table 2: Pooled Logit Analysis of Approval of President Eisenhower: 1953–1960

	All Respondents	4th Grade or Less	High School Degree	College Degree
Party Identification	-0.73*	-0.62*	-.74*	-0.78*
	(0.09)	(0.12)	(.09)	(0.10)
Presidential Vote	1.36*	1.24*	1.40*	1.59*
	(0.09)	(0.13)	(.09)	(0.13)
Inflation	-0.16*	-0.23*	-.15*	-0.23*
	(0.04)	(0.06)	(.04)	(0.06)
Constant	6.81*	8.50*	6.89*	8.79*
	(1.23)	(0.83)	(1.23)	(1.77)
Pseudo R^2	0.30	0.24	.31	0.37
Pct. Correctly Classified	76.69	73.80	78.99	81.86
N	81,000	6,286	21,720	7,244

Note: *= $p < 0.001$; two tailed tests. Controls for demographic characteristics not shown. Robust standard errors, clustered around time points, in parentheses. Pseudo R^2 is McKelvey and Zavoina's R^2

Table 3: Granger Causality Test for Educational Substrata, Three Lags

	Less Than H.S. Deg.	Some College	Graduate Degree
Less than H.S. Deg.	—	.044	.698
Some College	.045	—	.143
Grad. Degree	.010	.010	—

Note: Cell entries are p-values. N = 384 for all series