

The Uniform Nature of Mass Opinion

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Abstract

**PETER K. ENNS: The Uniform Nature of Mass Opinion.
(Under the direction of James A. Stimson.)**

This dissertation consists of three distinct chapters, which develop and test a theory of Proportional Message Reception. Chapter 1 outlines the theory of Proportional Message Reception and the resulting hypothesis of uniform opinion change. I test the hypothesis using individual-level and sub-aggregate data on Vietnam attitudes and defense spending preferences. Chapter 2 examines the implications of Proportional Message reception and uniform opinion change for welfare attitudes and inequality in the United States. Chapter 3 questions previous conceptions of opinion aggregation by showing that all segments of the public update their Policy Mood in response to changing economic conditions. The three chapters show that it is the proportion of countervailing messages an individual receives, not the number of messages, that matters for opinion change. Furthermore, the analyses demonstrate—in a substantial departure from previous literature—that the most and least politically aware segments of the public update their opinions at the same time, in the same direction, and in response to the same pattern of messages.

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My wife, Melissa, has set a different example—yet equally difficult to emulate—during our time in Chapel Hill. While I have focused on writing the following three chapters, she has taught high school Spanish, earned a Master's Degree in Social Work, been a school leader in Philadelphia and the Bronx, and served as a social worker for at risk mothers. And she has always found time and energy to support my endeavors, academic and otherwise. Thank you.

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Chapter 1

Uniform Opinion Change: Foreign Policy and Defense

Abstract: I construct a Proportional Model of message reception, which contends that it is the proportion of countervailing messages an individual receives, not the number of messages, that matters for opinion change. Given this theoretical consideration, I show—in a substantial departure from previous literature—that the most and least politically aware segments of the public will update their opinions in tandem. I test this hypothesis of uniform opinion change on attitudes toward the Vietnam War and defense spending preferences using sub-aggregate and individual level data. The analyses show that the most and least informed segments of the public consistently update their attitudes at the same time, in the same direction, and in response to the same general messages.

In every society a stream of “free” information is continuously disseminated to all citizens. (Downs, 1957, 146)

Building on the work of *The American Voter*, Philip Converse (1964) transformed the study of public opinion by demonstrating that individuals’ interest in and attention to politics profoundly influences the nature of individual political attitudes. Since this seminal work, public opinion scholars have continued to document the effects of political awareness on public opinion (e.g. Bartels 1994, Converse 2000, Delli Carpini & Keeter 1996, Druckman 2005, Schneider & Jacoby 2005, Sniderman 1993, Zaller 1992).¹ Macro opinion scholars argue that public opinion, in the aggregate, moves coherently precisely because the most politically aware dominate the aggregate opinion signal. The politically unaware, who receive virtually no political information, offer either stable or random survey responses, and thus do not contribute to aggregate measures of opinion change (Converse 1990, 2000, Erikson, MacKuen, & Stimson 2002, Page & Shapiro 1992, Stimson 2004; although see Althaus 2003, ch 2). Sniderman (1993, 224) explains, “Why suppose, given the striking differences in political information and political sophistication *within* the mass public, that the citizen who is politically aware and attentive makes up her mind in the same way as the political ignoramus?”

I show, however, that the focus on disparate levels of political awareness within the electorate paints an incomplete picture of how individuals receive political messages and update their opinions. First, I outline a theory of message reception which contends that it is the proportion of countervailing messages an individual receives, not the number of messages, that matters for opinion change. I then demonstrate that given this Proportional Model of message reception, the most and least politically aware segments of the public should update their opinions in tandem. Finally, I test

¹Consistent with prior literature, I use political awareness and political sophistication to refer to individuals’ exposure to political information, motivation to obtain and comprehend information, and intellectual ability to retain and organize this information (Luskin, 1990; Zaller, 1992).

this hypothesis of uniform opinion change on attitudes toward Vietnam and defense spending preferences, using sub-aggregate and individual level data. The expectation of uniform opinion change, while distinct from most public opinion literature—which views political awareness as central to message reception and opinion change—is consistent with the few studies that have examined how different segments of the population change opinions across extended periods of time (Ellis, Ura, & Ashley 2006, Erikson, MacKuen, & Stimson 2002 Ch. 6, Page & Shapiro 1992 Ch.7, Stimson 2002, Soroka & Wlezien 2006). This paper develops and tests a theoretical explanation for why these “parallel publics” emerge.

1.1 A Proportional Model of Message Reception

Following Zaller (1991, 1992), I assume that messages about political issues reflect opposing considerations. As Zaller (1991, 1217) notes, “with respect to every political issue, citizens are presented with two information flows, or *messages*, one tending to push mass opinion in a liberal direction and the other in a conservative direction.” I will refer to the flow of countervailing messages about any given issue as the “Information Stream” for that issue. In contrast to Zaller, I propose that *the proportion* of liberal (or conservative) messages in the Information Stream, *not the number* of messages received, is what matters for opinion change.² The focus on the proportion of available messages leads to a substantial revision of expectations for opinion updating. Specifically, I show that across a variety of contexts, the most *and* least politically aware should update their attitudes in unison; that is, at the same time, in the same direction, and in

²Consistent with Zaller (1992) my use of the liberal and conservative labels is only meant to convey the “directional thrust of the message” (52, 186).

response to the same general messages.³

To illustrate the differences between the Proportional Model and previous views of message reception, Equation 1 presents Zaller’s Receive–Accept–Sample (RAS) model of opinion change (Zaller, 1992, 122). The probability that an individual changes his or her attitude is a function of the probability of receiving a change inducing message times the probability of accepting the received message.

$$Pr(Change) = Pr(Reception) \times Pr(Acceptance | Reception) \quad (1.1)$$

Equation 1 reflects an additive view of message reception. Holding the acceptance function constant, the more change inducing messages an individual receives (that is, the higher the probability of message reception), the more likely the person is to update his or her opinion (Zaller, 1992, 125). Because the most politically aware are the most likely to receive political messages (Zaller, 1992, 42), this additive perspective leads to the prediction that, holding acceptance constant, the most politically aware will be the most likely to update their attitudes (Zaller, 1992, 124–126).

The additive perspective, however, ignores the fact that in a two–sided message environment, the probability that an individual receives an opposing message also varies by political sophistication. An unaware person will have a low probability of receiving liberal *and* conservative messages, while a highly aware person will have a high probability of receiving both types of messages. Thus, for issue x during time period t , the probability of receiving a liberal message $Pr(Rec_{Lib})$ equals the probability of message reception $Pr(Rec)$ times the number of liberal messages (N_{Lib}) in the Information Stream divided by the probability of message reception times the number of

³Zaller’s RAS model predicts that the least politically aware will be highly responsive to single–sided messages in easy learning situations. I show that the least politically aware should respond to elite discourse for both single–sided and two–sided messages in moderate and difficult contexts.

liberal messages plus the number of conservative messages (N_{Con}) in the Information Stream. That is,

$$Pr(Rec_{Lib}) = \frac{Pr(Rec) \times N_{Lib}}{Pr(Rec) \times (N_{Lib} + N_{Con})} \quad (1.2)$$

This proportional model of message reception suggests that while the number of messages received by politically aware and unaware individuals will differ, the proportion of liberal (or conservative) messages received will be equivalent.

First, consider a hypothetical situation where different media sources each depict an issue or event with the same proportion of countervailing messages.⁴ Suppose that for issue x during time period t , there are 20 liberal messages and 10 conservative messages in the Information Stream. Also, suppose, as Zaller does (127), that a politically unaware person has a .1 probability of receiving a message and a politically aware person has a .9 probability of receiving a message. For a politically unaware individual, the probability of receiving a liberal message equals $\frac{.1 \times 20}{.1(20+10)}$ or .67. Similarly, for a politically aware individual the probability of receiving a liberal message equals $\frac{.9 \times 20}{.9(20+10)}$ or .67. 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 liberal messages. The effect of message reception largely drops out of the RAS model.⁵

A more general (and realistic) view of media must allow different media sources to present different balances of opposing messages. Some media sources may present a liberal or conservative slant. Thus, for any single issue, multiple Information Streams

⁴Examples of different media sources reporting an equivalent balance of opposing messages might include the “honeymoon” period following presidential elections or the initial “rally-round-the-flag” period following military events. The more common case of distinct media reporting is discussed below.

⁵Political awareness will still matter in terms of the variance of the signal received. Politically aware individuals, because they receive more messages, will receive a more precise estimate of the actual Information Stream. As discussed later, political awareness also matters for message acceptance.

may exist. Furthermore, exposure to different Information Streams may not be evenly distributed throughout the electorate. The type of Information Stream an individual encounters (that is, the proportion of countervailing messages) may correspond with level of political awareness. For example, suppose that during a particular time period, a politically unaware individual encounters an Information Stream that includes 20 positive messages and 10 negative messages about the war in Iraq. Also, suppose that a highly aware individual encounters an Information Stream that contains 10 positive and 20 negative messages about Iraq. For the politically unaware person, the probability of receiving a positive message remains $\frac{.1 \times 20}{.1(20+10)}$ or .67. On the other hand, for the politically aware person the probability of receiving a positive message is $\frac{.9 \times 10}{.9(20+10)}$ or .33. If we evaluate a single time point, message reception can vary by political awareness. But we are interested in opinion change. If at time point $t+1$ the Iraqi insurgency increased the intensity of its attacks, both Information Streams would reflect the increased bombings, casualties, and chaos. The unaware individual's Information Stream will still contain more positive messages than the aware individual's Information Stream, but the proportion of negative message frames reported in both Information Streams would increase.

The expectation that different media sources will change the proportion of countervailing messages about an issue in tandem certainly holds for objective conditions. When tax rates change, war casualties mount, or the unemployment rate shifts, it is reasonable to expect all media sources reflect these changes. Again, even if a certain media source typically provides a liberal or conservative slant, this pattern should be constant. Thus, when objective conditions change, even a slanted source will reflect these changes. A growing body of research also suggests that different media sources change their frames in tandem for non-objective conditions. Kellstedt (2000) shows

that the ratio of egalitarian and individualistic news stories about race changed systematically across time and that these patterns were roughly consistent in both *Newsweek* and the *New York Times*. Similarly, Schneider and Jacoby (2005) show that the ratio of positive to negative welfare messages on nightly news broadcasts and in the *New York Times* changed in parallel during the 1990s. Certainly it is possible for different media sources to diverge in how they report an issue. When this happens, we should expect divergent patterns of message reception. The literature suggests, however, that when reporting objective conditions, as well as many subjective issues, different sources follow the same patterns over time. Uniform message reception is the dominant expectation.

1.1.1 Do the Uninformed Receive Any Messages?

The theoretical expectations outlined above make a minimal assumption; the least politically aware receive *some* messages about political issues. But, is it reasonable to assume that these individuals receive *any* messages? Converse (1990, 382) refers to the responses of the least informed as a “sea of noise.” Delli Carpini and Keeter (1996, 270) conclude that “large numbers of citizens are woefully underinformed.” And Zaller (1992, 18) contends that the tendency for the poorly informed to learn about matters that are especially important to them, “appears not to be very great or very widespread.” Despite these conclusions, two reasons stand out for why we should expect even the politically uninformed to receive some messages.

First, when individuals encounter messages, even if they forget or do not fully understand the details and facts, they can absorb impressions about the messages (Haidt, 2001; Kahneman, 2003; Klein, 1998). By impression, I mean a valenced consideration, such as positive or negative, better or worse, more or less, etc. Political scientists often conceptualize political messages as pieces of information which should be stored in memory and made available for recall (Delli Carpini and Keeter, 1996; Price and Zaller,

1993). I propose, however, that after reading the newspaper, watching the nightly news, or listening to a conversation about a current event, the dominant consideration is not, “I learned a fact about issue x,” but rather, “I learned good (or bad) news about x, or government should spend more (or less) on issue x.” The reception of countervailing impressions requires minimal attention to or understanding of the issue. Just like it is possible (and common) to forget a new acquaintance’s name or profession and still have a positive or negative impression about the person, an individual can disregard the details of a political message and still receive an impression about the issue.

Second, issue frames enable even the least politically aware individuals to receive impressions. Gleaning impressions from complex and possibly unfamiliar political issues could potentially be cognitively demanding. Issue frames, however, provide the necessary cognitive shortcut. Berinsky and Kinder (2006, 641, See also Gamson & Modigliani 1987, 143) note that frames define, “what the essential issue is” and “how to think about it.” Both types of issue frames (identifying the issue and suggesting how to think about it) lead to the reception of impressions about the issue.⁶ Consider, for example, the U.S. killing of Abu Musab al-Zarqawi, the leader of Al-Qaeda in Iraq. Many individuals who heard about this event did not know who al-Zarqawi was. Countless others probably forgot his name immediately after learning of his death. Nevertheless, headlines such as, “Zarqawi’s Death, Completion of Cabinet Raise Hopes in Iraq,” “After Long Hunt, U.S. Bombs Kill Al Qaeda Leader in Iraq,” and “Zarqawi’s Death Could be Pivotal, Bush Says” ensured that even the least politically aware received a positive impression about the war.⁷ On the other hand, stories about civilian

⁶The notion that individuals use media frames to receive countervailing impressions about complex topics is consistent with research which shows that individuals can use simplifying procedures, such as cues and heuristics, to make seemingly “informed” decisions in the absence of full information (Iyengar, 1990; Lupia and McCubbins, 1998; Popkin, 1991).

⁷These headlines come from the *Wall Street Journal*, the *New York Times*, and *USA Today* (6/9/2006).

or military casualties, car bombings, or kidnappings generally correspond with negative frames and thus lead to negative impressions about Iraq. Whether news stories document crime, education conditions, political corruption, or the economy, the reports tend to correspond with the bipolar frames of good news or bad news or conditions are getting better or worse.⁸

The most politically sophisticated individuals will understand (and remember) the complexities of the messages they encounter, but all individuals, regardless of their political awareness, will receive an impression that corresponds to the issue frame.⁹ Politicians, interest groups, pundits, and reporters rely on these frames to package political information for public consumption. If a news broadcast does not signal what the issue is, or if a politician does not clearly frame how to think about the issue, time and money was wasted. These competitive pressures help ensure all segments of the public receive some messages.

1.1.2 Proportional Message Reception and Opinion Change

I have argued that although the American public has remained “woefully underinformed” throughout the last fifty years (Delli Carpini and Keeter, 1996, 270), it is reasonable to expect that even the least informed receive some impressions about political issues. Furthermore, given this expectation of some message reception, it is the proportion of countervailing messages, not the number of messages, that matters for message reception. Even if the proportion of messages that the most and least politically aware receive differs cross-sectionally, over time the proportions should increase and decrease in tandem. This Proportional Model leads to an important prediction

⁸These examples reinforce the point that messages do not have to be strictly liberal or conservative but, more generally, countervailing.

⁹See Entman (2004) for a discussion of how media frames get disseminated through the public.

about opinion change: For a variety of issues—issues that consistently receive at least some media attention (e.g., the environment, welfare, defense, the economy, etc.)—the most *and* least politically aware should respond to elite discourse.

This is not to say that all individuals will update their attitudes in response to received messages. We know that individuals tend to resist oppositional messages (Taber and Lodge, 2006) and resistance is strongest among highly aware partisans (Converse, 1962; Zaller, 1992). Additionally, not all opinion change will reflect messages in the Information Streams. Randomly primed considerations and error in the survey instrument can lead to random responses. Net change, however, should reflect the changing balance of messages in the relevant Information Streams.

To test the predictions of the Proportional Message Model, I evaluate attitudes toward the Vietnam War and defense spending preferences. I select attitudes toward Vietnam and defense spending for three reasons. First, defense opinions provide a rigorous test of the hypothesis. The least informed segment of the public is largely tuned out and factually uninformed about issues that relate to foreign affairs and defense (Converse 1964, 241, Page & Shapiro 1992, 9-11). If uniform opinion change emerges, as the theory predicts, this pattern will not result because all segments of the public have full or equal information about the issue. Second, current literature suggests that Vietnam attitudes and defense spending preferences are least likely cases of observing uniform opinion change (Bartels 1994, Zaller 1991, 1992, 1996). Finally, defense attitudes are substantively important. Before leaving the White House, President Eisenhower cautioned, “Only an alert and knowledgeable citizenry can compel the proper meshing of the huge industrial and military machinery of defense with our peaceful methods and goals so that security and liberty may prosper together.” Understanding how different segments of the population update their attitudes toward war and defense spending will provide insight into the potential for citizen oversight of the military.

1.2 Public Opinion and the Vietnam War

The Proportional Model of message reception predicts that the most and least politically aware update their opinions at the same time and in the same direction in response to the same general messages. Changing attitudes toward the Vietnam War offer an initial test of this hypothesis. Zaller (1991, 1992, 1996) has repeatedly shown that due to the changing balance of two-sided messages about Vietnam, the most and least politically aware updated their attitudes about the war distinctly. Regardless of predisposition to support the war, he finds that the least politically aware and moderately politically aware were late to receive new messages about Vietnam and thus late to update their attitudes. Zaller writes,

The least informed within each camp [hawks and doves] behave similarly. Owing to their habitual inattentiveness to politics, they are late to support the war and also late to respond to antiwar information. Moderately aware hawks and doves also behave similarly: They fail to support the war in its initial stage because they have not been sufficiently propagandized; as the prowar message heats up, they become more supportive of the war, but then just as quickly begin to abandon the war when the antiwar message becomes loud enough to reach them (204–205).

Zaller's analysis produces a clear set of expectations regarding the effect of political awareness on opinion change when the proportion of messages changes. The most politically aware individuals should be the first to update their attitudes, followed by the moderately aware, and then finally the least politically aware. Zaller examined survey responses at two-year intervals, so these lags can be as long as two years.

Zaller's expectations (and findings) clearly contradict the expectations of the Proportional Model. Data limitations, however, forced Zaller to limit his analysis to four

time points at two-year intervals. Below, I evaluate the hypothesis of uniform opinion change by examining attitudes toward Vietnam at forty-one time points. Between 1965 and 1975 Gallup asked respondents, “Do you approve or disapprove of the way President Johnson (Nixon) is handling the situation in Vietnam?” forty-one times.¹⁰ The ten-fold increase in the number of observations provides a much more comprehensive view of the public’s changing attitudes about Vietnam. One disadvantage, however, of increasing the number of observations is that to gain the time points, I must use a different question about Vietnam attitudes than Zaller used. Thus, although both questions relate to Vietnam, the exact question wording differs.¹¹

1.2.1 Evidence of Uniform Opinion Change

Using the individual level data files (available through the Roper Center), it is possible to evaluate how the most informed (those with at least some college education) and the least informed (those with only an elementary school education) updated their attitudes about Vietnam. Because a measure of political information (which Zaller uses) is not available, I must use education as a proxy for political awareness. A measure of political information would be preferable but education and political information levels relate theoretically (Althaus 2003, 63, Converse 1974, 730, Sniderman, Brody, & Tetlock 1991). Education level corresponds with individuals’ knowledge of the political process, ability to think about political issues, and exposure to political information. For these reasons, education is widely used to measure political information (e.g., Alvarez &

¹⁰The first four questions in the series asked “Do you approve or disapprove of the way the Johnson Administration is dealing with the situation in Vietnam.”

¹¹Zaller used the following question, asked by the Center for Political Studies: “Which of the following do you think we should do now in Vietnam? Pull out of Vietnam entirely; Keep our soldiers in Vietnam but try to end the fighting; Take a stronger stand even if it means invading North Vietnam.” Importantly, Zaller (1992) combined the last two response categories, so his analysis treated responses as either pro- or anti-Vietnam (198). This pro- anti-Vietnam coding makes the CPS question Zaller used cognitively similar to the approve-disapprove question that I use.

Brehm 2002, 37 & 45, Erikson, MacKuen, and Stimson, Ch.6, Stimson, 2002).¹²

Although I focus on education level (not political information level) and use a different question about Vietnam than Zaller, Zaller's Receive–Accept–Sample (RAS) model still offers predictions about the pattern of opinion change that we should observe. The RAS model suggests that the least educated should lag behind the changing attitudes of the most educated. The Proportional Model, on the other hand, predicts that the preferences of the two groups will change largely in tandem.

Figure 1.1 plots the percent who approve of how President Johnson (or Nixon) was handling the situation in Vietnam by subgroup.¹³ Astonishing similarity emerges. There is no evidence that the changing attitudes of the least informed lag behind the attitudes of the most informed. The attitudes of those with only an elementary school education correlate with those with a college education at $r = 0.87$.¹⁴

¹²In the subsequent section on defense spending (see note twenty–four), I show that, at least for defense spending preferences, education level and political information level are equally valid measures of political awareness.

¹³I follow the time series convention of coding percent approve as the Percent Approve/(Percent Approve + Percent Disapprove) (Stimson, 1999, 2004). The decision to use this formula, as opposed to simply the percent approve or disapprove, ensures that the time series variables do not incorporate artifactual changes in the “don't know” category, which would result from even slight changes in the question filter (Stimson, 1999, 63). Using net preferences (e.g. Wlezien 1995, 2004) does not change the overtime pattern or the results of the statistical analysis.

¹⁴It is possible that these strong similarities exist because I did not separate the groups by predisposition to support the war. Although Zaller did not find differences between the patterns of opinion change for those predisposed to support the war (hawks) and those predisposed to oppose the war (doves) among the least and moderately politically aware, he did find distinct patterns of opinion updating between the most aware hawks and doves. Zaller (1992) argues that the politically aware tend to resist arguments that are inconsistent with their political predispositions and accept arguments consistent with their predispositions. To ensure that the similarities in Figure 1.1 do not result because I did not disaggregate by predisposition to support the war (or in this case, the president's handling of the war), I reanalyzed the data, disaggregating by both education level and partisanship. Zaller used a two–sample instrumental variable approach (Franklin, 1989) to impute whether individuals were hawkish or dovish. Instead of imputing preferences, I use respondents' party identification as a measure of predisposition to support the president's handling of the war. Party identification offers two important advantages in the current context. Because the Vietnam question asks how the president is handling the war, party identification relates more closely to individuals' predisposition than a hawk–dove measure. Second, because a direct measure of respondents' party identification exists I do not have to impute values, which would require the assumption that the determinants of ideological attitudes (such as hawk–dove) remain constant across time and surveys. With the exception of the

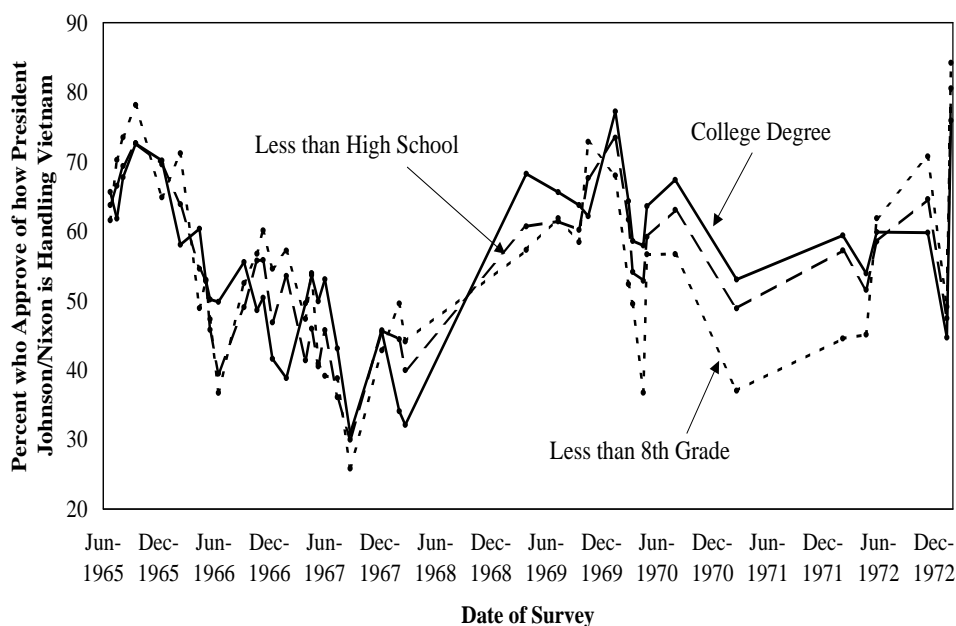


Figure 1.1: Percent who Approve of how President Johnson/Nixon is Handling Vietnam, by Education Level: June 1965 to January 1973

The similar series in Figure 1.1, provide initial support for the proportional view of message reception. The next step is to directly test how different subgroups each responded to the proportion of countervailing messages about Vietnam.

1.2.2 Measuring Messages about Vietnam

In order to analyze message reception across different segments of the population, we need a measure of supportive and oppositional messages about Vietnam. Not everyone receives the same messages, but the proportion of countervailing messages that individuals receive should move in tandem. Thus, if we have a reasonable measure

Republican shift between 1968 and 1969, when Richard Nixon replaced Johnson as president, the series display strong similarities. Between 1965 and 1968, when Zaller predicts that the attitudes of the most informed ideologues will diverge (and thus correlate negatively), the attitudes of the most informed Democrats and Republicans correlate at $r = 0.84$. These similarities between information groups, even controlling for party identification, further validate the evidence of uniform opinion change shown in Figure 1.1.

of supportive and oppositional messages, this measure can serve as a proxy for over-time variation of messages in the “Information Stream.” The World Event/Interaction Survey (WEIS) offers an ideal source for such a measure. The WEIS data reflect all actions and statements between countries reported in the *New York Times* between 1966 and 1978. The focus here is on all events reported that relate to the “Vietnam Conflict.” Between January 1966 and June 1975, the WEIS dataset includes 6,484 unique “events” or “interactions” that relate to Vietnam. The reliance of WEIS on the *New York Times* for the message data is advantageous for the present analysis.¹⁵ Although many individuals do not read the *New York Times*, changes in the proportion of countervailing messages reported should roughly parallel changes in all news sources. This expectation is consistent with research that shows that a variety of news sources reported events that related to the Vietnam War in a consistent manner (Hallin, 1984; Zaller and Chiu, 1996). The *New York Times* thus serves as a proxy for the change in supportive and opposing information about Vietnam available to the public. For each time point, I divide the supporting messages by the number of supporting and opposing messages reported during the thirty days prior to the survey.¹⁶

1.2.3 Subgroup Analysis

For the following analysis, I will focus on Vietnam attitudes between February 1966 and August 1967. During this period, the President’s handling of Vietnam question was asked on a near monthly basis (fifteen out of a possible nineteen time points). Unfortunately, the inconsistent timing of the survey questions throughout the rest of the series preclude using time points beyond this period. Nevertheless, Figure 1.1

¹⁵Other event count datasets code events from sources that the public would not be expected to receive. The Conflict and Peace Data Bank (COPDAB), for example, includes events based on 70 international sources of newspapers, chronologies, and other historical accounts.

¹⁶See Appendix 1 for a detailed discussion of the message coding.

suggests that the pattern of uniform opinion change was not limited to 1966 and 1967. There is no reason to assume that opinion updating differed before or after the period of analysis. Furthermore, the series allow us to observe how the most and least informed updated their assessments of the president's handling of the war on a monthly basis for the middle period of Zaller's analysis.

According to the Proportional Model, the changing proportion of supportive and oppositional message frames about Vietnam should influence the public's assessment of how the president was handling the war. Some individuals will maintain consistent attitudes and some will offer random survey responses, but systematic change should reflect the changing balance of countervailing messages. Although different individuals will receive different amounts of information from different sources, the proportion of supportive to oppositional messages should change roughly in tandem for all segments of the population.

I use a single equation Error Correction Model (ECM) to test the hypothesis that all segments of the public update their attitudes toward Vietnam in response to the changing proportion of countervailing messages. ECMs offer several advantages for the current analysis. First, the dependent variable is differenced, allowing us to estimate the determinants of change in attitudes. Differencing the dependent variable also avoids the danger of estimating a spurious regression with near-integrated data (DeBoef and Granato, 1997).¹⁷ ECMs also model short and long term causal effects, providing a more complete picture of the effects of media messages on public opinion than other time series models (Keele and DeBoef, 2004).

In the following model, short-term effects should be interpreted as the expected change in the percent approving of the President's handling of the war for each unit

¹⁷An augmented Dickey-Fuller test suggests the dependent variable is either an integrated or near-integrated time series.

change in messages about the war. Essentially, this coefficient represents the strength of message acceptance. Since it is possible to receive a message but not accept it, a non-significant coefficient does not mean no messages were received (although this would be possible). On the other hand, if the short-term effect is statistically significant, messages must have been received. A statistically significant long-term effect suggests that an equilibrium relationship exists between the independent and dependent variable. In other words, a shift in messages about the war leads to a shift in assessments of the president's handling of the war in subsequent months. The Error Correction Rate ($\text{Percent Approve}_{t-1}$) indicates how quickly any long-term effects take place.¹⁸ Specifically, this coefficient indicates the percent of the long-term effect (if one exists), which takes place in each subsequent time period.

A second modelling decision is to estimate the subgroup equations simultaneously, as a Seemingly Unrelated Regression Equations (SUR) model (Zellner, 1962, 1963). Given that the subgroup series come from the same surveys, we might expect contemporaneous correlation in the disturbance terms across equations. The SUR model estimates this expected correlation—incorporating information that is unavailable in separate regressions—and thus produces more efficient estimates. Binkley and Nelson (1988) demonstrate that efficiency gains persist even when variables are correlated across equations, giving further evidence that the SUR model is the most efficient estimator of the set of equations.¹⁹

Column one in Table 1.1 reports the results for those with just an Elementary

¹⁸No data are available for March 1966, July and August 1966, and February 1977. To accommodate for the missing data, the lagged value of the dependent variable is the value at the previous available time point.

¹⁹Estimating the equations separately does not change any results for those with an Elementary school education or those with less than an eighth grade education. The responsiveness of the most educated, however, does not reach statistical significance when estimated separately. The relationship for college educated Republicans and Democrats does remain significant when estimated separately.

school education (the least educated 29 percent of respondents). The RAS model predicts that, “owing to their habitual inattentiveness to politics,” this group will be “late to support the war and also late to respond to antiwar information” (Zaller 1992, 204). The Proportional Model predicts, however, that despite the limited attention to politics, even the least informed will notice the changing balance of positive and negative depictions of the war. Indeed, the contemporaneous relationship between messages about Vietnam and assessments of the president’s handling of the war is statistically significant. A standard deviation change in the percent of positive messages about Vietnam predicts a 3.8 percent shift in the percent approving of the president’s handling of the war. Messages about Vietnam also exert a long-term effect on Vietnam attitudes, suggesting that as news becomes more positive or negative, the least informed translate this information into attitudes at future time points. The error correction rate indicates that 83 percent of the long-term effect is absorbed in the following month.

Column two examines an even smaller segment of the population, those with less than an eighth grade education (the least educated twelve percent of respondents). Again, consistent with the Proportional Model, we see the least informed responding to the changing balance of messages about Vietnam. The magnitude of the coefficients suggest that messages about Vietnam exert an even greater short-term and long-term effect on this group’s assessments of the president’s handling of the war. The error correction rate suggests that all of the long-term effect is absorbed in the following month. For those with less than an 8th grade education, Vietnam messages explain an impressive 66 percent of the variance in changing attitudes toward the president’s handling of the war.

Column three reports the results for the those with at least some college education (the most educated 20 percent of respondents). Both the additive and Proportional

Table 1.1: Determinants of Monthly Approval of The President's Handling of Vietnam, by Education Level: 1966–1967

	Elementary School	Less Than 8 th Grade	Some College	College Rep.	College Dem.
<i>Short-Term Effect</i>					
Δ Vietnam Messages	0.31* (0.14)	0.57** (0.14)	0.20 [†] (0.16)	0.29* (.17)	0.24** (.10)
<i>Long-Term Effect</i>					
Vietnam Messages _{t-1}	0.44* (0.20)	0.76** (0.22)	-0.01 (0.23)	0.03 (.28)	0.08 (.15)
<i>Error Correction Rate</i>					
Percent Approve _{t-1}	-0.83** (0.18)	-1.01** (0.33)	-0.71* (0.33)	-0.78** (.26)	-0.43* (.25)
Constant	15.06 (11.96)	9.56 (11.16)	34.88 [†] (23.24)	-48.28** (17.01)	-20.40 [†] (12.70)
R ²	0.43	0.66	0.16	.29	.33
Percent of Respondents	28.8	12.3	19.5	7.1	6.6

Note: N = 14 for all analyses. Standard errors are in parentheses.

[†] = p < 0.1, * = p < 0.05, ** = p < 0.01; one tailed tests

Models predict that the most informed will respond to relevant information, and, indeed, that is what we see. Although only significant at the p<.1 level, given the small sample size and theoretical expectations, it appears that the most informed respond to messages about Vietnam. There is no evidence, however, of a long term effect. Columns four and five help elucidate the dynamics of opinion change of the most informed. In these columns, I separate Republicans and Democrats with some College education. Zaller suggests that highly informed individuals will counter-argue information that contradicts their predispositions, leading to divergent opinion change among the most informed partisans. Separating the highly informed partisans allows us to observe whether the seemingly muted responsiveness of those with a college education (reported in Column 3) resulted because of divergent patterns of opinion change.

Columns 4 and 5 do not support this conclusion. We again see uniformity, not divergence. For Educated Republicans and Democrats the relationship between messages about Vietnam and the president's handling of the war is statistically significant and of similar magnitude. The different constant coefficients indicate that Democrats, on average, were much more supportive of Johnson's handling of the war than Republicans, but both groups were almost equally responsive to incoming information.

Consistent with the Proportional Model of message reception, the most and least educated segments of the public updated their assessments of the president's handling of Vietnam in tandem in response to the changing balance of messages about Vietnam. Below, I analyze the individual level dynamics of attitudes toward Vietnam.

1.2.4 Individual Level Analysis

The above analysis provides strong support for the predictions that stem from the Proportional Model. The subgroup analysis does not, however, directly test individual responsiveness. As Converse (2006, 608) notes, "An informed one-sixth of the electorate can easily account for this much [aggregate] 'signal.'" In order to address the concern that a small percentage of "informed" individuals in each subgroup might drive the subaggregate results, I estimate a logit analysis of the probability that an individual approved of the president's handling of the war. Due to the large sample size, the individual level analysis also offers the advantage of being able to include additional control variables that, because of the short time series (and thus limited degrees of freedom), could not be included in the subgroup analysis. I pool the data so the following analysis includes each response for each monthly survey used in the above analysis from 1966 to 1967. Because the variance is not equivalent across different

surveys, I report standard errors clustered around each time–point.²⁰

We are most interested in whether individuals respond to the available balance of supportive and oppositional messages about Vietnam. For each time point, each individual receives the corresponding measure of messages about Vietnam. I expect the relationship between messages about Vietnam and individual assessment of the president’s handling of the war to be statistically significant. As with the time series analysis, a non–significant value does not mean message reception did not occur (although this is possible). But a significant relationship means message reception did occur. To control for previous attitudes, the model includes the mean value of the dependent variable (for each subgroup) at the previous time point. Because panel data do not exist, this is the best available estimate of individuals’ previous attitudes. The model also includes a variety of individual level demographic variables and whether or not the respondent voted for Johnson in 1964.²¹

The first two columns in Table 1.2 report the effect of messages about Vietnam on the probability that an individual approves of the president’s handling of the war for respondents in the lowest two education groups. If the relationship between Vietnam messages and Vietnam attitude is not positive and statistically significant for the least educated individuals, the conclusions of the subgroup analysis must be tempered. A lack of relationship at the individual level would make it impossible to reject the alternative hypothesis that a few very politically informed individuals, who just happen to have a low level of formal education, drive the subgroup results. Columns 1 and 2 show, however, that whether we analyze individuals with only an elementary school

²⁰Including a dummy variable for each time–point (except one) or estimating a heteroskedastic probit model are alternate ways to deal with the heteroskedastic variance. The effects reported below do not change with either of these estimation techniques.

²¹Specific demographic variables include age, income, party identification, region (whether or not the respondent was from the South), religion (separate dummy variables for Protestant and Catholic), sex, and race (White = 1, 0 otherwise).

education or individuals with less than an eighth grade education, respondents incorporate messages about Vietnam into their assessments of the president's handling of the war. Holding the other variables at their mean, a standard deviation increase (around the mean) in the percent of positive messages about Vietnam predicts a .04 increase in the probability of approving of the president's handling of the war. A change from the minimum to maximum percent of positive messages predicts a .17 increase in the probability of approving of the president's handling of the war. For individuals with less than an eighth grade education, these predicted probabilities double to .08 and .33, respectively.

Column 3 reports the individual level results for those with at least some college education. Two differences stand out from the analysis of the least informed individuals. First, prior attitudes influence current attitudes at a statistically significant level. Consistent with prior literature (Converse, 1964), this result suggests that attitudes of the most informed are the most stable. Second, messages about Vietnam are not statistically significant. The lack of significant relationship suggests that in the previous subgroup analysis, it was just a portion of the most educated contributing to the sub-aggregate results. Columns 4 and 5 include only Republicans and Democrats with some college education. These results largely parallel column three.

The subgroup and individual level analyses suggest that—far from lagging behind the more informed respondents—the least informed, as a group and individually, were the most responsive to elite discourse about Vietnam. Although the least informed receive less information than the most informed, for Vietnam, at least, the changing proportion of messages influences their month-to-month opinion change.

Table 1.2: Pooled Logit Analysis of The President’s Handling of Vietnam, by Education Level: 1966–1967

	Elementary School	Less Than 8th Grade	Some College	College Rep.	College Dem.
Approval _{t-1}	0.98 (0.57)	-0.22 (0.72)	2.13** (0.79)	1.77* (0.87)	1.23 (1.29)
Vietnam Messages	0.013* (0.006)	0.025** (0.005)	0.001 (0.006)	.001 (.011)	.006 (.006)
Constant	-2.82** (0.31)	-3.32** (0.50)	-3.27** (0.31)	-2.39** (0.83)	-1.87 (1.08)
Pseudo R ²	0.15	0.19	0.08	.04	.04
Pct. Correctly Classified	64.9	65.4	61.2	63.1	63.0
N	10,327	4,312	8,605	3,153	2,878

Note: Controls for demographic characteristics and 1964 Presidential vote not shown. Clustered standard errors in parentheses. * = $p < 0.05$, ** = $p < 0.01$; two tailed tests Pseudo R² is McKelvey and Zavoina’s R²

1.3 Defense Spending Preferences

The above analyses of attitudes toward Vietnam—at least assessments of how the president was handling Vietnam—strongly support the expectations of the Proportional Model of message reception. Vietnam has traditionally been characterized as a most likely case for observing differential opinion change due to the least politically aware’s limited message reception (Zaller, 1992). Nevertheless, it is necessary to test the Proportional Model over a longer period of time. Baum (2002) shows that soft news brings information about high profile foreign policy crises to the inattentive public in an entertainment-like fashion. Although the Vietnam era precedes the “soft news” environment that Baum describes, analyzing defense spending from 1973 to 1989 ensures that the test of the Proportional Model is not an assessment of the effects of soft news reporting on a single high profile crisis. Defense policy is regarded as a cognitively difficult issue, largely out of reach of much of the public (McClosky, Hoffman and O’Hara,

1960; Hill and Hurley, 1999).²² If uniform opinion change emerges, as the Proportional Model predicts, it will not be because all individuals have full or equal information.

The first task is to develop an annual measure of defense spending preferences for each political awareness level. Three surveys (General Social Survey (GSS), Roper, and Gallup) have asked defense spending questions almost every year between 1972 and 1979 (the last year of the U.S.–Soviet data). During this time period, GSS and Roper asked the same question about defense spending preferences thirty times. The GSS defense question was asked near the start of each year (February, March, or April) and the Roper defense question was asked each December. Gallup asked an almost identical question about defense spending preferences sixteen times (in various months) between 1973 and 1989.²³ For each survey question, I take the percent of survey participants responding “spending too much” on defense divided by the percent responding “spending too much” plus the percent responding “spending too little.” Thus, higher values indicate that the public believes the government is spending too much on defense. I employ Stimson’s (1999) Dyad Ratios algorithm, which uses a factor analytic approach to combine responses to these 46 questions into a single index of the public’s annual preferences for defense spending.²⁴ Although the three series of questions (GSS, Gallup,

²²Information about foreign affairs is, of course, not completely out of reach of the public. Aldrich, Sullivan and Borgida (1989) show that during presidential campaigns voters are able to respond to candidates’ foreign policy appeals.

²³GSS and ROPER asked: We are faced with many problems in this country, none of which can be solved easily or inexpensively. I’m going to name some of these problems, and for each one I’d like you to tell me whether you think we’re spending too much money on it, too little money, or about the right amount... Are we spending too much, too little, or the right amount on the military, armaments, and defense? GALLUP asked: There is much discussion as to the amount of money the government in Washington should spend for national defense and military purposes. How do you feel about this: Do you think we are spending too little, too much, or about the right amount?

²⁴I use Stimson’s algorithm with the exponential smoothing function turned off. The algorithm is designed to extract the underlying dimension of common survey question items. Random survey responses detract from the “true” nature of series over time, so generally the smoothing function is used to attenuate random error. A potential difference between the responses of the most and least politically aware, however, is that the least aware may offer more random responses. Smoothing across responses, while creating a more accurate picture of the overall electorate, could potentially

and Roper) correlate highly, combining the questions into a single index offers the advantage of a more comprehensive annual measure of spending preferences.²⁵ I repeat the process, grouping respondents by education level, to create an annual time series of defense spending preferences for each information group. Figure 1.2 plots these series by education level.²⁶

As with attitudes toward the president's handling of the Vietnam War, the series move in tandem. From 1972 to 1989, the percent in each group responding that the government was spending "too much" on defense decreased each year. In 1980, however, the public mood shifts, and the percent responding spending "too much" begins

create false similarities between political awareness levels. The smoothing function was thus turned off for all analyses to ensure that any similarities between subgroups exist in the raw data.

²⁵The three series each correlate with the resulting overall index at $r = 0.95$ or above.

²⁶The American National Election Surveys (ANES) offer a unique opportunity to test the assumption that using education level instead of political information level as a measure of political awareness does not change the results of the analysis. The ANES asks respondents their education level and questions that reflect their political information level. Although the bi-annual nature of the ANES does not permit time-series regression analysis, respondents can be grouped by both education level and political information level. If the defense spending preferences of the least (and most) educated and the least (and most) politically informed correlate highly, we can be confident that there is significant overlap between these two subgroups. In other words, using a measure of political information (if it was available) would not lead to different results than using the education measure. On the other hand, if significant differences appear, we will have evidence that the opinions of education groups and political information groups move distinctly, indicating that education level may not a valid proxy for political awareness level. The ANES has asked a question about defense spending eleven times. For each of these years, I group respondents with less than a high school education and those with a college degree or higher. Following Zaller (1992), I then create a thirteen point index of political information. The political information index is 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, guaranteed jobs, and health care. Each correct response is coded as a one. Respondents could also get five points based on the interviewer rating of respondent's level of political information. Based on these classifications, I examine the relationship between the defense spending preferences of the education and political information groups. The defense spending preferences of the least educated (the lowest 19 percent of respondents) correlate with the preferences of the least politically informed (the lowest 17 percent of respondents) at $r = 0.96$. The defense preferences of the most educated (the highest 21 percent of respondents) and the most politically informed (the highest 23 percent of respondents) correlate at $r = 0.98$. The overwhelmingly similar patterns of opinion change between political information and education levels suggest that education level is indeed a valid measure of political awareness.

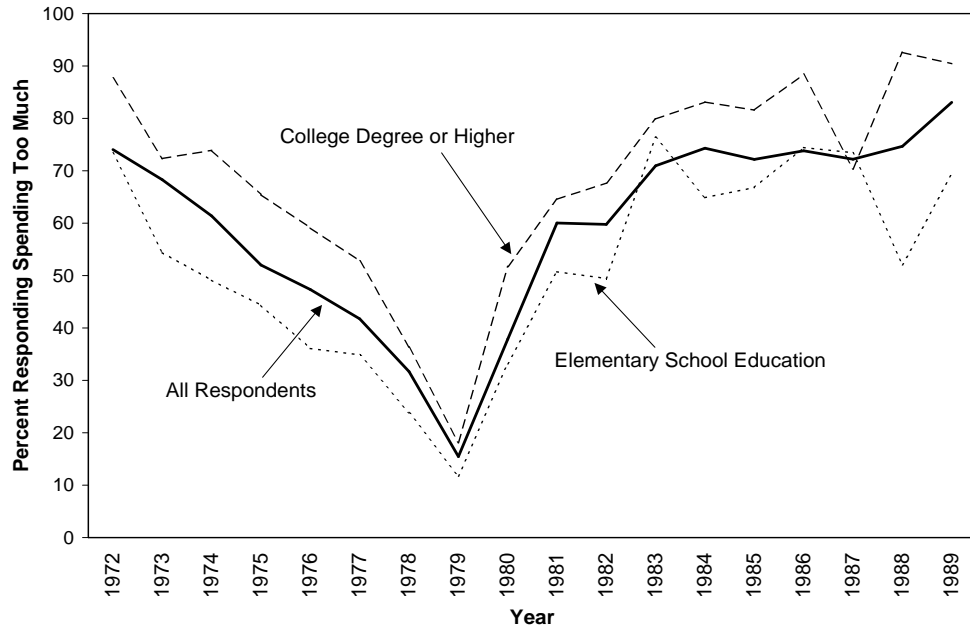


Figure 1.2: Defense Spending Attitudes by Education Level, 1972–1989

to increase again. The three series correlate at $r = 0.89$ or above. In contrast to previous research, we see no evidence that “Both the level and the structure of defense spending preferences among the least informed 60 percent of the public have changed only marginally since the early 1980s” (Bartels 1994, 497). The next task is to operationalize the information streams that relate to defense spending preferences in order to analyze the determinants of opinion change.

1.3.1 Information Streams that Relate to Defense

I rely on two potential streams of information which relate to defense spending preferences during the 1970s and 1980s: messages about U.S.–Soviet relations and annual defense budget appropriations. These information streams offer two advantages for testing the Proportional Model. First, prior research shows that changes in U.S.–Soviet relations and budget appropriations influence the public’s defense spending preferences (Hartley and Russett, 1992; Wlezien, 1996; Witko, 2003). Thus, at least some segments

of the public associate these messages with defense spending. Second, these two information sources are ideal because large portions of the public cannot recall specific details about military spending and U.S.–Soviet relations (Delli Carpini and Keeter, 1996, Ch.2). The low levels of factual information suggest that if the least informed respond to changes in defense appropriations and messages about U.S.–Soviet relations, they are not responding to specific details, but to changes in the proportion of opposing frames, as the Proportional Model of message reception predicts.

Given the theoretical desirability of these two information streams, the next task is to develop valid measures of the messages that constitute each stream of information. For a measure of news about U.S.–Soviet relations, I again rely on the WEIS data. Goldstein and Freeman (1990) have extended the WEIS data to create a monthly time series of U.S. actions toward the Soviet Union from 1966 to 1989.²⁷ Higher values reflect message frames that would lead to a positive impression about U.S.–Soviet relations, such as summits and treaties. Lower values reflect message frames that would lead to negative impressions, such as the Soviet invasion of Afghanistan, the U.S. boycott of the 1980 Olympics, or the Soviet shooting down of KAL flight 007.²⁸ Witko (2003) combines the monthly series into a quarterly measure and shows that the public, as a whole, responds to these messages. I combine the data to form an annual series.

The second information stream consists of defense appropriations. Instead of measuring news messages about the budget, I use actual budget appropriations. The decision to use actual budget data, as opposed to news messages about the budget, stems from prior research. Wlezien (1996; see also Witko 2003) shows that the public responds almost immediately to defense appropriations. As appropriations increase (or

²⁷Because Goldstein and Freeman report the net number of positive messages for each month, it is not possible to calculate the proportion. I thus use the net number of positive messages.

²⁸See Goldstein and Freeman (1990, 48-50) for a detailed overview of the events which the series reflect.

decrease), the public's spending preferences respond thermostatically and decrease (or increase) (Wlezien, 1995, 1996; Erikson, MacKuen and Stimson, 2002). This thermostatic pattern suggests that changes from the budgetary status quo lead to negative impressions about government spending. It may be that most of the public simply has a bias toward the status quo (whatever that amount happens to be), so that anytime news stories report a budgetary increase or decrease this leads to negative impressions and preferences move in the opposite direction.²⁹ Or, budgetary changes may galvanize support for opposing sides who increase the proportion of countervailing messages (increase or decrease spending) in the information stream. In either case, the public, as a whole, translates changes in budget appropriations into spending preferences. Thus, I predict all segments of the population will adjust their defense spending preferences in response to actual changes in defense appropriations.³⁰

1.3.2 Subgroup Analysis

Prior research shows that the percent of the public favoring more or less defense spending responds to changes in budget appropriations and U.S.–Soviet relations (Jentleson and Britton, 1998; Witko, 2003; Wlezien, 1995, 1996). I expect to find the same pattern of opinion updating for each education level. As with the Vietnam analysis, I use a single equation Error Correction Model to estimate changes in defense spending preferences. Subgroups are again estimated jointly with a Seemingly Unrelated Regression

²⁹Samuelson and Zeckhauser (1988) show that individual decision making across a wide variety of contexts reflects a strong status quo bias.

³⁰Due to the fiscal calendar, appropriations decisions are generally made during the last quarter of the previous year. Thus, a contemporaneous relationship indicates that budget decisions made at the end of the previous year influence the public's defense attitudes during the current year. The measure of defense appropriations comes from the Annual Senate Document, *Appropriations, Budget Estimates, Etc.*

Equation model.³¹

Column one of Table 1.3 reports the effect of U.S.–Soviet relations and defense appropriations on the defense spending preferences of all respondents. Consistent with prior research, the effects of messages about U.S.–Soviet relations and budget appropriations are statistically significant and substantively important. During the 1970s and 1980s, as news about U.S.–Soviet relations becomes more positive (negative), the percent of respondents favoring less (more) defense spending increased. The average annual change in U.S.–Soviet relations, predicts a 5.9 percent shift in the percent of respondents who prefer more or less defense spending. Similarly, an increase (decrease) in defense appropriations corresponds with an expected increase (decrease) in the percent of the public responding that the government is spending too much on defense. The average annual change in defense appropriations predicts an 8 percent shift in the percent of respondents favoring more or less defense spending. These results, which parallel findings in previous research, further validate the use of the ECM.

The second column shows the results for the most informed 18 percent of respondents. The relationships between the independent variables and defense spending preferences are statistically significant and almost identical in size to the coefficients for all respondents. Consistent with Bartles' (1994) analysis, the most politically informed translated changes in U.S.–Soviet relations into their defense spending preferences. Both the Proportional Model and additive views of message reception expect these similarities between the most informed and all respondents. The third column reports the determinants of defense spending preferences for those who only attained an elementary school education or less—the least informed 11 percent of respondents. Additive

³¹Estimating the equations separately produces the same results, with two exceptions. The long-term effect of U.S.–Soviet Relations for those with a College education and the contemporaneous effect of changes in budget appropriations for those with an Elementary school education just miss statistical significance ($p=.11$).

Table 1.3: Annual Determinants of the Percent Responding “Spending Too Much” on Defense, by Information Level, 1973–1989

	All	At Least College Deg.	Elementary School
<i>Short-Term Effects</i>			
Δ U.S.–Soviet Relations	0.25** (0.06)	0.28** (0.11)	0.21** (0.08)
Δ Budget Appropriations	0.49** (0.10)	0.41* (0.19)	0.23* (0.14)
<i>Long-Term Effects</i>			
U.S.–Soviet Relations _{t-1}	0.18* (0.10)	0.31* (0.17)	-0.02 (0.16)
Budget Appropriations _{t-1}	0.10* (0.04)	0.19** (0.07)	0.09 (0.07)
<i>Error Correction Rate</i>			
Defense Preferences _{t-1}	-0.20 (0.16)	-0.60** (0.23)	-0.35† (0.17)
Constant	-20.65* (7.98)	-17.09 (15.13)	-15.73 (12.31)
R ²	0.86	0.58	0.75
Percent of Respondents	100	18.2	11.0

Note: N=16 for all analyses. Standard errors in parentheses.

*=p <0.05, **=p<0.01; one tailed tests

views of message reception predict that this segment of the population, due to general inattentiveness to politics, will be late to respond or unresponsive to relevant information. Yet, the relationships between U.S.–Soviet relations and budget appropriations are statistically significant. Furthermore, although the coefficients are smaller for the least informed, cross-equation tests for equality show that the coefficients of the two education groups are not statistically different from each other. Far from finding that “only the more informed stratum of the general public has so far succeeded in grasping...the implications for U.S. defense policy of the declining Soviet threat” (Bartels, 1994, 498), the least politically informed responded to changing information about

U.S.–Soviet relations and budget appropriations.³²

1.3.3 Individual Level Analysis

The subgroup analysis of defense spending preferences provides further support for the Proportional Model. Yet, as with attitudes toward Vietnam, it is important to evaluate opinion change at the individual level. I pool the individual level data from 1973 to 1989 and estimate an ordered logit model of the probability that an individual responded spending too little, spending the right amount, or spending too much on defense.³³ The key variables of interest are U.S.–Soviet Relations and Budget Appropriations. For each time point, each respondent receives the annual value of U.S.–Soviet Relations and defense Budget Appropriations. The analysis also controls for previous defense spending preferences (the mean value of the lagged dependent variable for each subgroup), party identification, political ideology, and various demographic characteristics.³⁴

Table 1.4 reports, for each education group, the effect of relevant Information Streams on individual level defense spending preferences. Remarkable similarity exists across the individuals in the three education groups. Although the coefficient is slightly larger for the most educated, the effect of prior defense spending attitudes is statistically significant for individuals in all education groups. Similarly, the effect of U.S.–Soviet Relations and Budget Appropriations is significant for individuals in each

³²An important difference between the present analysis and Bartels' analysis is that Bartels compared the determinants of defense spending preferences in 1982–1984 and 1992. Because the U.S.–Soviet Relations data only extend to 1989, the above analysis cannot include an observation from 1992, Bartels' reference point for opinion change.

³³This question comes from the GSS. Because the control variables must come from the same survey as the dependent variable, only one of the three surveys used to comprise the dependent variable in the subgroup analysis could be used. I selected the GSS question because it was asked the most times.

³⁴Demographic controls include region (whether the respondent is from the South), race (White = 1, 0 otherwise), sex, and income. As with the individual level Vietnam analysis, I control for heteroskedastic error variance by estimating clustered standard errors, clustered by time–point. Again, using annual dummy variables to control for heteroskedastic variance does not change the results.

Table 1.4: Pooled Ordered Logit Analysis of Defense Spending Preferences, by Education Level: 1973–1989

	Less Than 8th Grade	Less Than H.S. Deg.	At Least College
Spending Preferences _{t-1}	0.66** (0.22)	0.60** (0.14)	0.78** (0.20)
U.S.–Soviet Relations	0.011** (0.003)	0.011* (0.004)	0.013* (0.006)
Budget Appropriations	0.005** (0.001)	0.006** (0.001)	0.008** (0.002)
PID	0.004 (0.030)	-0.019 (0.014)	-0.133** (0.033)
cut1	0.33 (0.52)	0.47 (0.46)	-1.11 (0.78)
cut2	2.61 (0.60)	2.61 (0.47)	0.86 (0.73)
Pseudo R ²	0.08	0.08	0.24
N	745	3,568	2,176

Note: Controls for demographic characteristics not shown.

*= $p < 0.05$, **= $p < 0.01$, two tailed tests; Clustered standard errors in parentheses. Pseudo R² is McKelvey and Zavoina's R²

education group. For individuals with less than an 8th grade education, a standard deviation increase (around the mean) in positive stories about U.S.–Soviet Relations predicts a .07 decrease in the probability of responding spending too little on defense and a .05 increase in the probability of responding spending too much. For those with a college degree, the same shift in stories about U.S.–Soviet Relations leads to a .05 decrease in the probability of responding spending too little on defense and a .09 increase in the probability of responding spending too much. Changes in Budget Appropriations lead to similar substantive conclusions for the most and least informed. For individuals with less than an 8th grade education, a standard deviation increase (around the mean) in defense appropriations predicts a .06 decrease in the probability of responding spending too little on defense and a .04 increase in the probability of responding spending too much. For those with a college degree, the same shift in defense appropriations

leads to a .05 decrease in the probability of responding spending too little on defense and a .11 increase in the probability of responding spending too much. It appears that the highly educated are more willing to respond “spending too much” but individuals in both groups show the same patterns of responsiveness.

Interestingly, the effect of party identification is only significant for the most informed. Republicans with some college education are less likely to respond that the government is spending too much on defense than Democrats. Thus, it would be wrong to conclude that political information does not matter. At the individual level, only the more educated show consistency between their party identification and defense spending preferences. Unlike prior research, however, individuals in all information groups appear to respond to relevant messages in a uniform manner. It is difficult to say whether this responsiveness would satisfy President Eisenhower’s call for “an alert and knowledgeable citizenry,” but the above analysis suggests that the least informed are much more alert and responsive to information that relates to defense spending than previously thought.

1.4 Conclusions and Implications

In a substantial departure from previous literature, I have shown that the most and least politically aware respond to political messages in a uniform manner. That is, they update their attitudes at the same time, in the same direction, and in response to the same general messages. These results exist for both subgroup and individual level analyses of Vietnam and defense spending preferences. Of course, future research must test the Proportional Model on additional issue areas. Yet, at a minimum, the above analysis modifies our understanding of public opinion about defense and foreign policy issues. For these issues, opinion change does not depend on the quantity of messages an individual receives or an individual’s ability to recall the details of the message.

Rather, individuals update their opinions in response to changes in the proportion of countervailing messages in the relevant Information Streams.

The empirical support for the Proportional Model, while distinct from previous models of opinion change, sheds light on several findings in public opinion research. For example, Druckman and Jacobs (2006) show that President Nixon and his staff invested large sums of “White House time and money” in opinion polling (458). Furthermore, they show that Nixon incorporated policy specific details from these polls into his speeches. Previous models of public opinion suggest that this was wasteful behavior. According to additive views of opinion change, Nixon and all subsequent presidents who have invested in opinion polling should have only polled and responded to the most politically informed; the individuals who receive and respond to political information. In contrast, the Proportional Model suggests that politicians who invest in and respond to opinion polls are indeed behaving rationally. All segments of society receive and respond to political messages.

The Proportional Model also provides a causal explanation for the findings that the most and least educated subgroups update their opinions in “parallel” (Erikson, MacKuen and Stimson, 2002; Page and Shapiro, 1992; Stimson, 2002; Soroka and Wlezien, 2006). The standard view that aggregate public 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” cannot adequately explain the parallelism result (Converse, 1990, 382). By contrast, the Proportional Model of message reception provides a theoretical basis for understanding parallel opinion change.

The lingering question is why have previous analyses found that with cognitively difficult issues, such as Vietnam and defense spending preferences, the attitudes of the least informed either do not change or they lag behind the changing attitudes of

the most informed? The different research design employed here, including different model specification and different question wording, does not permit a definitive answer to this question. However, two differences between this and previous research stand out as important candidates for why distinct results emerged. First, unlike previous research, the above analyses include an actual measure of relevant information. It is not surprising that different results emerge when a measure of information is included in the model of opinion change. Second, prior research that has found different patterns of opinion change between different levels of political information has analyzed fewer time points at much longer intervals. Again, it is not surprising that opinion dynamics look different depending on the number and interval of time-points that are observed. When data permit, future research should analyze other policy issues over extended time periods and should include measures of relevant Information Streams. I expect evidence of uniform causal dynamics across information levels will result.

Finally, the similar patterns of opinion change should not overshadow the cross-sectional opinion differences between information levels which persist over time. The more educated segment of society consistently prefers less defense spending than the least educated. These results support Althaus' (2003) finding that the attitudes of the least informed systematically influence aggregate measures of public opinion. The cross-sectional differences also corroborate research that shows that policy specific ignorance leads many Americans to hold political views different from those they would otherwise hold (Gilens, 2001). In other words, individuals' initial opinions about a specific issue may depend on their political information level. However, once an opinion is formed, the process of updating appears to be consistent across information levels. Future research should explore the differences between opinion formation and opinion updating. It may be that when a new issue, such as an international conflict, emerges, some individuals rely on social cues to form their preferences, while other individuals

rely on issue specific information. Differences in political awareness may explain differences in initial preference formation. Once initial impressions are formed, however, all segments of the population—even the least informed ten percent of respondents—update their opinions in response to the same pattern of messages.

Chapter 2

Welfare Attitudes and Inequality in the United States

Abstract: Explanations of inequality in the United States often point to the disproportionate political voice exercised by social elites. A second body of research, however, shows that for a variety of policy issues, high and low income groups update their attitudes in parallel. Thus, regardless of which group government actually hears, when policy follows public opinion, all groups receive equal representation. This article seeks to reconcile these seemingly conflicting findings by showing that “parallel” opinion change and representation do not necessarily lead to more redistributive policies. I analyze welfare attitudes from 1973 to 2004 and show that all segments of society update their welfare attitudes in response to the same general messages. As a consequence, when elite discourse turns against welfare—as it did during the 1990s—even those most likely to benefit from redistributive policies reduce their support for welfare spending. It follows that equal representation, while a necessary condition of democracy, does not automatically improve the conditions of the most disadvantaged.

Explanations of the persistent inequality in the United States often point to the disproportionate political voice exercised by social elites.¹ Theories of unequal voice contend that different socio-economic groups prefer different policies and, due to their dominant political voice, social elites generally receive their preferred policy outcomes (Bartels, 2005; Gilens, 2005; Schlozman et al., 2005). A second body of research, however, shows that for a variety of policy issues, high and low income groups update their attitudes in parallel (Page and Shapiro, 1992). Thus, regardless of which group government actually hears, when policy follows public opinion, the changing preferences of all groups receive equal representation (Soroka and Wlezien, 2006; Ura and Ellis, 2007).

Evidence of parallel opinion change (and thus parallel representation) across income groups is surprising for a variety of reasons. First, in the United States, income level correlates highly with education and political information level (Delli Carpini and Keeter, 1996, Ch.7). Because the least politically informed (those without a political voice) do not receive and respond to messages the same way as the most politically informed (Bartels, 1994; Converse, 2000; Delli Carpini and Keeter, 1996; Druckman, 2005; Schneider and Jacoby, 2005; Sniderman, 1993; Zaller, 1992), we should observe different patterns of opinion change between socio-economic groups. Second, even if the politically uninformed did receive relevant economic and political messages, because this group is largely comprised of socially disadvantaged individuals, their interests should be different from the most politically aware. Why would those in the lowest income or education group *ever* prefer less government spending on education or welfare? Yet, the preferences of the most socially disadvantaged do change, and they change in tandem with social elites. During the last thirty years, the education spending preferences of

¹See, for example, the American Political Science Association Task Force on Inequality and American Democracy's report, *American Democracy in an Age of Rising Inequality*.

the most and least educated segments of the population correlate at $r = 0.74$. Similarly, welfare spending preferences of the highest and lowest income groups correlate at $r = 0.80$. Even the changing tax preferences of the wealthiest and least affluent correlate at $r = 0.74$.²

Findings of parallel opinion change suggest that in order to fully understand inequality in the United States, we not only need to understand *when* different segments of the population receive different levels of representation, but *why* different groups prefer the policies they do. Specifically, we need to understand why the highest and lowest socio-economic groups change their attitudes in tandem. I focus on change because opinion change is the stimulus to which re-election minded politicians should respond (Stimson, MacKuen and Erikson, 1995). If opinions have not changed, politicians face no incentive to adjust the policy status quo.

This paper proceeds in two stages. First, I develop a Proportional Model of message reception, which predicts that different segments of the population will update their attitudes at the same time, in the same direction, and in response to the same general messages. While existing research has shown evidence of parallel opinion change (Page and Shapiro, 1992; Soroka and Wlezien, 2006; Ura and Ellis, 2007), this paper goes beyond the empirical findings to explain why these patterns of opinion change emerge. Furthermore, the model predicts when certain segments of the population will follow elite discourse against their own self interest. I then test the predictions which stem from the model on welfare attitudes from 1973 to 2004. The analysis shows that when elite discourse turns against welfare, as it did during the early 1990s, even the least

²Data come from the General Social Survey Cumulative File, 1972 to 2004. High and low education groups correspond to those with at least a college degree and those with less than a high school degree. High and low income groups correspond to the highest 30 percent and lowest 20 percent household incomes. Spending preferences reflect net spending support, which equals the percent responding “spending too little” minus the percent responding “spending too much.” Tax preferences reflect the percent responding their federal taxes are too high minus the percent responding that they are too low. See Soroka and Wlezien (2007) for additional analysis of these policy issues.

educated and lowest income groups conform. Depending on elite discourse, parallel opinion change—and thus parallel representation—can reduce redistributive policies.

2.1 A Proportional Model of Message Reception

Converse (1990, 372) writes, “The two simplest truths I know about the distribution of political information in modern electorates is that the mean is low and the variance high.” The knowledge that the electorate is bound on one side by politically informed individuals who regularly attend to political messages and on the other side by inattentive individuals who cannot recall even the most basic political facts has made political information central to the study of public opinion (Druckman, 2005; Ferejohn and Kuklinski, 1990; Saris and Sniderman, 2004; Sniderman, 1993; Zaller, 1992). The standard view has become the more change inducing messages an individual receives, the more likely the person is to update his or her opinion. Some individuals are more or less likely to accept the messages they receive (Converse, 1962; Taber and Lodge, 2006; Zaller, 1992), but holding message acceptance constant, scholars have converged around an additive view of message reception. The more messages received, the greater the probability of opinion change (Bartels, 1994; Converse, 2000; Delli Carpini and Keeter, 1996; Druckman, 2005; Price and Zaller, 1993; Schneider and Jacoby, 2005; Sniderman, 1993; Zaller, 1992).

The theory of unequal political voice, although not explicitly rooted in public opinion literature, coincides with the additive view of message reception. The additive view suggests that the socially disadvantaged, due to their low levels of political awareness, are unlikely to receive—and thus respond to—available political and economic information. The theory of unequal political voice predicts that the socially disadvantaged

formulate policy preferences based on personal conditions. Regardless of changing economic or political news, the least educated and lowest income citizens should consistently express support for certain policies such as better schools, more health care, and increased government spending on welfare. Inequality would decrease, the argument goes, if government “heard” this segment of the population.

I argue, however, that both perspectives understate the influence of elite discourse on the attitudes of the most socially disadvantaged segment of society. Instead of focusing on *the number* of messages an individual receives, I propose that *the proportion* of countervailing messages is what matters for opinion change. Zaller (1991, 1992) shows that messages about political issues reflect opposing considerations. He writes (1991, 1217), “with respect to every political issue, citizens are presented with two information flows, or *messages*, one tending to push mass opinion in a liberal direction and the other in a conservative direction.” The additive perspective ignores the fact that in a two-sided message environment, the probability of receiving both types of messages varies by political information. An uninformed person will have a low probability of receiving liberal *and* conservative messages, while a highly informed person will have a high probability of receiving both types of messages.³ Furthermore, as I show below, across a variety of contexts, the proportion of available messages will change in tandem for different segments of the population. As a result of these uniform patterns of message reception, all subgroups should update their policy attitudes in response to elite discourse.⁴

First, consider a hypothetical situation where different media sources each depict

³Consistent with Zaller (1992) my use of the liberal and conservative labels is only meant to convey the “directional thrust of the message” (52, 186).

⁴Zaller’s (1992) RAS model predicts that the least politically aware will be highly responsive to single-sided messages in easy learning situations. I propose that the least politically aware will also be responsive to elite discourse for both single-sided and two-sided messages in moderate and difficult contexts.

an issue or event with the same proportion of countervailing messages.⁵ Thus, a single “Information Stream,” defined as the proportion of available countervailing messages, exists. Suppose that for issue x during time period t , there are 20 positive messages and 10 negative messages in the Information Stream. Also, suppose that a politically unaware person has a .1 probability of receiving a message and a politically aware person has a .9 probability of receiving a message. We expect the politically unaware person to receive two positive messages ($.1 \times 20$) and the politically aware person to receive eighteen positive messages ($.9 \times 20$). According to the additive perspective (holding message acceptance constant), the politically aware person is nine times more likely to take a favorable view of issue x . However, for a politically unaware individual the probability of receiving a positive message equals $\frac{.1 \times 20}{.1(20+10)}$ or .67. Similarly, for a politically aware individual the probability of receiving a positive message equals $\frac{.9 \times 20}{.9(20+10)}$ or .67. 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. The effect of political awareness largely drops out of the additive view of message reception.⁶

A more general (and realistic) view of media must allow different media sources to present different balances of opposing messages. Some media sources may present a liberal or conservative slant. Thus, for any single issue, multiple Information Streams may exist. Furthermore, exposure to different Information Streams may not be evenly distributed throughout the electorate. The type of Information Stream an individual encounters (that is, the proportion of countervailing messages) may correspond with

⁵Examples of different media sources reporting the same balance of opposing messages might include the “honeymoon” period following presidential elections or the initial “rally-round-the-flag” period following military events. I discuss the more common case of distinct media reporting below.

⁶Political awareness will still matter in terms of the variance of the signal received. Politically aware individuals, because they receive more messages, will receive a more precise estimate of the actual Information Stream. As discussed later, political awareness also matters for message acceptance.

education or income level. For example, suppose that during a particular time period, a low income individual encounters an Information Stream that includes 20 positive messages and 10 negative messages about welfare. Also, suppose that a high income individual encounters an Information Stream that contains 10 positive and 20 negative messages about welfare. For the low income person, the probability of receiving a positive message remains $\frac{.1 \times 20}{.1(20+10)}$ or .67. On the other hand, for the high income person the probability of receiving a positive message is $\frac{.9 \times 10}{.9(20+10)}$ or .33. If we evaluate a single time point, message reception can vary by income level. But we are interested in opinion change. If at time point $t+1$, political discourse about welfare becomes more negative (as it did during the early 1990s), all media should reflect this change. Some news sources will continue to report more positive stories than others, but the proportion of positive to negative stories should decrease across all media sources.

The expectation that different media sources will change the proportion of countervailing messages about an issue in tandem certainly holds for objective conditions. When tax rates change, war casualties mount, or the unemployment rate shifts, it is reasonable to expect all media sources reflect these changes. Even if a certain media source typically provides a liberal or conservative slant, this pattern should be constant. Thus, when objective conditions change, even a slanted source will reflect these changes. A growing body of research also suggests that different media sources change their frames in tandem for non-objective conditions. Kellstedt (2000) shows that the ratio of egalitarian and individualistic news stories about race changed systematically across time and that these patterns were roughly consistent in both *Newsweek* and the *New York Times*. Similarly, Schneider and Jacoby (2005) show that the ratio of positive to negative welfare messages on nightly news broadcasts and in the *New York Times* changed in parallel during the 1990s. Certainly it is possible for different media sources

to diverge in how they report an issue. When this happens, we should expect divergent pattern of message reception. The literature suggests, however, that reporting of objective conditions, as well as many subjective issues, different media sources follow the same patterns over time. Uniform message reception is the dominant expectation.

2.1.1 Subgroup Predictions

The Proportional Model of message reception predicts that for any issue that receives at least some consistent media attention (e.g., the environment, defense, the economy, etc.), the proportion of messages that different segments of society receive will change in tandem. Uniform message reception does not, however, mean that all individuals will update their attitudes in response to received messages. We know that individuals tend to resist oppositional messages (Taber and Lodge, 2006) and resistance is strongest among highly aware partisans (Converse, 1962; Zaller, 1992). Thus, some people will be more slow to update their attitudes in response to received messages than others. Additionally, not all opinion change will reflect messages in the Information Streams. Randomly primed considerations and error in the survey instrument will lead to random responses. Net change, however, should reflect the changing balance of messages in the relevant Information Streams. As a result, the percent in each subgroup supporting a given policy should change at the same time and in the same direction in response to changes in the relevant Information Streams.

The expectation of uniform opinion change contrasts with previous research, which does not expect the least informed to systematically receive and respond to media messages about difficult issues (Converse 1990, 282, Erikson, MacKuen, & Stimson 2002, 5, Zaller 1992). A second implication of the Proportional Model is that when elite discourse moves away from the interests of the socially disadvantaged, this group's aggregate opinion signal will move against the group's interests. This expectation

stems from research which shows the least politically aware—when they do receive messages—are the most easily swayed from their predispositions (Zaller, 1992). Thus, if the least aware receive messages, as the Proportional Model predicts, even when these messages conflict with their self interest, I expect patterns of opinion change to reflect elite discourse.

Attention to the opinion behavior of subgroups is particularly important because democratic representation, at best, means politicians respond to groups. Democratic theory does not expect that politicians incorporate the changing preferences of individual constituents into policy. However, we might expect policy makers to catch wind of the changing preferences of distinct groups. If a large group, such as union members, women, or low income constituents change their policy preferences, normatively speaking, politicians should notice and respond. Thus, when studying inequality, we are most interested, not in whether a few individuals in any subgroup do not receive representation but whether certain segments of the population are effectively disenfranchised because politicians fail to respond to the group's changing preferences. For these theoretical reasons, most studies of inequality and differential representation examine the opinions of different subgroups (Bartels, 2005; Gilens, 2005; Soroka and Wlezien, 2006). The following section analyzes welfare attitudes from 1973 to 2004 to test the Proportional Model's prediction that each subgroup will respond at the same time and in the same direction to elite discourse.

2.2 The End of Welfare as We Know It

Understanding attitudes toward welfare is central to understanding inequality in the United States. Wlezien (2004) shows that when the public prefers more (or less) welfare spending, government responds. Furthermore, Kelly (2004, 2005) shows that increased policy liberalism leads to lower levels of inequality in the United States. Together,

these analyses suggest that support or opposition to welfare spending directly influences government spending on welfare and indirectly influences actual levels of inequality in the United States.

Welfare attitudes also offer a challenging test of the Proportional Model. In the early 1990s, elite discourse regarding welfare turned sharply negative. Prominent Republicans and Democrats began speaking of the need to reform welfare. President Clinton repeatedly promised to “end welfare as we know it.”⁷ Prior research has found that only the most informed responded to these changes in elite discourse about welfare (Schneider and Jacoby, 2005, 377).⁸ In contrast to this research, the Proportional Model predicts that when elite discourse shifts, as with welfare in the early 1990s, all segments of the public will respond. If the predictions of the Proportional Model receive support, these results will revise our understanding of how individuals incorporate media messages into opinions about a “cognitively difficult issue area” like welfare (Berinsky, 2004, 84).

Figure 2.1 offers an initial assessment of the Proportional Model. The figure plots the proportion of positive to negative messages about welfare in major television news broadcasts during the 1990s and the changing welfare attitudes of different segments of society.⁹ The dark solid line reflects the proportion of positive messages (the Information Stream) about welfare. A clear “V-shaped” pattern emerges, showing a decrease in the proportion of positive stories about welfare until 1995, when 88 percent of news

⁷*New York Times* Aug. 1, 1996, Section A; Page 24; Column 1

⁸Schneider and Jacoby (2005) take advantage of panel data, allowing them to analyze individual level opinion change. The disadvantage of the analysis, however, is that data limitations force them to analyze welfare attitudes at just two time points. Furthermore, because just two time points are examined, an actual measure of elite discourse cannot be used in the analysis. The subsequent subgroup analyses attempt to address these potential limitations.

⁹The television news data, provided by Saundra K. Schneider and William G. Jacoby, come from the Vanderbilt University Television News Archive. No values are reported for 1990 and 1991 because only 1 welfare story was reported for 1990 and no stories for 1991.

stories about welfare were neutral or negative. Although not shown, the percent of positive welfare stories reported in the *New York Times* follows the same pattern. Between 1992 and 1999, the two series correlate at $r = 0.88$.¹⁰

Figure 2.1 also plots the percent responding “spending too little” on welfare for three subgroups of the population, those with at least a college degree (23.2 percent of respondents), those with less than a high school degree (16.9 percent), and the lowest income households (17.5 percent).¹¹ As a point of reference, the 2004 income measure corresponds with a household income of less than \$19,999. In 2006, the eligibility requirement for food stamps was an annual income of \$17,160 for a household of two.¹² Thus, the respondents in the low income group are either eligible for or bordering on eligible for some type of federal needs based welfare program.

As the unequal voice theory predicts, cross-sectional differences emerge between subgroups. The lowest income group consistently has the highest values, indicating this group is the most supportive of increased welfare spending. Those with less than a high school degree are slightly less supportive and those with a college degree or higher

¹⁰Schneider and Jacoby (2005) also provided the *New York Times* data.

¹¹Throughout this paper, I follow the time series convention of coding percent liberal as the Percent Liberal/(Percent Liberal + Percent Conservative) (Stimson, 1999, 2004). The decision to use this formula, as opposed to simply the percent liberal or percent conservative, ensures that the time series variables do not incorporate artifactual changes in the “don’t know” category, which would result from even slight changes in the question filter (Stimson, 1999, 63). Using net spending preferences (e.g. Wlezien 1995, 2004) does not change the overtime pattern or the results of the statistical analysis. Except for 1995, the data come from the General Social Surveys (GSS). The GSS did not produce a survey in 1995. Based on the flow of information on welfare (evident in Figure 2.1), 1995 was a crucial year. I thus rely on a similar question asked at the same time of year the GSS is asked by the NBC News/Wall Street Journal Poll (See the Appendix for precise wording). The GSS was also not asked in 1992, 1997, and 1999. For these years, I take the average of the preceding and subsequent years. In 1992 the CBS News/New York Times Poll asked an identical question to the GSS at the same time of year. Responses to this question confirm that imputing a value for 1992 based on 1991 and 1993 responses is appropriate. No similar welfare questions were asked in 1997 or 1999 so there is no way to validate this assumption. There is, however, no reason to assume that patterns of opinion change diverged in either of these two years. Furthermore, to ensure that results are not influenced by imputed values, all subsequent analyses are re-estimated excluding years after 1996. The results are nearly identical.

¹²(http://www.fns.usda.gov/fsp/applicant_recipients/fs_Res_Ben_Elig.htm)

are the least supportive of increased welfare spending. We are most interested, however, in opinion change. Change is what leads politicians to adjust the policy status quo. In contrast to additive theories of message reception, which predict that the most informed will be the most likely to respond to elite discourse, Figure 2.1 shows the three series follow a remarkably similar pattern. Additionally, each series reflects the V-shaped pattern of information about welfare. In the early 1990s, as the percent of positive news stories decreases, support for welfare spending plummets. Then, beginning in 1996 when *Aid to Families with Dependent Children* was changed to *Temporary Aid to Needy Families*, the stories about welfare return to a less negative perspective and the percent in each group favoring welfare follows suit.¹³

¹³Berinsky (2004) shows that those most likely to support welfare are also the most likely to respond “Don’t Know” to survey questions about welfare. The distribution of “Don’t Know” responses, however, is unlikely to contribute to the parallel pattern of opinion change in Figure 2.1. First, on average, just 4 percent of respondents responded “Don’t Know” to the questions used in the analysis. This contrasts with the questions Berinsky examined, which ranged from nine to twenty-three percent responding “Don’t Know.” Additionally, in the mid-1990s, when the most opposition to welfare occurs, only 3 percent responded, “Don’t Know.” Another potential concern is that the similarities in Figure 2.1 arise because I use education instead of political information level. Previous evidence of differential opinion change focuses on level of political information (Zaller, 1992; Schneider and Jacoby, 2005). The GSS does not include questions which directly measure respondents’ level of political information. Fortunately, the ANES, which does include measures of political information, has asked a question about welfare spending six times. This is not sufficient for a time series analysis but we can compare the over time variation to see if the responses of the most and least educated differ from the responses of the most and least politically informed. For each year that the ANES asked about welfare preferences, I group respondents with less than a high school education and those with a college degree or higher. Following Zaller (1992), I then create a thirteen point index of political information. The political information index is 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, guaranteed jobs, and health care. Each correct response is coded as a one. Respondents could also get five points based on the interviewer rating of respondent’s level of political information. The welfare attitudes of the least educated (the lowest 13 percent of respondents) correlate with the least politically informed (the lowest 15 percent of respondents at $r = 0.98$). The welfare attitude of the most educated (highest 28 percent of respondents) and the most informed (highest 21 percent of respondents) correlate at $r = 0.94$. Despite minor differences—education and political information are not one-in-the-same—the strong correlations suggest that using a measure of political information (if it was available) would not change the results.

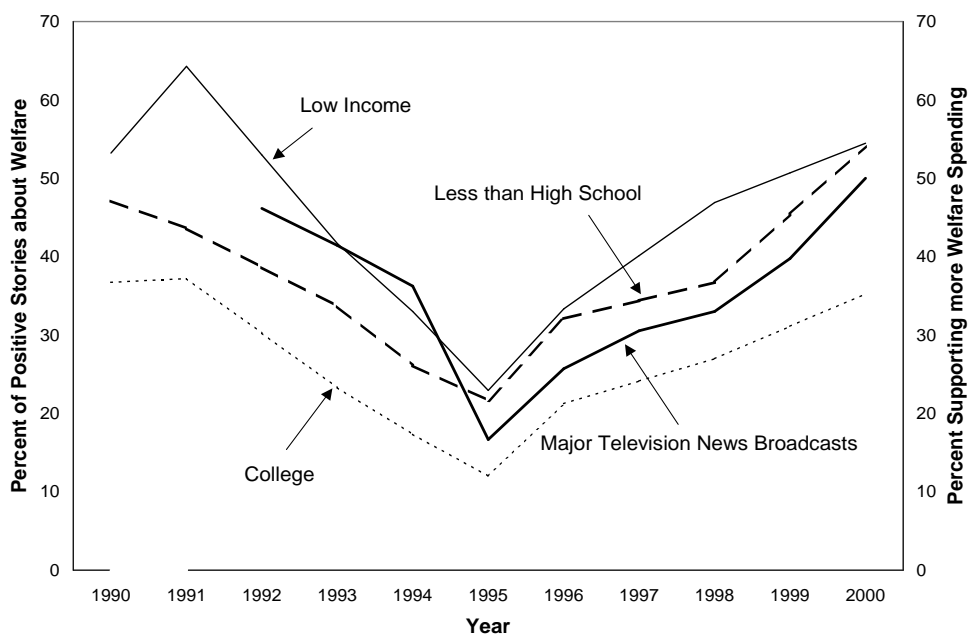


Figure 2.1: Messages about Welfare and Welfare Attitudes, 1990–2000

2.3 Thirty Years of Welfare Attitudes

Figure 2.1 shows that not only did different subgroups update their welfare preferences in tandem but that these changing welfare attitudes paralleled the percent of positive stories about welfare on the television news. This pattern is precisely what the Proportional Model of message reception predicts. Below, I extend the analysis from 1973 to 2004 and directly estimate the effect of media messages on welfare attitudes.

Extending the time series beyond the 1990s raises an important consideration. The media do not always report stories on welfare with the same frequency as the period shown in Figure 2.1. According to the Vanderbilt News Archive, the number of evening news broadcasts about welfare peaked at 97 in 1995. In 1990, on the other hand, there was only one story about welfare on the nightly television news. When messages about welfare are not prevalent, individuals must use other information sources to update their welfare attitudes. Thus, in order to estimate welfare attitudes over time, we need

to include other Information Streams, which individuals may incorporate into their welfare preferences. Specifically, the model must include variables that have been linked to welfare attitudes that vary overtime. Overtime variance is crucial because we are interested in why individuals—and as a result groups—change their welfare attitudes.¹⁴ In addition to television news stories about welfare, the analysis examines the effect of the state of the economy, spending preferences (or Policy Mood), and attitudes toward African Americans on attitudes toward welfare. Although the determinants of welfare attitudes have rarely been evaluated over extended periods of time, cross-sectional analyses consistently show that these variables influence public opinion about welfare (Gilens, 1999; Schneider and Jacoby, 2005). Additionally, Wlezien's (1995) time series analysis of the public as a whole showed that welfare attitudes respond to economic evaluations. Below, I operationalize these variables

2.3.1 Variables and Measures

The dependent variable, Welfare Attitudes, uses GSS data to extend the series reported in Figure 2.1 from 1973 to 2004. Higher values indicate more people prefer increased government spending on welfare. Because we are interested in how different subgroups receive and respond to information that relates to welfare, I create a measure based on all respondents as well as for different education and income levels. Next, we need measures of the countervailing messages, or Information Streams, that relate to welfare. Not everyone receives the same messages, or even the same number of messages, but I expect the proportion of countervailing messages that individuals receive to change in tandem.

The first Information Stream relates to the Economy. Gilens (1999, 45–52) shows

¹⁴Thus, demographic characteristics, which are often incorporated into cross-sectional analyses of welfare attitudes are not relevant for the current analysis.

that during economic hard times support for welfare spending increases. I use the annual *Unemployment* rate as a measure of messages about economic conditions.¹⁵ I do not expect individuals to know the actual unemployment rate. But rather, the changing unemployment rate serves as a proxy for the changing balance of positive and negative messages about the economy presented by the media. When the unemployment rate increases, the proportion of negative economic news should increase, leading to more support for welfare spending. For each subgroup, I expect a positive and significant relationship. This result will support the expectation that all segments of the public translate changing economic information into their welfare attitudes.

The second Information Stream includes the proportion of positive to negative *Welfare Messages* in the media. I use the series depicted in Figure 2.1 as the measure of Welfare Messages. Unfortunately, the series does not extend beyond the 1990s. This limitation means that it is not possible to estimate the effect of messages about welfare on welfare attitudes at the beginning or very end of the time series.¹⁶ For years when welfare was not a salient issue in the media this is not a problem. When welfare was not a salient issue there is no reason to expect that the few available stories about welfare would influence welfare attitudes. Of course, a full time series would be preferable but the series does allow us to estimate the effect of messages about about welfare on welfare attitudes during the critical welfare debate of the 1990s. Again, I expect a positive and significant relationship. This is not to say that all individuals will respond to elite discourse. But those that do update their attitudes will reflect the changing balance of

¹⁵I measure the unemployment rate as the percent of labor force that is unemployed (U.S. Department of Labor, Bureau of Labor Statistics. <ftp://ftp.bls.gov/pub/special.requests/lf/aat1.txt>).

¹⁶As an empirical matter, I code all values prior to 1992 equal to the actual 1992 value and all values after 2000 equal to the 2000 value. By creating a constant value before and after the available data series, I ensure that the model only estimates the relationship between Welfare Messages and Welfare Attitudes for the years when data are available.

positive and negative messages, leading net change to reflect the changing Information Stream.

The model also controls for respondents' general spending preferences. Gilens (1999, 84) shows that support for "government spending to redress social ills" or "an opposition to government activism" influences welfare attitudes. Jacoby (2000) also shows that, at least cross-sectionally, individuals maintain coherently structured orientations toward government spending on welfare-related policies. Stimson's (1991, 1999) Policy Mood provides the best overtime measure of preferences for government spending and activism. Stimson's measure cannot be used in the current analysis, however, because it is based on fully aggregated data. Respondents need to be grouped according to education and income level. Prior research shows that the GSS spending items can be used to create a proxy for Stimson's Policy Mood (Ellis, Ura and Robinson, 2006; Stimson, 2002; Ura and Ellis, 2007). I use thirteen questions (detailed in the Appendix) to create a time series measure of spending preferences for each subgroup. Consistent with previous research, I refer to this measure as *Policy Mood*. Importantly, I *do not* include two standard spending preference items: spending on welfare and spending on race. These items are kept out of this measure of Policy Mood to avoid collinearity with other variables in the model. As individuals' Policy Mood moves in a liberal direction, in favor of more government spending, support for welfare spending is expected to increase.

Racial Liberalism, a measure of attitudes toward African Americans, represents the final control variable. Despite the fact that African Americans represent only about a third of welfare recipients, individuals' attitudes toward African Americans influences their welfare attitudes (Gilens, 1995, 1999).¹⁷ Scholars have used a variety of survey

¹⁷From October 2004 to September 2005, the percent receiving *Temporary Aid to Needy Families* was as follows: 25.5 percent Hispanic, 32.1 percent White, 37.1 percent African American, and 5.2 percent other (<http://www.acf.hhs.gov/programs/ofa/character/FY2005/tab08.htm>).

questions to tap the public's Attitudes toward African Americans. Gilens (1999, 83) uses two question items, which ask respondents how well the terms "hardworking" and "lazy" describe "blacks as a group." In other work, Gilens (1995) has found that questions about whether respondents blame blacks for inequality or whether government should insure equal opportunity for everyone predict welfare attitudes. Schneider and Jacoby (2005) use respondents' rating of "Blacks" on the NES 100 point feeling thermometer scale. None of these question items, however, has been asked enough times to provide an adequate time-series measure of the public's attitudes toward African Americans. Fortunately, Kellstedt (2000) offers a potential solution. Kellstedt uses Stimson's dyad ratios algorithm to combine nineteen different time-series survey items about racial policy preferences into one overall measure of the public's attitude toward racial policy. This methodology (which scales each series to a common metric and then uses a factor analytic approach to extract the common variance among survey questions) rests on the intuition that if similarly worded question items tap common underlying attitudes about racial policy preferences, the variance that is common across all of the indicators will reflect the underlying latent attitude.¹⁸ The same logic can be applied to the public's attitudes toward African Americans. The key, then, is to find a variety survey questions that are likely indicators of the public's attitudes toward African Americans and that have been asked over an extended period of time.

¹⁸Documentation for Stimson's Dyad Ratios Algorithm, used to compute the Racial Liberalism index, is available at <http://www.unc.edu/~jstimson>. I use Stimson's algorithm with the exponential smoothing function turned off. The algorithm is designed to extract the underlying dimension of common survey question items. Random survey responses detract from the "true" nature of series over time, so generally the smoothing function is used to attenuate random error. However, a potential difference between the most and least educated is that the least educated will have more random responses. Smoothing across responses, while creating a more accurate picture of the overall electorate, could potentially create false similarities between sophistication levels. The smoothing function was thus turned off for all analyses to ensure that any similarities between sophistication levels exist in the raw data.

I use six questions that reflect perceptions of African Americans. The indicators include questions about busing, integration, characteristics of African Americans, and the ANES 100 point feeling thermometer about African Americans. No question was asked at every time point, but each question was asked enough times to create a complete time series. I select these six questions because they satisfy three criteria for inclusion. Each question was asked repeatedly over time, relates to attitudes toward African Americans, and the individual-level data are available. Without individual-level data, attitudes cannot be disaggregated by education and income level.¹⁹ I do not include questions that ask about preferences for government spending on African Americans. Omitting these questions ensures that the measure of Racial Liberalism reflects attitudes toward African Americans and not attitudes toward spending on African Americans. As with Policy Mood, I create a measure for all respondents and for each subgroup.

2.3.2 Analysis and Results

I model welfare attitudes as a single equation Error Correction Model (ECM). An ECM offers several advantages for the current analysis. First, the dependent variable is differenced, making it possible to estimate the determinants of change in welfare attitudes. Why different segments of the population change their attitudes is the focus of the analysis. Differencing the dependent variable also avoids the danger of estimating a spurious regression with near-integrated data (DeBoef and Granato, 1997).²⁰ Finally, ECMs model short and long term causal effects. Estimating both short- and long-term effects provides a more complete picture of the effects of media messages on public

¹⁹Table A-1, in the Appendix, shows that for each subgroup, the individual question items correlate highly with the overall index and the composite series explain a majority of the variance of the specific indicators.

²⁰An augmented Dickey-Fuller test suggests the dependent variable is either an integrated or near-integrated time series.

opinion than other time series models (Keele and DeBoef, 2004).

Table 2.1 shows the determinants of changes in welfare attitudes for different segments of the population from 1973 to 2004.²¹ The first four rows report the short term or contemporaneous effects of the predictor variables. These coefficients should be interpreted as a the expected change in the percent supporting welfare spending for each unit change in the independent variable. The next four rows report the Long-Term Effects. 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 welfare attitudes at a future time point. The Error Correction Rate ($\text{Welfare Attitudes}_{t-1}$) indicates how quickly any long-term effects take place. Specifically, this coefficient indicates the percent of the long-term effect (if one exists), which takes place in each subsequent time period.

The first column of Table 2.1 reports the results for the analysis of all respondents. Although, the test of the Proportional Model relates to how different subgroups update their opinions, the fully aggregated results provide important insight into why the public, as a whole, supports more or less welfare spending. All of the estimated short-term effects are statistically significant. In other words, a change in each of the independent variables leads to an expected contemporaneous change in the percent of the public supporting increased or decreased welfare spending. As expected, when the

²¹After 1994, the GSS switched to conducting the survey every other year. As a result, for every odd year after 1994 the dependent variable is missing data. As discussed earlier, I use a nearly identical welfare question from the NBC/Wall Street Journal Poll for 1995, but after 1996, odd years have to be estimated by averaging the prior and following year. To ensure that these imputed values do not influence the findings, I conduct the same analysis from 1973 to 1996. All statistically significant relationships remain significant with the shortened time series. Another estimation decision relates to estimating the hypothesized relationships for distinct subgroups. Because each model includes the same right hand side variables (although the respondents differ for each subgroup) and the variable measures come from the same datasets, the error terms are likely to be correlated across equations. Thus, it might be more efficient to estimate the equations simultaneously, using Zellner's (1962) Seemingly Unrelated Regression Equation (SUR) model. Estimating the equations simultaneously does not change any of the statistically significant coefficients. If anything, the strength of the statistically significant relationships increases with the SUR analysis.

public's spending preferences move in a liberal direction, support for welfare spending increases. The 16 percent increase in Policy Mood liberalism that occurred between President Reagan's first and last year in office predicts a 43.7 percent increase in the percent of the public responding that the government is spending "too little" on welfare. Importantly, even controlling for the public's changing spending preferences, both Information Streams about welfare, News Stories and the Unemployment rate, exert a substantively important influence on welfare attitudes. For example, the thirty percent decrease in the percent of positive stories about welfare between 1992 and 1995 predict over a sixteen percent decrease in the percent supporting welfare spending. Similarly, when the public perceives economic good (bad) times, support for welfare spending decreases (increases). The 3.5 percent decrease in unemployment during the Clinton Presidency predicts over a ten percent decrease in support for welfare spending. The relationship between Racial Liberalism and welfare attitudes is also positive and significant. Thus, controlling for other variables, the overall pattern during the last thirty years toward more liberal racial attitudes predicts more liberal welfare attitudes.²² On the other hand, increases in racial conservatism, such as the 2.6 percent shift between 1993 and 1994 or the 3 percent shift from 2000 to 2002, each predict around a 2 percent decrease in support for welfare spending.

Policy Mood and News Stories also produce a long term effect on welfare attitudes. That is, in addition to the contemporaneous effect, shifts in these variables have an effect on welfare attitudes at future time points. The unemployment rate also appears to exert a long-term effect on welfare attitudes, but in the opposite direction as expected

²²It is, of course, impossible to assess how much of the increased racial liberalism during the last 30 years reflects a true change in the public's attitudes toward African Americans and how much the increase reflects insincere responses, which result from social desirability bias. Increased racial liberalism, as a result of social desirability bias, would, however, attenuate the overtime ups and downs in actual racial liberalism. It is thus likely that the coefficient is a conservative estimate of the effect of racial liberalism on welfare attitudes.

($p < .05$; two-tailed test). The negative coefficient suggests that the public may “over-react” to news about the economy and then readjust its attitudes in the opposite direction at future time points. This long-term relationship serves to attenuate the overall impact of changes in the unemployment rate. The error correction rate is .58, suggesting that 58 percent of the long term effects take place at each successive time point. Together, the short and long term effects explain an impressive 84 percent of the variation in changing welfare attitudes during the last thirty years.

The second column analyzes the determinants of welfare attitudes for those with a college degree or higher. According to the additive view, this segment of the population should be the most likely to receive and thus respond to relevant messages. Similarly, the theory of unequal voice, which contends that social elites dominate politicians’ attention, would expect systematic opinion change from this segment of the population. For the most educated segment of society, the predictions of the Proportional Model do not differ for these perspectives.

As expected, the contemporaneous relationships between Policy Mood, Welfare Messages, and Unemployment are all significant and in the expected direction. Furthermore, the coefficients are of similar magnitude to the coefficients of all respondents. The only insignificant contemporaneous effect is Racial Liberalism. The lack of relationship does not automatically mean that the most educated do not receive messages about race. More likely, as a group, the most educated do not incorporate their changing attitudes about African Americans into their welfare attitudes. The long-term effect of Policy Mood is also significant. Consistent with expectations, the determinants of the welfare attitudes of the most educated segment of society largely parallel those of the public as a whole.

Columns three and four present the results for the least educated 23 percent of

Table 2.1: Determinants of Change in Welfare Attitudes, 1973–2004

<i>Short-Term Effects</i>	All	College	Less H.S.	Low Income
Δ Policy Mood	2.73** (0.32)	2.58** (0.42)	2.39** (0.47)	1.20** (0.30)
Δ News Stories	0.54** (0.12)	0.51* (0.22)	0.59** (0.21)	0.85** (0.27)
Δ Unemployment	2.9** (0.60)	3.0* (1.3)	2.4* (1.1)	3.9* (1.6)
Δ Racial Liberalism	0.74** (0.24)	0.32 (0.42)	0.47* (0.23)	-0.004 (0.395)
<i>Long-Term Effects</i>				
Policy Mood _{t-1}	0.55** (0.21)	1.38** (0.47)	0.42 (0.39)	0.90* (0.45)
News Stories _{t-1}	0.26* (0.12)	0.28 (0.18)	0.15 (0.20)	0.42 (0.26)
Unemployment _{t-1}	-1.3 ^w (0.60)	-1.5 (1.0)	-1.2 (1.0)	(0.9) (1.4)
Racial Liberalism _{t-1}	-0.13 (0.11)	-0.22 (0.22)	-0.07 (0.19)	-0.097 (0.262)
<i>Error Correction Rate</i>				
Welfare Attitudes _{t-1}	-0.58** (0.14)	-0.71** (0.21)	-0.50* (0.21)	-0.64** (0.22)
Constant	-0.18 (0.18)	-0.72* (0.41)	-0.06 (0.29)	-0.60 (0.37)
Adjusted R ²	0.84	0.67	0.68	0.53
Avg. Pct. of Respondents	100	19.7	23.4	18.4

Note: N = 31 for all analyses; Standard errors in parentheses

* = p < .05, ** = p < .01 one-tailed tests; ^w = wrong direction

respondents (those with less than a high school degree) and the lowest income 18 percent of respondents. These analyses test the Proportional Model. While additive theories of message reception predict limited—if any—opinion response, the Proportional Model predicts parallel opinion change; even if responsiveness conflicts with self-interest. For those with less than a high school degree, the contemporaneous relationship between each of the independent variables and welfare attitudes is statistically significant. Most importantly for the Proportional Model, the least educated, as a group, translate changes in messages about welfare and the economy into their welfare attitudes. These relationships exist, controlling for Policy Mood and Racial Liberalism, both of which are statistically significant. With the exception of Racial Liberalism, the relationships for the lowest income group (reported in column four) are the same. Furthermore, although the magnitude of the coefficient for Policy Mood is smaller than the other subgroups, the effect of News stories and the unemployment rate is larger than even the most educated subgroup. Different from the expectations of the Unequal Voice theory, the most disadvantaged do not consistently support welfare. Instead, this segment of society is remarkably responsive to the changing proportion of countervailing political and economic messages. As a result, when elite discourse turns against welfare, as it did during the early 1990s, the opinion signal coming from the least educated and the lowest income group—the only message politicians could be expected to respond to—was for less spending on welfare.

The previous analysis focuses on the changing attitudes of distinct subgroups because it is groups, not individuals, to which politicians respond. Indeed, the theory of unequal voice does not contend that certain individual preferences are not heard, but that the most socially disadvantaged, as a group, do not receive equal representation. Nevertheless, theoretically, it is important to consider how much of the opinion responsiveness in the above analysis results from aggregating responses across subgroups.

Because panel data do not exist, it is not possible to estimate how specific individuals changed their attitudes during the three decade period of analysis. It is possible, however, to examine the opinions of an even smaller segment of the population. I re-estimated the model, only including the least educated ten percent of respondents (those who did not go beyond elementary school). Decreasing the size of the subgroup carries the consequence of increasing the margin of error. The increased margin of error will attenuate any relationships making it more difficult for statistically significant relationships to emerge. Nevertheless, the effect of Welfare Messages remains significant ($p < .05$) and the magnitude of the coefficient (0.66) is larger than the other education subgroups. Although it is still inappropriate to make any inferences about how many individuals responded to welfare messages, we can conclude that as a group, those with only an elementary school education responded to elite discourse about welfare during the 1990s. Another important finding from the Elementary School analysis is that changes in Policy Mood still predict changes in welfare attitudes ($p < .01$). One of the dominant themes of public opinion research during the last fifty years has been the inconsistency between individuals' survey responses on related topics (Converse, 1964; Sniderman and Bullock, 2004). This analysis, however, shows impressive levels of attitude constraint within the public. Even for those with only an elementary school education, government spending preferences and welfare spending preferences move synchronously.

2.4 Conclusions and Implications

This paper advances our understanding of public opinion and inequality in the United States. The public opinion literature remains skeptical about the ability of the least informed to respond to survey questions in a meaningful way; they simply do not pay enough attention to public affairs to register meaningful political attitudes (e.g.,

Converse 1990, 282, Glynn et al. 2004, 345–346, Sniderman and Bullock 2004, 337–338, Zaller 1992, 16). The Proportional Model, however, predicts that it is the proportion—not the number—of messages received that matters for opinion change. Even those tuned out to politics should sense when elite discourse has shifted in a positive or negative direction. At least for attitudes toward welfare, this is the case.

The evidence that all segments of the public respond to changes in elite discourse should not, however, be automatically interpreted as normatively positive. Representative democracy demands that the voice of the disadvantaged receive the same attention as the voice of the advantaged—a condition that does not always exist in the United States (Bartels, 2005; Gilens, 2005). However, the above analysis suggests that increasing their political voice will not be sufficient to improve the conditions of the disadvantaged. Although the most and least disadvantaged increase their support for welfare during economic hard times, both groups decrease support for welfare when unemployment declines. Furthermore, in the early 1990s, when elite discourse turned against welfare, even the least educated and lowest income respondents updated their attitudes—seemingly against their own self-interest—to support less government spending on welfare. During these periods, if politicians respond to the changing public opinion, equal political voice will reduce support for redistributive policies.

Chapter 3

How the Economy affects the Public's Policy Mood

Abstract: This paper presents evidence that both micro (individual level) and macro (aggregate level) theories of public opinion overstate the importance of political sophistication for opinion change. I argue that even the least politically sophisticated segment of society receives messages about the economy and uses this information to update attitudes about political issues. To test this hypothesis, I use General Social Survey data to construct a 31-item measure of Policy Mood, disaggregated by political sophistication, that spans from 1972 to 2004. The analysis shows that all subgroups generally change opinion at the same time, in the same direction, and to about the same extent. Furthermore, the different sophistication levels change opinions for predominantly the same reasons.

During the last half century, political scientists have significantly modified their portrayal of political attitudes in the United States. Macro-level analyses of public opinion demonstrate that despite the inconsistent and uninformed attitudes of most citizens (Converse 1964; Delli Carpini and Keeter 1996), aggregate public opinion behaves in systematic and coherent ways. Furthermore, when aggregate public opinion changes, the government responds. Preferences for a more liberal or more conservative government yield policy shifts in the same direction (Page and Shapiro, 1983, 1992; Stimson, MacKuen and Erikson, 1995; Erikson, MacKuen and Stimson, 2002). The connection between public opinion, or “Policy Mood” (Stimson 1991; 1999), and policy change suggests impressive levels of representation in America. Erikson, MacKuen, and Stimson (2002) show that the public’s Mood—an aggregate measure of the public’s preferences for more or less government—influences all branches of U.S. government. Possibly even more striking than this opinion–policy linkage is the evidence that all sophistication levels update their policy Mood in tandem (Erikson, MacKuen, and Stimson 2002, 212–219; Stimson 2002). Erikson, MacKuen, and Stimson (2002, 219) write, “The better educated move more than do others, but [opinion] movement seems to come from all strata of American society.”

Evidence that the least sophisticated change opinions systematically and in concert with the most sophisticated segment of society challenges the dominant theories of public opinion. This finding even challenges Erikson, MacKuen and Stimson’s theoretical expectations. They begin *The Macro Polity* by stating, “Those at the low end of the [information] scale have little input on aggregate movement; those at the high end have major input. The net result is that the more informed, thoughtful, and attentive citizens contribute disproportionately to aggregate movement” (5). This statement, while completely consistent with micro (individual) level and macro (aggregate) level theories of opinion change, contradicts their empirical findings of “uniformity of preference

change” across sophistication levels (219). Page and Shapiro (1992, Ch.7) also find evidence that the most and least informed subgroups update their opinions in tandem. They note, the “few differential trends among education groups suggests that individual differences in [message] exposure and acceptance, while theoretically interesting, may not ordinarily play a large part in the process of collective opinion change” (316). My goal is to examine the public’s policy Mood and explain why differences in exposure to and acceptance of political information do not influence opinion change.

In addition to being of theoretical interest, the question of who moves Mood—and why—is essentially about whom politicians represent when they respond to public opinion. Because Mood has been linked to shifts in public policy, we need to understand the ways that different subgroups contribute to the over-all trajectory of Mood. This paper begins by offering a brief overview of the opinion literature, which illustrates the incongruence between current opinion theory and Page and Shapiro’s (1992) and Erikson, MacKuen, and Stimson’s (2002) finding of “parallel publics.” I then outline a set of theoretical expectations that predict that all segments of the population receive common messages about the economy and use this information to update their political attitudes. Although the most sophisticated will be more likely to incorporate additional information into their opinions, I expect to find similar patterns of opinion change and similar causal dynamics across sophistication levels. The analysis proceeds in two parts. First, I replicate and extend Erikson, MacKuen, and Stimson’s findings to be sure that different sophistication levels indeed update their opinions in unison. I then evaluate the causal dynamics of opinion change for each sophistication level. The results strongly confirm expectations. The Mood of the most and least sophisticated segments of society generally changes at the same time, in the same direction, and for the same reasons. In contrast to the dominant literature on economic evaluations (e.g. Aidt 2000, Krause & Granato 1998), all sophistication levels translate economic ups and downs into their

political attitudes.

These findings offer three insights into the nature of public opinion change and representation in the United States. First, contrary to the theoretical expectations of micro and macro opinion scholars, the attitudes of the most and least sophisticated tend to change at the same time for the same reasons. Second, this finding suggests that the least informed contribute much more to aggregate opinion, and thus government response, than previously thought. Finally, the strong connection between the economy and Mood across sophistication levels suggests that simple economic messages have a profound effect on public opinion.

3.1 Public Opinion and Political Awareness

The finding that all sophistication levels update their attitudes in a similar manner conflicts sharply with most public opinion literature. Over half a century of scholarship shows that an individual's level of political sophistication affects his or her survey response and that large portions of the public fail to display any notion of ideology or attitude constraint (Campbell et al., 1960; Converse, 1964; Lazarsfeld, Berelson and Gaudet, 1948).¹ Since these early works, public opinion scholars have continued to

¹Political sophistication is a broad term in the political science literature. Luskin (1990, 335) defines political sophistication as a function of three elements: (1) level of exposure to political information; (2) intellectual ability to retain and organize the encountered information; and (3) motivation to obtain and comprehend the political information. Zaller (1992, 21) substitutes the term political awareness for political sophistication but offers a similar definition. He writes, "*Political awareness*...refers to the extent to which an individual pays attention to politics *and* understands what he or she has encountered." Conceptually, I agree with these definitions of political sophistication. Operationally, I am limited by the available time series data. Education level and vocabulary score are the only available measures of political sophistication across time. Fortunately, education level correlates highly with political sophistication (Althaus, 2003). Converse (1974, 730) concludes that education is "probably *the* prime predictor of dependent variables reflecting political interest, participation, and mobilization." Alvarez and Brehm (2002, 37,45) use education level as one of their measures of chronic information and political sophistication. Luskin (1990) questions the causal relationship between education level and political sophistication, but suggests that the correlation exists because of the strong relationship between education and intelligence, occupation, and interest in politics.

document the effects of political sophistication on public opinion (e.g. Bartels 1994, Converse 2000, Delli Carpini & Keeter 1996, Druckman 2005, Schneider & Jacoby 2005, Sniderman 1993, Sniderman & Bullock 2004, Zaller 1992). Zaller's (1992) "Receive–Accept–Sample" model of survey response, for example, places political sophistication central to both message reception and the likelihood of accepting the received message.

According to Zaller, "The greater the person's awareness, the greater his or her chances of receiving—that is, being exposed to and comprehending—a given change-inducing message" (148). In addition to being more likely to receive information, the most politically aware are best equipped to compare new information to their predispositions and decide whether or not to accept that new information as correct. The relationship of political sophistication to message reception and resistance creates multiple expectations for opinion change. Depending on whether messages are conflicting or uniform, either the middle tier of sophisticates or the most sophisticated may be most likely to change survey responses. The least sophisticated, on the other hand, generally do not receive *any* information that might influence political attitudes. As Zaller explains,

At the other end of the attentiveness spectrum is a larger group of people who possess almost no current information about politics. In late 1986, for example, when George Bush was halfway into his second term as vice-president of the United States, 24 percent of the general public either failed to recognize his name or could not say what office he held. 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 as they do have must often be relatively innocent of the effects of exposure to elite discourse (125–126).

Thus, Zaller's RAS model is consistent with the expectation that the survey responses

of the least sophisticated do not contribute to observed patterns of opinion change across time.²

Macro-level research (Erikson, MacKuen and Stimson, 2002; Page and Shapiro, 1992) extends this notion of the largely uninformed electorate to explain the micro-macro paradox—that is, why aggregate public opinion moves coherently even though individual opinion is largely unconstrained and uninformed. This research argues that opinion change for the least sophisticated is mostly random and cancels out upon aggregation. As a result, the aggregate signal represents only the opinion change of the most sophisticated. Converse (1990, 382) explains, “[T]he drawing of means hides a sea of noise in these placements, as aggregation always does. The signal extracted from this noise 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.” According to the macro scholars, if opinion change was disaggregated by sophistication level, the opinions of the most sophisticated would move systematically, the least sophisticated would be random movement, and the middle tier would be in between. As Erikson, MacKuen, and Stimson (2002, 428–429) conclude, “We concur with the usual empirical assessments regarding the bleak distribution of political awareness, interest, and sophistication within the American electorate... Our claim instead is that macro-level dynamics are driven by an electorate, where in the aggregate, the more politically capable citizens possess dominant influence.”

²It is important to note that with easy messages—Zaller’s example is a person who “stands in front of a large audience and repeats suggestively, ‘Your head is moving back and forth, back and forth’” (1992, 125)—the least informed might demonstrate the most responsiveness.

3.2 The Role of the Economy

As illustrated above, the overwhelming evidence that less sophisticated individuals are uninformed about politics and ideologically inconsistent in their survey responses (both cross-sectionally and across time) has led most opinion scholars to conclude that the least sophisticated do not receive or respond to messages that relate to their political attitudes. In contrast to the dominant theories of public opinion, Page and Shapiro (1992) and Erikson, MacKuen, and Stimson (2002) have provided evidence of uniform opinion change. I construct and test a theory of why the least politically sophisticated segment of society should change opinions roughly in tandem with the middle and most sophisticated individuals. Specifically, I argue that all segments of the electorate receive information about the economy and then use this information to update their political attitudes.

Research shows that policy Mood, as a whole, responds to changes in the economy (Durr, 1993; Erikson, MacKuen and Stimson, 2002). In the aggregate, individuals translate economic ups and downs into conservative and liberal attitudes toward government. Scholars dispute, however, the ability of the least sophisticated to receive economic messages and translate this information into political attitudes. Not only do individuals consistently describe the economy inaccurately, but the least educated also tend to make the most error prone assessments (Aidt, 2000; Conover, Feldman and Knight, 1987; Duch, Palmer and Anderson, 2000; Holbrook and Garand, 1996). Sizeable evidence also suggests that the general public, especially the least sophisticated segment of the population, cannot accurately forecast economic changes (Conover, Feldman and Knight, 1987; Krause, 1997; Krause and Granato, 1998). Even Erikson, MacKuen, and Stimson 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” (447).

I contend, however, that using economic information to update political attitudes does not require attention to, or the ability to recall, specific details. Instead, all that is necessary is a vague notion of whether the economy is getting “better” or “worse.” In terms of identifying the ups and downs of the economy, an individual who can recall a variety of economic details has only a minimal advantage over a person who hears, in passing, that unemployment is down, or a person who notices that gas prices have increased, or even a person who notices that the cigarettes on the sidewalk have been smoked down to the butt.³ DeBoef and Kellstedt (2004) establish that individuals often over- or under-estimate the state of the economy. Nevertheless, all segments of the public should notice the ups and downs. Consistent with this expectation, Conover, Feldman and Knight (1986) and Parker-Stephen and MacKuen (2005) demonstrate that even when specific economic information is not retained, individuals demonstrate some capacity to absorb knowledge of the general trend. Thus, while many studies have shown that the most sophisticated provide the most accurate economic assessments and forecasts, it is reasonable to expect that all segments of the public notice general increases and decreases in unemployment and inflation. Furthermore, the economy is a relatively easy cue or heuristic to use to update political attitudes; economic news is pervasive. There is no reason to expect that the least sophisticated rely on this heuristic less than the most sophisticated.

Importantly, these theoretical expectations do not preclude the possibility that the most sophisticated incorporate information beyond the economy into their political attitudes, or that they use economic information more effectively. My contention is that the least sophisticated get enough economic information to update their policy Mood. Before analyzing this hypothesis, however, it is worth considering why—if the dynamics

³In *Rolling Nowhere: Riding the Rails with America's Hoboes*, Ted Conover describes “Steamtrain” Maury Graham, who claimed to be able to tell how the nation’s economy was doing by the length of the cigarette butts he found on the sidewalk (Conover, 1984, 9).

of opinion change are the same across sophistication levels—decades of individual level research shows that individuals' survey responses are unconstrained cross-sectionally and across time. Two considerations help to reconcile this conflict. First, to the extent that survey responses reflect primed or "top of the head" considerations (e.g. Zaller 1992, Zaller and Feldman 1992), individuals' survey responses may exaggerate attitudinal inconsistencies. For example, suppose an individual is asked about spending preferences on a variety of domestic issues. If two of the responses reflect a recently primed consideration and the rest of the responses reflect the respondent's underlying attitude toward domestic spending, the fluctuation across responses will appear to be a lack of ideological constraint. A small number of unsystematic primed responses would make consistent underlying attitudes appear unconstrained. Second, the lack of correlation in individuals' survey responses across time (e.g. Converse 1964) may not be entirely the result of "non-attitudes." In fact, evidence of systematic opinion change requires a correlation of less than $r = 1.0$ across time. Certainly, not all fluctuations in survey responses reflect systematic opinion change, but some of the longitudinal variance might. These ideas are not new; they stem directly from the logic of aggregation theory and macro opinion research (Page and Shapiro, 1992; Erikson, MacKuen and Stimson, 2002). I have simply extended this logic to show that individual level research may conceal the prevalence of systematic opinion change in the electorate. Subgroups are thus the focus of this analysis.

3.3 Research Design and Data

Before evaluating the hypothesis that all segments of the public respond to changes in the economy, I first attempt to replicate Erikson, MacKuen, and Stimson's (2002) and Stimson's (2002) findings that Mood changes in tandem across sophistication levels. Since the aim is to subdivide the public according to levels of political sophistication,

Stimson's original Mood measure, which relies on fully aggregated survey marginals, cannot be used in the current context. Individual level data are necessary to divide respondents into subgroups. Following Erikson, MacKuen, and Stimson, I look to the General Social Surveys data. Some of the longest series in the entire Mood database come from the GSS, which have been conducted on nearly an annual basis since 1972. Many of these items have been asked in over twenty of the GSS surveys. With the GSS cumulative file, obtaining time series for these indicators of Mood sub-aggregated by varying levels of sophistication becomes possible. Whereas analyses on fully aggregated data can begin in the vicinity of 1950, the following analyses will be limited to the period after 1972. For each stratum of the electorate, I construct a Mood-like index using 31 items from the GSS, from 1972 to 2004.⁴ The items, which are described in full in the Appendix, vary rather substantially in their content from an item about affirmative action to items about taxes and helping the poor. The list, however, is dominated by the extensive and familiar battery of spending items, which ask the respondent to decide whether the government is spending too much, too little, or about the right amount on particular things like the environment, health care, assistance to blacks, and many others. In short, the GSS asked a sufficient variety of questions in a regular fashion over a three-decade span to make sub-aggregate analyses possible. None of the questions was asked every year, but many of them were asked over twenty times.

As a preliminary matter, to ensure that the GSS-based measure of Mood accurately mirrors Stimson's Mood series, I compute a GSS-based Mood index for the fully aggregated population. Following Stimson, I take the percent giving a liberal answer and divide it by the percent giving a liberal answer plus the percent giving a conservative

⁴Because the vocabulary test was not administered every year, analyses based on this criterion will span the years 1974–2004.

answer. Then, using Stimson's (1999) dyadic-ratios algorithm, I construct a fully aggregated GSS-based Mood index.⁵ Figure 3.1 compares the 31-item Mood index used in the subsequent analyses with Stimson's (1991, 1999) measure of Mood. The visual similarities combined with the correlation of $r = 0.85$, suggest that the two series are indeed measuring the name broad concept of public policy mood.

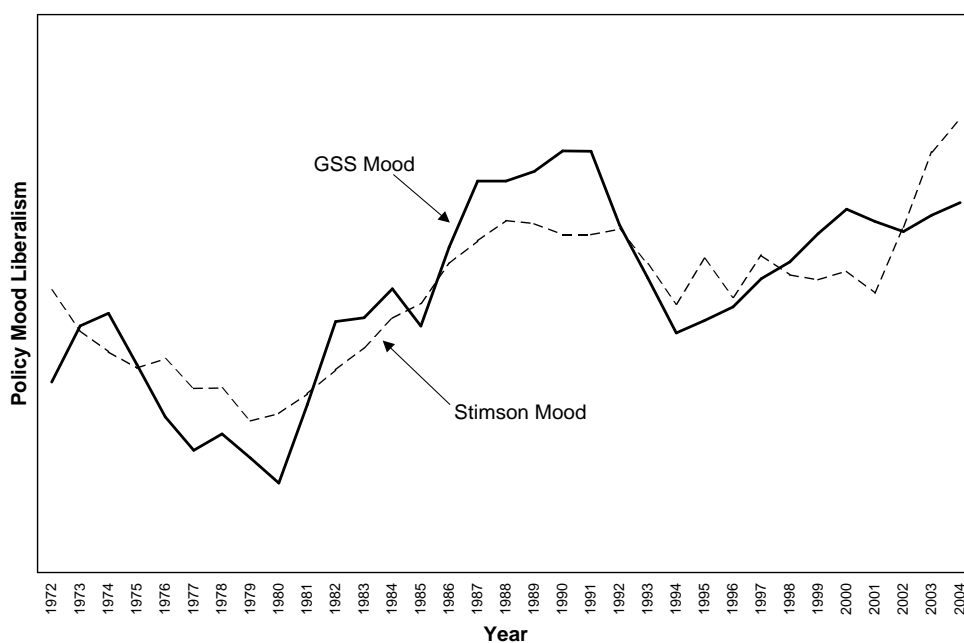


Figure 3.1: Comparison of Stimson's Mood with 31-item GSS Mood Index, 1972 to 2004

The next task is to determine how to sub-divide the electorate into varying levels of sophistication using the criteria available in the GSS. To measure political sophistication in the GSS for every year between 1972 and 2004, we need measures of sophistication in each of those years. The GSS has asked some questions about factual information—such as the name of the governor of the respondent's state, and the name of his or her representative in the U.S. House—but only in the year 1987. Again, I follow the lead of

⁵The algorithm first scales each series to a common metric and then uses a factor analytic approach to extract the common variance among survey questions to create the overall index. See Stimson (1999, 133-137) and <http://www.unc.edu/~jstimson> for complete documentation.

Erikson, MacKuen and Stimson and rely on two complementary indicators that were asked more regularly and are surely correlated with any ideal measure of sophistication: educational attainment and the sum of a person's score on the GSS 10-item vocabulary test. For both variables, I have divided respondents in each year into three groups—high, middle, and low. For educational attainment, I define “high” as those respondents with a college diploma (or more); “middle” as those with a high-school diploma, but not a college diploma; and “low” as those who did not finish high school. For the vocabulary test, those with scores between 7 and 10 correct (out of 10) are considered “high,” those with 5 or 6 correct are “middle,” and those with 0 to 4 correct are “low.”⁶ After grouping respondents into these categories, following the same process as with overall Mood, I create a Mood index for each sophistication level.

3.4 Who Moves Mood?

It is now possible to replicate Erikson, MacKuen, and Stimson's sub-aggregate analysis. My measure of Mood adds 21 additional question items and extends their series by 10 years, but the pattern of results confirms their findings. Figure 3.2 displays the series for the three categories of verbal ability.⁷ Higher scores represent a more liberal public, and lower scores a more conservative one. The series are strikingly (though not perfectly) similar. Importantly, each series clearly resembles Stimson's Mood series.⁸ Each begins its trajectory headed in a conservative direction, and hits a conservative nadir near the

⁶Clearly, the dividing points for the vocabulary test are somewhat arbitrary. I selected these values because they divide the public, roughly, into three equal parts, and are the most stable in terms of their sizes from year to year.

⁷To ensure that I have not created an artificial stability where none truly exists, all of the figures and analyses in this paper were conducted with the exponential smoothing feature of Stimson's algorithm turned off.

⁸The time periods under consideration are different, however, because the GSS data begin in 1972, while Stimson's series, which does not require individual level data, extends to the 1950s.

end of the 1970s. The 1980s, however, witness a steady rebound toward a more liberal public, peaking at or near 1990. The early 1990s find something of a retreat in a conservative direction, hitting a conservative mini-peak around 1994, when President Clinton was rebuked in the mid-term elections. Subsequent years have produced a slowly but steadily more liberal public.

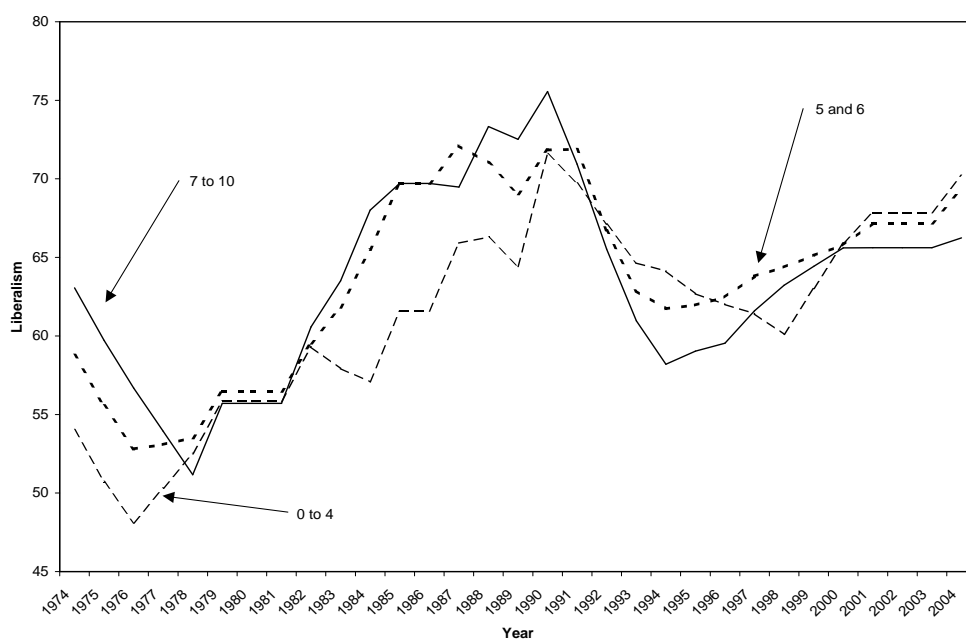


Figure 3.2: Mood Indices for Three Vocabulary Strata, 1974 to 2004

Table 3.1 shows the correlations between the three series, and the results there are consistent with our visual impressions. The strongest relationship ($r = 0.92$) is found between the two groups with the highest levels of verbal ability. The weakest correlation, though far from weak at $r = 0.71$, is between the highest and lowest groupings. Thus, instead of no movement or random movement as much public opinion literature predicts, I find—as did Erikson, MacKuen, and Stimson—impressive levels of systematic movement among the least sophisticated. The first impression, then, is that the ebbs and flows of a national Mood are not confined to the information elites or to those in the middle. Even the least sophisticated seem to contribute to the shifting tide of

Mood.

Table 3.1: Correlations Between Mood Indices for Three Vocabulary Substrata, 1974–2004

	Vocabulary Score		
Vocabulary Score	0 - 4	5 - 6	7 - 10
0 - 4	1.00		
5 - 6	0.88	1.00	
7 - 10	0.71	0.92	1.00

Note: All correlations have an $N = 31$, and all are statistically significant.

Again, consistent with Erikson, MacKuen, and Stimson’s findings, breaking the public down according to educational–attainment produces a nearly identical outcome. The results of those analyses can be seen in Figure 3.3, below. As was the case with the different verbal ability groupings, the policy attitudes of portions of the electorate with different educational attainment move roughly in tandem. The familiar pattern of a conservative nadir just before 1980 is there, as is the liberal peak around 1990, the brief conservatism until the mid–1990s, and the drift again toward liberalism near the end of the series. For those without a high school diploma, this pattern is least clear, but still visible. The two different conceptualizations of political sophistication serve to validate one another, confirming Erikson, MacKuen, and Stimson’s conclusion that shifts in the electorate’s Mood are a function of all segments of the electorate moving more or less in tandem.

Table 3.2 displays the correlations between the three series in Figure 3.3 and the findings mimic those in Table 3.1. The over–time correlation in Mood for the highest and middle educational categories is $r = 0.92$, and the two series, visually, are virtually indistinguishable. The correlation drops substantially, however, when it involves those on the lowest end of the educational spectrum. Between the lowest and highest

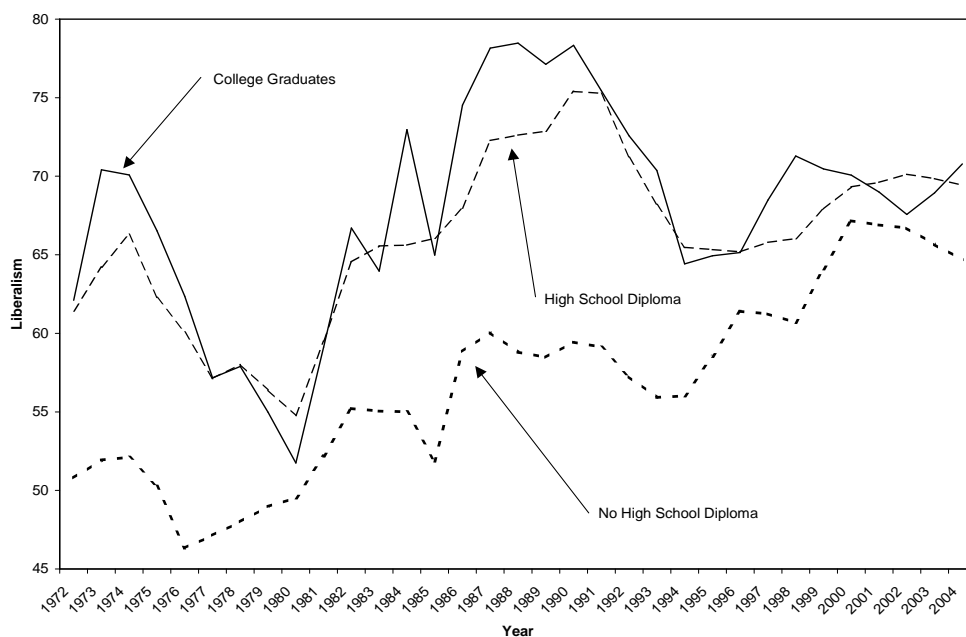


Figure 3.3: Mood Indices for Three Educational Strata, 1972 to 2004

categories, their Mood indices correlate at $r = 0.58$; between the lowest and middle categories, the correlation is $r = 0.73$. These correlations are still moderately strong by time-series standards, particularly considering that the most and least sophisticated only represent, on average, the top and bottom quintile of respondents. It is interesting to note that although the least sophisticated seem to have more attenuated movement than the other sophistication levels, this series shows sizeable over-time movement in the direction of a liberal trend. The least sophisticated appear to respond to some of the messages that the most sophisticated receive, as well as to other information that has pushed this group in a liberal direction over time.

The stronger relationship between the vocabulary series most likely results because of the more equal distribution of the number of respondents in each subgroup. Although I hypothesize that all political sophistication levels update their opinions in response to common messages about the economy, it is not surprising that more similarities exist between the top third and bottom third of respondents than the top and

Table 3.2: Correlations Between Mood Indices for Three Educational Substrata, 1972–2004

Educational Attainment			
Educational Attainment	No HS Diploma	HS Diploma	College Diploma
No HS Diploma	1.00		
HS Diploma	0.73	1.00	
College Diploma	0.58	0.92	1.00

Note: All correlations have an N = 33, and all are statistically significant.

bottom twenty percent. The expectation that all sophistication levels use economic information to update their political attitudes does not preclude the possibility that the most sophisticated incorporate additional information. The finding, however, leads me to focus on the educational substrata for the remainder of the analysis. As the differences between Figures 3.2 and 3.3 suggest, the smaller percent of respondents in the top and bottom education subgroups provides a more robust test of the hypothesis of uniform causal dynamics.⁹

⁹To further test the validity of using education as a measure of political sophistication, I used eleven spending questions from the American National Election Surveys (ANES) to generate a second (biannual) measure of Mood from 1980 to 2004. Because the ANES asks respondents their education level and questions that reflect their political information level it is possible to create and compare an ANES measure of policy Mood for the least educated and the least politically informed respondents. If the Mood of the least educated and the least politically informed correlate highly, we can be confident that there is significant overlap between these two subgroups, and using a measure of political information (if it was available) would not lead to different results than using the education measure. On the other hand, if significant differences appear, we will have evidence that the opinions of education groups and political information groups move distinctly, indicating that education level may not a valid proxy for political awareness level. First, I compare the ANES Mood measure with the GSS Mood measure to ensure that the two aggregate measures both capture the public's "Mood." The two series correlate at $r = 0.88$, suggesting that the two measures indeed capture the same concept. Next, I group ANES respondents by education and political information level. Following Zaller (1992), I create a thirteen-point index of political information based on: 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, guaranteed jobs, and health care (see Appendix for question wording). Each correct response is coded as a one. Respondents could also get five points based on the interviewer rating of respondent's level of political information. Although the biannual nature of the ANES does not permit time-series regression analysis, it is possible to compare the Mood of the least educated (those with less than a high school degree) with the Mood of the least politically informed. The percent of respondents with less than

Before analyzing the causal dynamics of Mood across sophistication levels, I assess two critical assumptions of the analysis. First, the systematic opinion change among those with less than a high school degree, depicted in Figure 3.3, could result from aggregation. If the majority of the least sophisticated respondents provide stable or random responses, as aggregate opinion theory predicts (Converse, 1990; Page and Shapiro, 1992; Erikson, MacKuen and Stimson, 2002), a few informed individuals in this subgroup could produce the systematic movement we observed. The theoretical expectations, however, predict that instead of a few informed individuals emerging from a “sea of noise” (Converse 1990, 382) nearly all individuals receive and respond to economic messages. To test this expectation, I further disaggregate Mood by education level. The GSS reports the highest school grade level completed for each respondent. This variable allows me to create a measure of Mood for each grade level. Figure 3.4 depicts the Mood of those with less than a high school degree, as well as those who did not complete 11th, 10th, and 9th grade. The similarity across series is astonishing. The subgroup including only those who did not complete the ninth grade is less than half the size of the group of those who did not complete high school. Yet, the two series follow virtually the same trajectory.

Table 3.3 examines the correlations between series all the way to those respondents who did not complete sixth grade. The table also shows the average number and percent of respondents in each education grouping. It is not until we analyze respondents with less than a sixth grade education—just 1.9 percent of respondents—that the correlations substantially drop. It is simply wrong to conclude that the opinion movement

a high school degree decreased over time, so each year I match the percent of respondents who are “politically uninformed” as closely as possible to the percent with less than a high school degree. From 1980 to 2000, the Mood of the least educated and the least politically informed correlate at $r = 0.87$. The two measures of sophistication—education and political information are not one-in-the-same—but the similarities are clear. The high correlation suggests that education level, at least for Policy Mood, is indeed a valid measure of political sophistication.

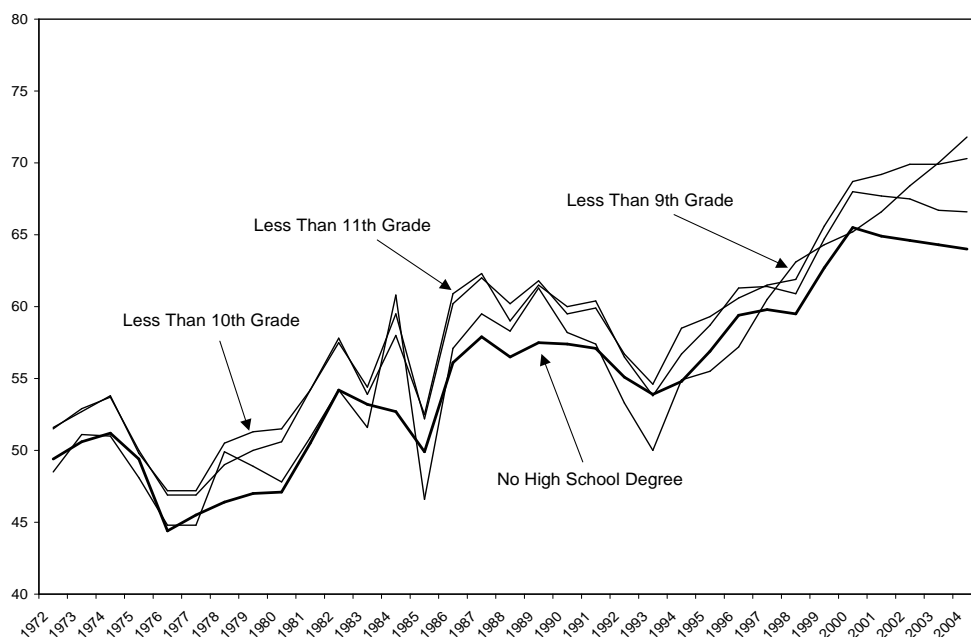


Figure 3.4: Mood Indices for those with Less than a High School Degree, Less than 11th Grade, Less than 10th Grade, and Less than 9th Grade, 1972 to 2004

of the least sophisticated results from a few informed respondents amidst mostly random responders. Although some unsophisticated individuals certainly offer random responses, the “sea of noise” that Converse describes, does not begin to emerge until we analyze less than two percent of all respondents.

A second assumption that I must test is the underlying structure of survey items across sophistication levels. It is possible that the multi-item measure of Mood masks different opinions between the subgroups across policy areas. For example, if the most sophisticated favor spending more money on education and the environment while the least sophisticated favor increased spending on welfare and helping the sick, both series would rise at the same time, but for different reasons. If the different sophistication levels move in tandem, in a causal sense, we should see specific question items loading onto each index in a similar manner for each level of political sophistication. Table 3.4 analyzes this expectation by comparing how individual question responses made by

Table 3.3: Correlations Between Mood Indices by Grade Level, 1972–2004

Respondents:		Less than:									
Avg. N	Percent	Education Level	H.S.	11th	10th	9th	8th	7th	6th		
276	21.9%	Less than High School	1.00								
216	17.2%	Less than 11th Grade	0.98	1.00							
157	12.5%	Less than 10th Grade	0.97	0.90	1.00						
115	9.1%	Less than 9th Grade	0.94	0.96	0.98	1.00					
57	4.5%	Less than 8th Grade	0.93	0.94	0.94	0.94	1.00				
39	3.1%	Less than 7th Grade	0.89	0.87	0.91	0.94	0.90	1.00			
24	1.9%	Less than 6th Grade	0.51	0.48	0.42	0.37	0.46	0.40	1.00		

Note: All correlations have an N = 33, and all are statistically significant.

individuals in each subgroup load onto the overall measure of Mood for that subgroup. In order to keep comparisons of the correlations as similar as possible, only the questions asked 15 times or more are included in the table.

Table 3.4: Correlations Between Survey Items and Mood Indices, by Sophistication Level, 1972–2004

Survey Item	Years Asked	Level of Sophistication:		
		Lowest	Middle	Highest
Imprv nation's educ system	24	0.84	0.68	0.84
Solve Problems of big cities	24	0.73	0.72	0.70
Protect environment	24	0.67	0.72	0.86
School busing	17	0.94	0.73	0.67
Taxes	18	0.72	0.66	0.63
Help the sick	15	0.47	0.89	0.54
Military and defense	24	0.25	0.58	0.65
Housing discrimination	17	0.82	0.69	0.44
Affirmative action	15	0.18	0.48	0.36
Gun permits	22	0.69	0.59	0.47
Welfare	24	0.57	0.75	0.85
Imprv nation's health	24	0.61	0.82	0.82
Imprv conditions of blacks	24	0.72	0.87	0.93
Capital punishment	23	-0.10	-0.24	-0.28
Courts and criminals	25	0.71	0.19	-0.01
Space exploration program	24	0.58	0.29	-0.06
Special help to blacks	16	-0.15	0.48	0.49
Solve problems	16	-0.54	0.60	0.47
Reduce diff btw rich/poor	17	-0.26	0.76	0.65
Help the poor	16	-0.68	0.64	0.69
% of all (31) Indicator Var. Expl.		35	40	37

Note: Sophistication level refers to those not receiving a high-school diploma, those receiving a high-school diploma but not a college diploma, and those receiving a college diploma or higher. For precise question wordings, see the Appendix.

A surprising, but interpretable pattern emerges in Table 3.4. First, we see that the common variance explained (i.e., the percent of the variance that is common across question items) is similar across sub-groups (the range is 35 to 40 percent; Stimson has consistently found values just below 40 percent). More importantly, for 13 of

the twenty items (in bold), the correlations across subgroups are remarkably similar, suggesting that the same policy issues load onto each subgroup’s Mood in a similar way. In the remaining third of the items, we see negative correlations and differences across subgroups. What is interesting about these seven items is that, with the exception of “space exploration,” they all correspond with Stimson’s second dimension of Mood (Stimson 1999: 71; Erikson, MacKuen, and Stimson 2002: 208).¹⁰ It appears that the first dimension of Mood reflects the same underlying policy attitudes for each sophistication level. The second dimension of Mood, which Stimson characterizes as representing attitudes toward crime and criminals and social issues, like helping those in need, may reflect different underlying ideologies across subgroups.

What the table shows, for the first time, is some evidence of ideology, albeit of the macro flavor, at the lowest end of the sophistication spectrum. The combined results of these figures and tables stand in contrast to decades of individual-level research that documented the absence of ideological thinking—or even political thinking at all—among the non-elite portions of the mass public. Similarly, the expectations of many researchers in the macro tradition do not hold. The least sophisticated, far from canceling out or producing random noise, show systematic opinion change across time.

3.5 Uniform Causal Dynamics

The visual displays of similar-looking time series have produced impressive results. Despite overwhelmingly low levels of political knowledge in the American electorate (Delli Carpini and Keeter, 1996) the most and least politically sophisticated seem to

¹⁰The eleven question items asked less than fifteen years follow the same first and second dimension patterns, but as we would expect, the shorter series show much more variability. Four items have similar coefficients across sophistication levels, matching the pattern in bold in Table 3. For four items the coefficients of the middle and highest sophistication levels load differently from the least sophisticated and for three of the items the least and middle sophistication levels load similarly, and the most sophisticated are distinct.

change opinions in tandem. Furthermore, we have seen that this pattern of opinion change among the least sophisticated is not a result of aggregating across issues or respondents. A more direct test of the hypothesis, however, is to assess whether the similarity of sub-aggregated opinion movements results because these different series have common causal dynamics. Erikson, MacKuen, and Stimson (2002, ch. 6) model Mood (not disaggregated) as a function of inflation and yearly shifts in the unemployment rate. Increases in the unemployment rate tend to fuel demand for government activism, while inflationary pressures produce the opposite reaction with a demand for government belt-tightening. I expect the same statistical relationships between Mood and the economy at all levels of sophistication. Recent research suggests that all citizens, and thus all strata of society, have incentives to pay attention to economic indicators (Parker-Stephen and MacKuen, 2005). Additionally, the cognitive requirements of noticing whether the economy is getting better or worse are minimal. Although only the most sophisticated evaluate and forecast the economy with precision, nearly all individuals should notice economic ups and downs. The wealthy and highly educated may get their economic information from different sources than the less educated, but all portions of society should receive and respond to changes in objective economic messages.

Table 3.5 begins with Erikson, MacKuen, and Stimson's findings on the effects of inflation and unemployment on overall Mood, 1956–1996 (2002; see their Table 6.4). Column two reports the effects of inflation and unemployment on the GSS-based measure of Mood, not subdivided by sophistication. The fully aggregated analysis ensures that the subsequent results are as comparable to theirs as possible. These aggregate results provide confirmation that my measure of Mood parallels the Mood measure used by Erikson, MacKuen, and Stimson. Despite the shortened time series, and thus

higher standard errors, all coefficients are statistically significant and of relatively similar magnitude to Erikson, MacKuen, and Stimson's analysis.

We are most interested, however, in whether economic changes influence policy Mood similarly for all sophistication levels. I expect that the relationship between the economic indicators and policy Mood will be in the same direction and statistically significant for each subgroup. Similar relationships will provide evidence that the most, middle, and least sophisticated receive and understand messages about inflation and unemployment, and then update their attitudes toward government in tandem.

To examine the relationship between the economy and Mood, I estimate the three regression equations (one for each sophistication level) jointly in a Seemingly Unrelated Regression Equations (SUR) model (Zellner, 1962, 1963). Given that the series come from the same surveys, the disturbance terms are likely to be correlated across equations. The SUR model estimates this expected correlation—incorporating information that is unavailable in separate regressions—and thus produces more efficient estimates. Binkley and Nelson (1988) demonstrate that efficiency gains persist even when variables are correlated across equations, giving further evidence that the SUR model is the most efficient estimator of the set of equations.¹¹

Consistent with expectations, the last three columns of Table 3.5 show remarkably similar causal dynamics across sophistication levels. At each sophistication level the coefficients are all in the expected directions; inflation is associated with a more conservative Mood and increased unemployment with a more liberal Mood. Furthermore, the negative relationship between increased inflation and a more liberal policy Mood is statistically significant for the least, middle, and most sophisticated. Even those without a high school diploma translate price increases into more conservative political

¹¹As might be expected, due to the small disturbance terms, estimating the equations individually produces nearly identical results. When the equations are estimated in separate regressions, all statistically significant relationships remain significant at $p < .10$ or less.

attitudes. Also, as expected, each sophistication level appears to translate increases in the unemployment rate into more liberal political attitudes. Although the relationship between unemployment and Mood for the least sophisticated is not statistically significant ($p = 0.12$), cross-equation tests for equality confirm the similar nature of all of the coefficients. In no case were the cross-equation differences statistically significant. While we need to be cautious about concluding that all sophistication levels translate unemployment changes into political attitudes in a uniform manner, the lack of statistically significant differences across sophistication levels greatly challenges the notion that aggregate public opinion only reflects the “small minority of the electorate that is nearly as well informed...as our elite informants” (Converse, 1990, 382).¹²

The similar causal dynamics across sophistication levels, particularly the response to inflation, confirms the expectation that all segments of the population translate economic information into political attitudes. It is necessary, however, to examine the magnitude and immediacy of these effects. As expected, the lagged dependent variables (Dynamics) are all statistically significant. Importantly, the coefficient for the lagged dependent variable is strongest for the least sophisticated. Considering that in a partial-adjustment (or Koyck) model such as this, the lagged dependent variable represents the omitted effects of previous lags of the independent variables—inflation and unemployment in this case—this finding makes opinion of the least educated seem more inertial, slowest to respond to shifts in the economy. By contrast, the smaller

¹²To be certain that the findings do not result because of the specific items in the Mood index, I re-estimated the analysis with several different Mood specifications. One potential concern is respondent redundancy between similarly worded spending questions in years when the GSS introduced new question wording. To account for this concern, I re-estimated the Mood measure omitting the “Y” version of each spending question. The results of the analysis were nearly identical, with all significant relationships remaining consistent at $p < .10$ or less. I also ran the analysis using the Mood measure used by Ellis, Ura, and Robinson (2006), which includes only eleven spending items. With this specification all relationships remained significant and Change in Unemployment became significant for the least sophisticated. The consistent pattern of results suggests that the analysis is not sensitive to the particular question items included in the Mood index.

Table 3.5: The Causal Dynamics of Mood, by Level of Sophistication, 1972-2004

	1956-1996	1972-2004	SUR Model 1972-2004		
	All	All	No HS Dip.	HS Dip.	College Dip.
Dynamics	0.38* (0.14)	0.72* (0.12)	0.79* (0.10)	0.76* (0.08)	0.6* (0.11)
Inflation	-0.78* (0.21)	-0.49* (0.23)	-0.43* (0.25)	-0.45* (0.20)	-0.79* (0.33)
Change in Unemployment	1.10* (0.48)	1.54 ^a (0.95)	1.16 (1.0)	1.83* (0.85)	2.19 ^a (1.34)
Constant	41.57* (9.34)	21.30* (8.66)	9.38* (14.3)	18.62* (6.2)	31.4* (8.29)
Adj. R ²	0.58	0.84	0.89	0.85	0.67
N	41	32	32	32	32

Note: Standard errors are in parentheses; * = $p < 0.05$, ^a = $p < 0.1$

coefficient for the lagged dependent variable for the middle stratum, and the smallest still for the highest stratum—and the larger coefficients for the immediate impacts of the economic variables—suggest that opinion of the relatively more sophisticated responds more rapidly to the dynamics of the economy. It appears that the immediate influence of inflation and unemployment on Mood are weakest for the least–sophisticated stratum of American society, but their effects (because of strong dynamics) continue to appear in subsequent time periods. In these models, the *total* effect of a variable is equal to the immediate influence divided by one minus the lagged dependent variable. In this light, the total effects for a one–point shift in inflation become almost identical across the three levels of sophistication. For the least sophisticated, the total effect is a 2.05 (i.e., $-0.43/(1-0.79)$) point conservative shift in Mood. For the middle stratum, the cumulative effect is 1.88 points, and for the top stratum it is 1.98 points. What this means, for inflation at least, is that shifts in the economy produce nearly identical total effects across all sophistication strata of the public. These effects take longer to work

their way through for the least sophisticated, and they happen most quickly among the most sophisticated, but their total effect is nearly the same.

For shifts in unemployment, where the differences in the immediate–impact coefficients are larger, the total influence of the variables differ more as well. Among the least sophisticated, the total influence of a one–point increase in unemployment is a 5.52 (i.e., $1.16/(1-0.79)$) point shift toward liberalism. Among the middle segment, the total influence is a bit larger, 7.63 points. For the most sophisticated, the total is a 5.48 point shift toward liberalism. As with inflation, for the most sophisticated, a larger portion of the total influence of changes in unemployment comes immediately. For the least sophisticated, the changes take longer to affect Mood.

The most sophisticated incorporate economic changes more quickly into their political attitudes than the least sophisticated, but statistically speaking, and in terms of total effect, the influence of economic changes on political attitudes is remarkably similar across sophistication levels. The finding that the upper tier of sophisticates has a similar causal structure to overall Mood is not at all surprising; in fact, it is precisely what micro and macro public opinion theories predict. Similarly, the movement of the middle tier shows that elements of Zaller’s RAS model find support. But instead of following a “white noise” pattern that might represent “aggregate non–attitudes” as the macro scholars and the RAS model predict, opinion at the lowest level follows much the same patterns—with understandable differences—as opinion at highest levels of political sophistication.

3.6 Conclusions

Images of highly informed individuals dominating public opinion are deeply entrenched in political science. Converse (2000, 387) concludes that, “those poorly informed tend to suffer at least partial disenfranchisement.” This analysis, however, confirms Erikson,

MacKuen, and Stimson's (2002) finding that all sophistication strata contribute to aggregate shifts in policy Mood. For each sophistication group, opinion dynamics visually share much in common. The analysis also shows, for the first time, that the commonalities of Mood do not result because of a few systematic responses amidst a sea of noise or because Mood aggregates across issues. Most importantly, however, I find that across the three tiers of sophistication, Mood is a function of the same broad causal processes. Even the least sophisticated receive and respond to objective economic indicators. Together, these findings suggest that the least sophisticated contribute a lot more signal and a lot less noise to Mood than previous theories of opinion change predict.

Can these results be reconciled with micro findings (e.g., Zaller 1992 and Bartels 1994) and macro predictions (e.g., Converse 1990, Converse 2000, and Erikson, MacKuen, & Stimson 2002) that the politically sophisticated dominate opinion change, while the opinions of the least sophisticated remain constant or contribute only random noise? I believe they can be. The evidence in this paper suggests that the least sophisticated receive the same general messages (at least about the economy) as the most sophisticated, and use this information to update their opinions in the same way. It is still possible, maybe even probable, that the most sophisticated incorporate more information than the least sophisticated, at least in a statistical sense. And the results show that the most sophisticated incorporate information more quickly, while the least sophisticated incorporate it the least quickly. This finding suggests that political sophistication does indeed influence message reception, resistance, and accessibility (Zaller, 1992). Substantively, however, the extra information that political sophisticates receive and the increased likelihood of message reception, resistance, and accessibility contributes very little to the variance in policy Mood. In other words, this analysis does not negate previous findings that opinion change and attitude stability vary by political sophistication.

The findings, instead, provide evidence for Page & Shapiro's (1992) supposition that despite such variations, there are broad messages that eventually reach all segments of society, and the responses to these broad messages move public opinion.

There are also implications for representative democracy in these findings. The over-time movements in public opinion have been connected to shifts in policy outcomes (Stimson, MacKuen, and Erikson 1995; Erikson, MacKuen, and Stimson 2002, ch. 8). The opinion constructs considered in those analyses have always been aggregated to the entire electorate, and appropriately so, given the subject matter. The findings in this paper help to shed some additional light on the notion of precisely whose preferences are being represented in policy making. The answer may not quite be "everyone's," but it is far closer than previous literature expects. For policy Mood at least, it is incorrect to describe the survey responses of any segment of the public as "non-attitudes" or "a sea of noise."

Of course, this paper leaves many questions unaddressed. Primary among them is whether there are inter-relationships among the various strata of sophistication. We saw in Tables 1 and 2 that the time paths of the different groups are strongly correlated, but the data are annual. Could it be that an analysis based on quarterly data would reveal that those at the top of the information hierarchy are actually leading—that is, causing—the opinion movements of those down the pecking order?¹³ Differentiated response rates would not change the findings. The least sophisticated still receive and respond to messages, but this pattern would qualify the rather optimistic conclusions above about the democratic process. Alternatively, are all strata following the common message of the economy blindly? There are times during economic upswings

¹³At least with GSS data, such an analysis is not possible, as their surveys occur the same time every year.

when continued or increased government spending would be advisable. Not even political sophisticates, however, appear to make such distinctions in their attitudes toward government. These subtleties are the focus of future research.

Appendix A

Coding of Messages about Vietnam

The WEIS dataset codes events by day, so it is easy to create a time-series of all events that relate to the Vietnam conflict. The next step is coding the events to reflect whether messages correspond with support or opposition to the president's handling of the war. WEIS categorizes stories into twenty-two categories. I code the categories of Yield, Approve, Promise, Grant, Reward, Agree, Request, and Propose, as supportive frames and Reject, Accuse, Protest, Deny, Demand, Warn, Threaten, Demonstrate, Reduce Relations, Expel, Seize, and Force as opposing frames.¹ The eight supportive categories coincide with two types of supportive frames. One type consists of demonstrations of support between the United States and its allies in Vietnam. Examples include, "United Kingdom government declared support for US decision to resume bombing," "Vietnamese invite 33 nations to observe elections," and "Australia praised USA efforts to avert communism in Vietnam." I expect that the public associated these declarations with support for the president's handling of the war. The second type of supportive stories reflect support between North Vietnam and its allies. I expect comments of support for North Vietnam by U.S. enemies to lead to increase the U.S. public's support for the war and the president's handling of the war. Examples include, "USR reiterates support for Vietnam" and "USR and Hungary agree to take all necessary steps to end USA aggression against Vietnam." Although the comments themselves appear antagonistic, these comments substantiate U.S. involvement and would serve to rally support for the president and the war effort.

The oppositional frames tend to reflect specific critiques of how the U.S. was handling the situation in Vietnam or descriptions of negative outcomes in Vietnam. Examples include, "Yugoslav president severely criticized USA role in Vietnam and accused USA of trying to solve war exclusively through military means," "12,000 students demonstrated in front of U.S. cultural center in Berlin against U.S. Vietnam policies," and "Vietnam seizes USA Air-Force B-52 in southern part of Demilitarized Zone." I expect that each of these messages would lead to a negative or oppositional impression about the situation in Vietnam and the president's handling of the war.

Not all messages, however, have an equal influence. For example, a news story about a country deploying troops would leave a stronger impression than a report about a country threatening to send troops. To account for these differences, Vincent (1979)

¹These codings correspond with previous research which has classified WEIS data onto a bipolar scale Goldstein and Freeman (1990); Rajmaira and Ward (1990); Vincent (1979); Witko (2003).

has developed a weighting scheme for each of the categories in the WEIS dataset.² I use Vincent's scale as a measure of the weight or prominence of each message. The message weight ranges from 2.2 to 4.7.

²Within each of the twenty-two categories are more specific categories, resulting in sixty-three possible event classifications. Goldstein (1992) has developed a weighting scheme based on all sixty-three classifications but he finds the new classifications largely confirms Vincent's classification scheme. He writes, "The replications above do more to corroborate than to challenge the validity of past studies using the Vincent scale" (382). I thus use the twenty-two category Vincent scale, which is based on the rankings of importance that 30 International Relations scholars applied to the different event type categories.

Appendix B

Question Wording: Chapter 2

Welfare Spending

NATFARE GSS: Are we spending too much, too little, or about the right amount...on welfare?

NBC News/Wall Street Journal Poll: Do you think government is currently spending too little, about the right amount, or too much...on people on welfare?

VCF0894 NES: If you had a say in making up the federal budget this year, for which of the following programs would you like to see spending increased and for which would you like to see spending decreased? Should federal spending on Welfare Programs be increased, decreased, or kept about the same?

Political Information (ANES)

VCF0729: Do you happen to know which party had the most members in the House of Representatives in Washington before the election (this/last) month? Which one?

VCF9036: Do you happen to know which party had the most members in the U.S. Senate before the election this/last month? Which One?

VCF0549: Some people believe that we should spend much less money on defense. Others feel that defense spending should be greatly increased. And, of course, other people have opinions somewhere in between. Where would you place the Democratic Party on this scale?

VCF0550: Where would you place the Republican Party on this scale?

VCF0541: Some people think the government should provide fewer services, even in areas such as health and education, in order to reduce spending. Other people feel that it is important for the government to provide many more services even if it means an increase in spending. Where would you place the Democratic Party (on this scale)?

VCF0542: Where would you place the Republican Party (on this scale)?

VCF0517: Some people feel that the government in Washington should make every possible effort to improve the social and economic positions of blacks. Others feel that the government should not make any special effort to help blacks because they should help themselves. Where would you place the Democratic Party (on this scale)?

VCF0518: Where would you place the Republican Party?

VCF0503: We hear a lot of talk these days about liberals and conservatives. I'm going to show you a seven-point scale on which the political views that people hold are arranged from extremely liberal to extremely conservative. Where would you place the Democratic Party (on this scale)?

VCF0504: Where would you place the Republican Party?

VCF0513: Some people feel that the government in Washington should see to it that every person has a job and a good standard of living. Others think the government should just let each person get ahead on his/her own. And, of course, some other people have opinions in between. Where would you place the Democratic Party (on this scaler)?

VCF0514: Where would you place the Republican Party?

VCF0508: There is much concern about the rapid rise in medical and hospital costs. Some feel there should be a government insurance plan which would cover all medical and hospital expenses. Others feel that medical expenses should be paid by individuals, and through private insurance like Blue Cross. Where would you place the Democratic Party on this scale?

VCF0509: Where would you place the Republican Party?

VCF0050b: Respondent's general level of information about politics and public affairs seemed:

Policy Mood

Thirteen question items that relate to attitudes toward government spending comprise the Liberal/Conservative Ideology index. The questions, which come from the GSS, each begin with the following question stem:

We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending

too much money on it, too little money, or about the right amount. Are we spending too much, too little, or about the right amount...

NATAID N=24: on foreign aid?

NATARMS N=24: on the military, armaments, and defense?

NATCITY N=24: on solving the problems of big cities?

NATCRIME N= 24: on halting the rising crime rate?

NATDRUG N= 24: on dealing with drug addiction?

NATEDUC N=24: on improving the nation's education system?

NATENVIR N=24: on improving and protecting the environment?

NATHEAL N=24: on improving and protecting the nation's health?

NATMASS N=15: on mass transportation?

NATPARK N=15: on parks and recreation?

NATROAD N=15: on highways and bridges?

NATSOC N=15: on social security?

NATSPAC N=24 on the space exploration program?

Racial Liberalism

BUSING N=17 GSS: In general, do you favor or oppose the busing of (Negro/Black/African-American) and white school children from one school district to another?

RACOPEN N=17 GSS: Suppose there is a community-wide vote on the general housing issue. There are two possible laws to vote on. Which law would you vote for? A. One law says that a homeowner can decide for himself whom to sell his house to, even if he prefers not to sell to (Negroes/Blacks/African-Americans). B. The second law says that a homeowner cannot refuse to sell to someone because of their race or color.

RACDIF2 N=14 GSS: On the average (Negroes/Blacks/African Americans) have worse jobs, income, and housing than white people. Do you think these differences are... Because most (Negroes/Blacks/African Americans) have less in-born ability to learn?

RACDIF4 N=14 GSS: On the average (Negroes/Blacks/African Americans) have worse jobs, income, and housing than white people. Do you think these differences are... Because most (Negroes/Blacks/African Americans) just don't have the motivation or will power to pull themselves up out of poverty?

VCF0816 N=8 NES: Some people say that the government in Washington should see to it that white and Negro children are allowed to go to the same schools. Others claim that this is not the government's business. Have you been concerned enough about this question to favor one side over the other? [If yes] Do you think the government in Washington should see to it that white and black children go to the same schools, or stay out of this area, as it is none of government's business.

VCF0206 N=15 NES: We'd also like to get your feelings about some groups in American society. When I read the name of a group [Blacks], we'd like you to rate it with what we call a feeling thermometer. Ratings between 50 degrees-100 degrees mean that you feel favorably and warm toward the group; ratings between 0 and 50 degrees mean that you don't feel favorably towards the group and that you don't care too much for that group. If you don't feel particularly warm or cold toward a group you would rate them at 50 degrees. If we come to a group you don't know much about, just tell me and we'll move on to the next one.

The high correlations between each item and the overall index, shown below in Table A-1, suggest that the individual question items each relate to the broader latent concept of attitudes toward African Americans. The average correlation between each item and the overall index is $r = 0.758$. The question items in Kellstedt's (2000) racial policy measure had an average correlation of $r = 0.55$ with the overall index. Adding further confidence to the measure of Racial Liberalism is the fact that the resulting composite series accounts for at least 66 percent of the variance in the individual indicators.

Table A-1: Correlations of Indicators of Attitudes Toward Race with Overall Index

Item	N	Correlation with Index				
		All	College	<H.S.	Elem.	Low Income
Busing	17	0.942	0.916	0.917	0.934	0.866
Open Housing	17	0.995	0.940	0.927	0.915	0.942
Help African Americans	8	0.839	-0.193	0.883	0.858	0.845
Feeling Thermometer	16	0.849	0.878	0.645	0.410	0.764
Ability to Learn	14	0.978	0.864	0.942	0.930	0.924
Motivation	14	0.877	0.728	0.898	0.714	0.682
Pct. variance explained		83.71	69.69	76.05	66.29	71.73

Appendix C

Question Wording: Chapter 3

GSS Mood Index Questions

AFFRMACT N=15 Some say that because of past discrimination, blacks should be given preference in hiring and promotion. Others say that such preference in hiring and promotion of blacks is wrong because it discriminates against whites. What about your opinion – are you for or against preferential hiring and promotion of blacks? If favors: Do you favor preference in hiring and promotion strongly or not strongly? If opposes: Do you oppose preference in hiring and promotion strongly or not strongly?

BUSING N=17 In general, do you favor or oppose the busing of (Negro/Black/African American) and white school children from one school district to another?

CAPPUN N=23 Do you favor or oppose the death penalty for persons convicted of murder?

COURTS N=25 In general, do you think the courts in this area deal too harshly or not harshly enough with criminals?

EQWLTH N=17 Some people think the government in Washington ought to reduce the income differences between the rich and the poor, perhaps by raising the taxes of wealthy families or by giving income assistance to the poor. Others think that the government should not concern itself with reducing this income difference between the rich and poor. Here is a card with a scale from 1 to 7. Think of a score of 1 as meaning that the government ought to reduce the income differences between rich and poor, and a score of 7 meaning the government should not concern itself with reducing income differences. What score between 1 and 7 comes closest to the way you feel?

GUNLAW N=22 Would you favor or oppose a law which would require a person to obtain a police permit before he or she could buy a gun?

HELPBLK N=16 Some people think that (Blacks/Negroes/African Americans) have been discriminated against for so long that the government has a special obligation to help improve their living standards. Others believe that the government should not be giving special treatment to (Blacks/Negroes/African Americans). Where would you place yourself on this scale, or haven't you made up your mind on this?

HELPNOT N=16 Some people think that the government in Washington is trying to do too many things that should be left to individuals and private businesses. Others disagree and think that the government should do even more to solve our country's problems. Still others have opinions somewhere in between. Where would you place yourself on this scale, or haven't you made up your mind about this?

HELPPPOOR N=16 I'd like to talk with you about issues some people tell us are important. Some people think that the government in Washington should do everything possible to improve the standard of living of all poor Americans; they are at point 1 on this card. Other people think it is not the government's responsibility, and that each person should take care of himself; they are at point 5. Where would you place yourself on this scale, or haven't you made up your mind on this?

HELPSICK N=16 In general, some people think that it is the responsibility of the government in Washington to see to it that people have help in paying for doctors and hospital bills. Others think that these matters are not the responsibility of the federal government and that people should take care of these things themselves. Where would you place yourself on this scale, or haven't you made up your mind on this?

RACOPEN N=17 Suppose there is a community-wide vote on the general housing issue. There are two possible laws to vote on. One law says that a homeowner can decide for himself whom to sell his house to, even if he prefers not to sell to Negroes/Blacks/African Americans. The second law says that a homeowner cannot refuse to sell to someone because of their race and color. Which law would you vote for?

TAX N=18 Do you consider the amount of federal income tax which you have to pay as too high, about right, or too low?

Spending Stem: We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount.

NATARMS N=24 Are we spending too much, too little, or about the right amount on the military, armaments, and defense?

NATARMSY N=15 Are we spending too much, too little, or about the right amount on national defense?

NATCITY N=24 Are we spending too much, too little, or about the right amount on solving the problems of big cities?

NATCITYY N=15 Are we spending too much, too little, or about the right amount

on assistance to big cities?

NATEDUC N=24 Are we spending too much, too little, or about the right amount on improving the nation's education system?

NATEDUCY N=15 Are we spending too much, too little, or about the right amount on education?

NATENVIR N=24 Are we spending too much, too little, or about the right amount on improving and protecting the environment?

NATENVIY N=15 Are we spending too much, too little, or about the right amount on the environment?

NATFARE N=24 Are we spending too much, too little, or about the right amount on welfare?

NATFAREY N=15 Are we spending too much, too little, or about the right amount on assistance to the poor?

NATHEAL N=24 Are we spending too much, too little, or about the right amount on improving and protecting the nation's health?

NATHEALY N=15 Are we spending too much, too little, or about the right amount on health?

NATMASS N=15 Are we spending too much, too little, or about the right amount on mass transportation?

NATRACE N=24 Are we spending too much, too little, or about the right amount on improving the conditions of blacks?

NATRACEY N=15 Are we spending too much, too little, or about the right amount on assistance to blacks?

NATROAD N=15 Are we spending too much, too little, or about the right amount on highways and bridges?

NATSOC N=15 Are we spending too much, too little, or about the right amount on social security?

NATSPAC N=24 Are we spending too much, too little, or about the right amount on the space exploration program?

NATSPACY N=15 Are we spending too much, too little, or about the right amount on space exploration?

ANES Mood Index Questions

VCF0839 N=11 Some people think the government should provide fewer services, even in areas such as health and education, in order to reduce spending. Other people feel that it is important for the government to provide many more services even if it means an increase in spending. Where would you place yourself on this scale, or haven't you thought much about this? (7-POINT SCALE SHOWN TO R)

VCF0843 N=11 Some people believe that we should spend much less money for defense. (1996: Suppose these people are at one end of a scale, at point 1.) Others feel that defense spending should be greatly increased. (1996: Suppose these people are at the other end, at point 7.) Where would you place yourself on this scale or haven't you thought much about this? (7-POINT SCALE SHOWN TO R)

Spending Stem: If you had a say in making up the federal budget this year, for which programs would you like to see spending increased and for which would you like to see spending decreased: Should federal spending on [ITEM] be increased, decreased or kept about the same?

VCF0887 N=8 Child care

VCF0888 N=7 Dealing with crime

VCF0890 N=9 Public schools

VCF0892 N=5 Foreign aid

VCF0894 N=6 Welfare programs

VCF9046 N=8 Food Stamps

VCF9047 N=9 Improving and protecting the environment

VCF9048 N=6 Science and technology/Space and scientific research/ the space program

VCF9049 N=10 Social Security

VCF9050 N=6 Programs that assist blacks

ANES Political Information Index Questions

VCF0729: Do you happen to know which party had the most members in the House of Representatives in Washington before the election (this/last) month? Which one?

VCF9036: Do you happen to know which party had the most members in the U.S. Senate before the election this/last month? Which One?

VCF0549: Some people believe that we should spend much less money on defense. Others feel that defense spending should be greatly increased. And, of course, other people have opinions somewhere in between. Where would you place the Democratic Party on this scale?

VCF0550: Where would you place the Republican Party on this scale?

VCF0541: Some people think the government should provide fewer services, even in areas such as health and education, in order to reduce spending. Other people feel that it is important for the government to provide many more services even if it means an increase in spending. Where would you place the Democratic Party (on this scale)?

VCF0542: Where would you place the Republican Party (on this scale)?

VCF0517: Some people feel that the government in Washington should make every possible effort to improve the social and economic positions of blacks. Others feel that the government should not make any special effort to help blacks because they should help themselves. Where would you place the Democratic Party (on this scale)?

VCF0518: Where would you place the Republican Party?

VCF0503: We hear a lot of talk these days about liberals and conservatives. I'm going to show you a seven-point scale on which the political views that people hold are arranged from extremely liberal to extremely conservative. Where would you place the Democratic Party (on this scale)?

VCF0504: Where would you place the Republican Party?

VCF0513: Some people feel that the government in Washington should see to it that every person has a job and a good standard of living. Others think the government should just let each person get ahead on his/her own. And, of course, some other people have opinions in between. Where would you place the Democratic Party (on this scaler)?

VCF0514: Where would you place the Republican Party?

VCF0508: There is much concern about the rapid rise in medical and hospital costs. Some feel there should be a government insurance plan which would cover all medical and hospital expenses. Others feel that medical expenses should be paid by individuals, and through private insurance like Blue Cross. Where would you place the Democratic Party on this scale?

VCF0509: Where would you place the Republican Party?

VCF0050b: Respondent's general level of information about politics and public affairs seemed:

Bibliography

- Aidt, Toke S. 2000. "Economic Voting and Information." *Electoral Studies* 19:349–362.
- Aldrich, John, John L. Sullivan and Eugene Borgida. 1989. "Foreign Affairs and Issue Voting: Do Presidential Candidates "Waltz Before a Blind Audience?"." *American Political Science Review* 83:123–141.
- Althaus, Scott L. 2003. *Collective Preferences in Democratic Politics*. United Kingdom: Cambridge University Press.
- Alvarez, R. Michael and John Brehm. 2002. *Hard Choices, Easy Answers*. Princeton, NJ: Princeton University Press.
- Bartels, Larry M. 1994. "The American Public's Defense Spending Preferences in the Post-Cold War Era." *Public Opinion Quarterly* 58:479–508.
- Bartels, Larry M. 2005. "Economic Inequality and Political Representation." Unpublished Manuscript, Princeton University.
- 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.
- Berinsky, Adam J. 2004. *Silent Voices: Public Opinion and Political Participation in America*. Princeton: Princeton University Press.
- Berinsky, Adam J. and Donald R. Kinder. 2006. "Making Sense of Issues Through Media Frames: Understanding the Kosovo Crisis." *Journal of Politics* 68:640–656.
- Binkley, James K. and Carl H. Nelson. 1988. "A Note on the Efficiency of Seemingly Unrelated Regression." *The American Statistician* 42:137–139.
- Campbell, Angus, Philip E. Converse, Warren E. Miller and Donald E. Stokes. 1960. *The American Voter*. New York: Wiley.
- Conover, Pamela Johnston, Stanley Feldman and Kathleen Knight. 1986. "Judging Inflation and Unemployment: The Origins of Retrospective Evaluations." *Journal of Politics* 48:565–588.
- Conover, Pamela Johnston, Stanley Feldman and Kathleen Knight. 1987. "The Personal and Political Underpinnings of Economic Forecasts." *American Journal of Political Science* 31:559–583.
- Conover, Ted. 1984. *Rolling Nowhere: Riding the Rails with America's Hoboes*. New York: Viking Press.

- 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. 1974. Some Priority Variables in Comparative Electoral Research. In *Electoral Behavior: A Comparative Handbook*, ed. Richard Rose. New York: Free Press.
- Converse, Philip E. 1990. Popular Representation and the Distribution of Information. In *Information and Democratic Processes*, ed. John A. Ferejohn and 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.
- DeBoef, Suzanna and Jim Granato. 1997. "Near-integrated Data and the Analysis of Political Relationship." *American Journal of Political Science* 41:619–640.
- DeBoef, Suzanna and Paul M. Kellstedt. 2004. "The Political (and Economic) Origins of Consumer Confidence." *American Journal of Political Science* 48:633–649.
- Delli Carpini, Michael X. and Scott Keeter. 1996. *What Americans Know About Politics and Why it Matters*. New Haven: Yale University Press.
- Downs, Anthony. 1957. "An Economic Theory of Political Action in a Democracy." *Journal of Political Economy* 65:135–150.
- Druckman, James N. 2005. "Does Political Information Matter." *Political Communication* 22:515–519.
- Druckman, James N. and 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 and Christopher Anderson. 2000. "Heterogeneity in Perceptions of National Economic Conditions." *American Journal of Political Science* 44:635–652.
- Durr, Robert H. 1993. "What Moves Policy Sentiment?" *American Political Science Review* 87:158–170.
- Eisenhower, Dwight D. 1961. "Farewell Radio and Television Address to the American People." *The Dwight D. Eisenhower Library* .

- Ellis, Christopher R., Joseph Daniel Ura and Jenna Ashley Robinson. 2006. "The Dynamic Consequences of Nonvoting in American National Elections." *Political Research Quarterly* .
- Entman, Robert M. 2004. *Projections of Power*. Chicago: University of Chicago Press.
- Erikson, Robert S., Michael B. MacKuen and James A. Stimson. 2002. *The Macro Polity*. New York: Cambridge University Press.
- Ferejohn, John A. and James H. Kuklinski. 1990. Introduction. In *Information and Democratic Processes*, ed. John A. Ferejohn and James H. Kuklinski. Chicago: University of Illinois Press.
- Franklin, Charles H. 1989. "Estimation across data sets: Two-stage auxiliary instrumental variables estimation (2SAIV)." *Political Analysis* 1:1–24.
- Gamson, William A. and Andre Modigliani. 1987. The Changing Culture of Affirmative Action. In *Research in Political Sociology, Vol.3*, ed. R. A. Braungart. Greenwich: JAI Press pp. 137–177.
- Gilens, Martin. 1995. "Racial Attitudes and Opposition to Welfare." *Journal of Politics* 57:994–1014.
- Gilens, Martin. 1999. *Why Americans Hate Welfare*. Chicago: University of Chicago Press.
- Gilens, Martin. 2001. "Political Ignorance and Collective Policy Preferences." *American Political Science Review* 95:379–396.
- Gilens, Martin. 2005. "Inequality and and Democratic Responsiveness." *Public Opinion Quarterly* 69:778–796.
- Glynn, Carroll J., Susan Herbst, Garrett J. O'Keefe, Robert Y. Shapiro and Mark Lindeman. 2004. *Public Opinion*. Boulder, CO: Westview Press.
- Goldstein, Joshua S. 1992. "A Conflict-Cooperation Scale for WIES Events Data." *The Journal of Conflict Resolution* 36:369–385.
- Goldstein, Joshua S. and John R. Freeman. 1990. *Three-Way Street: Strategic Reciprocity in World Politics*. Chicago: University of Chicago Press.
- Haidt, Jonathan. 2001. "The Emotional Dog and its Rational Tail: A Social Intuitionist Approach to Moral Judgment." *Psychological Review* 108:814–834.
- Hallin, Daniel. 1984. "Vietnam and the Myth of the Oppositional Media." *Journal of Politics* 46:1–24.

- Hartley, Thomas and Bruce Russett. 1992. "Public Opinion and the Common Defense: Who Governs Military Spending in the United States?" *American Political Science Review* 86:905–915.
- Hill, Kim Quaile and Patricia Hurley. 1999. "Dyadic Representation Reappraised." *American Journal of Political Science* 43:109–137.
- Holbrook, Thomas M. and James C. Garand. 1996. "Homo Economist? Economic Information and Economic Voting." *Political Research Quarterly* 49:351–375.
- Iyengar, Shanto. 1990. "Framing Responsibility for Political Issues: The Case of Poverty." *Political Behavior* 12:19–40.
- Jacoby, William G. 2000. "Issue Framing and Public Opinion on Government Spending." *American Journal of Political Science* 44:750–767.
- Jentleson, Bruce W. and Rebecca L. Britton. 1998. "Still Pretty Prudent: Post-Cold War American Public Opinion on the Use of Military Force." *Journal of Conflict Resolution* 42:395–417.
- Kahneman, Daniel. 2003. "A Perspective on Judgment and Choice." *American Psychologist* 58:697–720.
- Keele, Luke and Suzanna DeBoef. 2004. "Not Just for Cointegration: Error Correction Models with Stationary Data." Unpublished Manuscript.
- Kellstedt, Paul M. 2000. "Media Framing and the Dynamics of Racial Policy Preferences." *American Journal of Political Science* 44:245–260.
- Kelly, Nathan J. 2004. "Does Politics Really Matter? Policy and Government's Equalizing Influence in the United States." *American Politics Research* 32:264–284.
- Kelly, Nathan J. 2005. "Political Choice, Public Policy, and Distributional Outcomes." *American Journal of Political Science* 49:865–880.
- Klein, G. 1998. *Sources of Power: How People Make Decisions*. Cambridge, MA: MIT Press.
- 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. and 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.
- Lazarsfeld, Paul F., Bernard R. Berelson and Hazel Gaudet. 1948. *People's Choice: How the Voter Makes Up His Mind in a Presidential Campaign*. 1st ed. New York: Columbia University Press.

- Lupia, Arthur and 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. 1990. "Explaining Political Sophistication." *Political Behavior* 12:331–361.
- McClosky, Herbert, Paul J. Hoffman and Rosemary O'Hara. 1960. "Issue Conflict and Consensus Among Party Leaders and Followers." *American Political Science Review* 54:406–427.
- Page, Benjamin I. and Robert Y. Shapiro. 1983. "Effects of Public Opinion on Policy." *American Political Science Review* 77:175–190.
- Page, Benjamin I. and Robert Y. Shapiro. 1992. *The Rational Public: Fifty Years of Trends in Americans' Policy Preferences*. Chicago: University of Chicago Press.
- Parker-Stephen, Evan and Micahel B. MacKuen. 2005. "Class Competence in the American Public." Paper presented at Midwest Political Science Association 2005.
- Popkin, Samuel L. 1991. *The Reasoning Voter: Communication and Persuasion in Presidential Campaigns*. Chicago: University of Chicago Press.
- Price, Vincent and John Zaller. 1993. "Who Gets the News? Alternative Measures of News Reception and Their Implications for Research." *Public Opinion Quarterly* 57(2):133–164.
- Rajmaira, Sheen and Michael D. Ward. 1990. "Evolving Foreign Policy Norms: Reciprocity in the Superpower Triad." *International Studies Quarterly* 34:457–475.
- Samuelson, William and Richard Zeckhauser. 1988. "Status Quo Bias in Decision Making." *Journal of Risk and Uncertainty* 1:7–59.
- Saris, Willem E. and Paul M. Sniderman. 2004. Introduction. In *Studies in Public Opinion*, ed. Willem E. Saris and Paul M. Sniderman. Princeton: Princeton University Press.
- Schlozman, Kay L., Benjamin I. Page, Sidney Verba and Morris Fiorina. 2005. "Inequalities of Political Voice." APSA Task Force on Inequality and American Democracy.
- Schneider, Sandra A. and William G. Jacoby. 2005. "Elite Discourse and American Public Opinion: The Case of Welfare Spending." *Political Research Quarterly* 58:367–379.
- Sniderman, Paul M. 1993. The New Look of Public Opinion Research. In *Political Science: The State of the Discipline II*, ed. Ada W. Finifter. Washington, DC: The American Political Science Association.

- Sniderman, Paul M. and John Bullock. 2004. A Consistency Theory of Public Opinion and Political Choice: The Hypothesis of Menu Dependence. In *Studies in Public Opinion*, ed. William E. Saris and Paul M. Sniderman. Princeton: Princeton University Press.
- Sniderman, Paul M., Richard A. Brody and Philip E. Tetlock. 1991. *Reasoning and Choice: Explorations in Political Psychology*. Cambridge: Cambridge University Press.
- Soroka, Stuart N. and Christopher Wlezien. 2006. "Heterogeneity and Homogeneity in Opinion-Policy Dynamics." Paper presented at the annual meeting of the American Political Science Association, Philadelphia, PA.
- Soroka, Stuart N. and Christopher Wlezien. 2007. "On the Limits to Inequality in Representation." Unpublished Manuscript.
- Stimson, James A. 1991. *Public Opinion in America: Moods, Cycles, and Swings*. Boulder, CO: Westview Press, 1991.
- Stimson, James A. 1999. *Public Opinion in America: Moods, Cycles, and Swings*. 2nd ed. Boulder, CO: Westview Press.
- 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.
- Stimson, James A., Michael B. MacKuen and Robert S. Erikson. 1995. "Dynamic Representation." *American Political Science Review* 89:543–565.
- Taber, Charles S. and Milton Lodge. 2006. "Motivated Skepticism in the Evaluation of Political Beliefs." *American Journal of Political Science* .
- Ura, Joseph Daniel and Christopher R. Ellis. 2007. "Representative Failure? Reassessing the Political Origins of Inequality in the United States." Unpublished Manuscript.
- Vincent, Jack E. 1979. *Project Theory: Interpretations and Policy Relevance*. Washington, D.C.: University Press of America.
- Witko, Christopher. 2003. "Cold War Belligerence and U.S. Public Opinion Toward Defense Spending." *American Politics Research* 31:379–403.
- Wlezien, Christopher. 1995. "The Public as Thermostat: Dynamics of Preferences for Spending." *American Journal of Political Science* 39:981–1000.

- Wlezien, Christopher. 1996. "Dynamics of Representation: The Case of U.S. Spending on Defense." *British Journal of Political Science* 26:81–103.
- Wlezien, Christopher. 2004. "Patterns of Representation: Dynamics of Public Preferences and Policy." *Journal of Politics* 66:1–24.
- Zaller, John. 1991. "Information, Values, and Opinion." *American Political Science Review* 85:1215–1237.
- Zaller, John. 1996. The Myth of Massive Media Impact Revived: New Support for a Discredited Idea. In *Political Persuasion and Attitude Change*, ed. Diana C. Mutz, Paul M. Sniderman and Richard A. Brody. Ann Arbor: University of Michigan Press.
- Zaller, John and 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.
- Zaller, John and Stanley Feldman. 1992. "A Simple Theory of the Survey Response: Answering Questions and Revealing Preferences." *American Journal of Political Science* 36:579–616.
- 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.
- Zellner, Arnold. 1963. "Estimators for Seemingly Unrelated Regression Equations: Some Exact Finite Sample Results." *Journal of the American Statistical Association* 58:977–992.