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WHO ACCEPTS THE NEWS?:

NEWS COVERAGE OF PRESIDENTIAL CAMPAIGNS,

VOTERS' INFORMATION PROCESSING ABILITY, AND

MEDIA EFFECTS SUSCEPTIBILITY

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WHO ACCEPTS THE NEWS?:
NEWS COVERAGE OF PRESIDENTIAL CAMPAIGNS, VOTERS' INFORMATION PROCESSING ABILITY, AND MEDIA EFFECTS SUSCEPTIBILITY

by

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Dedication

This dissertation is dedicated to God and my parents.

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This dissertation examines the influence of news coverage of presidential campaigns on voters' perception and decision-making about the campaigns and their presidential candidates. In addition, voters' agenda setting and attribute priming susceptibilities to campaign coverage was scrutinized for their relationship with one of the most researched variables in political psychology—information processing ability. First, from the perspective of the large media effects model, this study looked at what campaign issues salient in news stories were also important to voters (agenda setting effect) and how the descriptions about presidential candidates in the news affected voters' criteria for candidate choice (attribute priming effect). Second, this

study hypothesized that despite their strong influence on voters' perception and judgment, they will have different impacts on the voters with different processing abilities. A nonlinear model of media effectiveness in political communication was developed to test such a curvilinear relationship between media effects susceptibility and information processing ability. For these purposes, this study conducted comprehensive content analyses of network television newscasts and survey data analyses of the National Election Studies to compare news content and public opinion regarding the 1992 and 2000 presidential elections.

This study found remarkably strong correlations between campaign issues in the news and voters' national agendas, and between the news descriptions of the presidential candidates and voters' criteria for candidate choice. Concerning the nonlinearity, this study found an inverted U-shaped relationship between media effects susceptibility and information processing ability, which suggests that voters with moderate processing ability are most susceptible to media effects. The results imply that news coverage of presidential campaigns have significant influence on voters' perception about nationally important issues and their image and judgments about the presidential candidates. The finding of a nonlinear relationship between susceptibility and processing ability contributes to the settlement of a long controversy on the inconsistent linear relationship between the two variables. This nonlinearity suggests that processing ability is positively correlated with media

exposure, but not necessarily with accepting media messages. Consequently, from both theoretical and methodological perspectives, this dissertation suggests a need for more rigorous research designs involving nonlinearity and nonadditivity to correctly understand complex media effects.

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CHAPTER 1: INTRODUCTION

The strength of news media effects in political communication has been a subject of much controversy among scholars. After the classic studies of presidential campaigns in the 1940s by the Columbia School researchers (Berelson, Lazarsfeld, and McPhee 1954; Lazarsfeld, Berelson, and Gaudet 1944), political and social scientists have long doubted the existence of large media impacts on voters' attitudes (Klapper 1960; Patterson and McClure 1976; Finkel 1993). Communication scholars, however, have developed various "revived" powerful media effects models through such path-breaking theories as agenda-setting, spiral of silence, cultivation, framing, and priming research (Gamson 1992; Iyengar 1991; Iyengar, Peters, Kinder 1982; McCombs and Shaw 1972; Noelle-Neumann 1993; for an overview, see Severin and Tankard 2001). The recent theoretical development of second-level agenda setting studies also contributed to the detection of significant media effects in political persuasion (e.g., McCombs, Llamas, Lopez-Escobar, and Rey 1997).

Scanning the literature of media effects research, McGuire (1969, 1986) noted several reasons for the early conclusions of the minimal-effects studies. Repeating and summarizing McGuire's insights, Zaller (1996) and Jamieson (2000) also made methodological and theoretical suggestions for detecting sizable news impact on voters' political preferences, including measurement and statistical issues. One of the apparent reasons for the lack of sensitivity in the media effects studies, as

those researchers pointed out, is the measurement error in the key contingent variables for media effects, such as media use and information processing ability (Bartels 1993; Rhee and Cappella 1997; Price and Zaller 1993; Zaller 1992, 1996). Some scholars argue that the underestimation of media effects may stem from the use of self-reports of media exposure as a critical explanatory variable for media effects. (McLeod and McDonald 1985; Price and Zaller 1993; Rhee and Cappella 1997; Zaller 1996)

The real problem of the imprecise measurement of the key variables, however, lies in the fact that the measurement error often obscures the relationship between the key variables, which eventually make it difficult to understand media effectiveness, leading to the conclusion of minimal to negligible media effects (for an overview and discussion, see MacKuen and Coombs 1981; McGuire 1986; Zaller 1996). Even the substantial-to-large effects studies frequently produced inconsistent or mixed results concerning the levels of susceptibility to media effects among the different subpopulations of voters (for overview, see Wanta 1997; Zhu 1997). Despite an impressive amount of effort to clarify the relationship between individuals' susceptibility to news information and their cognitive and psychological characteristics, however, the findings are far from an agreement. While some studies found that higher political knowledge, interest, involvement, attention or education led to higher media effects susceptibility (Erbring et al. 1980; MacKuen and Coombs 1981; Miller and Krosnick 2000; Takeshita 1993; Wanta 1997; Weaver 1977; Zhu

1997), others showed that higher levels of those variables were associated with lower susceptibility to media impacts (Iyengar and Kinder, 1987; Iyengar et al. 1982; Mcleod et al. 1974; Weaver et al. 1981; Winter 1981). Such inconsistent results about the importance of individuals' ability to process political news, and the ad hoc measurement of the key contingent variables have seriously hampered our understanding of the nature of media effectiveness in general and different media effects susceptibilities among individuals of different processing abilities in particular.

The first objective of this dissertation is to test the size of media effects from a perspective of political persuasion. To examine the assumption of large persuasive media effects, this study looks at how news coverage of electoral campaigns and candidates affects voters' perception of important national issues and their criteria for candidate evaluation and selection. Do news media significantly influence what voters think about during the political campaigns? Do news media affect how voters think about their political candidates? Furthermore, do news media provide the criteria on which voters base their political decision-making about their candidates? Answering these questions is a necessary first step toward a full understanding of voters' political information processing and news media effectiveness in the process. This study utilizes the theoretical concepts of agenda setting and priming, which deal with the mass media's cognitive and attitudinal influence on the public's perception about political objects.

The second, but not less important, objective of this dissertation is to clarify the nature of media effects by looking at the relationship between media effects susceptibility and a few key explanatory variables as operationalizations of information processing ability. Who is more susceptible to media influence? Which measurement of information processing ability is most valid and reliable in explaining the different susceptibilities? As an effort to add a detailed account to the big picture of media effectiveness in political persuasion, this dissertation examines the role of processing ability in understanding news information. More specifically, it examines the relationship between voters' ability to process political information (measured in terms of political sophistication, education, political interest, and political involvement) and their agenda setting and priming susceptibility. Data from multiple surveys by the National Election Studies and comprehensive content analyses of network news programs during the 1992 and 2000 presidential campaigns were used to analyze the relationships and evaluate the explanatory power of those concepts as predictors of media effects susceptibility.

A quadratic multinomial regression model was developed to test the nonlinearity and nonadditivity of the relationships. While the conventionally employed linear approach to the problem can only assume a fixed, monotonic relationship between the explanatory and dependent variables, a nonlinear approach can capture dynamic and transforming relationships among the variables according to the different levels of the predictor variables. As a methodological extension, this

paper also analyzed which operationalization of information processing ability is most effective for predicting the relationship.

CHAPTER 2: THEORETICAL BACKGROUND

Powerful Media Effects in Political Communication

The broad disagreement on media effectiveness appears to be due to both theoretical and methodological problems: different concepts of media effects employed, limitations of research design, and measurement error for the key variables. What the Columbia researchers found was contrary to the general belief at the time that campaigns and mass media could dramatically change voters' political preferences and opinions. Confirming the results of the 1940 presidential election study (Lazarsfeld, Berelson, and Gaudet 1944), during the 1948 election campaigns, they also found that media exposure only enhanced voters' predilection for their parties and candidates instead of changing their political preferences (Berelson, Lazarsfeld, and McPhee 1954, ch. 11). Relatively recent studies of the presidential elections in the 1970s (Patterson and McClure 1976) and even in the 1990s (Finkel 1993) also supported the view of the Columbia studies.

Communication scholars, however, began to direct their attention from people's attitudinal and behavioral change to their cognitive change as a response to media exposure. The initial agenda setting study by McCombs and Shaw (1972) triggered a flood of research on how news media influence audiences' learning of information, which provided ample evidence for media's cognitive effects in various contexts, including issue, culture, and geography (Dearing and Rogers 1996). Such a

conceptual focus on media's cognitive effects, however, has always left room for study of subsequent attitudinal and behavioral effects of media exposure. Recently, the evolution of second level agenda setting, framing, and priming studies has contributed to the detection of sizable media effects in political persuasion (Iyengar 1989, 1990; Iyengar, Peters, and Kinder 1982; McCombs, Llamas, Lopez-Escobar, and Rey 1997). To find the true magnitude of the persuasive effects of political communication, methodological efforts also have been made by a few political scientists. By adjusting the measurement error for the key variable of media exposure and devising more precise research designs, some researchers were able to find significantly increased impact of news information on voters' political opinion change (Bartels 1993; Zaller 1992).

The argument for a powerful effects model in political persuasion stems from several basic assumptions. First, it comes from the intuition that mass media, as political information sources, play a critical role in modern representative democracy (e.g., Lippmann 1922). The important role of news media lies in the fact that the press is a "common carrier" of the information about political issues and leaders. Jamieson (2000) attributed an apparent increase in media effects in recent years to the growing magnitude of those effects caused by media prevalence, reduced party impact (Wattenberg 1991, 1996; Greenberg and Page 1997),—although this is still controversial (Keith, Magleby, Nelson, Orr, Westlye, and Wolfinger 1992; Bartels 2000)—and increasing numbers of political independents along with improved

research techniques. Even party politics today heavily depends on mass media, with its messages and images formatted to the media's requirements (Jamieson 2000). Most of all, the fact that "for most, mass media provide the best–and only–easily available approximation of ever-changing political realities" (McCombs and Shaw 1972, 185) is one of the most powerful predictors and preconditions for media's large persuasive impacts.

Second, the belief in large media effects is propelled by the recent tendency of campaign information flow—news media have focused more and more on political candidates' personal qualifications and character, rather than their issue positions and general party politics (Patterson 1978, 2000). Party identification has traditionally been one of the strongest explanatory variables of voters' political decision-making (Lupia 1994; Mondak 1994; Popkin 1994; Sniderman, Brody, and Tetlock 1991), but today's media campaigns highlighting candidates' personal qualities have become a more significant primer that voters are likely to rely on for decision making (Mendelsohn 1996). Media's tendency to personalize issues and focus on individual political actors may also have an effect on the audience by setting political agendas and priming the leadership of the political actors (Iyengar 1991; Krosnick and Kinder 1990; Mendelsohn, 1996; Wattenberg 1991).

Finally, the emergence of minimal or negligible media effects may be, in part, the result of methodological problems (see McGuire 1986). Pointing out the difficulty of detecting hidden media effects, Zaller (1996) proposed a few

methodological solutions to the problem: good measurement of media use, good variation in media content, use of appropriate issues and data sets, and use of appropriate statistical models, which help to detect the hidden media effects of crosscutting messages. Jamieson (2000) noted that the roughly equivalent amounts of opposing campaign communications, mainly caused by media's norm of balance and political stability, merely cancel each other out, hiding significant media impacts on voters. In this sense, by focusing on the different intensities of news coverage between majority and minority perspectives on various political issues, Zaller (1996) found that the more intensive news coverage of the mainstream perspectives clearly drew higher support from the public for those perspectives.

In the field of political communication, it is now generally accepted that news media have significant and substantial impacts although they are frequently hard to detect and may vary depending on media content, measurement issues, research design problems, and so forth. Perse (2001) noted that the media do have effects, but the problem is "to improve our understanding of media effects by refining our theoretical explanations of the process by which media effects occur." (p. 1) The fundamental purpose of the current study is to do this refining work.

Theoretical Connection of Agenda Setting and Priming

Agenda setting theory asserts, in general, that the more prominently objects are addressed in the news media, the more salient those objects become in the public's

mind. By assuming a positive relationship between the emphasis placed on objects by news media and the perceived importance of those objects among audience members, agenda setting research provides a good theoretical basis for explaining why certain objects stand out in the public's mind and how public opinion is shaped. Thus, issue agenda setting has been treated from a perspective of the social learning or cognitive effect of mass communication: "Individuals learn about the relative importance of issues in society through the amount of coverage the issues receive in news media....In other words, individuals learn how concerned they should be through the amount of coverage the issue receives." (Wanta, 1997, p. 2)

However, traditional agenda setting theory has always implied the consequences of the news media's role of agenda setting in subsequent attitudinal and even behavioral change. In the early 20th century, Lippmann (1922) recognized the persuasive role of mass communication, mentioning that "The very fact that men theorize at all is proof that their pseudo-environments, their interior representations of the world, are a determining element in thought, feeling, and action." (p. 27) In fact, telling survey pollsters that certain issues are socially and politically more important than others is more than just a cognitive answer to the question asking some factual knowledge. It is about the interviewee's attitude toward the issues. In other words, cognitive accessibility of media coverage on issues is not only the driver for the agenda setting effect, but may also involve more complex thinking on the issues. Agenda setting is more about believing than knowing. Interestingly,

Miller and Krosnick (2000) found that agenda setting and priming effects were strongest among the audience members who are politically knowledgeable and believe the news media to be accurate and informative. This finding suggests that those media effects are not just ascribed to issue salience in news media but also to audiences' attitude on the issues, which was moderated by their political knowledge and trust in news media.

The next generation of second level agenda setting research—transmission of an attribute agenda from news media to the audience—has also expanded the traditional cognitive agenda setting effects into the field of the attitudinal effects of mass communication (McCombs, Llamas, Lopez-Escobar, and Rey 1997; McCombs, Lopez-Escobar, and Llamas 2000). News coverage defines an object in terms of its attributes of different salience, and when people think about an object (e.g., political candidates), they will respond to the different salience of the attributes about the object as expressed in news media (e.g., candidates' personal quality or characteristics). In short, while traditional or first-level agenda setting examines how media coverage influences what the public thinks about, attribute or second-level agenda setting concerns the attitudinal dimension of media effects: how the public thinks about it (see Ghanem, 1997). Further, McCombs and Estrada (1997) emphasize the attitudinal and behavioral consequences of attribute agenda setting by noting that "the media may not only tell us what to think about, they may also tell us how and what to think about it, and even what to do about it" (p. 247). Particularly,

in the context of political communication, attributes of political candidates significantly influence voters' attitudes toward them (Kiousis and McCombs 2004; McCombs et al. 2000). In the setting of the 1996 Spanish general election, McCombs et al. (2000) compared voters' descriptions of the candidate and media coverage of the campaigns for two dimensions of attributes: substantive (ideology/issue positions, biographical details, perceived qualifications, integrity, and personality and image) and affective (positive, neutral, and negative). The median correlation coefficient from 21 different comparisons between media's and voters' attribute agendas about candidates was .72. As an effort to directly integrate agenda setting effects with persuasive communication, Kiousis and McCombs (2004) tested the relationship between the media's coverage and the public's attitude strength about 11 political figures during the 1996 presidential election. They rank-ordered and compared the amount of news coverage those political figures received during the election and the nonneutral and polarized positive/negative attitudes about those figures by the respondents of a national sample. They found median correlation values of .81 between the salience of candidates in news media and the nonneutral (or dispersed) attitude strength toward the candidates among voters, and .70 between the media's emphasis of the candidates and the voters' polarized (or extremely positive or negative) attitude strengths about them. Such a convergence of agenda setting and attitude change helps us understand the linkage between cognition and attitude more clearly.

Along with second-level agenda setting, the concept of priming helps fill the gap between voters' cognitions and their attitudinal and behavioral consequences. Priming is generally considered an extension of agenda-setting in that both concepts are mediated by accessibility of a news construct in people's mind (Iyengar and Kinder, 1987; Price and Tewksbury 1997; Semetko, Gurevitch, and Weaver 1991). When news media function as an agenda-setter raising the importance of political issues or campaign agendas among voters, they subsequently influence the criteria by which voters evaluate political actors. That is, news media affect voters' attitudes toward political actors by affecting the way voters process news information. Although audience members who manifest agenda setting effects may not necessarily manifest priming effects, agenda setting is a necessary condition for priming to occur (Miller and Krosnick 2000).

Many priming studies have followed Iyengar and his associates' initial priming study about the news media's effects on the public's political judgment (Iyengar, Peters, and Kinder 1982), refining the priming research under various natural and experimental political circumstances (Iyengar and Kinder 1987; Iyengar and Simon 1993; Krosnick and Brannon 1993; Krosnick and Kinder 1990; Mandelsohn 1996; Miller and Krosnick 2000; Pan and Kosicki 1997; Sherman, Mackie, and Driscoll 1990). Priming is the process in which news media call attention to some issues while ignoring others and thereby influence the standards by which the public judges political figures and issues. For example, Iyengar et al.

(1982) found that the correlations between the overall ratings of President Carter's general performance and the specific ratings of his performance on one of the three problem areas—pollution, inflation, defense—were much stronger for subjects who saw TV news programs emphasizing those issues (a range of .63 to .88) than those exposed to the news neglecting them (a range of .39 to .53). Previous priming studies, however, like the first-level agenda-setting studies, mainly focused on priming effects at an issue or object level. The traditional priming studies deal with the influence of salient issues in news coverage on the weight assigned to those specific issues in voters' political judgments.

Thus, as seen in the conceptual evolution of second-level agenda setting, testing priming effects at an attribute level may be the natural next step. At the attribute level, one study examined how the attribute agenda of a commercial development issue in a local newspaper influenced the newspaper readers' criteria for evaluating the issue (Kim, Scheufele, & Shanahan, 2002). The researchers found that the most salient attributes of the issue in the local newspaper, which were the possible consequences of developing a local park into a commercial center, appeared to be the significant predictors explaining the issue evaluation (pro and con) among the heavy newspaper readers. Although this study examines a non-political issue, the findings clearly showed that news media attend to specific attributes of an issue and thereby influence audience's attitude and judgment about the issue.

The attribute-level agenda setting and priming theories tell us much more about people's information processing than the traditional ones. In fact, the assumed attitudinal and behavioral effects of media content have not been fully explained by the traditional agenda setting and priming assumptions. The attribute agenda setting theory now explains how people think about an object, and furthermore the concept of attribute priming helps us understand how and what people do about it. Thus, applying agenda setting and priming theories at an attribute level in an electoral setting may explain the underlying psychological and behavioral process in political communication. For instance, candidate attributes salient in news media during electoral campaigns will affect not only the importance of those attributes in voters' minds but also the weight ascribed to those attributes when voters decide for whom to vote. As briefly mentioned above, the tendency of news media to emphasize individual political actors rather than 'politics' itself (Patterson 1978, 2000) also strengthens media's impact on voters' decision-making about political candidates (Mendelsohn 1996). Mendelsohn (1996), during the 1988 Canadian election, found that the media's focus on personal characteristics and qualities of candidates led voters to base their voting decision more on candidate evaluations (trust in candidates) than issues and parties. This finding also parallels the arguments by Keeter (1987) and Wattenberg (1991) that candidates have become more important determinants in voters' decision making during the last three decades. Therefore, coupled with the media's increasing tendency to focus on individual political actors,

the question of how candidate attributes in news media as psychological primers influence voters' judgment of candidates has become a crucial point for understanding contemporary political communication. It is also important to note that candidate attribute priming effects can affect the vote itself (e.g., voting intention and candidate choice) as subsequent behavioral consequences of the priming effect.

As an examination of media effectiveness, this study uses the theoretical frameworks of agenda setting and priming. To encompass both levels of effects, traditional agenda setting and attribute priming theories were employed for the analysis of voters' media effects susceptibility. The reason for testing the priming theory at an attribute level is that attribute-level analysis tells us more about voters' information processing than the traditional object-level analysis—voters' ability to process news information will be reflected more accurately at an attribute level than just at an object level. It is reasonable to assume that dealing with the attributes of an object rather than the object itself will require more psychological processing and effort, making the role of information-processing ability (a key variable in this study) more critical. Finally, it is noteworthy that traditional priming studies deal with the media's influence on the audience's criteria for evaluating the general performance of political actors, which tends to emphasize audience members' cognition and attitude toward those political actors. The current study, however, directly tests media influence on voters' criteria for candidate selection, which theoretically

addresses more behavioral dimensions of priming effects. The question employed in this study to find out voters' criteria for candidate selection (Is there anything in particular about *Candidate X* that might make you want to vote for/against him?) strongly suggests that those criteria will influence the respondents' voting behavior.

The Contradictions of News Effects Susceptibility

If news media have sizable agenda setting and priming effects on voters, how can we explain these effects? Quite a number of studies examined such processes by concentrating on the contingent conditions for the effects, including the diverse demographic, psychological, and behavioral characteristics of individuals (Erbring, Goldenberg, and Miller 1980; Hill 1985; Iyengar and Kinder 1987; MacKuen and Coombs 1981; Mcleod, Becker, and Byrnes 1974; Miller and Krosnick 2000; Wanta 1997; Weaver 1977; Zaller 1996; Zhu 1997). Despite the general agreement on the strong effects of news media, however, those studies produced mixed results about what subpopulations of the public are more susceptible to these media impacts in light of those contingent conditions.

Typically, two competing hypotheses about the role of such contingent variables in processing news information have been developed: the attentiveness model and the cognitive framework model. According to MacKuen and Coombs (1981), the attentiveness model predicts that individuals with more education and political interest, representing cognitive ability and attentiveness respectively,

actively seek political information primarily through the easily accessible news media, and thus become more susceptible to the media's effects. In short, higher political attentiveness and cognitive ability lead to higher media exposure, which, in turn, leads to higher media effects susceptibility. Meanwhile, the cognitive framework model predicts that those of higher attentiveness and information-processing ability develop defense mechanisms, making them more resistant against external information from news media, and thus less susceptible to media effects.

Many studies using survey data on public opinion produced results that favor the attentiveness model. Through the basic comparison of media coverage and public opinion in diverse political contexts, researchers found that individuals with more political interest and education were more subject to agenda setting effects of news media than those of low political interest and education (Erbring et al. 1980; Hill 1985; MacKuen and Coombs 1981; Wanta 1997). Similarly, explaining the role of such a motivational concept as political interest in the agenda setting process, Weaver (1977) found that the greater a person's need for orientation—that is, the degree of relevance and uncertainty in politics—the stronger the agenda setting effects of news media. More recently, Zhu and Boroson (1997) showed that issue salience in network television news matched most closely the concerns of audience members with high cognitive ability and income. Wanta (1997) noted,

> "If agenda setting is actually "social learning," then it is apparent from the results here that the most efficient learners are those individuals who are highly educated and who are highly motivated to learn information about important issues because of a high interest in politics. Thus, attitudinal

> motivations, such as interest in politics, and the ability to understand the significance of media coverage are the keys to the agenda-setting process." (p. 57)

Miller and Krosnick (2000) provided a different perspective on the attentiveness model. Whereas most susceptibility studies assume that the cognitive accessibility or salience of an issue is a principal drive for agenda setting and priming effects, Miller and Krosnick explain those effects from a perspective of inference. They found in two experiments that the greatest agenda setting and priming effects occurred among the most politically knowledgeable people who believe news media to be credible information sources. This result suggests that people believe those issues to which media devote attention are important not only because they are cognitively accessible, but also because they believe the news media deal with the issues due to their social importance. Miller and Krosnick argue that agenda setting and priming, therefore, may be a more thoughtful, complex process in which both political knowledge and media trust facilitate a deliberate inference about national problem importance, leading to high susceptibility to news effects.

Despite the substantial support for the attentiveness model of media effects, other susceptibility research supports the contrary hypothesis: the cognitive framework model (Iyengar et al. 1982; Iyengar, Kinder, Peters, and Krosnick 1984; Iyengar and Kinder 1987; Krosnick and Kinder 1990; McLeod et al. 1974; Weaver et al. 1981). In a series of experiments, Iyengar and his colleagues found quite substantial results conforming to the cognitive hypothesis. Iyengar et al. (1982)

demonstrated that the "counterarguers" with high political involvement and more political knowledge were less vulnerable to the agenda setting and priming effects of television news. Similar results for the negative relationship between education and news susceptibility were found in the controlled experiments by Iyengar and Kinder (1987). Through a series of sequential experiments, they concluded that education, which was significantly inter-correlated with partisanship and political involvement, was negatively associated with the agenda setting effects of network television news. However, they did not find any consistent relationship between education and priming effects. Likewise, some survey studies have found smaller agenda setting effects among young voters with high levels of campaign interest and partisanship (McLeod et al. 1974), and less priming susceptibility among those with high levels of political expertise (and presumably high media exposure) (Krosnick and Kinder 1990). Explaining the negative relationship between political expertise and media effects, Iyengar et al. (1982) argued that media attention has different meanings to the audiences of different political expertise: "automatic imprinting among the politically naive; critical deliberation among the politically expert." (p. 856)

Both the cognitive framework and attentiveness models commonly suggest that individuals' information processing cognitive ability, political knowledge, interest and, in many cases, education are important predictors for their media effects susceptibility. Those models, however, focus on two opposite roles of the same key variables: facilitation vs. resistance (e.g., Wanta 1997; Iyengar et al. 1982). High

levels of political knowledge may facilitate news susceptibility just because of corresponding high levels of media attention and information processing ability, but at the same time it may reduce the susceptibility because of increased inner resources or critical ability to resist against news information from outside.

Concerning this contradiction of the facilitation-resistance perspectives, Krosnick and Brannon (1993) suggest a new but still contradictory relationship between media attention and political knowledge. They argue that although media exposure, political interest and political knowledge are positively correlated with each other, they may have opposite effects on media susceptibility. They point out that those who are least interested in and exposed to news messages may not be exposed to a wide range of issues, activated by everyday media coverage, but only to a few "top" stories. Individuals with high levels of political knowledge, on the other hand, might have the ability to process more of the news stories they are exposed to. Thus, the politically knowledgeable experience greater media effects susceptibility because of their greater capability of processing, storing, and retrieving news stories. According to Krosnick and Brannon, however, those with little interest and exposure may also experience greater agenda setting and priming effects because of less issue competition in their heads. Correspondingly, they found that priming effects were stronger among people with high levels of political knowledge, and those of low media exposure and political interest. However, their findings are inconsistent with

past susceptibility studies, which generally found a highly positive relationship between exposure and political knowledge.

Given the difference between the traditional facilitation-resistance model and the new psychological perspective by Krosnick and Brannon, the contradiction about the role of political knowledge remains unresolved because of the assumed positive correlation between political knowledge and media exposure. Consequently, the net media effects can go in any direction when those variables are not controlled for each other. This contradictory role of political knowledge as a predictor of media effects susceptibility provides a possible explanation for the acute inconsistency among the past susceptibility studies.

Social Psychological Perspectives on Media Effects Susceptibility

As the foregoing review suggests, a more comprehensive theoretical explanation about how political persuasion actually occurs is needed to understand the psychological gap of the competing models. Some social psychological approaches help fill the gap. Contemporary media effects scholars are less interested in proving whether or not strong media effects occur than in discovering how media effects actually work. Even in the era of the limited-effects model from the early 1940s through the early 1960s, there were rigorous efforts to analyze different media effects. Particularly, the Yale psychologist Hovland and his associates carried out a series of experiments on the effectiveness of mass communication, including films

and radio messages, in changing attitudes and motivation of U.S. soldiers while working for U.S. Army during World War II (Hovland, Janis, and Kelley 1953; Hovland, Lumsdaine, and Sheffield 1949). After a series of experiments, however, the researchers concluded that a single mass-communicated message would not be successful in changing people's pre-existing attitude and motivation. But, an additional analysis using a more complex experimental design found that a radio message focusing only on one aspect of an issue (one-sided message) was more effective with less-educated audience members while a message dealing with various competing aspects (two-sided message) was more effective with better-educated audience members in changing their attitude toward the issue–duration of the war (Hovland et al. 1949). The researchers' psychological justifications for these results were that highly logical arguments had a greater influence on people with greater intellectual ability to draw valid inferences, whereas illogical or unsupported arguments had a greater influence on people with less intellectual ability to criticize the argumentation.

The Yale researchers, however, did not always find a consistent relationship between intellectual ability and opinion change produced by different types of arguments contained in the communication: "Because of the heterogeneity of the relationships obtained with different [opinion] items, an over-all 'average' relationship between intellectual ability and opinion changes is relatively meaningless since it obscures the separate relations..." (p. 267). But, this classic

experiment suggests that changing attitude or opinion is not just positively associated with exposure to mass communication, but rather contingent on message types and audience characteristics, including the level of education. That is, simple exposure to mass communication would not be a sufficient predictor for an audience's cognitive and attitudinal change unless we understand the psychological characteristics of the audience (Katz 1960; Weaver 1977). More importantly, this study opened the possibilities for both attentiveness and cognitive framework hypotheses. In later studies, Hovland and his colleagues more clearly pointed out that the relationship between intellectual ability and persuasion is not monotonic but may change depending on various audience and communication characteristics (Hovland et al. 1953):

> In light of these two hypotheses the seemingly contradictory findings which have been cited are not necessarily inconsistent...The various predispositional factors associated with intellectual ability are presumably intercorrelated to a high degree, and most persuasive communications in our society seem to contain mixed characteristics. Consequently, in order to predict the effectiveness of communications for audiences of high, low, or mixed intellectual ability, an elaborate weighting scheme would be required. This in turn would presuppose an elaborate set of propositions concerning the interactions among the various skill and capacity factors as a function of various patterns of communication characteristics." (p. 183)

The assumption that the relationship between intellectual ability and persuasion is not monotonic but varied was further made explicit by later models of persuasion, such as the Elaboration Likelihood Model (ELM). Social psychologists Petty and Cacioppo (1986) developed the ELM of persuasion by reconciling typical

information processing models: for instance, heuristic vs. systematic processing (Chaiken, Liberman, and Eagly 1989) and on-line vs. memory-based processing (Hamiliton, Katz, and Leirer 1980; Hastie and Park 1986). All these models in common try to understand how people acquire and process information about an object, form impressions of it, retrieve the information about it, and make decisions about it, which is broadly called information processing theory. Most importantly, these models assume that processing ability along with motivation plays a crucial role in information processing.

In general, memory-based information processing "involves the retrieval and integration of specific information about some target from memory prior to rendering an evaluation" while on-line processing occurs on the spot "as relevant information is encountered." (McGraw, Lodge, and Stroh 1990, p. 42) Thus, memory-based information processing involves more cognitive efforts than on-line processing, in which people, "natural cognitive misers," simply retrieve an "evaluation counter" or "judgment tally"—so called inferential rules or schemas—from memory, update the counter, store the update in memory, and forget the actual evidence that contributed to the attitude change (Lodge, McGraw, and Stroh 1989; Lodge, Steenbergen, and Brau 1995). A schema, which is used for processing and retrieving information, is "a cognitive structure consisting of organized knowledge about situations and individuals that has been abstracted from prior experiences." (Graber 1988, p. 28) For instance, in the memory-based model of a voting decision, when encountering a

persuasive communication about a political candidate, voters bring all relevant information from the long-term memory into working memory to reach some decisions on the candidate, while, in on-line processing, some cognitive shortcuts, such as party identification, may instantly operate to make a judgment (Lau, 1995).

Similarly, Chaiken et al. (1989) described two competing information processing models: heuristic and systematic processing. Heuristics are inferential strategies that assume the need to reduce information. Thus, in heuristic processing, people try to use some inferential shortcuts such as specific candidate images, for example, to make decisions about political candidates while, in systematic processing, they tend to carry out more effortful cognitive activity to make decisions. In short, a relatively clear dichotomy can be drawn from the information processing literature. Both memory-based and systematic processing account for attitude change as part of serious cognitive effort and motivation. In contrast, on-line and heuristic processing account for attitude change as a result of situational factors or simple decision rules rather than thoughtful consideration. According to Petty and Cacioppo (1986), there are also two broad "routes to persuasion": *central* and *peripheral* routes. The central route to persuasion is involved when elaboration likelihood, which is "the extent to which a person carefully thinks about issue-relevant information" (p. 7), is relatively high. Thus, through the central route, persuasion is achieved through extensive scrutiny of the information contained in the communication. The peripheral route, on the other hand, is involved when

elaboration likelihood is low and persuasion through the peripheral route is usually achieved by simple heuristic principles, such as communicator credibility, communicator likability, or consensus about the communicator's message.

One of the strengths of the ELM, however, is that it reconciles these competing information processing methods by posting a continuum rather than dichotomizing them as separate processing systems. That is, attitude change can take place at any point along the continuum from central to peripheral routes. Particularly, the flexibility of the ELM greatly contributes to the assumption of the nonmonotonic relationship between processing ability and media effects susceptibility. ELM suggests that the attentiveness and cognitive framework models may not necessarily contradict each other. From the continuum perspective of ELM, when encountering a mass-communicated message, a receiver's degree of elaboration may continuously vary according to his or her motivation to engage in issue-relevant thinking or "need for cognition" and his or her ability, which is operationalized as prior knowledge about the issue (O'Keefe 1990). In general, the higher the receiver's elaboration motivation and ability, the more likely he or she is to engage in issue-relevant thinking or take the central routes, and the lower the receiver's elaboration, the more likely he or she is to use heuristics or take the peripheral routes (Cacioppo, Petty, and Sidera 1982; Petty and Cacioppo 1979; Petty, Cacioppo, and Goldman 1981; Petty, Cacioppo, and Schumann 1983).

In terms of persuasion, however, the relationship between elaboration likelihood and processing routes does not necessarily mean that message receivers who carefully engage in issue-relevant thinking (high elaboration) are more likely to be affected by the message because those receivers with high motivation and processing ability are better able to generate counterarguments. Such an assumption may not be true in some cases because various relevant factors, such as strength of arguments, also may affect persuasion: "increasing the strength of a counterattitudinal message's arguments will enhance persuasion for receivers with extensive knowledge but will presumably have little effect on receivers with less extensive knowledge" (O'Keefe 1990, p. 102). Thus, as Hovland's studies suggest, increasing the strength of a counterattitudinal message's argument will have more impact on audience of high processing ability but presumably have less influence on those with low processing ability (Wood 1982; Wood and Kallgren 1988; Wood, Kallgren and Preisler 1985). Similarly, people of high interest and motivation (who take the central route) are more affected by high-quality argument while people of low interest and motivation (who take the peripheral route) are more persuaded by low-quality argument (Petty and Cacioppo 1979; Burnkrant and Unnava 1989). Thus, it is difficult to predict who will be most susceptible to the "average" mass media message without controlling media content and receivers' cognitive and psychological characteristics.

In ELM, the availability of information is a necessary, but not sufficient, condition for attitude change. Motivation and ability to engage in elaboration are also required in order for the encountered information to influence receivers' attitudes. This position corresponds with the findings by Hovland: receivers' motivational construct and processing ability may facilitate understanding of cognitively complex messages but simultaneously develop resistance against illogical arguments. And these two seemingly contradictory roles of motivation and ability in persuasion also parallel the facilitation-resistance literature.

In sum, considering the different information-processing routes taken, contingent on various receivers' characteristics and types of arguments contained in a message, the relationship between information-processing ability and message impact, which is the main focus in this dissertation, is expected to be nonmonotonic rather than simply linear. Some people may take more central routes while others take more peripheral routes to process the same information—this is, especially, true when we do not control the content of communication, as in this study, which uses unmanipulated news stories and survey data. In this sense, the ELM helps reconcile the inconsistency between the two competing susceptibility literatures by providing the possibility for the variation of persuasiveness among people of different processing abilities and motivations.

Beyond the Contradiction: A Distinctive Filter Model

Methodological differences in the susceptibility studies also partly contribute to the inconsistency of these studies. Many survey studies have produced results in favor of the attentiveness model (e.g., Erbring et al. 1980; Wanta 1997; Weaver 1977; Zhu 1997) whereas experimental studies have findings supporting the cognitive framework model (e.g., Iyengar et al. 1982; Iyengar et al. 1984; Iyengar and Kinder 1987; Krosnick and Kinder 1990).

Earlier, McGuire (1968) provided a clue for understanding this divergence. Media exposure, no matter how small, is a necessary precondition for the subsequent media effects to occur, but certainly not a sufficient condition for opinion change (McGuire 1986; Petty and Cacioppo 1986; Price and Zaller 1993). McGuire (1968) noted that self-esteem, intelligence, and freedom from anxiety are positively correlated with attention, but negatively correlated with opinion change. That is, in media effect situations, individuals with low self-esteem, for example, are less attentive to media content, but more easily persuaded by it. Thus, those low in self-esteem may be influenced by news media only if they are exposed to enough of it. This model may provide an explanation for the fact that the politically uninterested and unsophisticated were found to be more susceptible to news media effects than the politically sophisticated under experimental settings because even those low in political interest and sophistication were exposed to news messages in an experimental treatment. Meanwhile, survey respondents who have the least interest

and cognitive ability do not experience substantial media exposure, and this may prevent the opportunities to reflect on those messages, leading to low susceptibility.

On the other hand, McGuire's insight on the distinction between exposure and opinion change—receptivity and yielding in his terms—provides a useful tool for understanding media effects as persuasion. According to him, while self-esteem is positively related with receptivity, it is negatively associated with yielding: "In situations where both receptivity and yielding must be considered, then self-esteem would be nonmonotonically related to opinion change." (p. 1150) He explains that those with high self-esteem and intelligence are more susceptible to social influence in the light of "receptivity" (reading or watching news), but less susceptible to the influence in terms of "yielding" (changing opinions). Conversely, individuals with less self-esteem and intelligence are less vulnerable to social influence at the receptive step but more vulnerable at the step of yielding. In sum, he suggested a nonmonotonic relationship between self-esteem and opinion change in which social influence first increases and then decreases as the amount of self-esteem varies from low to high.

Crediting McGuire with his "reception-acceptance model" of attitude change, Zaller (1987, 1992) further elaborated on the relationship between political awareness and attitude change. Zaller (1992) noted that attitude change is a multiplicative function of two separate terms of "reception" and "acceptance":

Prob (Change) = Prob (Reception) * Prob (Acceptance | Reception) (p. 122)

where probability of opinion change is a product of the probability of reception (exposure to and comprehension of the messages) and the probability of acceptance (internalization of the messages, given reception). He explains that as political awareness increases, reception levels tend to increase while acceptance levels tend to decrease. In general, people with more political awareness are more likely to receive news messages mainly owing to their high political interest and attention, and simultaneously less likely to accept the messages because of their more developed critical thinking skills and greater attention to various conflicting messages. People with less awareness have lower probability of reception, but a higher probability of acceptance of mass communication messages due to their lack of interest and of resources for resistance. Consequently, probability of attitude change, which is the reception rate multiplied by the acceptance rate, is highest among the politically half-aware individuals.

In fact, the strength of the reception-acceptance model lies in its capacity for capturing the dynamic relationship between the variables of processing ability and media effects susceptibility. The nonmonotonic model reconciles well the seemingly contradictory results of the susceptibility studies. If we assume a nonmonotonic relationship between the variables, it is no wonder that the linear assumptions about the relationship in the past susceptibility studies could bounce in any direction for either the attentiveness or cognitive framework model. Thus, a statistical model that can detect both linear and nonlinear relationships is necessary to understand media

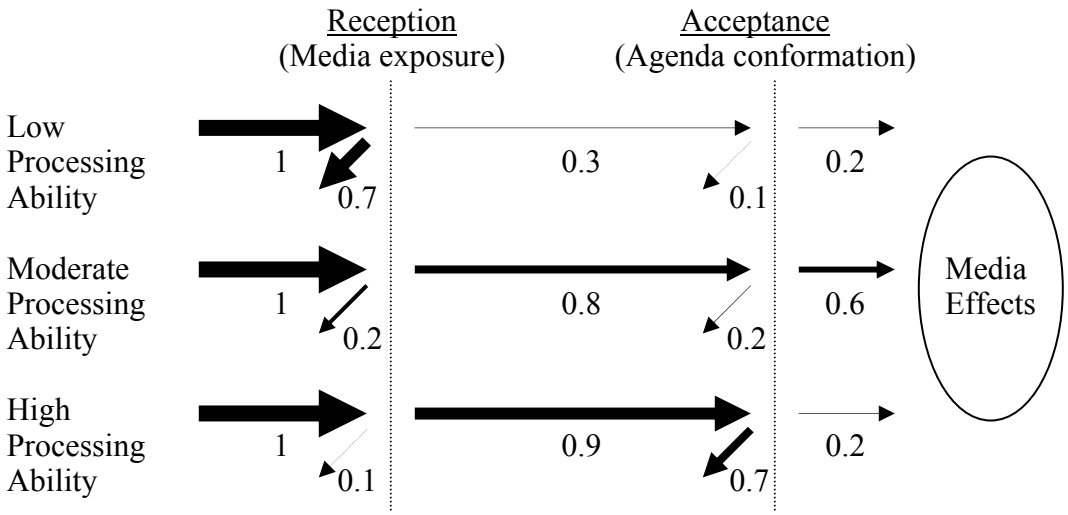
effectiveness among individuals with different cognitive and motivational characteristics.

The complications of the facilitation and resistance perspectives can also be settled in the reception-acceptance model because it merges media exposure and processing ability together into a final media effect product. From the facilitation perspective, the model shows that media exposure is positively correlated with susceptibility, and simultaneously it accommodates the resistance perspective into its framework by assuming a negative relationship between cognitive ability and susceptibility. And finally, it assumes a general positive relationship between media exposure and processing ability, which has been the root cause of the conflicts between the two competing perspectives. The complicated associations among exposure, ability, and susceptibility may be seemingly contradictory. However, synthesizing the two competing models produces a nice accommodation. For a visual explanation to such ostensibly contradictory but practically compatible relationships, here I suggest a *distinctive filter model* in which the two major processes of exposure and attitude change selectively filter out individuals of different levels of information processing ability and media exposure, leading them to different media effects susceptibilities (Figure 1). In this graphic model, which is based on McGuire's and Zaller's reception-acceptance assumption, those with moderate processing ability are more likely to get through the filters of reception and acceptance. Meanwhile, those of low processing ability are thinned out mostly through the reception filter while

those of high processing ability sophistication are filtered out mostly at the acceptance gate.

According to the distinctive filter model, individuals low in sophistication should be less susceptible to media effects because they rarely expose themselves to media messages, which can be attributed to their motivational characteristic: lack of interest in politics. Individuals high in sophistication are also unsusceptible to mass communication effects in that they actively seek information about their concerns; have more opportunities to be exposed to various and even competing/counterarguing messages; develop their own constructs of understanding those messages; and become more resistant to the dominant messages that are inconsistent with their predisposition. That is, the highly sophisticated have enough motivational and cognitive resources to effectively resist the external information from news media. On the other hand, the moderately sophisticated have enough interests in political issues to expose themselves to political news, but do not have enough self-defense mechanism to restructure the information suggested by the news media, thus are most susceptible to media influence. Considering media effects susceptibility as a result of the whole process of receiving, understanding, and accepting messages, the two filters should be considered at the same time to correctly understand the process. Based on this model, this study expects a nonlinear relationship between individuals' information processing ability and their susceptibility to news impacts.

Figure 1. The *Distinctive Filter Model o*f Media Effects Susceptibility



Note. Numbers are hypothetical ones.

The filter model also suggests a need for interaction effect tests among the key variables. The model shows that if individuals of low sophistication encounter media messages (passing through the reception filter), most of them also accept the media's agenda and attributes (passing through the final filter of acceptance). In sharp contrast, even though those of high sophistication who are likely to seek out news messages mostly decline to accept the messages as their own. This means that although media exposure is a precondition for media effects to occur, its impacts on susceptibility may be different according to different levels of sophistication. If this is the case, the effect of the exposure-sophistication interaction should be stronger at lower levels of sophistication. In other words, the relationship between susceptibility and exposure will be stronger among individuals of lower sophistication than among individuals of higher sophistication. By focusing on the moderating role of sophistication in the relationship between susceptibility and exposure, this study also seek to corroborate the psychological assumption of the filter model.

On the other hand, the previously mentioned social psychological models concerning persuasive communication provide theoretical supports for the filter model. They commonly suggest that media exposure is not the sufficient condition for fully understanding audience's media effects susceptibility, but the psychological and cognitive characteristics of the audience members are also crucial in explaining their susceptibility to media messages. Hovland and his associates, for example, focused on the relationship between persuasive communication and individuals'

intellectual ability, which was measured by their level of education. Later information processing models, such as heuristic vs. systematic processing and on-line vs. memory-based processing also emphasize the role of both motivation and cognitive ability in persuasive communication.

Particularly, the ELM model suggests two major factors affecting audience's information processing: motivation and ability to engage in elaboration. Both motivation and ability for engaging in elaboration need to be present in order for persuasive messages to influence audience's attitudes. The messages will have less persuasive effects in either case that the message receiver is not motivated to engage in the issue-relevant thinking or unable to do so (O'Keefe 1990). Put another way, to properly assess persuasive communication effects, both motivational and cognitive factors of audience members should be considered simultaneously. In this sense, the filter model of this study is a theorectical effort to incorporate these two variables in an information processing model. First, the component of media exposure in the filter model is parallel to the motivation factor in the ELM because exposure to political news generally goes hand in hand with interest in politics. Political interest plays an important positive role in determining individuals' attention and perception to the relevant messages (e.g., Weaver 1977). The second component of information processing ability in the filter model is largely compatible with the ability factor of the ELM. In fact, both the ELM studies (e.g., Cacioppo, Petty, and Sidera 1982) and the current study employ the similar operationalization of ability as measured by

one's prior knowledge about relevant issues. In sum, based on these social psychological perspectives about influences on persuasive effects, both the ability and motivation to process information are embedded at the same time into the filter model.

Measuring Political Sophistication

Along with the conceptual confusion about the roles of the key variables, and the methodological disparity, the measurement issue is partly responsible for the inconsistency in susceptibility research. As seen in the previous section, many studies of political communication have examined the relationship between individuals' susceptibility to news information and their cognitive and psychological characteristics, including political attention (Iyengar, Peters, and Kinder 1982; MacKuen and Coombs 1981), political knowledge or awareness (Miller and Krosnick 2000; Zaller 1992, 1996), education (Hill 1985; Iyengar and Kinder, 1987; Wanta 1997, Zhu 1997), political interest (Erbring, Goldenberg, and Miller 1980; Mcleod, Becker, and Byrnes 1974; Wanta 1997; Weaver, Graber, McCombs, and Eyal 1981; Winter, 1981), need for orientation (Weaver 1977; Takeshita 1993), and political participation or involvement (Iyengar and Kinder, 1987). It is notable, however, that those studies employed terminologically different, but operationally very similar, concepts for the individuals' cognitive ability to process news information. These concepts have been mingled with one another and often

considered as identical or interchangeable. For instance, political attentiveness is often measured by interest in politics (MacKuen and Coombs 1981) or political knowledge (Zaller 1992, 1996), political involvement by exposure and attention to political news (Iyengar and Kinder 1987), cognitive ability by education (Zhu 1997), and so forth. Despite the high correlations among those concepts, however, these operationalizations are not identical. Therefore, the key variables should be precisely operationalized and measured to predict the relationships and further clarify overall media effectiveness. In the present research, the term "political sophistication" represents individuals' general ability to process political news, including exposure, and storing, retrieving, and evaluating the information.

The various terminologies for information processing ability employed in the susceptibility studies are characterized generally by three components of information processing: ability, opportunity, and motivation. In fact, political sophistication—cognitive ability in processing sizable and wide-ranged political information in well-organized ways—subsumes all these three determinants (Bennet 1995; Delli Carpini and Keeter 1996; Luskin 1990). The more politically sophisticated, in general, are likely to be more interested in politics, more participatory in political activities, more attentive to political issues, and thus better able to feed their political interests (Luskin, 1990).

Traditionally, one of the variables most frequently used to represent individuals' processing ability is the possibly-related variable of education (Iyengar

and Kinder 1987; MacKuen 1981; Wanta 1997; Zhu and Boroson 1997). Education, to be sure, is positively correlated with political sophistication, but quite imperfectly. Strictly speaking, sophistication is a matter of organized knowledge, but education is a matter of schooling (Luskin and Ten Barge, 1995). In social science, education is defined as credentials and commonly measured in terms of years of schooling, but political sophistication or political cognition is about how much information or training have been provided and absorbed, not about the final grade or degree. It is true that highly-educated individuals know more about politics, but it is also true that individuals with greater cognitive skills have better chances to achieve higher levels of education (Delli Carpini and Keeter, 1996).

There is substantial evidence that the amount of education does not increase sophistication significantly (Bennet 1989; Converse, 1975; Delli Carpini and Keeter 1996; Kinder 1983; Luskin, 1987; Smith 1989). Recently, in a historical or longitudinal regard, Delli Carpini and Keeter (1996) found that during the last five decades, the level of political knowledge in the public overall has remained remarkably stable. The percentage of correct answers has increased by 1 to 15 points on 9 of the 15 questions asking about the public's political knowledge, and for the other 6 items the percentage has decreased by 2 to 10 points. Considering the dramatic increase of formal education during the same period, we have reason to doubt the contribution of education to the increase of political sophistication. Smith (1989) also found that the level of political knowledge in students did not increase as

they move up to higher levels of education. More directly, Luskin (1990) tested the effect of education on political sophistication in his nonlinear simultaneous equation model. In the equation, he demonstrated that political interest and intelligence rather than education are the two strongest predictors of sophistication. He assumes that the effects of education on sophistication in the literature may really come from those of intelligence, occupation and interest, which are contingent on education. To measure the net effects of education on sophistication correctly, he argues, we should partial out the effects of those contingent variables.

In fact, many sophistication studies have measured individuals' levels of sophistication using various combinations of presumably related concepts, such as media use, political interest, political involvement, political knowledge, and ideological construct, as well as education (Judd and Downing 1990; Fiske, Lau, and Smith 1990; Kinder and Sanders 1990; Krosnick and Milburn 1990; McGraw and Pinney 1990; Price and Zaller 1993; Rhee and Cappella 1997; Zaller 1990, 1992, 1996). Education as an explanatory variable, however, has been conventionally popular because it is easy to measure. But its effectiveness as an operationalization of sophistication is doubtful. Thus, this study measures the sophistication levels of the public in a more direct way, analyzing respondents' general knowledge about politics and political ideology.

A counterargument can also be suggested against using the measurement of people's piecemeal knowledge as a surrogate for their political sophistication, which

is a more abstract term for the organized structures of knowledge and procedure. Some scholars have argued that genuine political insights come not only from factual data, many of which are usually stored in short-term memory, but also from individuals' ability to draw inferences based on their factual knowledge, (Graber 2001; Lupia and McCubbins 1998; Popkin 1994). That is, a schoolbook knowledge test does not effectively measure citizens' ability to predict political consequences.

Political knowledge, however, has been one of the most reliable determinants for predicting individuals' political learning (Fiske et al. 1990; McGraw and Pinney 1990; Price and Zaller 1993), attitude (Althaus 1998; Judd and Downing 1990; Kinder and Sanders 1990; Krosnick and Milburn 1990; McGraw and Pinney 1990; Zaller 1990, 1992, 1996), and even behavior (Palfrey and Poole 1987; Zaller 1992, 1996). Price and Zaller (1993) found that prior factual knowledge about political issues was more reliable and effective for estimating individual differences in learning news information across various news topics and types than any other measurements, including media exposure, attention, interpersonal communication, and education. They did not deny the predictive power of education and media use, "But their incremental predictive power is relatively weak, and preexisting levels of general political knowledge clearly offer us the most reliable and parsimonious way of predicting individual differences in likelihood of news reception." (p. 153) This finding is consistent with the claim by Converse (1964) and McGuire (1968) that media exposure is a necessary but not a sufficient condition for political learning and

attitude change. In light of the attitudinal dimension, Althaus (1998) demonstrated that individuals with more factual knowledge showed significant difference in their policy preferences, being more dovish, interventionist on foreign policy, more progressive on social issues, and more conservative on governmental operative issues than those with less knowledge. Behavioral change was also well predicted by political knowledge. Zaller (1996) found that among the variables of self-reported media use, education, and political knowledge, the factual political knowledge scales were most reliable in explaining the tendency of voters' support for the incumbent candidates as campaign news coverage intensified.

Questioning the effectiveness of prior political knowledge as a measure of general cognitive ability, Rhee and Cappella (1997) directly examined the relationship between the measure of factual civic knowledge, and the organized structures of knowledge and procedure, which are presumed to be the core of the concept of schema. In two experimental settings about social and political issues, they demonstrated that the measure of general political knowledge is significantly associated with a developed knowledge structure, which was measured by construct differentiation (or complexity of argument) and argumentative (or elaborative) depth in open-ended responses to questions about the health care reform and the Philadelphia mayoral election. In general, respondents with more accurate political knowledge generated essays with more differentiated constructs and complex arguments than those with less accurate information. The authors remarked, "We

believe that these measures indicate that the political knowledge structures of sophisticates are more complex, integrated, and available for use than is the case for the less sophisticated. Our interpretation of these results is that political sophisticates have more developed political schemes." (p. 32) In addition, they suggested a presumable influence of media exposure on sophistication by concluding that "exposure to news in the experiment increased the participants' abilities to absorb later information...simple measures of exposure may be mediated through attention and knowledge structures so that when motivation and ability are elevated, news media may provide the informational gist for the learning process." (p. 30)

The measurement of political sophistication in this study combines general knowledge about political ideology and political facts. The measurements of political knowledge typically have included question items about ideological positions on issues, candidates, and parties as well as other facts on political issues. In fact, the two dimensions of political sophistication should be reflected in the sophistication measurement because knowledge and ideology are not independent (Campbell, Converse, Miller, and Stokes 1960; Converse 1964; Rhee and Cappella 1997). Converse (1964) noted that a political schema or, in his term, *political belief system* is not just the organization of cognitions, but a systematic structure of political ideology and knowledge. Gant (1985) also describes the role of ideology in political sophistication as a schema, which is "a large unit of knowledge (in long-term memory) that allows an individual to assimilate, evaluate, and retain incoming

information, and which allows relatively smooth retrieval of this information for use in decision-making." (p. 149) To construct the maximally valid measure of political sophistication, Delli Carpini and Keeter (1996) analyzed the National Election Study surveys and developed five-item knowledge indices, including questions asking people's factual and ideological knowledge on politics. The measurement of sophistication in the current research follows Delli Carpini and Keeter's set of knowledge index, which will be dealt with in more detail in the methodology section.

Hypotheses

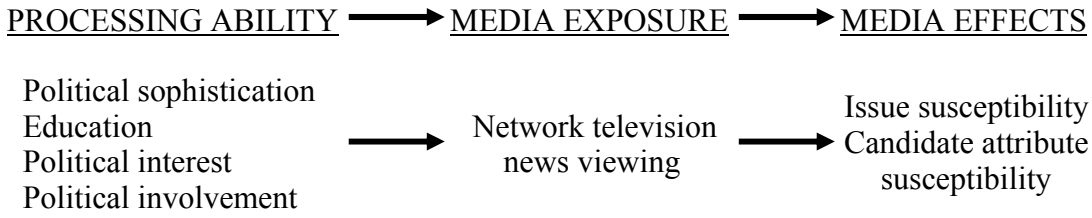
Reviewing the literature of the susceptibility studies leads to the following hypotheses. The key variables specified in these hypotheses, the variables defining the distinctive filter model, also are diagramed in Figure 2.

General hypotheses concerning media effectiveness in changing voters' response to questions about the Most Important Problems and the criteria for evaluating political candidates:

Agenda setting effects

H1: The campaign issue agendas emphasized in news stories of presidential campaigns will also be prominent in the voters' agendas.

Figure 2. Describing the Key Variables of the Hypotheses Based on the Distinctive Filter Model



The issue agenda setting effect has been extensively tested and supported in various regional and national settings from both inside and outside the United States (Dearing and Rogers 1996). News media have consistently influenced the campaign agenda among voters during electoral periods (McCombs and Shaw 1972; Shaw and McCombs 1977; Weaver, Graber, McCombs, and Eyal 1981; Takeshita 1993; Rey Lennon 1998). In general, it is true that the higher the level of an election campaign, such as a presidential election, the greater the amount of news media coverage on the campaign (Dunn, 1995). Particularly, in presidential elections, news media allot huge resources for the campaign coverage and voters become more attentive to campaign news to get relevant information to reach their decision on candidates. Such intensive news coverage of and public attention to presidential elections usually produces very high correlations between news and public agendas. For example, Dalton, Beck, Huckfeldt, and Koetzle (1998) found a mean correlation coefficient of .88 between public interests and campaign issues in a nationally representative group of news papers (46 newspapers) during 1992 presidential election, and the original agenda setting study by McCombs and Shaw found an almost perfect rank-order correlation of +.97 between the salience of the main campaign issues on the local newspaper and their corresponding salience on voters during 1968 presidential election. Thus, considering the social and political importance of the events of presidential elections, this study expects high correspondence between campaign news and voters' concerns.

Attribute priming effects

H2: The attributes of candidates emphasized in the news will influence the criteria that voters consider important when they make voting decisions about those candidates.

The priming literature also provides robust evidence for media's influence on the audience's evaluation criteria for political figures (Iyengar et al. 1982; Iyenar and Kinder 1987; Krosnick and Kinder 1990; Miller and Krosnick 2000). The great amount of coverage of the presidential campaigns by news media not only focuses on the general campaigns, but on the candidates as well. As campaigns progress, more scrutiny is given to the individual political actors by news media. This tendency to highlight political candidates' personal qualities or characteristics (Patterson 1978, 2000) has come to play a more crucial role in voters' decision-making by influencing the standards by which voters reach their decisions about the candidates (Mendelsohn, 1996; Wattenberg 1991). Just as news media affect the importance of certain political issues and campaign agendas among voters, this study also predicts that campaign news describing political candidates influences the criteria by which voters make their candidate selection. Thus, this hypothesis strongly implies that the attribute priming effects reflect the attitudinal and behavioral dimensions of communication effects.

On the other hand, it is notable that in terms of the so-called 'Acapulco' typology of agenda-setting research initially introduced by McCombs (1981) and later elaborated by McCombs, Danielian and Wanta (1995), the current study can be subsumed under the labels of both the 'mass persuasion' and 'cognitive portrait' studies. According to this typology, all agenda setting studies can be sorted into four different categories (mass persuasion or Type I, automaton or Type II, natural history or Type III, and cognitive portrait or Type IV) based on two factors: the type of data (aggregate or individual) and the type of issue (single or multiple issues). The research group of mass persuasion utilizes aggregate data and sets of issues while the studies belonging to the automaton group focus on individual data with sets of issues. Studies in the category of natural history look at single issue and aggregate data whereas cognitive portrait studies examine agenda setting effects with individual data about single issues.

According to this agenda-setting typology, the first two hypotheses about issue-level agenda setting and attribute priming effects can be categorized into mass persuasion because those hypotheses are tested with sets of national issues and candidate attributes and the aggregate-level data from national samples (for details about data, refer to the methodology section). In the third through fifth hypotheses, however, individual data in terms of voters' information processing ability and media exposure, coupled with their agenda setting and priming susceptibilities, were examined. Thus, in sharp contrast to the mass persuasion studies, the last three

hypotheses can be sorted into the cognitive portrait group. In fact, this study is the first agenda setting study to combine both the Type I and Type IV perspectives in a single study using the same data for both. By combining these two research perspectives into a single study, this dissertation can provide various evidences simultaneously for both the big picture and details of the agenda setting effects.

Specific hypotheses concerning voters' susceptibility to agenda-setting and attribute-priming effects, which are contingent on their cognitive and motivational characteristics:

Nonlinearity between agenda setting susceptibility and information processing ability

H3a: Voters with moderate levels of information processing ability are more likely to be susceptible to the agenda setting effect of news media than those at either extreme of the spectrum of information processing ability.

Nonlinearity between attribute priming susceptibility and information processing ability

H3b: Voters with moderate levels of information processing ability are more likely to be susceptible to the attribute priming effect of news media than those at either extreme of the spectrum of information processing ability.

Media exposure is a necessary precondition for media effects to occur and is positively correlated with information processing ability. Processing ability, however, provides communication receivers with well-organized cognitive constructs to process the encountered information and restructure the information based on their own predispositions concerning the information (Althaus 1998; Rhee and Cappella 1997). In general, people with more processing ability are more likely to receive news messages due to their high levels of political interest and attention, but less likely to change attitudes and opinions about the messages because of their well-developed resources for critical thinking and greater attention to conflicting messages from various perspectives. People with less processing ability, however, are more likely to change their opinions based on media messages because of their lack of resources for resistance, but less likely to have an interest in politics and opportunities to receive news in the first place. As seen in the distinctive filter model, individuals with moderate processing ability have enough interest in politics to expose themselves to political news, but do not have enough cognitive resources to restructure the information presented by news media, thus being most susceptible to media agenda setting and priming effects. Assuming that persuasion is the product of media exposure and yielding to the message, this study expects a nonlinear relationship (representing an inverted-U) between individuals' processing ability and their susceptibility to news impacts. More specifically, the mean values of

susceptibility will increase as processing ability increases, but at a certain point of processing ability the susceptibility will decrease as processing ability continues to increase. In other words, the slope of susceptibility is expected to switch from positive to negative at a certain level of processing ability.

Nonadditivity of agenda setting susceptibility, media exposure and information processing ability

H4a: The relationship between agenda setting susceptibility and media exposure will be stronger among those with low information processing ability than those with high information processing ability as the level of media exposure increases.

Nonadditivity of attribute priming susceptibility, media exposure and information processing ability

H4b: The relationship between attribute priming susceptibility and media exposure will be stronger among those with low information processing ability than those with high information processing ability as the level of media exposure increases.

The distinctive filter model suggests such an interaction effect among the key variables. The model implies that those with less processing ability are most likely to accept the media's campaign agenda and candidate attributes, although they are least likely to expose themselves to the messages. In other words, the low media effects

susceptibility among the individuals with low processing ability stems from their low level of media exposure. Those with high processing ability, in contrast, are least likely to accept media's agenda and attributes although they are most likely to access news information. The filter model, therefore, suggests that despite the general positive impact of media exposure on susceptibility, the relationship between media effects susceptibility and media exposure will be nonadditive according to the level of information processing ability. Those with low processing ability will be more influenced by exposure to media coverage as their exposure level increases than those with high processing ability. In short, individuals with poor processing ability will be more sensitive to media exposure in terms of susceptibility than those with high processing ability. This implies that the relationship between susceptibility and media exposure will be more positive among those with low processing ability than among those with high processing ability. Here, along with the nonlinearity test, a nonadditivity or interaction effects test will also help support the psychological explanation of the filter model.

Explanatory power of the predictors for agenda setting susceptibility

H5a: The measurement of political sophistication will be more effective at explaining voters' agenda setting susceptibility than any single measurement of education, political interest, or political involvement.

Explanatory power of the predictors for attribute priming susceptibility

H5b: The measurement of political sophistication will be more effective at explaining voters' attribute priming susceptibility than any single measurement of education, political interest, or political involvement.

Four variables, as conventional surrogates of people's information processing ability, are compared in light of their explanatory power for the agenda setting and priming effects susceptibilities: political sophistication, education, interest in politics, and political involvement. The previous review of the sophistication literature suggests a need for strict operationalization of processing ability to correctly capture media effectiveness in persuasion. To get internal validity in representing processing ability, the concept should contain those qualities of which the general processing ability consists. Therefore, this study expects that voters' political sophistication, which is characterized as their cognitive ability, their political motivation, and corresponding media exposure (Delli Carpini and Keeter 1996; Luskin 1990), will have the most predictive power in explaining those agenda setting and priming influences. Particularly, from the perspective of the *distinctive filter model*, the two major qualities of sophistication (processing ability and media exposure) play crucial roles in understanding the nonlinear relationship of sophistication and susceptibility.

A Polynomial/Multiplicative Regression Model Of Media Effects Susceptibility

A polynomial and multiplicative regression model has been developed to test the major hypotheses about the relationships among the key variables: nonlinearity and nonadditivity. By a polynomial function in a regression model, we mean a nonlinear function (e.g., quadratic, cubic, or other higher order of power functions). With a mulitiplicative (or productive) term, we can test an interaction effect (or nonadditivity) among relevant variables. Such a multiple regression model featuring polynomials and productive terms in it is expressed as follows. This model includes two independent variables on the right side of the equation.

$$Y = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{1i}^2 + \beta_3 X_{2i} + \beta_4 X_{1i} X_{2i} + \beta_5 X_{1i}^2 X_{2i} + u$$

Before further explicating the suggested multiple regression model, it will be useful to explain more about nonlinearity and nonadditivity (for details, see Berry and Feldman 1985). First, nonlinearity is the assumption that for an independent variable (X_{1i}), the amount of change in the mean value of the dependent variable (Y_i) associated with a unit increase in X_{1i}, keeping the other independent variables constant, varies according to the level of the independent variable (X_{1i}). Applying this assumption to the hypothetical relationships among the variables of interest of this study, we can say that the amount of change in voters' susceptibility to the media effects (Y_i) with a unit increase in their processing ability (X_{1i}) varies as the level of processing ability (X_{1i}) goes from low to high. Second, while nonlinearity refers to a situation in which the relationship between the dependent variable and an

independent variable varies according to the levels of that independent variable, nonadditivity indicates a situation in which the relationship between the dependent variable and an independent variable varies with other dependent variables. If the amount of change in the mean value of the dependent variable (Y_i) associated with a unit increase in an independent variable (X_{1i}) varies according to the values of another independent variable (X_{2i}), we can say that the relationship between Y_i and X_{1i} is nonadditive on X_{2i} or interactive with X_{2i}. Again, in the context of the nonadditivity hypotheses of the current study, it is predicted that the change in the amount of media effects susceptibility (Y_i) associated with a unit increase in media exposure (X_{1i}) varies according to the values of another independent variable, processing ability (X_{2i}), which is generally called as a moderator variable.

A typical way to examine nonlinear relationships in the context of multiple regression is to use power polynomials. Nonlinear relationships are represented by the inclusion of terms that raise variable X_i to various powers. The number of power will be decided by the number of bends (or turning points) in the curve that are theoretically expected (e.g., X_i^2 for one bend, X_i^3 for two bends, etc.). In order to test for the presence of a nonlinear function, however, both linear (X_i) and nonlinear (X_i^2 for a quadratic relationship, for example) forms of the relevant variable should be entered in the regression equation because we cannot determine which function is a better fit for the relationship if only the quadratic term is included. If the linear function is not significant but the quadratic function is significant, we can say that

the linear effect (either positive or negative) is cancelled out by the quadratic effect, which has both positive and negative relationships. However, even when both linear and quadratic effects are statistically significant, the relationship still will be nonlinear. In this situation, the quadratic relationship is dominated by either positive or negative effect, and the direction of the dominant effect can be determined by the sign of the linear coefficient. If this is the case, the distribution of the quadratic relationship appears to be more positively or negatively skewed depending on the sign of the linear coefficient. The skewness will be kept to a minimum in the case of a significant quadratic effect along with a nonsignificant linear effect.

The suggested multiplicative model is also applicable when two independent variables (X_{1i} and X_{2i}) are thought to interact in influencing the dependent variable (Y). To check out the nonadditivity, interaction tests among the variables are needed, and nonadditivity among the variables is usually evaluated with the interaction product terms of relevant variables ($X_{1i}X_{2i}$ and $X_{1i}X_{2i}^2$). In the above model, the slope of the relationship between an independent variable (X_{2i}) and the dependent variable (Y) could be related linearly ($X_{1i}X_{2i}$ reflects linearity of the interaction) or nonlinearly ($X_{1i}X_{2i}^2$ reflects nonlinearity of the interaction) related to the value of the other independent variable (X_{1i}). The coefficients of β_4, thus, can be interpreted as the amount of change in the slope of the relationship between X_{2i} and Y associated with a unit increase in X_{1i}. β_5 equals the amount of change in the slope of the relationship between X_{2i} and Y associated with a unit increase in X_{1i}^2. For instance,

when the relationship between X_{2i} and Y is affected by X_{2i}, the possible interaction can be expressed as various linear forms, including, for example, divergent, convergent, transverse, contributory, and contingent interactions (for specific visual examples of the linear interactions, refer to Eveland 1997). When the relationship is affected by X_{2i}^2, however, the subsequent interaction typically can take a logarithmic form because of the quadratic feature of X_{1i}^2 (for a visual example of the nonlinear interaction, see Jaccard, Turrisi, and Wan 1990).

On the other hand, if we replace the general terms of the suggested regression model with the specific variables of interest of this study, the following equation can be modeled. The dependent variable is media effects susceptibility, and the regressors include information processing ability, media exposure, squared processing ability, and their corresponding product terms of interaction.

$$\text{Susceptibility} = \beta_0 + \beta_1 \text{PA} + \beta_2 \text{PA}^2 + \beta_3 \text{ME} + \beta_4 \text{PA*ME} + \beta_5 \text{PA}^2\text{*ME} + u$$

where susceptibility means agenda setting and priming susceptibilities of voters; PA and ME represent processing ability and media exposure respectively; and u is the disturbance or residual error term. Here, processing ability can be replaced with political sophistication, education, political interest, and political involvement to compare their capacities as surrogate variables.

The power polynomials consisting of the processing ability (PA) and the squared processing ability (PA^2) are included to test the hypothesized nonlinear relationship between susceptibility and processing ability. In the nonlinearity

hypothesis of this study, we expect that the relationship between the dependent variable (susceptibility) and an independent variable (processing ability) will be an inverted-U shaped one, which has only one bend in its curve. Thus, raising the variable of processing ability to the second power will properly represent the quadratic relationship between the two variables. The regression coefficients of β_1 through β_5 reflect the influences of PA, PA^2, ME, PA*ME, and PA^2*ME on the change of individuals' susceptibility scores. A linear relationship between processing ability and susceptibility is reflected in β_1 and a quadratic relationship is represented in β_2. From the perspective of the distinctive filter model, the coefficient of PA should have a negative value to reflect the assumed inverted-U curvilinear relationship.

Nonadditivity among the variables is evaluated with the interaction product terms of processing ability, squared processing ability and exposure (PA*ME and PA^2*ME), which show how the relationship between susceptibility and exposure changes according to the levels of processing ability. The interaction also could be a linear (as reflected in the PA*ME) or nonlinear (as reflected in PA^2*ME). β_4 reflects the relationship between ME and susceptibility as moderated by PA, and β_5 indicates the relationship between ME and susceptibility, which is contingent on the quadratic term of processing ability, PA^2. According to the nonadditivity hypotheses, as the level of media exposure increases, susceptibility may not increase at the same proportion depending on the level of processing ability although exposure still

maintains general positive effects on susceptibility. Additionally, such effects of media exposure on susceptibility can be linearly or nonlinearly related to the moderator variable, processing ability.

In sum, the proposed equation is a polynomial/multiplicative regression model, which allows the analysis of the nonmonotonic relationship between processing ability and media effects susceptibility (polynomial function), and determines whether the relationship between susceptibility and exposure is contingent on processing ability (multiplicative function).

CHAPTER 3: METHODOLOGY

Two major methodologies were employed to test the hypotheses: content analysis and survey research. In fact, the original agenda setting study by McCombs and Shaw (1972) made an important methodological contribution to the mass communication literature "by combining content analysis of the media agenda with a survey of the public agenda." (Rogers, Dearing, and Bregman 1993, p. 79) Following this methodological line, this study conducted a comprehensive content analysis of television newscasts along with secondary survey data analysis to compare news content and public opinion during the 1992 and 2000 presidential elections.

The main reason for selecting two recent presidential elections is, first, to ensure reliability of the findings of the current study. Replication is one of the most efficient ways to enhance the explanatory power of proposed hypotheses. Another reason is that the recent National Election Studies (NES) surveys, which are used in this study, contain a significant number of survey questions appropriate for testing the proposed hypotheses (specific survey question items will be described in the following measurement section). Some of the question items concerning voters' political knowledge and their media use and political behavior are not available in the older NES survey data. Particularly, this study focuses on news media coverage of the presidential campaigns in 1992 and 2000 because of the higher campaign intensity and media attention to the campaigns (the 1996 campaign was relatively tepid). Highly contested presidential campaigns usually get more attention from both

news media and voters and, in turn, provide good opportunities to detect the effects of news coverage on voters. The 1992 election was dramatic in that Bill Clinton, an unknown Arkansas governor, emerged from the Democratic primaries and finally defeated the incumbent president Gorge H. Bush by the margin of 5.6 percent (Federal Election Commission 2001). It was remarkable that Clinton was trailing Bush, but all of a sudden jumped to a more than 20 percent point lead in just a few weeks. In 1996, Clinton had an easy time riding the wave of a successful economy. He defeated the Republican candidate Bob Dole by a large margin of 8.5 percent. Accordingly, the average viewership of the 1996 presidential campaign news was the second-lowest since 1960 (Associated Press, Nov. 1, 2000). The 2000 election was so close a competition that the difference of actual votes between the Repulibcan candidate George W. Bush and the Democratic candidate Al Gore was only .5 percent. Such a narrow margin called for "recounting" of the controversial Florida vote and finally the intervention of the U.S. Supreme Court, which conferred the presidency on Bush.

First, for relevant media data, major television network news was content analyzed. Several earlier studies have suggested that television news is the primary source of political information for many American voters. For instance, Patterson and McClure (1976) concluded that television news reached more voters than do newspapers, and Roper (1981) found television news was more and more a key information source about politics among the American people. While print media

play an important role as a news source in political communication by providing voters with a wide range of political information at greater length, television is still a more preferred news source about politics for average Americans (Stanley and Niemi 2002; Pew 2002). Despite the general decrease in news consumption in both print and broadcast media, the average time spent watching television news (28-38 minutes per day) was almost twice as much as time spent on reading the newspaper (15-19 minutes per day) from 1994 through 2002 (Pew 2002). According to Graber (2001), in 1996, 56 percent of a national random sample claimed that television news is their primary news source for the current political events, while only 24 percent mentioned newspaper as their main news source. But, it may be wrong to underestimate the role of print media in political campaigns because the presumable 'political majorities,' such as the educated, older white men, use relatively more print media as prime information sources than the 'political minorities,' such as the young, women, the less educated, and nonwhites (News in the Next Century 1996). For example, the majority of political and economic leaders, such as congressmen, senators, high-level civil servants, and industrial executives use more prestigious newspapers than other news media (Weiss 1974). The current study, however, focused on network newscasts mainly because information accessibility to the American voters is one of the key variables of concern in light of media effects susceptibility. At least, from this position, the importance of focusing on television news as a potential agent of agenda change seems clear. Particularly, this study looks

at the nightly network news simply because it has more viewership than any other format of television news at a national level, including network morning news and network television magazines. As of 2002, for instance, 32 percent of Americans regularly watch the national nightly network news while 24 percent watch network TV magazines and 22 percent watch network morning news (Pew 2002).

Second, to find out public opinion, national political survey data by the National Election Studies (NES) was analyzed. Using secondary data has both advantages and limitations (for a general overview concerning this issue, refer to Becker 1981; Hyman 1972). The primary limitation of secondary analysis is that the original researcher was unaware of the interest of the secondary researcher and, thus, the archived data may not provide the exact data desired by the secondary analyst. And since the secondary researcher was not involved in the initial data-gathering procedures, he or she may not fully understand the procedural details of creating the data, such as sample design, field operation and data input, and the consequential flaws and limitations caused by errors in the procedures. Despite such serious problems in using secondary data, it also provides practical benefits. Besides the convenience of secondary analysis (saving time and other resources), it has its own strength in comparative tests across different cultural and periodic settings, contributing to replicating findings and thus broadening the original inferences. Secondary analysis (especially if it is survey data) also allows us to detect public opinion during important periods of our past, which is impossible with contemporary

primary data. Most of all, secondary analysis has the potential to "change the level of abstraction, seeing the old concept as only a small component of some more abstract, and perhaps more important, social phenomenon." (Becker 1981, p. 242)

The NES data employed in the current study, with special emphasis on U.S. political surveys, provides very consistent and comprehensive information about political cognition, attitude, and behavior of American voters. The election studies are regularly conducted every two years, including presidential election years, and also include a large number of survey questions about the communication behavior of the respondents, including media exposure and media attention according to specific medium. This national survey data can thus be linked to data derived from a large-scale content analysis such as network newscast analysis. In this sense, the NES archive provides excellent data for political communication research in general and presidential election studies from a communication perspective in particular. In sum, this dissertation utilized the NES data because it provides great resources for comparative and replicative research of political communication, and rich relevant question items to detect diverse political and communicative dimensions of American voters.

Media and Public Data

Pilot study of news content analysis. To determine if it is necessary to utilize the news stories from all three major network newscasts, a pilot study concerning the

similarity of news content among them was conducted. Campaign news stories of a constructed week from August of 1992 and 2000 were sampled from *ABC World News Tonight*, *CBS Evening News* and *NBC Nightly News*. The stratified sampling technique of constructed-week-per-month is especially useful for a pilot study, which should preview a large amount of media content. Generally, sampling should take two things into account: sample size and sampling procedure. A series of studies on content analysis sampling by Riffe and Lacy demonstrated that stratification is a more effective technique than simple random sampling or consecutive day sampling across both print and broadcast news (Lacy, Riffe, and Randle 1998; Riffe, Aust, and Lacy 1993; Riffe, Lacy, Nagovan, and Burkum 1996; Lacy, Robinson, and Riffe 1995; Riffe, Lacy, and Drager 1996). Concerning daily newspapers, Riffe et al. (1993) found that one constructed week (7 days) was sufficient in estimating the number of stories for a six-month population and worked more efficiently than even a 21-day simple random sample or 28-day consecutive day sample. Riffe et al. (1996) also examined the effectiveness of stratified sampling in the setting of broadcast news content analysis. They showed that monthly (two days per month, n=24 days a year) and weekly (one week per quarter, n=20 days a year) stratified samplings represented a one-year population more precisely than simple random sampling (25 days a year) in terms of the story number and time devoted to international and economic issues.

Stratification has several strengths. First, it controls the effect of cyclic or periodic variation in news content by assuring that all time units are represented in the sample (e.g. all the different days of the week–Monday through Sunday–have an equal opportunity to be selected in a constructed week sample). Such a process thus may prevent chances of over- or under-representation of certain news. For example, Sunday news reporting may devote more time to sports news due to the abundance of sports events during the weekends, while a Monday newscast may lack news about local government because of its inactivity over the weekend. Second, in the light of measuring valid media effects, stratification also controls the variation in viewership. For example, news on weekdays may have different veiwership from that on weekends. If this is the case, constructed weeks will also represent cyclic variation in audience viewership. Given media exposure as a precondition for media effects to occur, stratification of news sampling in terms of specific time units thus can be a crucial process in detecting "representative" effects of news content on audience.

This sampling technique produced a total of six constructed weeks: a constructed week each for three news programs for two different years. In each constructed week sample, for example, all Mondays in a month are identified and one Monday is randomly selected, all Tuesday are identified and one Tuesday is randomly selected, and so forth until all seven days are equally represented in the constructed week. A total of 46 stories about the 1992 presidential campaign (16, 14

and 16 stories from *ABC*, *NBC*, and *CBS* news respectively) were found from three constructed weeks of August, 1992; a total of 42 stories about the 2000 presidential campaign (14, 13 and 15 stories from *ABC*, *NBC*, and *CBS* news respectively) were collected from the three weeks of August, 2000.

Content analysis of the sample stories was done at two different levels: issue and attribute agendas (specific measurements and coding scheme are described in measurement section below). A total of 60 campaign agendas and 121 candidate attributes were found in 46 news stories during the 1992 campaign. The content analysis for that year showed a median correlation coefficient of .84 for the first-level issue agendas among the network newscasts, and a bit lower but still strong median correlation value of .67 for the second-level candidate attribute agendas (for specific correlation coefficients among the news media, see Appendix A). In 2000, a total of 47 campaign agendas and 105 candidate attributes were found from 42 stories. Similar patterns were found for this year: the median correlation value for the issue agendas among the network news programs was .82 and the median correlation value for the candidate attribute agendas was .63. Based on these strong correlations between the network news contents, this study will use only one network news program to represent network news coverage of the presidential campaigns.

The coding of these sample stories also was checked for intercoder reliability. Coder reliability checks were performed between two trained coders to establish the extent of agreement. Coders were all Journalism graduate students. First, the coders

analyzed the news content according to the 12 topic categories for campaign issue agendas (see Appendix B). Second, for candidate attributes, they coded the news stories according to the 281 subcategories of candidate descriptions (see Appendix B). Then, those subcategories were collapsed into 11 major headings of candidate attributes, and finally these 11 attribute headings were used for the coder reliability test for attribute agendas. The degree of agreement was estimated using Holsti's intercoder reliability calculation (2M/N1+N2, where M is the number of coding decisions on which two coders agree, and N1 and N2 are the total number of coding decision by the first and second coder, respectively. Wimmer and Dominick 1994). The two coders agreed on 58 out of 60 campaign topics and 115 out of 121 candidate attributes in the 1992 campaign news, yielding a reliability coefficient of .97 and .95 for each issue and attribute agendas. They also agreed on 45 out of 47 campaign issues and 97 out of 105 candidate attributes in the 2000 campaign stories. The coder reliability coefficients for each issue agenda and attribute agenda were .96 and .93 for the 2000 news coverage (Appendix A).

Media agenda and measurement. The two sets of media agenda data in this study come from an extensive content analysis of two network evening news programs: *ABC World News Tonight* for 1992 presidential campaign coverage and *NBC Nightly News* for 2000 presidential campaign coverage. These news programs were selected based on the amount of viewership during the campaigns. In the network evening news ratings, *ABC* mostly was number one for more than one and a

half year through the election day in 1992 (Associated Press, September 22, 1992; October 21, 1992). During 2000, *NBC* was the most-watched network evening news (Associated Press, October 2, 2000). The dominance of *NBC* network evening news during the 2000 campaign period was also confirmed by the NES data: about 39 percent among the viewers of network news during this period watched *NBC Nightly News*; 33 percent watched *ABC World News Tonight*; and 27 percent watched *CBS Evening News*. The data about voters' network news viewership was not available in the 1992 NES survey.

The relevant campaign news stories for content analysis were collected from the Lexis-Nexis database, which is a widely employed news database (e.g., Domke, Watts, Shah, and Fan 1999). Specifically, all news stories (television news scripts) concerning the presidential campaigns were excerpted for three months prior to the election days (August 1 through November 2, 1992 and August 1 through November 6, 2000), during which news coverage of the campaigns reach the climax. This period was also determined in terms of the survey period: the public issue and attribute agenda surveys (except the issue agenda survey in 1992) were administered for nine weeks before the election days. Only the issue agenda survey in 1992 was conducted in the post-election reinterview period (for ten weeks after the election day). In general, no consensus has been achieved concerning the optimal time-lags for agenda setting effect to occur. The literature shows that optimal time-lags span from just a few days and weeks (Wanta 1997; Zucker 1978) up to several months

(Stone and McCombs 198; Winter and Eyal 1981) depending on media and issue types. In this study, it is also hard to say that a standardized time-lag was set between media coverage and survey because the surveys had been conducted over a relatively long periods: the pre-election survey had been conducted during a two-month period before the election and the post-election survey during a three-month period after the election. This study, however, assumes that the three-month news coverage up to the point of the election day, which starts one month before the surveys begin, will be appropriate to examine the effects of news coverage on public opinion considering voters' relatively high levels of attention.

Two sets of keywords embedded in the full texts of news stories were used to search relevant campaign news items for each presidential elections: "Bush or Clinton" in news scripts of "*World News Tonight*" on *ABC* for the 1992 election and "Bush or Gore" in news scripts of *NBC Nightly News* for the 2000 election. Using candidates' surname as search keywords was assumed to help find stories in which those candidates are more likely to be central actors. Later content analysis of candidate attribute agendas should be more valid in such candidate-centered stories. A total of 263 stories from *ABC* news were identified as directly campaign-related stories in 1992, and 233 campaign-related stories were found from *NBC* news in 2000.

Measurement of media's issue agenda. Content analysis of news content was conducted at two different levels of issue and attribute agenda. The salience of issue

agendas in campaign news coverage was measured by the discussions about specific topics in stories. For instance, if a news story describes more than one topic, each topic in the story would be counted as one issue agenda. The coding scheme (Appendix B) for topics in news stories followed the "Important Problem Master Codes" (NES), which were used to code the public opinion data concerning the most important problem question. The master code includes twelve general issue agenda categories: social welfare problems, agriculture, natural/energy resources, labor problems/union-management relations, racial problems/civil rights, technology, public order problems, economic and business problems, foreign affairs, national defense, issues relating to the functioning of government, and other miscellaneous. The rank order of the issue salience was determined by the frequency of appearance of each topic in news stories.

Measurement of media's candidate attribute agenda. The attribute media agendas about candidates were defined here as any description or assertion about the candidates in campaign news stories that could be a potential answer to the following question: "Is there anything in particular about Presidential Candidate *X* that might make you want to vote for/against him?" Here, the first level "object" agenda is candidates themselves, whose salience is not of interest in this study. The coders sorted the attributes of candidates according to the "Candidate Master Codes" (NES) that were used in analyzing public's attribute agendas of candidates (see Appendix B). The candidate master codes include ten different candidate attribute categories:

experience/ability, leadership qualities, personal qualities, other miscellaneous descriptions about candidates, party connections, government management, government activity/philosophy, domestic policies, foreign policies, group connections, and events unique to one campaign. One news story may contain several different descriptions about a candidate at the same time: for instance, leadership qualities in foreign affairs or policies, political experience linked to party connection, and so on. Thus, every single dimension of the description was counted as one attribute of the candidate. The rank order of the candidate attribute salience was determined by its frequency of appearance in news stories.

Public agenda and measurement. The second component of this study for public opinion analysis comes from the 1992 and 2000 election survey data by NES. In each survey, a national panel and cross section sample representing American voters was interviewed by telephone and face to face. In 1992, a total of 2,485 citizens were interviewed in the nine weeks prior to the election day of November 3, and 2,255 of those respondents were reintervewed during the ten weeks following the election day. The question about respondents' issue agenda was asked in the post-election interview, and questions about candidates' attribute agenda was asked during the pre-election survey. Because these two agendas were assumed to be influenced by media coverage of the presidential campaign, the time-lags between media coverage and public opinion survey need to be specified for later interpretation.

The 2000 pre-election survey interviewed 1,807 respondents during the nine weeks before the election day of November 7. In this survey, the information about both respondents' issue and candidate attribute agenda was available from the pre-election interview. In this election, the time-lags between media coverage and survey are the same for both levels of issue and attribute agenda analysis.

Measurement of voters' issue agenda. The respondents' answers to the question, "What do you think are the most important problems [MIP] facing this country?" in the survey questionnaire were selected for the analysis of issue priorities among American voters (for details of relevant survey questions, see Appendix C). In both surveys, the same question was asked five times in a row about voters' MIPs, but only the response to the final question, "Of those you've mentioned, what would you say is the single most important problem the country faces?", was used as an index to indicate their issue agenda salience. The respondents' MIP issues then were coded into the same 13 corresponding topic categories as used in media agenda coding. By comparing these public concerns with the media emphasis on issues, this study measured voters' agenda setting susceptibility. The rank order of voters' issue salience was determined by adding up the number of their mention of specific issues.

Measurement of voters' candidate attribute agenda. Respondents' attribute agendas or criteria for candidate choice were measured by their answers to the question, "Is there anything in particular about Presidential *Candidate X* that might

make you want to vote for/against him?" In the survey, each positive and negative question about candidates' characteristics was repeated five consecutive times. In this study, the first positive and negative questions, which derived the most candidate attributes from the respondents, were combined to create a salience index for candidate attribute agendas among respondents. For example, either a negative or a positive leadership quality about a candidate mentioned by respondents was counted as one leadership attribute for the candidate. All respondents' answers to the questions were sorted into the ten different candidate attribute categories, which also were used for media attribute coding. The analysis of candidate attribute salience among voters was used to find out how certain attributes of presidential candidates in news coverage influenced or primed voters' judgment about for whom to vote. This analysis is intended to test voters' attribute priming susceptibility as specified in the hypothesis chapter. The rank order of voters' attribute salience was based on the summation of their mention of specific attributes about candidates.

Measurement of the Key Variables

Agenda setting and attribute priming susceptibility. Before explaining the operationalization and quantification of relevant key variables, it is worth noting that all the measures of the variables in the regression equation were standardized to run

from 0 (minimum level of measurement) to 1 (maximum level of measurement) (e.g., Krosnick and Brannon 1993; Mendelsohn 1996). Standardizing measurement is not a required process in quantitative research, but its benefit is obvious: comparability. Raw scores can be very confusing when we do not remember the specific distribution of scores. Standardization of raw scores help us to quickly interpret scores with respect to what relative value they have in the context of the whole distribution of scores, as in a Z-score. Thus, we can easily tell where a raw score is located by converting it to a standard range of scores (in this case, it is 0 to 1).

Respondents' agenda setting susceptibility was determined by how closely their issue agenda and media's issue agenda are associated (for a similar method of susceptibility calculation, see Wanta 1997). It was measured by subtracting the ranking numbers of their MIP issues, which was set on basis of media agenda priorities, from 13, the total number of the issue agendas. Again, these results were converted into 0 (least susceptible) through 1 (most susceptible) for comparability by dividing them by 12. For example, the agenda setting susceptibility of a respondent whose MIP is the issue priority number one on the ranking list of media agenda will be 12 (13-1), and this number again will be converted to 1 ([13-1]/12), which means the highest susceptibility. If her MIP is at the very bottom of media agenda ranking list, however, she will be given 0 for her susceptibility score ([13-13]/12), suggesting least susceptibility.

Attribute priming susceptibility here was evaluated by the degree of similarity between respondents' candidate attribute agenda, which was assumed to affect their candidate choice, and the media's attribute agenda about the candidates. An identical process to the procedure used for issues was employed to measure respondents' attribute priming susceptibility. The attributes about the presidential candidates mentioned by respondents were given corresponding agenda ranking numbers. Again, these ranking numbers were subtracted, this time from 10, the total number of candidate attributes. The results, divided by 9, were then recoded into susceptibility scores ranging from 0 to 1. For example, if the attribute cited by a respondent is identical with the fifth attribute on the ranking list of media attribute agendas, her score of attribute priming susceptibility will be .56 ([10-5]/9), which implies a medium level of susceptibility. Attribute priming susceptibility was measured separately for each presidential candidate.

Political sophistication. Following the five-item knowledge index created by Delli Carpini and Keeter (1993), sophistication was measured by respondents' answers to six questions asking about their knowledge regarding party control of the House and the Senate, party and candidate ideological location, judicial review, and identification of the vice president and other important political figures. Not all the questions from the five-item index (party control of the House, veto override percent, party ideological location, judicial review, and identification of the vice president), however, were available from both the 1992 and 2000 survey data because Delli

Carpini and Keeter employed their own primary national survey of political knowledge in 1989 and 1990-91 NES surveys as secondary data for the item analysis of political knowledge measures. Four of the five items, however, provide exact comparability with 1992 NES data, and three of them provide exact or similar comparability with 2000 data. For example, the question about veto override percent was not available in both the 1992 and 2000 NES data; no question about the identification of the vice president was included in 2000, possibly because the then vice president Gore was nominated as the Democratic presidential candidate; and also items of party ideological location could not be found in 2000. To compensate for this partial incomparability, this study adopted new but conceptually very similar questions, such as items about candidate ideological location and recognition of the U.S. Attorney General, instead of party ideological location and recognition of the vice president (for details of actual questions, see Appendix C). The item about party control of the Senate also was added to replace the veto override item.

When adding new question items to the knowledge index for this study, this study also took the degree of difficulty of those items into account to prevent so-called ceiling and floor effects (Eveland 1997). If the questions to measure respondents' political knowledge are too easy, it will be hard to distinguish those of moderate and high sophistication because both of them will score at the high level of the scale (a ceiling effect). When the inverse occurs, both the moderately and poorly sophisticated will be more likely to score at the bottom end of the scale and thus

cannot be distinguished (a floor effect). To prevent such a ceiling or floor effect, this study checked out the degree of difficulty of the selected questions and found acceptable level of difficulty: the average rate of correct answers was 64% in 1992 and 55% in 2000 (for details, see Appendix C).

Measuring sophistication along with other motivational and behavioral variables, such as political interest, media exposure, and political involvement, suggests another issue of question ordering (Lasorsa 2003). The general finding by Lasorsa was that respondents who encountered difficult questions about political knowledge immediately before the questions about their level of political interest and news attention in survey reported their political interest and news attention to be lower than those in the inverse situation. This finding suggests that the response from interviewees can be influenced not just by individual differences but also by the order of survey questions. The 1992 and 2000 surveys, however, are secure from such a question order effect because in both cases the political knowledge items are located after the items of media exposure, political interest, and political involvement. The question orders are basically the same in both surveys, and there are not likely to be interactions between those question items because other questions inserted between them play a role of "buffer."

Each correct answer was given 1 point, and each wrong answer was given 0. For example, if respondents correctly identified the Democratic party as the majority in the House of Representatives in 1992 survey, they were coded 1, and if not, 0; if

respondents correctly identified Quayle as the vice president, they were coded 1, and if not, 0; those who said George W. Bush was ideologically conservative were coded 1, and otherwise 0, and so forth. The summation of the scores was again divided by the total item number of 6, thus standardized 0 (least sophisticated) to 1 (most sophisticated).

Media exposure. Simple amount of media exposure does not reflect exactly the quality of individuals' media use and subsequent learning. Media use is more likely to facilitate media effects when coupled with media attention (Kim and Rubin 1997). That is, "without attention, there is no possibility of learning." (Perse 2001, p. 144). From this position, both media use and the attention of respondents were combined to produce their level of media exposure. Furthermore, because this study focuses on network evening news as an influential information source for presidential campaigns, respondents' media use and attention to the specific television news programs rather than general media use measurements were used to determine their level of media exposure.

Quite comparable measurements of media exposure were available from both the 1992 and 2000 surveys. From the 1992 archive, three items asking about viewing campaign programs on television, viewing television news, and attention to television campaign news were excerpted for exposure analysis (for actual questions, see Appendix C). In 2000, similar but more specific question items about network news use, such as viewing campaign programs on television, viewing network

newscasts, and attention to network campaign news, were asked. The survey utilized four-, five-, and eight-category question items to measure the amount of respondents' media use and attention. For example, those who said 'every day' to the question "How many days in the past week did you watch the national network news on TV?" were coded 1 (7/[8-1], highest media use) while those who said 'four days' to the question were coded .57 (4/[8-1], moderate media use), and 'none' was coded 0 (0/[8-1], least media use). Respondents who paid 'a great deal' of attention to network campaign news were coded into 1 (3/[4-1]) and those who paid 'none' attention received 0 on their attention score (0/[4-1]). Similar calculations were performed on the other measurement of media use, and finally the summation of the three measurements was divided by 3 and converted into 0 (least exposed) to 1 (most exposed).

Education. This variable as a surrogate for information processing ability is relatively easy to operationalize and measure, which is one of the main reasons for its popularity in communication research, such as knowledge gap theory (Tichenor, Donohue, and Olien 1970). Because this study intended to compare sophistication, education, interest, and involvement as valid proxies for processing ability, education was measured in a conventional manner: final diploma earned. A seven-point scale was employed to code respondents' level of education (for specific scales, see Appendix C). If respondents received education of eighth grade or less, they were

coded 0 (0/[7-1], least educated), and if they earned advanced degrees (more than BA degrees), they were coded 1 (6/[7-1], most educated).

Political interest. Political interest was operationalized in light of both its motivational and behavioral aspects: interest in politics and discussion about politics. Interest in politics was determined by responses to the survey item: "Would you say that you have been very much interested, somewhat interested, or not much interested in the political campaigns so far this year?" Accordingly, respondents who said they were 'very much interested' were coded 1 (2/[3-1]), and if they were 'not much interested', they were coded 0 (0/[3-1]). Political discussion was measured by responses to the question: "How often do you discuss politics with your family or friends --- every day, 3 or 4 times a week, once or twice a week, or less often than that?" Those who said 'every day' were coded 1 (3/[4-1]) and those who mentioned 'less often than that' were coded 0 (0/[4-1]). These two measurements were added up and then divided by 2, being standardized to run from 0 (least interested) to 1 (most interested)

Political involvement. Respondents were asked about their political behavior by various political involvement questions, including putting campaign stickers on their cars, going to political meetings, making donations to campaigns, and working for parties or candidates (for actual questions, see Appendix C). Five relevant questions were drawn from each of the 1992 and 2000 surveys. Taking some examples, if respondents wore campaign buttons or put a campaign sticker on their

cars, they got 1 on their involvement score and if not, 0; if they went to political meetings, rallies, or speeches, they were coded 1, and if not 0; and those who donated money to candidates, they were coded 1, and those who did not received 0. After coding all five items, they were summated and again divided by 4, creating an involvement score that ranged from 0 to 1.

CHAPTER 4: RESULTS

Tests of the Agenda Setting Hypothesis

Issue agendas of the media and public in the 1992 campaign

Media issue agenda. Table 1 presents the topics that appeared in the campaign news stories. A total of 364 references to issues were found in 263 campaign news stories of *World News Tonight* on *ABC* during the three months before the 1992 presidential election day: about 1.4 issue mentions per story. Among the campaign issues of the news media, the economy was the most salient one. More than 33 percent of the issue-related descriptions in news stories were devoted to economic and business problems, including taxes and government spending/budget deficit. The Clinton campaign's emphasis on the weak economy of the Bush administration was well reflected in media content. The unofficial motto of the Clinton campaign was, "It's the economy, stupid". And the third candidate, Ross Perot, who wanted to sell his economic plans and wanted the other candidates to address the deficit problem, also significantly contributed to the salience of economic issues in news coverage. The second outstanding issue in news coverage was social welfare, accounting for 28 percent of the campaign issue coverage. *ABC News* especially devoted much time to the social issues of health care, education, and unemployment. Such issues as drugs, abortion, and family values pushed public order problems (about 19 percent) to the third rank on media's issue salience list. A full 10 percent of media coverage of

campaign issues was related to the fourth-ranked issue, foreign affairs, which was generally regarded as one of Bush' strengths. In sum, the top four issues received central attention from the news media, accounting for 90 percent of all issue-relevant narratives in news stories. Such a concentration in the news media on a few key campaign issues, on the other hand, led to modest or minimal news coverage of the other issues.

Public issue agenda. The public's perception about which issues are important was not diverse either. The distribution of the public's issue interest is presented in the right half of Table 1. Voters agreed that the economy was the dominant issue: 707 (more than 42 percent) out of 1911 respondents said economic issues were their MIP. Their interest in the current economic status and government spending mostly raised its rank to the top in the priority list. The problems of social welfare also resonated with a large share of the public opinion (37 percent). Especially, unemployment and health care generated strong public interest in social welfare. The issue of public order also evoked much interest, accounting for 12 percent of the public issue agenda. Drugs, crime, and general moral decay were the major components under this heading. The fourth most important problem among the voters was a set of issues relevant to government functioning, which attracted much less concern, accounting for only 2 percent. The combination of the top four public issue agendas thus amounted to a remarkable 93 percent of the public interest.

Table 1. Issues Emphasized in Network Television News and Most Important Problems (MIP) among Voters during the 1992 Presidential Election

Issue Agendas	***ABC World News Tonight***	**Rank**	**Public Opinion (MIP)**	**Rank**
Social welfare problems	102	**2**	707	**2**
Agriculture	1	**11**	5	**9.5**
Natural/Energy resources (Energy crisis goes to 8)	17	**5**	32	**6**
Labor problems: union-management relations	1	**11**	1	**11**
Racial problems/civil rights	2	**8**	24	**7**
Technology	1	**11**	0	**12**
Public order problems (including Abortion)	68	**3**	225	**3**
Economic and business problems (energy crisis, gas shortage)	122	**1**	810	**1**
Foreign affairs	37	**4**	40	**5**
National defense	3	**7**	21	**8**
Issues relating to the functioning of government	10	**6**	41	**4**
Others	0	**12**	5	**9.5**
Total	**364**		**1911**	

Note. News data is based on the news stories (263 items) from Lexis-Nexis database (Aug. 1 through Nov 2, 1992) and public opinion data is based on the 1992 Post-Election Surveys of National Election Studies (NES). Interviewing for the post-election survey began on November 4, 1992 and concluded on January 13, 1992. A total of 2255 post-election respondents were reinterviewed.
Correlation coefficient (Spearman's rho) = .917; p=.000 (2-tailed).

Issue agendas: Test of the agenda setting hypothesis (1992)

H1: (Agenda setting effects): The campaign issue agendas emphasized in news stories of presidential campaigns will also be prominent in the voters' agendas.

This hypothesis about the media's agenda setting role was strongly supported by the data presented in Table 1. There was an extremely high correlation between the attention the public gave to the 12 issues on the agendas and the attention these issues received in the newscasts. The rank-order correlation coefficient between the two issue agendas was .92 (p=.00). If we compare only the top three issues, which accounted for 80 percent of the media agenda and more than 90 percent of the public agenda, the correlation coefficient is 1, meaning a perfect correspondence. This finding again confirms that as the salience of certain issues in the news increases, those issues become more prominent among audience members.

Issue agendas of the media and public in the 2000 campaign

Media issue agenda. A total of 212 references to issues were found in 197 stories about the 2000 presidential campaign in *NBC*'s *Nightly News* for about three months before the election day: 1.1 issue agendas per story (Table 2). The analysis of news coverage of the 2000 election produced a somewhat different picture of issue priority from that of the 1992 election coverage. The top media issue this time was social welfare (46 percent) pushing the economic issue (21 percent) to the second rank. The economic issue headed the list of issue salience in 1992. And issues relevant to government functioning (9 percent), which was at the sixth rank in 1992, held third place in 2000. The buoyant economic status during the Clinton

administration seemed to divert much of the media's attention from the economy to the issues of social welfare and government functioning. Many of the descriptions about the functioning of government in news stories also were linked to the morality of the Clinton administration, including scandals about Clinton's personal life and Gore's involvement in fund-raising at a Buddhist temple. Natural resources/energy (8 percent) and public order problems (7.5 percent) then followed those top issues. The other seven categories all told were only 7.5 percent of the issues described in news stories.

Public issue agenda. In 2000, the important issues among the public also were not so different from those of news media. Social welfare was at the top of the list. Over 42 percent of the respondents indicated various social welfare issues, including education, health care, and social security, as their primary issues. The second MIP of the public was public order problems (22 percent). Issues such as drugs/alcohol, crime, general moral decay, and family values went under this heading. Economic issues (15 percent) ranked third here. Government spending/budget deficit and inflation were the main components of this issue. Foreign affairs (6.8 percent) and government functioning (5.2) stood fourth and fifth. Particularly, responses about trust in political leaders/system mainly accounted for the fifth rank of government functioning.

Table 2. Issues Emphasized in Network Television News and Most Important Problems (MIP) among Voters during the 2000 Presidential Election

Issue Agendas	*NBC Nightly News*	Rank	Public Opinion (MIP)	Rank
Social welfare problems	98	**1**	368	**1**
Agriculture	0	**11**	0	**11**
Natural/Energy resources (Energy crisis goes to 8)	17	**4**	23	**7**
Labor problems: union-management relations	1	**9**	1	**9**
Racial problems/civil rights	3	**8**	9	**8**
Technology (including Y2K problem)	0	**11**	0	**11**
Public order problems (including Abortion)	16	**5**	194	**2**
Economic and business problems (energy crisis, gas shortage)	45	**2**	133	**3**
Foreign affairs	5	**7**	59	**4**
National defense	7	**6**	39	**6**
Issues relating to the functioning of government	20	**3**	45	**5**
Others	0	**11**	0	**11**
Total	**212**		**871**	

Note. News data is based on the news stories (197 items) from Lexis-Nexis database (Aug. 1 through Nov 6, 2000) and public opinion data is based on the 2000 Pre-Election Surveys of National Election Studies (NES). Interviewing for the pre-election survey was conducted between September 5 and November 6, 2000. A total of 1807 interviews were conducted.
Correlation coefficient (Spearman's rho) = .887; p<.000 (2-tailed).

Issue agendas: Test of the agenda setting hypothesis (2000)

Again, the agenda setting hypothesis was confirmed in the 2000 presidential campaign. Table 2 shows a very high correlation between the news media's attention to important campaign issues and the public's perception about nationally important issues. Even though this study concentrated on only campaign news, its influence on the public's general issues of national importance still seemed to be strong. The correlation between the two agendas is a remarkably high value of .89 (p=.00). Such high levels of correlation in both 1992 and 2000 seemed to derive from the public's high attention to political news coverage especially during presidential elections. In many other studies of presidential elections, such a high correspondence between news media agenda and public agenda was found (Dalton et al. 1998; McCombs and Shaw 1972; Rey Lennon 1998).

Tests of the Attribute Priming Hypothesis

Attribute agendas of the media and public in the 1992 campaign

Media attribute agenda about candidates. Table 3 presents the candidate attributes that were depicted in *ABC* news. Overall, candidates' personal characteristics and qualities along with their issue positions on domestic policies received the most attention from news media. The most outstanding attribute for both candidates was their specific issue positions on domestic policies. Around 28 percent of all descriptions about Bush and 37 percent about Clinton belonged to this category.

Generally, for both candidates, attributes about personal characteristics, such as personal qualities and experience/ability, ranked high in the attribute salience list: personal qualities (12 percent) and experience/ability (12 percent) ranked second and fourth in the Bush's list, and experience/ability (14 percent) and personal qualities (13 percent) were the second and third most salient attributes for Clinton. While Bush was heavily described in light of his government management (11.4 percent) and leadership (4.8 percent), Clinton received much less coverage on these attributes (2.9 percent for government management and 2.2 percent for leadership). However, considering that Bush was the incumbent president, this finding was not a surprise. Clinton appeared to be covered more on his group connections (6.2 percent) than Bush (2.2 percent). Otherwise, no significant difference in attribute salience between the two candidates was found. The overall correlation between the descriptions of the candidates by *ABC News* is .73 (p=.01).

Public attribute agenda about candidates. The salience of voters' criteria for selecting their candidates is also shown in Table 3. Voters' interest was also concentrated on the top tiers of domestic policies and personal characters/qualities. About 32 percent of the respondents mentioned Bush's positions on domestic policies and 24 percent of them mentioned Clinton's domestic issue positions as their criteria to vote for or against those candidates. About 20 percent of the respondents thought experience/ability was an important criterion for evaluating Bush while 17 personal qualities as an important aspect for selecting Bush while almost 27 percent

Table 3. Candidate Attributes Emphasized in Network Television News and the Criteria for Candidate Choice Mentioned by Voters during the 1992 Presidential Election

Candidate Attributes	G.H. Bush				Clinton			
	ABC World News Tonight	**Rank**	**Public Opinion**	**Rank**	***ABC World News Tonight***	**Rank**	**Public Opinion**	**Rank**
Experience, ability	50	**4**	552	**2**	45	**2**	465	**3**
Leadership qualities	22	**8**	125	**6.5**	7	**10**	124	**6**
Personal qualities	55	**2**	357	**3**	39	**3**	714	**1**
Other Miscellaneous Descriptions About Candidates	44	**6**	90	**10**	20	**5**	119	**7**
Party connections	49	**5**	125	**6.5**	30	**4**	199	**4.5**
Government management	53	**3**	160	**5**	9	**9**	58	**9**
Government activity/philosophy	9	**10**	106	**9**	12	**8**	199	**4.5**
Domestic policies	128	**1**	844	**1**	115	**1**	653	**2**
Foreign policies	41	**7**	304	**4**	15	**7**	34	**10**
Group connections	10	**9**	124	**8**	19	**6**	116	**8**
Events unique to one campaign	2	**11**	0	**11**	1	**11**	0	**11**
Total	**463**		**2787**		**312**		**2681**	

Note. News data is based on the news stories (263 items) from Lexis-Nexis database (Aug. 1 through Nov 2, 1992) and public opinion data is based on the 1992 Pre-Election Surveys of National Election Studies (NES). Interviewing for the pre-election survey began on September 1, 1992 and concluded on November 3, 1992. A total of 2487 respondents were interviewed.
Correlation coefficient (Spearman's rho) for Bush = .636; p=.035 (2-tailed).
Correlation coefficient (Spearman's rho) for Clinton = .791; p=.004 (2-tailed).

of them did for Clinton. However, 13 percent of respondents mentioned of them regarded personal qualities as a crucial aspect for the candidate evaluation of Clinton. That is, more voters' attention was given to the attribute of experience/ability about Bush and to personality about Clinton. And Bush's foreign policies (11 percent, fourth rank) attracted much attention from respondents while Clinton received much less attention for this attribute (1.3 percent, tenth rank). Clinton, on the other hand, got more public attention on his party connection and government activity/philosophy (7.4 percent respectively) than Bush (4.5 percent and 3.8 percent respectively). Overall, respectively 63 percent and 68 percent of the respondents focused on the top three salient attributes (issue position on domestic policies, and personal experience/ability and leadership) of Bush and Clinton as their evaluation criteria.

Attribute agendas: Test of the attribute priming hypothesis (1992)

H2: (Attribute priming effects): The attributes of candidates emphasized in the news will influence the criteria that voters consider important when they make voting decisions about those candidates.

As mentioned in the theoretical review, the attribute priming analysis of this study focused on news impact on a more behavioral aspect of voters. The voters' attributes agendas were their criteria for candidate selection (refer to the actual survey question asked in Appendix C). That is, the analysis here can be taken as evidence that specific news reports describing the candidates had an influence on

whether or not voters would choose the candidates. Such an emphasis on the behavioral effect of news media here needs to be noted to fully assess the proposed priming hypothesis. Table 3 provides strong evidence for news media's influence not only on voters' perception on their candidates, but also on the behavioral consequences. Overall, the salient attributes about the presidential candidates in news coverage were strongly correlated with the candidate attributes, which voters said that they employed when they decided to vote for or against those candidates. The rank-order correlation between news media descriptions of candidate G. H. Bush and those attributes about him that made voters want to vote for or against him was .64 (p=.04). And a much higher correlation of .79 (p=.00) was found for Clinton.

Further observation of the respondents who intended to vote for specific candidates corroborated the attribute priming hypothesis. Table 4 shows that candidate attributes in news coverage were more strongly associated with those selected by voters, who intended to vote for the candidate, than those selected by voters overall. The correlation coefficient between Bush's attributes that were prominent in the news media and those that were salient for Bush supporters was .65 (p=.03) and the coefficient between Clinton's attributes in the news media and among Clinton supporters was .86 (p=.00). This result again suggests that stronger attribute correlations lead to stronger behavioral consequences: support for the candidate.

Table 4. Candidate Attributes Emphasized in Network Television News and the Criteria of Candidate Choice of G. H. Bush Supporters and Clinton Supporters during the 1992 Presidential Election

Candidate Attributes	G. H. Bush				Clinton			
	ABC World News Tonight	**Rank**	**Public Opinion (Bush Support-ers)**	**Rank**	***ABC World News Tonight***	**Rank**	**Public Opinion (Clinton Support-ers)**	**Rank**
Experience, ability	50	**4**	177	**2**	45	**2**	177	**3**
Leadership qualities	22	**8**	51	**7**	7	**10**	35	**8**
Personal qualities	55	**2**	119	**3**	39	**3**	328	**1**
Other Miscellaneous Descriptions About Candidates	44	**6**	41	**9.5**	20	**5**	72	**6**
Party connections	49	**5**	41	**9.5**	30	**4**	101	**4**
Government management	53	**3**	52	**6**	9	**9**	31	**9**
Government activity/philosophy	9	**10**	47	**8**	12	**8**	90	**5**
Domestic policies	128	**1**	257	**1**	115	**1**	286	**2**
Foreign policies	41	**7**	75	**4**	15	**7**	18	**10**
Group connections	10	**9**	66	**5**	19	**6**	71	**7**
Events unique to one campaign	2	**11**	0	**11**	1	**11**	0	**11**
Total	**463**		**676**		**312**		**992**	

Note. News data is based on the news stories (263 items) from Lexis-Nexis database (Aug. 1 through Nov 2, 1992) and public opinion data is based on the 1992 Pre-Election Surveys of National Election Studies (NES). Interviewing for the pre-election survey began on September 1, 1992 and concluded on November 3, 1992. A total of 2487 pre-election respondents were interviewed.
Correlation coefficient (Spearman's rho) for Bush = .651; p=.03 (2-tailed).
Correlation coefficient (Spearman's rho) for Clinton = .864; p=.00 (2-tailed).

Attribute agendas of the media and public in the 2000 campaign

Media attribute agenda about candidates. The distribution of attributes about the presidential candidates in the news media is shown in Table 5. Again, candidates' issue positions on domestic policies were at the top of the list for both the Republic candidate G. W. Bush (26 percent) and the Democratic candidate Al Gore (27 percent). Personal qualities and party connection followed the top attribute for Bush (22 and 18 percent, respectively) and Gore (16 and 17 percent, respectively). Compared with the 1992 data (average 10 percent), this time party connection appeared to be a much more salient attribute for both candidates, which suggests that news media devoted more time to candidates' political background and their relations to party and other party figures. In 2000, however, the attribute of experience/ability, which amounted to 13 percent of the candidate depictions in 1992, were a relatively less in the news coverage of Bush (11 percent) and Gore (8 percent). Overall, the descriptions of the candidates by *NBC News* were remarkably similar. The correlation between them was .96 (p=.00).

Public attribute agenda about candidates. In 2000, the candidate evaluation criteria for both candidates are significantly similar among voters. The top eight categories on the attribute list for both candidates showed a perfect correspondence, which suggests that the voters applied very similar criteria when they reached their voting decision for the candidates. Domestic policies, personal qualities, and party connection were the top three salient attributes among the voters. About 68 percent

and 66 percent respectively of the respondents said that these three candidate attributes were the most influential elements for their decision-making about Bush and Gore. The top three attributes were followed by personal experience/ability and leadership qualities for Bush (each 9 and 6 percent) and Gore (each 11 and 7 percent). Generally, personal characteristics and qualities along with issue positions on domestic policies appeared to be most important criteria for candidate evaluation.

Attribute agendas: Test of the attribute priming hypothesis (2000)

Table 5 provides further support for the attribute priming effect. During the 2000 presidential campaign, there was significant correspondence between what the news media said about the presidential candidates and what voters took into consideration to choose their candidates. The rank-order correlation was .76 ($p=.01$) for G. W. Bush and .71 ($p=.02$) for Gore. As mentioned above, this relationship between news coverage and candidate choice suggests a news impact on voting behavior. That is, how news media reported about the candidates was strongly associated with how the audience thought about the candidates in determining their vote. The finding shows that those salient attributes of Bush and Gore in news coverage were strongly correlated with the evaluation criteria for each candidate, those which voters said determined their choice of Bush or Gore.

Table 5. Candidate Attributes Emphasized in Network Television News and the Criteria of Candidate Choice Mentioned by Voters during the 2000 Presidential Election

Candidate Attributes	G. W. Bush				Gore			
	NBC Nightly News	**Rank**	**Public Opinion**	**Rank**	***NBC Nightly News***	**Rank**	**Public Opinion**	**Rank**
Experience, ability	29	**4**	147	**4**	24	**6**	183	**4**
Leadership qualities	7	**9**	95	**5**	8	**9**	113	**5**
Personal qualities	56	**2**	445	**2**	45	**3**	401	**2**
Other Miscellaneous Descriptions About Candidates	17	**5**	85	**7**	31	**4**	85	**7**
Party connections	45	**3**	240	**3**	50	**2**	269	**3**
Government management	8	**8**	24	**10**	10	**7**	32	**9**
Government activity/ philosophy	2	**10**	94	**6**	6	**10**	90	**6**
Domestic policies	67	**1**	448	**1**	78	**1**	465	**1**
Foreign policies	10	**7**	25	**9**	9	**8**	10	**10**
Group connections	13	**6**	65	**8**	26	**5**	60	**8**
Events unique to one campaign	0	**11**	0	**11**	0	**11**	0	**11**
Total	**254**		**1668**		**287**		**1708**	

Note. News data is based on the news stories (197 items) from Lexis-Nexis database (Aug. 1 through Nov 6, 2000) and public opinion data is based on the 2000 Pre-Election Surveys of National Election Studies (NES). Interviewing for the pre-election survey was conducted between September 5 and November 6, 2000. A total of 1807 interviews were conducted.
Correlation coefficient (Spearman's rho) for Bush = .755; p<.007 (2-tailed).
Correlation coefficient (Spearman's rho) for Gore = .709; p<.015 (2-tailed).

Table 6. Candidate Attributes Emphasized in Network Television News and the Criteria of Candidate Choice Mentioned by G. W. Bush Supporters and Gore Supporters during the 2000 Presidential Election

Candidate Attributes	G. W. Bush				Gore			
	NBC Nightly News	**Rank**	**Public Opinion (Bush Support-ers)**	**Rank**	***NBC Nightly News***	**Rank**	**Public Opinion (Gore Support-ers)**	**Rank**
Experience, ability	29	**4**	59	**4**	24	**6**	97	**4**
Leadership qualities	7	**9**	24	**7**	8	**9**	62	**5**
Personal qualities	56	**2**	189	**1**	45	**3**	170	**2**
Other Miscellaneous Descriptions About Candidates	17	**5**	50	**5**	31	**4**	48	**6**
Party connections	45	**3**	91	**3**	50	**2**	125	**3**
Government management	8	**8**	7	**10**	10	**7**	10	**9**
Government activity/ philosophy	2	**10**	49	**6**	6	**10**	34	**8**
Domestic policies	67	**1**	161	**2**	78	**1**	228	**1**
Foreign policies	10	**7**	9	**9**	9	**8**	3	**10**
Group connections	13	**6**	11	**8**	26	**5**	37	**7**
Events unique to one campaign	0	**11**	0	**11**	0	**11**	0	**11**
Total	**254**		**650**		**287**		**814**	

Note. News data is based on the news stories (197 items) from Lexis-Nexis database (Aug. 1 through Nov 6, 2000) and public opinion data is based on the 2000 Pre-Election Surveys of National Election Studies (NES). Interviewing for the pre-election survey was conducted between September 5 and November 6, 2000. A total of 1807 interviews were conducted---1006 face to face and 801 by telephone. Correlation coefficient (Spearman's rho) for Bush = .845; p=.00 (2-tailed). Correlation coefficient (Spearman's rho) for Gore = .809; p=.00 (2-tailed).

Additional analysis of specific voter groups in light of their voting intention for each candidate is presented in Table 6. The match between candidate attributes among the voters who intended to vote for specific candidates and the candidate attributes presented in the news media was remarkable. The correlation calculation produced a high value of .85 (p=.00) concerning Bush and a similar strong value of .81 (p=.00) for Gore. These coefficients are higher than those values derived from the analysis of the whole sample of voters by the margin of about .10 for both candidates. Such improvements on correlation values also support the attribute priming hypothesis, which assumes a significant relationship between attribute salience and candidate choice. Of course, a causal relationship between the two elements cannot be checked here, but is substantially presumed by the robust priming literature on causality.

Overall, the correspondence between the news media's coverage of presidential campaigns and the public's issue agenda and attribute criteria for voting intention were impressively high. Thus, these findings provide a potential explanation about how and what news media can do in regard to voters' perception and behavior during political campaigns.

In addition, it is noteworthy that in all four cases of candidate attribute analysis, the correlations between news coverage and public opinion were relatively higher for new and winning candidates (e.g., Clinton in 1992 and G. W. Bush in 2000). In the case of 1992, the correlation between voters' images and news

descriptions about Clinton was .791 while the correlation between the two agendas for G. H. Bush was .636. The association between the voters' and media's attribute agendas about G. W. Bush in 2000 was also stronger (.755) than the correlation for Gore (.709). The exactly same pattern was found among the voters who supported specific candidates. The correlation between Clinton supporters and news reports about Clinton in 1992 was .864 while the correlation between G. H. Bush supporters and the news coverage was .651. In 2000, again, news coverage about G. W. Bush was more strongly associated with his supporters' attribute agendas about him at the level of .845 whereas the two attribute agendas for Gore was .809.

The correlations also were a bit higher among the candidate supporters than the general voters. News media's candidate descriptions were more intensely matched with the supporters' candidate attributes than the general voters' candidate attributes. In the case of the 1992 campaign, the candidate attributes of news media were more strongly correlated with those of Clinton (.864) and G. H. Bush supporters (.651) than those of the general voters (.791 and .636 respectively). Again in 2000, each G. W. Bushsupporters' (.845) and Gore supporters' candidate attributes (.809) had stronger relationships with media's candidate attributes than the general voters' attributes (.755 and .709 respectively).

These findings support such a psychological communication concept as need for orientation, which suggests that voters' interest and uncertainty about political objects, as contingent variables, play a crucial role in media's agenda setting role

concerning those objects. In fact, voters must have more interest in their supporting candidates than opposing candidates or winning candidates than loosing candidates or news faces than old hats. The concept assumes that individuals' interest and uncertainty determines the messages to which they attend and how much of these messages they perceive. That is, the more interested the voters are in a political object, the more attentive they become to the messages relevant to the object, and subsequently the more susceptible they become to the messages. More discussion about these findings will be presented in the next chapter.

Tests of Nonlinearity

Before testing the hypotheses about nonlinearity and nonadditivity, it would be advantageous to briefly look at the general patterns of distribution of the key independent variables. Figures 3 and 4 present the distributions of political sophistication, education, political interest, political involvement, and media exposure from the 1992 and 2000 survey data. Sophistication was evenly distributed in both cases, which meant that questions about political knowledge were not too difficult or easy to cause a ceiling or floor effect. In 1992, education and involvement also showed normal distributions while interest was positively skewed, but media exposure was negatively skewed. From the 2000 data, involvement appeared to be very positively skewed while interest was significantly negatively skewed. Education and exposure showed normal distributions. The correlation

analyses among the variables are shown in Table 7 and 8. In the 1992 survey, all the surrogate variables for processing ability and media exposure were positively correlated as expected in the distinctive filter model. The highest correlation was found between sophistication and education, and the lowest correlation was found between education and exposure. A very similar pattern of correlations was repeated in 2000 with the highest correlation between sophistication and education and the lowest one between education and exposure. Overall, the median correlations for the variables were .37 and .24 respectively for the 1992 and 2000 data.

Nonlinearity between agenda setting susceptibility and information processing ability

H3a (Nonlinearity of agenda setting susceptibility and information processing ability): Voters with moderate levels of processing ability are more likely to be susceptible to the agenda setting effect of news media than those at either extreme of the political sophistication spectrum.

1992 presidential campaign. The second portion of this study assessed the impact of information processing ability on media effects susceptibility. The basic assumption was that although the news media's effect is strong in general, it does not exert the same impact across all individuals of different processing ability. The regression analysis of such a nonmonotonic relationship between agenda setting susceptibility and processing ability produced results generally supporting the proposed hypothesis about nonlinearity (H3a).

Figure 3. Distributions of Political Sophistication, Education, Political Interest, Political Involvement, and Media Exposure from the 1992 Survey Data

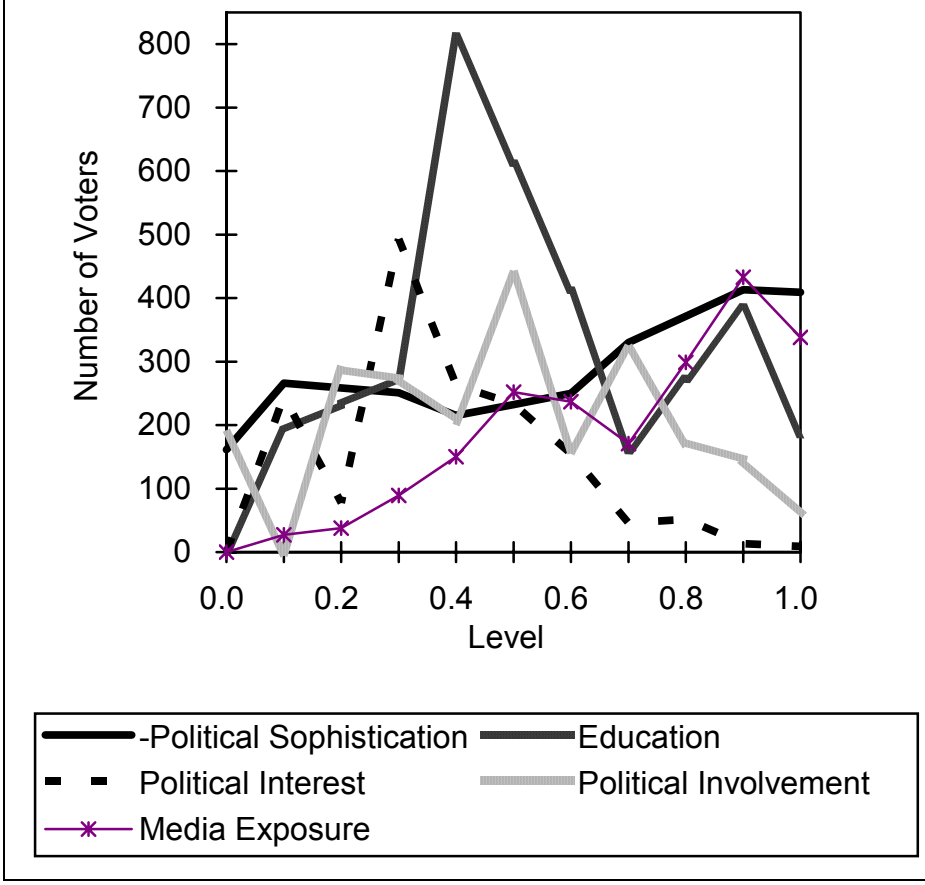


Figure 4. Distributions of Political Sophistication, Education, Political Interest, Political Involvement, and Media Exposure from the 2000 Survey Data

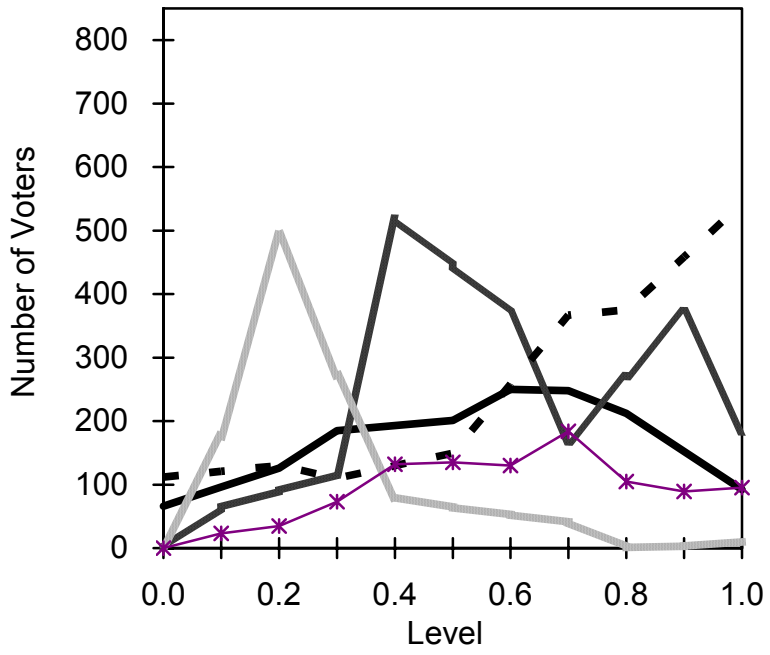


Table 7. Correlations Matrix among political sophistication, education, political interest, political involvement, and Media Exposure from the 1992 Survey Data

	Political Sophistication	Education	Political Interest	Political Involvement	Media Exposure
Political Sophistication	1.000	.506**	.453**	.376**	.288**
Education		1.000	.346**	.260**	.044
Political Interest			1.000	.368**	.371**
Political Involvement				1.000	.243**
Media Exposure					1.000

**Correlation coefficient (Pearson r) is significant at the 0.01 level (2-tailed).

Table 8. Correlations Matrix among political sophistication, education, political interest, political involvement, and Media Exposure from the 2000 Survey Data

	Political Sophistication	Education	Political Interest	Political Involvement	Media Exposure
Political Sophistication	1.000	.375**	.265**	.240**	.262**
Education		1.000	.154**	.167**	.071*
Political Interest			1.000	.237**	.256**
Political Involvement				1.000	.226**
Media Exposure					1.000

*Correlation coefficient (Pearson r) is significant at the 0.05 level (2-tailed).
**Correlation coefficient (Pearson r) is significant at the 0.01 level (2-tailed).

Table 9 presents the regression analysis results for the 1992 presidential election. The four different proxy variables for information processing ability showed an overall consistent pattern for the first two regression coefficients, which represent the linear and quadratic natures of the relationship between peoples' agenda setting susceptibility and their information processing ability. The value of each processing ability variable indicates a linearity of the relationship while that of each squared processing ability characterizes the nonlinear component of the relationship. For all three variables except political interest, the coefficient of processing ability was positive. This means if we assume only a linear relationship, political sophistication, education, political involvement should be positively correlated with susceptibility. Political interest had a slightly negative linear relationship with agenda setting susceptibility. The negative values of the squared terms for all four variables indicate that the quadratic relationships between susceptibility and processing ability are all inverted-U shaped ones, which suggests that as the degree of processing ability increases, susceptibility also increases, but from a certain point as processing ability increases, susceptibility decreases. These findings exactly correspond with our expectation. Particularly, only the coefficients of political sophistication were statistically significant at the level of .05. With both coefficients of sophistication and squared sophistication significant, we can say that the relationship between susceptibility and sophistication is generally quadratic (an inverted-U shape) with a dominant positive effect for most of the distribution.

Table 9. Estimates of the Impact of Political Sophistication, Education, Political Interest, and Political Involvement on Voters' Issue Agenda Setting Susceptibility During the 1992 Presidential Election

Predictor	Political Sophistication	Education	Political Interest	Political Involvement
Processing Ability	.371* (.162)	.367 (.285)	-.036 (.238)	.228 (.244)
Processing Ability ^{2}	-.335* (.149)	-.251 (.234)	-.010 (.201)	-.276 (.301)
Media Exposure	.01827 (.056)	.113 (.102)	-006 (.098)	.036 (.064)
Processing Ability x Media Exposure	-.222 (.228)	-.259 (.374)	.114 (.354)	-.164 (.325)
Processing Ability ^{2} x Media Exposure	.279 (.203)	.192 (.306)	-.051 (.282)	.274 (.379)
Intercept	.820	.762	.904	.853
R^2	.029	.013	.004	.009
N	1521	1480	1480	1225

Note. Table entries are unstandardized regression coefficients, and standard errors are shown in parentheses.
*p<.05

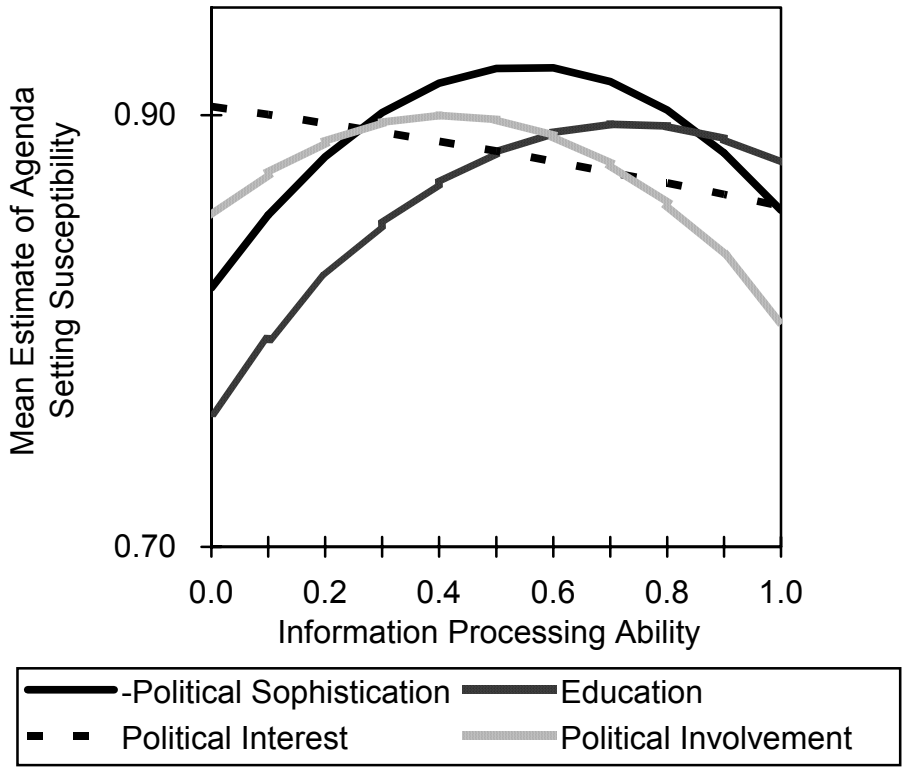
A visual description of the relationship between the level of processing ability and predicted susceptibility value ($\beta_0 + \beta_1$*ability + β_2*ability^2) in Figure 5 demonstrates the expected curvilinear relationship more clearly. Overall the mean of the predicted susceptibility scores increases from low to a roughly middle level of processing ability, but begins to decrease from middle to the high level of ability. To find out more specifically the nature of the nonlinearity of the quadratic relationship, I calculated the values of susceptibility and processing ability at three points of the curve: starting point, peak, and ending point. For this polynomial model of a quadratic relationship, the slope of the curve can be determined by the following formula (see Berry and Feldman, 1985, p. 59):

slope at $X_{1k} = \beta_1 + 2\beta_2 X_{ik}$

With this formula, we can compute the level of processing ability at which the predicted susceptibility score reaches its maximum. Where the slope equals zero, we can find the maximum value of susceptibility. If the slope of the relationship is zero, the formula can be remodeled as $X_{ik} = -\beta_1/2\beta_2$.

In case of political sophistication, the curve of the relationship has slope zero at the sophistication value of .554 [=-.371/2(-.335)]. The value of susceptibility at this point was .856 [=.82 + (.371)(.554) + (-.335)(.554^2)]. Using this equation, we can also calculate the predicted susceptibility values at the lowest and highest levels of sophistication. The susceptibility value was .820 at 0 of sophistication value, and .856 at the sophistication level of 1. These results suggest the relationship between

Figure 5. Distribution of the Estimate of Voters' Issue Agenda Setting Susceptibility on Political Sophistication, Education, Political Interest and Political Involvement During the 1992 Presidential Election



susceptibility and sophistication is curvilinear, supporting the first hypothesis of this study: individuals with a medium level of sophistication are most susceptible to the agenda setting effects. In sum, beginning with the lowest point (0) of sophistication, the susceptibility increases to the level of .820 as sophistication goes up to .554. After that, susceptibility begins to wane with increasing sophistication values. When sophistication reaches its highest (1), the susceptibility is predicted to decline to .856. Put another way, during the 1992 presidential campaigns, individuals having a sophistication score of .554 are expected to be most susceptible to agenda setting impacts, with sophistication and susceptibility positively related below the point and negatively related above the point. Education and political involvement showed similar patterns but with no statistical significance. And political interest had a moderately negative relationship with susceptibility with a minimum nonlinearity.

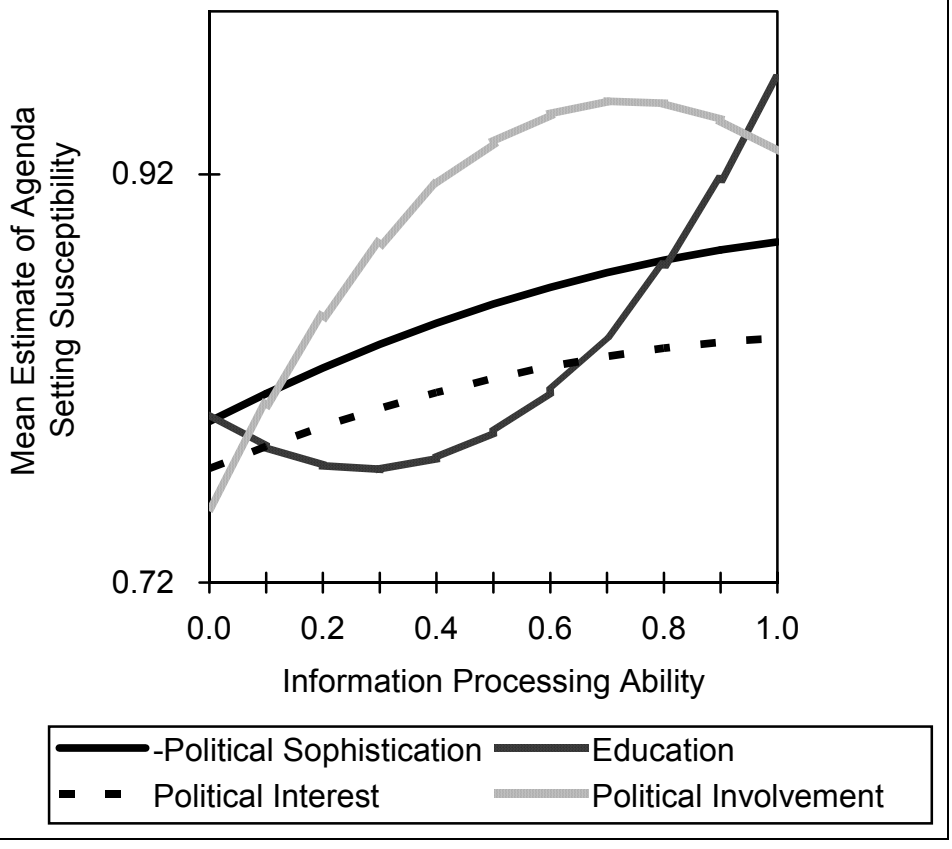
2000 presidential campaign. The analysis of the 2000 campaign data, however, produced no significant coefficients of linear or nonlinear terms across all four different variables for processing ability (Table 10). However, the coefficients of the linear and quadratic terms generally provided the same pattern shown in the 1992 data. The linear terms had positive values and the quadratic terms were all negative with an exception of education. This time, political involvement showed most distinct quadratic distribution while sophistication and political interest demonstrated only moderate quadratic components in their relationships with susceptibility. Figure 6 provides more concrete estimates of the relationships. In

Table 10. Estimates of the Impact of Political Sophistication, Education, Political Interest, and Political Involvement on Voters' Issue Agenda Setting Susceptibility During the 2000 Presidential Election.

Predictor	Political Sophistication	Education	Political Interest	Political Involvement
Processing Ability	.142 (.302)	-.201 (.369)	.112 (.307)	.541 (.452)
Processing Ability ^{2}	-.054 (.278)	.365 (.350)	-.048 (.248)	-.367 (.528)
Media Exposure	-.027 (.138)	-.056 (.048)	.240 (.186)	.030 (.113)
Processing Ability x Media Exposure	-.125 (.509)	.378 (.376)	-.622 (.578)	-.437 (.637)
Processing Ability ^{2} x Media Exposure	-.039 (.444)	-.516 (420)	.318 (.437)	-.103 (.700)
Intercept	.799	.803	.776	.757
R^2	.017	.022	.014	.029
N	368	501	447	384

Note. Table entries are unstandardized regression coefficients, and standard errors are shown in parentheses.

Figure 6. Distribution of the Estimate of Voters' Issue Agenda Setting Susceptibility on Political Sophistication, Education, Political Interest and Political Involvement During the 2000 Presidential Election



general, all of the explanatory variables seemed to be positively correlated with susceptibility, but those predictions were not backed by statistical significance.

Nonlinearity between attribute priming susceptibility and information processing ability

H3b (Nonlinearity of attribute priming susceptibility and information processing ability): Voters with moderate levels of processing ability are more likely to be susceptible to the attribute priming effect of news media than those at either extreme of the political sophistication spectrum.

1992 presidential campaign. Table 11 provides the coefficients of the explanatory variables, which were regressed on the public's attribute priming susceptibility to the media's description about G. H. Bush during the 1992 presidential election. All the negative signs of the quadratic functions for the four different variables for processing ability demonstrated that those moderately sophisticated were most susceptible, supporting the nonlinearity hypothesis about attribute priming effects (H3b). Both linear and quadratic functions were statistically significant concerning sophistication and education. In terms of the positive values of the linear terms, we can say that sophistication and education in general were positively associated with susceptibility, but the subsequent negative values of the nonlinear terms also demonstrated quadratic characteristics of those relationships.

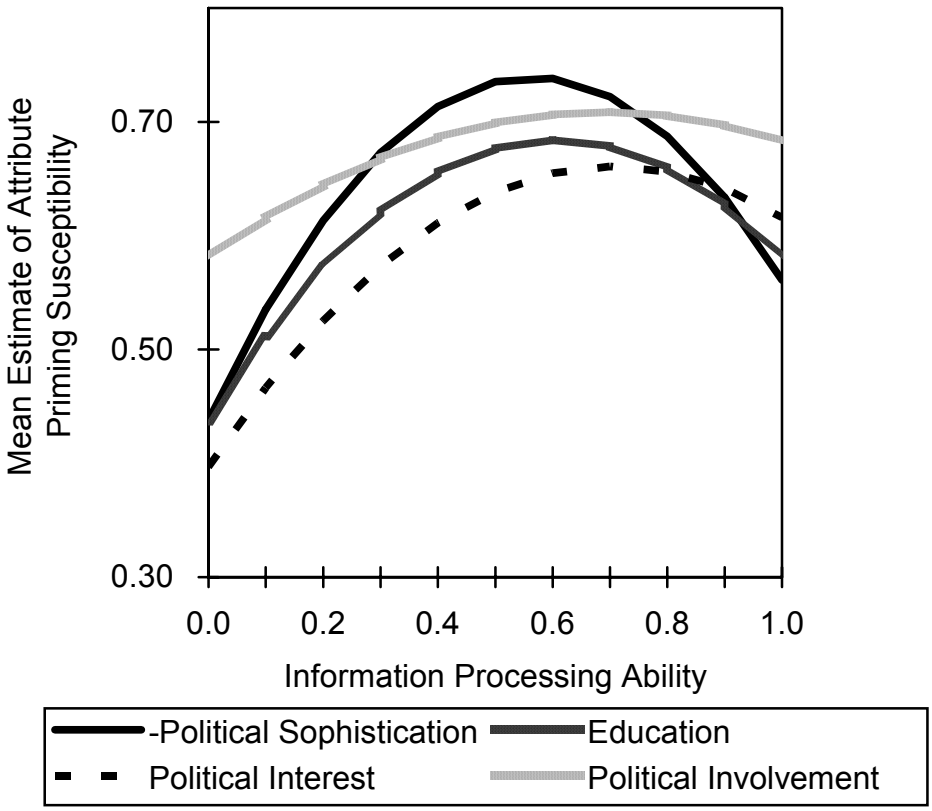
Figure 7 visualizes the quadratic relationships between the four different variables for processing ability and attribute priming susceptibility. All of the four

Table 11. Estimates of the Impact of Political Sophistication, Education, Political Interest, and Political Involvement on Voters' Attribute Priming Susceptibility for Presidential Candidate *G. H. Bush* During the 1992 Presidential Election.

Predictor	Political Sophistication	Education	Political Interest	Political Involvement
Processing Ability	1.066* (.435)	.814+ (.573)	.746 (.849)	.370 (.470)
Processing Ability ^{2}	-.943* (.390)	-.670+ (.462)	-.527 (.694)	-.268 (.611)
Media Exposure	.301* (.152)	.293+ (.205)	.388 (.334)	.127+ (.096)
Processing Ability x Media Exposure	-1.314* (.605)	-.857 (.740)	-.1051 (1.201)	-.288 (.595)
Processing Ability ^{2} x Media Exposure	1.169* (.529)	.694 (.597)	.700 (.964)	-.075 (.741)
Intercept	.438	.437	.397	.581
R^2	.007	.005	.006	.006
N	1220	1460	946	1245

Note. Table entries are unstandardized regression coefficients, and standard errors are shown in parentheses.
+p<.10. *p<.05

Figure 7. Distribution of the Estimate of Voters' Attribute Priming Susceptibility for Presidential Candidate 'G. H. Bush' on Political Sophistication, Education, Political Interest and Political Involvement During the 1992 Presidential Election



surrogate variables showed clear inverted-U shaped relationships. More specifically, in the case of sophistication, the curvilinear relationship has its slope zero at the sophistication score of .562 [=-1.066/2(-.943)], which means voters with a sophistication score of .562 were most susceptible to the attribute priming effect of news coverage of Bush during the 1992 campaigns. The susceptibility score at this apex was .739 [=.438 + (1.066)(.565) + (-.943)(.565²)]. That is, as sophistication increases to the point of .562, susceptibility also increases to the level of .739, but from that point of sophistication, susceptibility begin to decrease as sophistication increases. The susceptibility score at the lowest sophistication level (0) was .438 and that at the highest sophistication level (1) was .561. The difference of susceptibility scores at lowest and highest levels of sophistication was .123, which reflects the positive value of the linear term of sophistication. Education showed a similar curvilinear pattern, which had its slope zero at the point of .607 [=-.814/2(-670)]. The highest susceptibility score at this level of education was .684 [=.437+(.814)(.607)+(-.670)(.607^2)]. Education was positively correlated with attribute priming susceptibility below this point and above the point, it was negatively correlated with susceptibility.

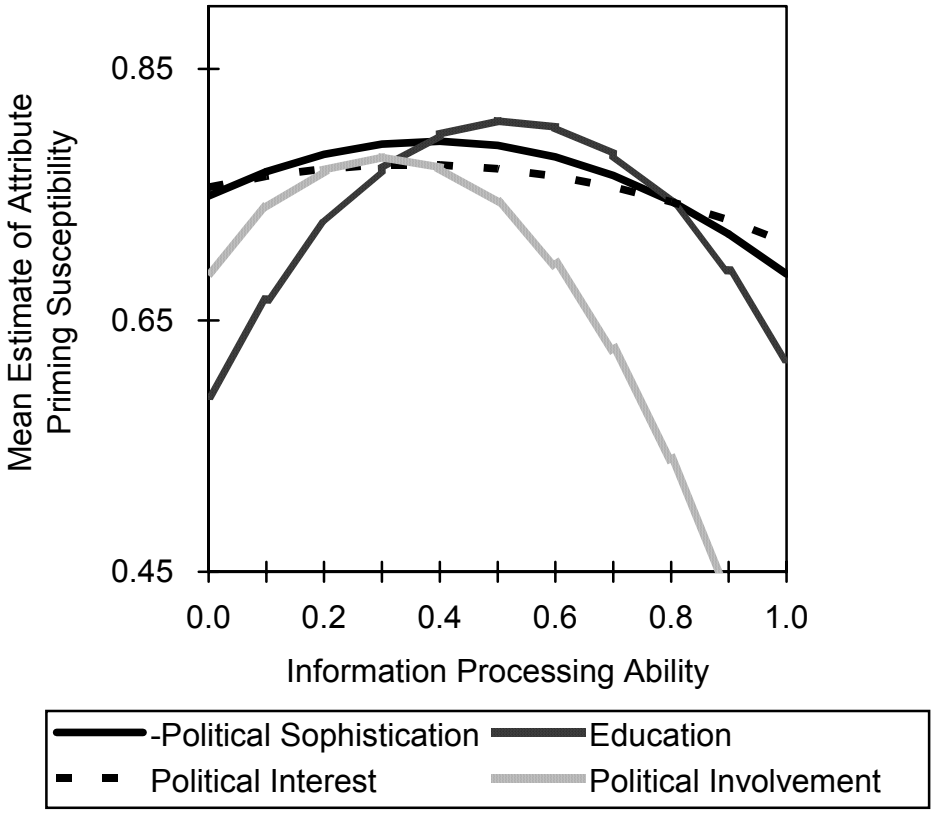
The expected curvilinear relationship between news coverage and voters' attribute priming susceptibility is also present for Clinton (Table 12). The linear terms and nonlinear terms of all four variables had positive and negative values respectively. This time, however, only the quadratic components of education and

Table 12. Estimates of the Impact of Political Sophistication, Education, Political Interest, and Political Involvement on Voters' Attribute Priming Susceptibility for Presidential Candidate *Clinton* During the 1992 Presidential Election.

Predictor	Political Sophistication	Education	Political Interest	Political Involvement
Processing Ability	.223 (.491)	.847 (.808)	.103 (.431)	.598 (.513)
Processing Ability ^{2}	-.285 (.403)	-.818+ (.610)	-.147 (.433)	-.980+ (.658)
Media Exposure	.022 (.198)	.180 (.318)	.095 (.149)	-.01 (.104)
Processing Ability x Media Exposure	-.337 (.686)	-.914 (1.055)	.029 (.590)	-.345 (.651)
Processing Ability ^{2} x Media Exposure	.398 (.551)	.874 (.797)	.090+ (.563)	.757 (.805)
Intercept	.749	.590	.756	.689
R^2	.011	.014	.019	.008
N	1197	1164	1190	984

Note. Table entries are unstandardized regression coefficients, and standard errors are shown in parentheses.
+p<.10

Figure 8. Distribution of the Estimate of Voters' Attribute Priming Susceptibility for Presidential Candidate 'Clinton' on Political Sophistication, Education, Political Interest, and Political Involvement During the 1992 Presidential Election



political involvement were significant at the level of .10. The apex of the education line was located at .518 [=-.847/2(-.818)] of education level and .809 [=.590+(.847)(.518)+(-.818)(.518^2)] of susceptibility level (Figure 8). At the lowest education level (0), the susceptibility was .590 and at the highest education level (1), it was .619. On the other hand, the susceptibility scores showed much left-skewed distribution on the involvement levels. Despite the positive value of the linear term of involvement, this left-skewed curve seemed to occur for two main reasons: first, the positive linear term was not statistically significant and second, the original data of political involvement was seriously mal-distributed leaning toward the left end of least involvement. As the level of involvement increases from 0 to .305 [=-.598/2(-.980)], the susceptibility increases from .689 to the highest value of .780 [=.689+(.598)(.305)+(.980)(.305^2)], but after this point susceptibility begins to decrease finally reaching a value of .307 at the involvement level of 1.

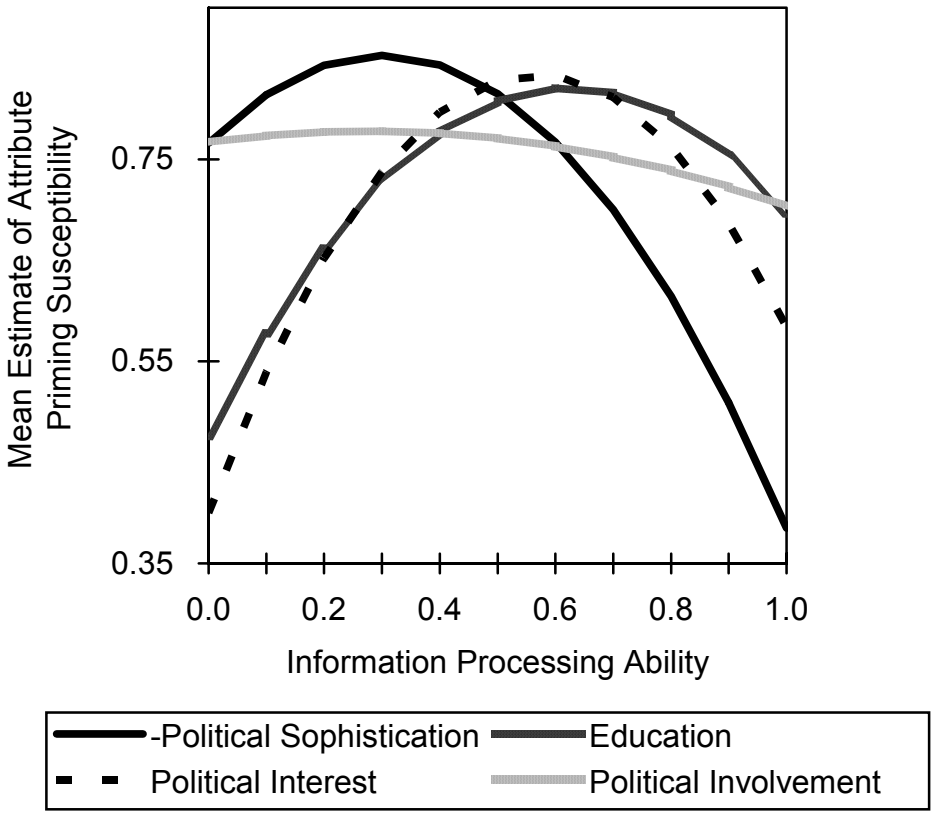
2000 presidential campaign. The data set of the 2000 campaign also strongly supported the nonlinearity hypothesis at the attribute level. Table 13 presents the regression coefficients of the relevant key variables. Three out of four predictor variables have with significant quadratic components in their relationship with attribute priming susceptibility for G. W. Bush. The negative values of the quadratic terms of sophistication, education, and political interest were significant, and the positive values of the linear terms of education and interest also were significant. Involvement showed the same pattern of linear and nonlinear values, but they were

Table 13. Estimates of the Impact of Political Sophistication, Education, Political Interest, and Political Involvement on Voters' Attribute Priming Susceptibility for Presidential Candidate *G. W. Bush* During the 2000 Presidential Election.

Predictor	Political Sophistication	Education	Political Interest	Political Involvement
Processing Ability	.576 (.616)	1.105+ (.799)	1.529* (.737)	.079 (.684)
Processing Ability ^{2}	-.957* (.555)	-.882+ (.606)	-1.345* (.587)	-.143 (.815)
Media Exposure	.043 (.246)	.429 (.340)	.483+ (.331)	.037 (.154)
Processing Ability x Media Exposure	-.730 (.909)	-1.692+ (1.122)	-1.775+ (1.098)	-.426 (.968)
Processing Ability ^{2} x Media Exposure	1.080+ (.803)	1.358+ (.854)	1.579* (.859)	.549 (1.122)
Intercept	.766	.476	.400	.767
R^2	.071	.063	.060	.031
N	601	760	756	611

Note. Table entries are unstandardized regression coefficients, and standard errors are shown in parentheses.
+p<.10, *p<.05

Figure 9. Distribution of the Estimate of Voters' Attribute Priming Susceptibility for the Presidential Candidate 'G. W. Bush' on Political Sophistication, Education, Political Interest and Political Involvement During the 2000 Presidential Election



not statistically significant. Figure 9 shows the distribution of the estimate of susceptibility depending on the different variables for processing ability. First, the susceptibility curve starts from .766 at the lowest sophistication level, reaching its peak of .853 [=.766+(.576)(.301)+(.957)(.301^2)], which is available at the sophistication level of .301 [=-.576/2(-.957)]. Susceptibility again decreases after that point down to .385 at the lowest level of sophistication. Second, as expected by the significant positive function of the linear term of education, the susceptibility curve appeared to be generally dominated by a positive effect, leaning toward the right-hand side. The susceptibility increases from .476, culminating at .822 [=.476+(1.105)(.626)+(-.885)(.626^2)], and finally decreases to .696 as the education level increases from 0 through .626 to 1. Third, the susceptibility curve on political interest also had a dominant positive effect for the overall distribution because of the significant positive linear function. Again, when interest was at its lowest point, the predicted amount of susceptibility was .400. As interest increases, so does susceptibility, until interest equaled .568 [-1.529/2(-1.345)] and susceptibility equaled .835 [=.400+(1.529)(.568)+(-1.345)(.568^2)]. After this point, increased interest was associated with decreases in susceptibility. In sum, voters who scored .301 in sophistication, .626 in education, and .568 in political interest appeared to be most susceptible to the media's attribute priming effect regarding Bush.

The distribution of the relationship between news coverage and voters' attributes for the Democrat presidential candidate Gore was similar to the previous

findings, supporting the hypothesis of nonlinearity. All linear terms had positive values while the quadratic terms produced negative values. This time, however, only education and political interest had statistically significant quadratic components (Table 14). In the case of education, both linear and quadratic functions were significant, which suggests a general positive relationship with a specific curvilinear function. Figure 10 presents such a right-sided distribution of the relationship of education and susceptibility. The education and susceptibility scores at the diverging point were .568 [=-876/2(-.771)] and .744 [=.495+(.876)(.568)+(-.771)(.568^2). The coefficient of squared political interest showed a significant negative sign, and that of political interest had a positive sign, which was not significant. The estimate curve also clearly demonstrated an inverted-U type relationship between interest and susceptibility. When the predicted amount of susceptibility was at its highest of .765 [=.618+(.563)(.519)+(-.544)(.519^2)], the interest level was .519 [=-.565/2(-.544)].

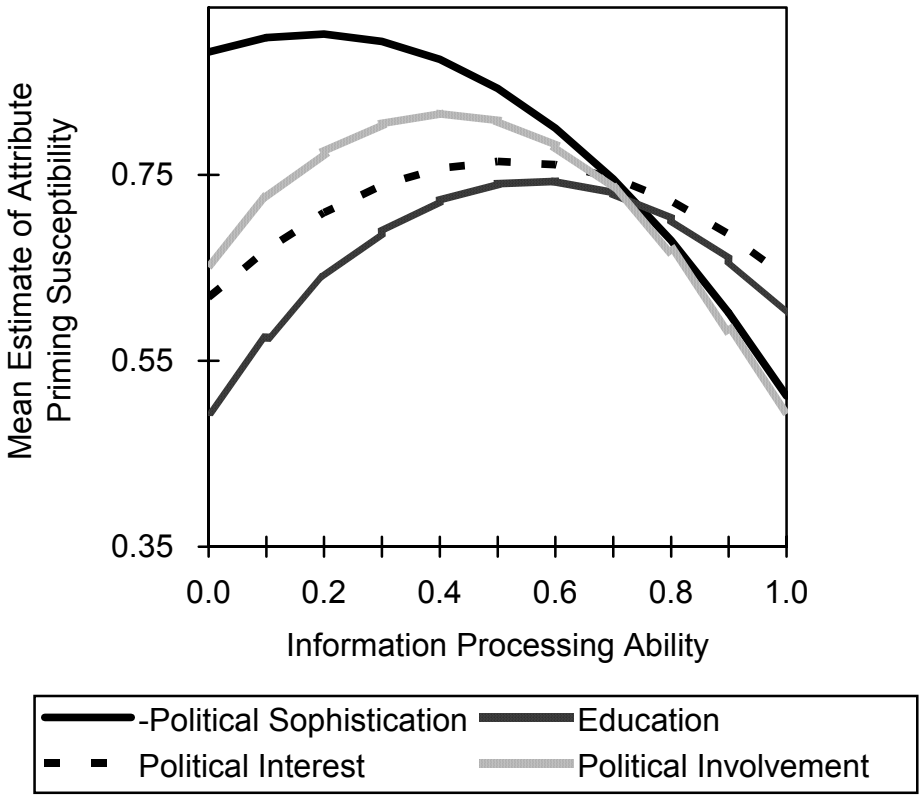
To sum up, nonlinearity tests at the issue and attribute level produced strong supports for the relevant hypotheses. Particularly, nonlinearity was more consistent and prominent concerning the news media's attribute priming effect on voters' susceptibility. For all four presidential candidates in the 1992 and 2000 elections, the relationships between voters' information processing ability and their attribute priming susceptibility generally appeared to have significant quadratic components while overall the quadratic relationships between voters' processing ability and their agenda setting susceptibility were significant in the context of the 1992 campaign.

Table 14. Estimates of the Impact of Political Sophistication, Education, Political Interest, and Political Involvement on Voters' Attribute Priming Susceptibility for Presidential Candidate *Gore* During the 2000 Presidential Election.

Predictor	Political Sophistication	Education	Political Interest	Political Involvement
Processing Ability	.214 (.638)	.876+ (.658)	.565 (.440)	.789 (.873)
Processing Ability ^{2}	-.584 (.563)	-.771+ (.511)	-.544+ (.350)	-.965 (1.067)
Media Exposure	-.251 (.325)	.175 (.271)	.101 (.266)	.016 (.194)
Processing Ability x Media Exposure	-.124 (1.129)	-.901 (.918)	-.693 (.720)	-.711 (1.238)
Processing Ability ^{2} x Media Exposure	.564 (.917)	.825 (.714)	.638 (.547)	.835 (1.474)
Intercept	.882	.495	.618	.655
R^2	.047	.030	.033	.023
N	569	710	708	576

Note. Table entries are unstandardized regression coefficients, and standard errors are shown in parentheses.
+p<.10

Figure 10. Distribution of the Estimate of Voters' Attribute Priming Susceptibility for the Presidential Candidate 'Gore' on Political Sophistication, Education, Political Interest and Political Involvement During the 2000 Presidential Election



Tests of Nonadditivity

Nonadditivity between agenda setting susceptibility and media exposure by information processing ability

H4a (Nonadditivity of agenda setting susceptibility, media exposure and information processing ability): The relationship between agenda setting susceptibility and media exposure will be stronger among those with low information processing ability than those with high information processing ability as the level of media exposure increases.

The nonadditivity or interaction test is to examine the moderating role of processing ability in the relationship between susceptibility and media exposure. First, the significance of nonadditivity among those key variables was reflected in the regression coefficients of the multiplicative terms in the tables of regression analysis. And second, based on the significance of those multiplicative terms and other predictors, we can map the nature of the interaction effect. Unfortunately, however, those regression analyses in Table 9 and 10, which presented the impact of the key variables on agenda setting susceptibility, did not produce any statistically significant coefficients for the interaction terms. Thus, it was in fact impossible to detect the nonadditive nature among those variables of processing ability, media exposure, and susceptibility from the perspective of agenda setting effect.

Nonadditivity between attribute priming susceptibility and media exposure by information processing ability

H4b (Nonadditivity of attribute priming susceptibility, media exposure, and information processing ability): The relationship between attribute priming susceptibility and media exposure will be stronger among those with low information processing ability than those with high information processing ability as the level of media exposure increases.

The attribute priming analysis (Table 11 through 14) provided three statistically significant cases to examine the nonadditivity among the variables of processing ability, media exposure and attribute priming susceptibility: an interaction effect moderated by political sophistication for G. H. Bush (1992) and by education and political interest for G. W. Bush (2000). The nature of the interaction effect was evaluated with reference to the five-term regression equations in Tables 9 and 11.

First, in the case of G. H. Bush in 1992 (Table 11), all of the regression coefficients in the sophistication equation were statistically significant, including the product terms reflecting interaction components. To check out the specific nature of the interaction effect, I calculated the regression lines for two different groups using dummy variables: high sophistication group vs. low sophistication group. The low sophistication group as the reference group was assigned 0 for the sophistication variable, and the high sophistication group was assigned 1. When sophistication is 0, the regression equation becomes

Susceptibility = .438 + 1.066(0) + (-.943)(0)² + .301ME + (-1.314)(0)ME + 1.169(0)²ME

and, by factoring out sophistication and sophistication², this equation yields the following:

Susceptibility = .438 + .301ME

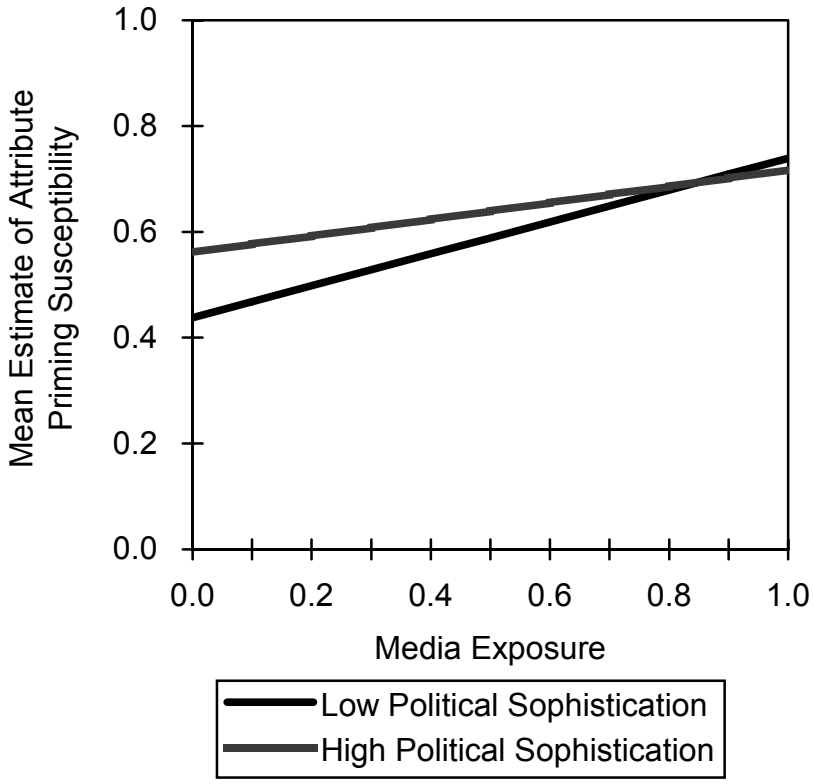
On the other hand, for the group of high sophistication, I substituted a 1 wherever sophistication occurs. The same procedures above came up with the following equation:

Susceptibility = .438 + 1.066(1) + -.943(1)² + .301ME + -1.314(1)ME + 1.169(1)²ME

= .561 + .156ME

The visualization of these equations of different sophistication levels can help to understand the interaction effect among the variables. Figure 11 clearly shows the nonadditivity among the variables, supporting the hypothesis (H4b). As expected, the slope of attribute priming susceptibility for the poorly sophisticated on media exposure was steeper than that of susceptibility for the highly sophisticated. That is, as media exposure increased, those of high sophistication became relatively less susceptible to attribute priming effect than those of low sophistication. The distinctive model suggested that, because of their lack of resistance against the media messages, the poorly sophisticated are most likely to accept media's campaign agenda and candidate attributes if they experience enough media exposure while,

Figure 11. Interaction Effect Among Attribute Priming Susceptibility, Media Exposure, and Political Sophistication for G. H. Bush During the 1992 Presidential Election



because of their well developed defense mechanism, the highly sophisticated are relatively less likely to accept media's agenda and attributes even though they receive heavy media messages. In Figure 11, those of low sophistication were less susceptible when they had less media exposure, but they rapidly become more susceptible with increasing media exposure, and the opposite was the case with those of high sophistication.

The second case for a nonadditivity test came from the regression model involving education in Table 13. The coefficients of interaction terms along with other predictors were statistically significant. Two regression lines to examine the nature of interaction were produced using the same computation process: .476+.439ME for the low education group and .699+.095ME for the high education group. The nature of the interaction effect among susceptibility, media exposure, and education in the context of news coverage of G. W. Bush in 2000 presidential election is shown in Figure 12. Again, the slope of susceptibility for the highly educated on media exposure were more positive than that of susceptibility for the poorly educated. For the high education group, increasing exposure had a relatively weak impact on the amount of susceptibility, but for the low education group, the increasing level of exposure exerted much stronger influence on the amount of susceptibility. A similar interaction pattern was found in the regression model about political interest for G. W. Bush in 2000 (Table 13). The two regression equations

Figure 12. Interaction Effect Among Attribute Priming Susceptibility, Media Exposure, and Education for G. W. Bush During the 2000 Presidential Election

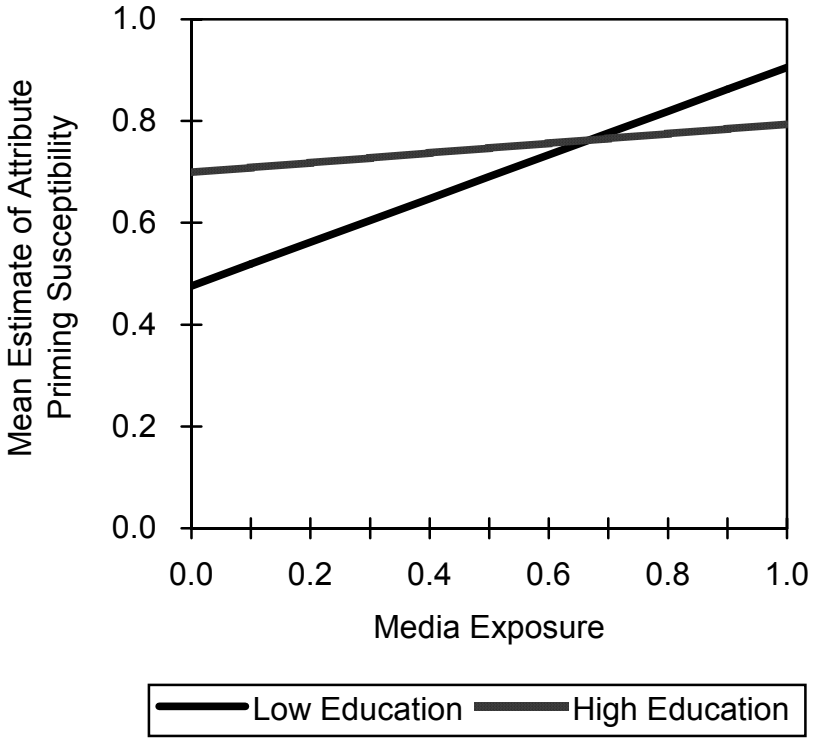
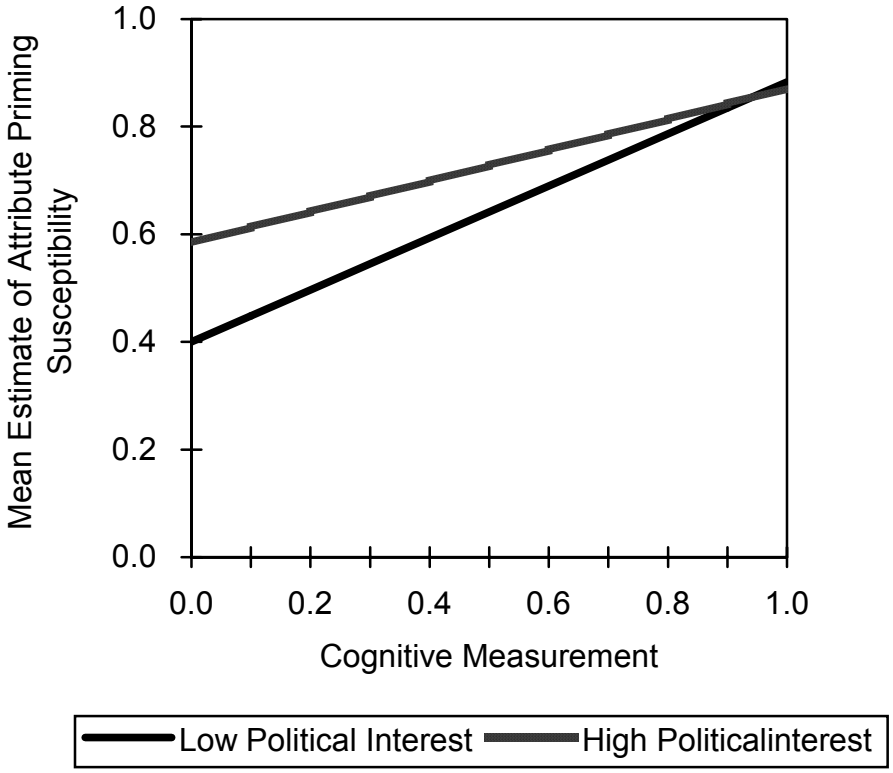


Figure 13. Interaction Effect Among Attribute Priming Susceptibility, Media Exposure, and Political Interest for G. W. Bush During the 2000 Presidential Election



for low and high interest were .400+.483ME and .584+.287ME. Figure 13 presents the two relationships between estimates of susceptibility and media exposure, which, this time, were moderated by political interest. The slopes of the two regression lines also confirmed the proposed hypothesis about nonadditivity. Susceptibility was more positively correlated with exposure for voters of high political interest than for those of low interest.

Consequently, the findings about interaction effects among the key variables provided another justification for the distinctive filter model from a psychological perspective. Media exposure, in general, had a positive impact on media effects susceptibility, but the strength of its impact was significantly moderated by the level of information processing ability. Overall, the influence of media exposure on susceptibility became stronger among those with low processing ability as they were increasingly exposed to media messages. In contrast, media exposure had relatively less impact among those with high processing ability as the level of exposure increases. Such a dynamic among the three key components of the distinctive filter model, thus, clearly provides well-evidenced support for nonadditivity as well as nonlinearity.

Tests of the Explanatory Power of Sophistication, Education, Interest, and Involvement

Power of four different predictors in explaining agenda setting susceptibility

H5a (Explanatory power for agenda setting susceptibility): The measurement of political sophistication will be more effective at explaining voters' agenda setting susceptibility than any single measurement of education, political interest, or political involvement.

Individuals' information processing ability, which was the key variable in explaining their media effects susceptibility in this study, was measured by four different operationalizations: political sophistication, education, interest in politics, and political involvement. And political sophistication was expected to be most explanatory of susceptibility because it contains such fundamental characteristics of processing ability as cognitive ability, political motivation, and even media exposure. In two ways, we can assess the explanatory power of each concept: by the significance level and the amount of explanation variance.

The former is to look at how significantly those variables relate to susceptibility, and this can be simply checked out by the significance level of the regression coefficients for the variables. During the 1992 and 2000 presidential elections, each surrogate variable for processing ability was tested two times for its relationship with the dependent variable (Tables 9 and 10). Only sophistication in the case of the 1992 campaign produced statistically significant coefficients of linear and quadratic terms. The other way to examine the explanatory power of the predictors is more general: the size of multiple R^2. In spite of the overall low R^2, sophistication also explained most of the variance of agenda setting susceptibility among the four

regressors. In 1992, sophistication accounted for 2.9 percent of the variance of the dependent variable while education explained only 1.3 percent and the rest less than 1 percent of the variance. In the case of the 2000 campaign, however, involvement led other variables by explaining 2.9 percent of the variance, and was followed by education (2.2 percent), sophistication (1.7 percent), and interest (1.4 percent). All in all, political sophistication as a representative variable of processing ability appeared to have the most power in explaining voters' susceptibility to media's agenda setting effect in terms of in what way and how much the two variables were associated. However, additional replications of these relationships are needed.

Power of four different predictors in explaining attribute priming susceptibility

H5b (Explanatory power for attribute priming susceptibility): The measurement of political sophistication will be more effective at explaining voters' attribute priming susceptibility than any single measurement of education, political interest, or political involvement.

Examination of attribute priming susceptibility provided more cases for the check of the explanatory power of the predictors. During the 1992 campaigns, both sophistication and education were significant predictors for the media's attribute priming effects about G. H. Bush. Sophistication had a linear and a quadratic effect on susceptibility at the significance level of .05 and education was significant at the level of .10 in explaining its linear and quadratic relationship with susceptibility

(Table 11). For involvement and interest, no significant effects were found. For Clinton, however, only the quadratic terms of education and involvement were statistically significant at a .10 level (Table 12).

In 2000, voters' sophistication, education, and interest showed significant relationships with the effect of media's coverage of G. W. Bush (Table 13). The quadratic term of sophistication and both the linear and quadratic terms of interest were significant at a .05 level. And education had a significance level of .10. Finally, the impact of news coverage of Gore on susceptibility was well explained by education and interest (Table 14). Only the quadratic term of education and both linear and quadratic terms of interest were significant at a .10 level.

In terms of the squared multiple correlation, overall about 1 or 2 percent of the variance in susceptibility scores was explained by the four predictors with no significant difference among them for G. H. Bush and Clinton in 1992 (Tables 11 and 12). However, in the case of 2000, again political sophistication appeared to be most effective predictor in explaining the variance in the dependent variable. Sophistication accounted for 7.1 percent of the variance in voters' susceptibility to media coverage of G. W. Bush, and education and interest explained 6.3 percent and 6.0 percent of the variance while involvement explained only 3.2 percent of it. Voters' attribute priming susceptibility to news coverage of Gore also was best explained by sophistication (4.7 percent). Interest (3.3 percent), education (3.0 percent), and involvement (2.3 percent) in turn followed sophistication.

In general, the findings supported the hypotheses about sophistication's capacity in predicting susceptibility. Sophistication terms were the only significant predictors for agenda setting susceptibility in 1992, and sophistication and education were most powerful in explaining the variance of agenda setting susceptibility in 1992 and 2000 respectively. Education also appeared to be significantly correlated with susceptibility. In all four cases of attribute priming tests, education was significantly correlated with susceptibility while sophistication and interest were so in two out of the four cases and involvement was a significant predictor only in one case during 1992 and 2000 campaigns. But, in light of the amount of variance explained, again sophistication was at the top in three out of the four cases and political interest had the most explanatory power only in one case during the same periods.

CHAPTER 5: DISCUSSION

Agenda Setting Effect

It is worth noting that this study focused on campaign news stories rather than the general news stories during the presidential campaigns. In this study, those campaign issue agendas in the news media were compared with voters' most important issues concerning not the campaigns in specific but the nation in general. This asymmetric comparison mainly stemmed from the limited availability of relevant public data. Agenda setting studies commonly look at the media and public agenda, which have a common denominator (e.g., news coverage of crime and public perception about the crime rate). Such an asymmetric comparison between the media's campaign issue agenda and voters' general national issue agenda in this study may weaken the presumable causality between them because of the lack of a common denominator. But, the literature about the agenda setting role of news media strongly suggests that the impact of presidential campaign news goes beyond the boundary of campaigns themselves (e.g. Dalton et al. 1998). That is, news coverage of presidential campaigns has an influence on the public's perception about socially and nationally important agendas as well as their perception about the issue agendas spinning around the political arena. In fact, what the presidential candidates talk about is a national agenda rather than just a campaign agenda. In this sense, the high correlations between the campaign coverage and the public's national agenda found

in this study emphasize the role of campaign news as a dominant actor setting the national agenda.

Attribute Priming Effect

The priming effect test in this study is different from the previous priming research tradition on two major points. First, the priming hypothesis generally has been tested at issue levels. The traditional priming research focuses on the issue agendas, as criteria relevant to political actors who–it is assumed–are judged by the issues. However, the current priming study was conducted on an attribute level rather than the conventional issue level. This attribute priming effect emphasizes the candidate attribute agendas as evaluation criteria for voting decision, criteria which are essentially inherent to the political actors. The attribute priming effect directly deals with candidates themselves by looking at the various aspects of the candidates (e.g., news reports about personal characteristics, qualities, or issue positions) rather than by linking exogenous factors (e.g., new reports about unemployment, civil rights, pollution, or education) to the candidates.

Typical priming studies at an issue level look at the influence of media exposure on the audience's evaluation of the presidents' overall or domain-specific job performance (e.g., Iyengar and Kinder 1987). Priming research, by focusing on issues, tells us what people take into consideration to make a political judgment about political figures. At an attribute level, on the other hand, priming studies may

tell us how people think about political candidates to reach a judgment about them. By emphasizing some specific aspects of candidates while ignoring other aspects, the news media may attract our attention to those salient aspects and in turn change our evaluation criteria for the candidates. Therefore, attribute priming research provides us with a more direct psychological explanation about people's judgment on political figures. The significant results about the attribute priming effect in this study demonstrate how news coverage of candidates can determine our image and judgments about the presidential candidates.

Second, while traditional priming research focuses on the impact of news on the audience's criteria to evaluate politically important figures, attribute priming in this study deals with how and what audience do with those evaluation criteria. In this study, the primed attributes are assumed to connect to voters' choice of their candidates. As attribute agenda setting theory explains how people think about an object, the attribute priming assumption addresses more how and what people do about it. More specifically, candidate attributes prominent in news coverage will influence the perceived importance of those attributes among voters and furthermore the weight ascribed to those attributes when voters decide for whom to vote. Such a subsequent behavioral consequence of the cognitive effects of news media was more clearly supported by the additional correlation analysis of news coverage and candidate attributes of voters who intended to vote for specific candidates. The findings showed that voters' attributes about each candidate, for whom the voters

were going to vote, were more strongly correlated with news media's attributes about those candidates than the candidate attributes of the general voters were with media's attributes.

For a future study, various message factors, such as tone of candidate description, which were not considered in this study, will also contribute to the explanation of voters' voting behavior. The tone of candidate description in news coverage, for instance, will influence the direction of candidate images among voters and in turn their political behavior. Particularly, considered jointly with voters' predisposition about the candidates, the positive or negative candidate description will surely work as a determinant (through the process of selective exposure, attention, and retention) for voters' affective and behavioral consequences.

Finally, it is noteworthy that the correlation analysis produced a consistent pattern concerning new vs. old faces: the correlations between media and public attribute agendas were higher for challengers or new faces in the presidential races than for the incumbents or old faces. In general, news about political candidates can play a crucial role of directing the evolution of the attribute agendas about them in the public's minds (Geer and Kahn, 1993). Especially when the candidates are new faces and voters have less information about those unknown candidates, such an attribute agenda-setting role of news media will be more influential (e.g., King 1997). Borrowing a theoretical term, the voters may have loose 'schemata' about new candidates, which should be constructed (or reconstructed) with new

information about them to reach a voting decision. Because voters have less prior knowledge about the new candidates running for the presidency and subsequent weaker predisposition toward them, the information supplied by news media could be a crucial trigger for voters' political attention, preference, and even behavior. On the other hand, concerning the incumbent candidates, voters already may have information and preexisting determinations about them, thus being less influenced by news coverage.

This reasoning was reflected in the attribute priming analysis. Among both the general voters and specific candidate supporters, the correlations between voters' salient attributes about the new candidates, Clinton and G. W. Bush, and the media attributes about these news faces were higher than the correlations between voters' attributes and news descriptions about the incumbent candidates, G. H. Bush and Gore, in 1992 and 2000 respectively.

This tendency can be explained by the communication concept of need for orientation. Need for orientation provides a psychological explanation for individuals' different susceptibility to media effects. The notion focuses on such contingent factors as relevance (as generally operationalized by political interest) and uncertainty (as generally opertationalized by firmness of political choice) about political objects to address the different media effects susceptibilities of individuals with different motivations for information processing (Weaver, 1977). According to the concept of need for orientation, individuals with more interest and less certainty

regarding particular political objects (e.g., political issues or candidates) will pay more attention to media messages relevant to those objects to get necessary information. Particularly, from the perspective of uncertainty of the concept, voters may need to pay more attention to news coverage about the less known candidates for presidency to reach a political decision about them, and therefore are more likely to accept the candidate attributes, represented in news media, as their criteria for candidate choice.

Along with the 'uncertainty' dimension, the 'interest' dimension of need for orientation also provides an alternative (or more supportive) explanation for these results: winning vs. losing candidates. It seems natural that voters are more interested in and try to get more information about the candidates who are more electable as well as about those who they do not know well about. Jamieson (2000) found that the electorate's agenda matched more closely with the winning candidate's agenda than the losing candidate's agenda in the 1992 and 1996 presidential elections. The current findings about the 1992 and 2000 elections parallel this trend although the 2000 competition was too close to call. The close competition in 2000 also was reflected on the results. In fact, the difference between the correlation coefficients for the winning and losing candidates in the 1992 campaign (.155) was much larger than that of those coefficients in the 2000 campaign (.046). The same pattern was found among the voters who supported specific candidates. Although the overall correlations between the news coverage of the winning candidates and the candidate

images among their supporters were stronger than the correlations for the losing candidates, this tendency was especially intense in the 1992 election in which the winning and losing candidates were relatively distinctive throughout the campaign period. The correlation difference between the winning and losing candidates among their supporters was .213 in 1992 and .036 in 2000 respectively. These results rather support the original assumption of need for orientation that media's role as an agenda setter is more prominent when both of the two components of need for orientation–interest and uncertainty–are at high levels. For instance, Clinton in 1992, about whom the media and public attribute agendas were most closely aligned with each other, was a new face (high uncertainty) and a clearly winning candidate (high interest) at the same time. In the mean time, the association between the media and public agendas was weakest for G. H. Bush in 1992, who was an old face (low uncertainty) and a losing candidate (low interest).

Additionally, the overall stronger attribute agenda conformation between news media and the supporters for specific candidates than between news media and the general voters also confirms the psychological explanation of need for orientation: more interest, more susceptibility. This finding implies that voters' intense interest in their own supporting candidates led them to be more attentive to the news information about those candidates, and in turn to be more susceptible to agenda setting effects by media.

In sum, these findings strongly suggest that the impact of news coverage of political objects on people's cognition and behavior about those objects is large in general, and even larger when people have less prior knowledge and more interest about them. If this study focused on media messages with argumentative values (e.g., editorial columns), we might not be able to find such strong media effects. This does not mean that argumentative messages with a persuasive purpose are not influential, but at a national level, such as presidential elections, the effect of persuasive messages is not easily detectable in part because of the constant information flows of competing messages (e.g., editorial endorsements for Republican candidates vs. Democratic candidates. For more discussion on this issue, refer to Zaller 1996). People trust and rely on news media particularly when they think the news media are independent and objective sources for information. Therefore, focusing on media coverage of candidate attributes, which is assumed to have objective factual values rather than argumentative values, may be a more efficient way to detect significant media effects susceptibility.

Electoral Communication and Agenda Setting Theory

On the other hand, these findings concerning the agenda setting and attribute priming effects have significant implications for journalism in general and the reporting of election campaigns in specific. For more than a century, the press has been a necessary condition for the operation of the political system in our democratic

society. The important role of news media in the democratic process lies in the fact that the press is a common carrier of the messages of political leaders. News media's role of informing the public about politics, however, has further implications. Numerous studies (typically represented as the agenda setting research) in the field of political communication have shown that the public relies on news media not only for the information about political issues and actors but for the ways of thinking about them as well (e.g., McCombs, Shaw, and Weaver 1997; McCombs et. al 1997; Scheufele, D. A., 2000).

The findings of this study confirm that news media can push certain campaign issues up to the top tiers of the important national agendas, and make a difference in how people come to make their voting decisions by emphasizing certain attributes rather than others about candidates. Particularly, in accordance with the findings in many recent studies (e.g., Mendelsohn 1996; Patterson 2000), the news media appeared to have allotted most of their air time for reporting candidates' various personal qualities and traits as well as their issue positions. It means that individual political figures became a more significant determinant in voters' decision making process and, in turn, in the contemporary electoral communication. Some scholars argue that such a change in news media's campaign coverage diverts voters' attention from political substance, such as issues and parties, to political fancies like images and affection (e.g., Keeter 1987).

In short, news media can provide the materials with which voters draw the picture of the political world outside, and even the directions about how to draw it. Without understanding such an agenda setting role of the press, it is impossible to understand how journalists, political leaders, and voters interact with one another in a democratic society. The agenda setting research provides an important theoretical base on which our democracy stands, develops, and is accomplished. Practically, the findings of this study suggest that changes in journalism as a profession can make a profound difference in political communication as a democratic process.

Nonlinearity Between Media Effects Susceptibility and Information Processing Ability

The finding of a nonlinear relationship between media effects susceptibility and information processing ability in this study contributes to the settlement of a long controversy on the inconsistent relationship of the two variables. The inconsistency about the relationship between them derives from both theoretical and methodological concerns. Persuasion, in general, is not a simple process of only media exposure, but also involves the process of acceptance. During the course of exposure to and acceptance of media messages, the contingent variable of information processing ability plays a crucial role of moderating susceptibility to media messages. Processing ability is generally positively correlated with media exposure, but not necessarily so with acceptance. Those of high processing ability

rather may be resistant to media effects because of their ability to prioritize media agendas. The previous studies about media effects susceptibility sometimes ignored such contradictory associations among the key variables of media effects. Therefore, conventional research designs to detect a linear relationship between susceptibility and processing ability found both a positive and a negative relationship between them depending on situations, such as types of media messages. For example, if a communication is difficult to understand as in a physics class, the relationship is more likely to be positive, but if the communication message is relatively easy to understand, probably the relationship will appear to be negative. Hovland's (1949) experiment about one- and two-sided message types is a typical example of such contradictory relationships between susceptibility and media effects depending on message factors.

One methodological way to settle such a contradictory relationship is a nonlinear examination of the relationship as in this study. The proposed inverted-U shaped relationship nicely reconciles such seemingly contradictory relationships: a positive relationship between media exposure and susceptibility and a negative relationship between processing ability and susceptibility. The significant negative values of the regression coefficients for the quadratic processing ability terms also well represented the nonlinearity of the relationship. Particularly, the positive relationship between processing ability and exposure (shown in Tables 7 and 8) clearly supported the psychological explanation for this curvilinear relationship in

the distinctive filter model. That is, voters with better processing ability were less susceptible to media effects in spite of their relatively high levels of media exposure while the less susceptibility among those of less processing ability resonated with their low levels of exposure. Such a finding consistently implies that media exposure is a necessary but not a sufficient condition for media effects to occur. The second filter of information processing ability here fills the gap between exposure and media effects.

In fact, the nonlinearity concerning media effects can be generalizable to other communication concepts, which have been typically evaluated by means of linear models. For instance, the knowledge gap hypothesis predicts that as mass media information increases, the difference of information acquisition between the social segments of higher and lower education tends to linearly increase rather than decrease because of various factors, such as communication skill, prior knowledge, social contact, selective exposure and retention, and focus of media production (Tichenor et al. 1970). However, as Tichenor himself noted, "growth of human knowledge may be characterized by either linear or nonlinear trends" (p. 160). More specifically, Moore (1987) found that the knowledge gap between highly-educated voters and less-educated voters did not increase linearly as campaigns proceeded, but instead the knowledge gap was contingent on time. Based on his findings, he developed a diffusion model in which, during a campaign, the knowledge gap about political information begins to widen, culminating at the mid-point of the period, and

finally narrowing at the last stage of the campaign. Over the course of information diffusion, voters' information processing ability and media exposure again were the key components of the nonlinear relationship. Highly-educated voters can absorb media information initially due to their better processing ability while less-educated voters are not able to do so, but less-educated voters eventually catch up the better-educated voters as the diffusion of media information (or media exposure) increases over time. Consequently, the nonlinearity may appear elsewhere if we employ appropriate methodologies to detect nonlinear functions in the major communication theories, such as cultivation theory, uses and gratifications, and diffusion of innovations (for more explanations about the nonlinear characteristics of these concepts, refer to Eveland 1997).

Finally, it is notable that most of the linear terms in the model, which defines the linear relationship between information processing ability and media effects susceptibility, showed positive values. This means that if we assumed only a linear relationship between the two variables, we could have results supporting the attentiveness model. This finding is very consistent with the traditional media effects literature (Lee and Cappell 2001). In general, media exposure has been assumed to be a core precondition for media effects to occur. It is just true that without media exposure, there can be no subsequent media effects. The findings in the current study do not refute this assumption about the role of media exposure in media effects, but rather fine-tune our understanding of the role of exposure coupled with the other

important variable, information processing ability, in the whole process of media effects susceptibility. In this sense, more contingent variables should be considered in a model at the same time to understand the details of the big picture of communication effects.

Nonadditivity Among Media Effects Susceptibility, Media Exposure, And Information Processing Ability

The three cases of the interaction test showed a consistent pattern. At lower levels of media exposure, people with high processing ability were more susceptible to media attribute agendas than those of low ability. But as exposure increased, the susceptibility gap between the better processors and the poorer processors became narrower, and finally at higher levels of exposure, those of low ability became more susceptible than those of high ability. In fact, this crossover interaction was well represented in the distinctive filter model. In the filter model, those of poor processing ability are assumed to be less susceptible to media effects because of their lack of media exposure, while those of high ability would be less susceptible because of their abundant resources for resistance despite their high media exposure. The interaction analysis supported such a psychological dynamic of the filter model by demonstrating that the poorer processors became more susceptible to media effects as they experienced enough media exposure. Although susceptibilities of both the poorly and highly able voters were generally positively associated with media

exposure, the relationship was significantly contingent on the level of processing ability.

The nonadditivity among the variables, however, was not as significant as the nonlinearity. Some explanations for the difficulty of detecting interaction effects in survey data are not hard to find (see Eveland 1997)—particularly, interaction effects are more easily detected in experimental studies than in survey data mainly because survey data are more likely to have measurement error (Jaccard and Wan 1995; McClelland and Judd 1993). This means that although the measurement reliabilities of both information processing ability and media exposure are acceptable, for example, at the level of .80 with minimal measurement errors, the reliability of their product term (processing ability*exposure, which has the interaction information) will be significantly reduced to less than .64 (.80*.80), which is unacceptable. Given that the reliability of measurement of social science variables is generally difficult to achieve, appropriate statistical remedies should be applied for future studies.

Consequently, despite the difficulty of detecting an interaction effect, nonadditivity tests are worthwhile because mass communication is a complex process, which requires consideration of various contingent variables. The assumption of this study that people are not influenced by mass communication simply in proportion to the amount of it they receive involves examination of the moderating role of information processing ability.

Predictors for Media Effects Susceptibility

The four different proxy variables for information processing ability were compared to test their explanatory power for the nonlinear relationship between media effects susceptibility and processing ability. In general, political sophistication was the most reliable to explain susceptibility in general and the nonlinear relationship specifically. However, education also appeared to have substantial explanatory power while political interest and involvement explained the variance in susceptibility only minimally. Sophistication's higher correlations with education than any other proxy variables (Tables 7 and 8) also indirectly support the findings. Although education appeared to be the second most powerful predictor, it was also fairly efficient to estimate people's information processing ability alone considering the economic aspect of measuring and analyzing the relevant survey data. This comparison of the variables emphasizes the importance of precise conceptualization and operationalization of the key variables to correctly assess media effectiveness in political persuasion.

People's political knowledge was assumed to have a more schematic characteristic because knowledge measurement significantly represents the organized structures of knowledge and procedure (Rhee and Cappella 1997). Furthermore, the measurement of civic knowledge in this study included both factual and ideological questions about politics. In the sense that information processing ability is a systematic structure of political ideology and knowledge rather than just a cognitive

ability, the current measurement of political sophistication seems to be more valid in predicting complex media effects such as attribute priming and agenda setting, which involve the whole process of encountering political news, evaluating the information, and finally accepting or rejecting the political values and agendas included in the information.

On the other hand, considering the low variance of the media effects susceptibility explained by the predictors, adding partisanship to the regression model may have increased the overall size of regression coefficients. In fact, partisanship has been found as one of the most influential factors affecting voters' political learning, attitude, and behavior about political candidates (Bartels 2000; Converse 1962; Dalton, Beck, and Huckfeldt 1998; Rahn 1993). For example, partisans may selectively perceive the political information, and such a selective perception may enhance their predispositions about political candidates (e.g., Dalton et al. 1998). Thus, stratifying the data by partisanship may yield even stronger agenda setting and priming effects for some groups. Few studies, however, have investigated the specific relationships between partisanship and political information processing. Partisanship, for example, coupled with message factors must be a promising research topic for understanding voters' political preference and judgment.

Adding "efficacy" and "cynicism" as variables in the analysis also would expand the potential of this study. The question of why people are distrustful and apathetic about political leaders and government is still controversial among scholars

(see Nye, Zelikow, and King 1997). Distrust in or so-called cynicism toward the democratic political systems, and subsequent public inefficacy in understanding and participating in politics seem to derive from at least several problems, including substantive ineffectiveness of institutions, negativity of mass media, and public's sociodemographic factors (Cappella and Jamieson 1997; Moy and Pfau 2000). Particularly, in light of sociodemographics, public's political cynicism and inefficacy appear to be correlated with their political knowledge (Delli Carpini and Keeter 1996; Morin and Balz 1996). Thus, it will not be a surprise to find that public's cynicism and efficacy are significantly associated with their political perception and inference, which are again conditioned by their political learning (e.g., Krosnick and Miller 2000). Examination of those psychological variables coupled with political knowledge will shed more light on how and why audience members with diverse information processing motivations perceive the messages contained in mass communication differently. Consequently, public cynicism and efficacy, which are directly associated with the effectiveness of political communication, can play a crucial role in understanding different media effects susceptibilities among people of different political motivations.

CHAPTER 6: CONCLUSION

Two major findings of this study are that, first, news media can be a dominant actor in the political campaign, setting the national importance of campaign issues among voters and influencing their candidate evaluation criteria for the voting decision; and second, those impressive news effects were not equally distributed among voters of different information processing abilities. Particularly, by developing a nonlinear model for media effectiveness, this dissertation tried to make a substantial contribution to the settlement of the long-time controversy over the relationship between media effects susceptibility and information processing ability. And the empirical evidence provided in this paper clearly supported the 'powerful' media effects hypothesis and the nonlinearity assumption. It is also notable that by combining two different types of agenda setting research (mass persuasion or type I and cognitive portrait or type IV), this study provided strong supports for the agenda setting effects at both levels of aggregate and individual data at the same time. This study is possibly the first agenda setting study, which utilized the same data from both the Type I and IV perspectives.

The role of news media in political communication is the name of the game of our democracy because the press is the most accessible information source, if not the only one, for political campaigns and candidates. News coverage of political candidates specifically appeared to be significantly linked to voters' perception and their choice of the candidates. Resonating with the developing trend of news media's

focus on candidates' personal characteristics, campaign coverage has come to exert a more powerful impact on the image of the candidates among voters, which now is one of the voters' most important criteria for candidate selection. Increasing numbers of political independents and reduced party impact also reinforce the importance and impact of news media during political campaigns. The high correlations between media coverage of candidate attributes and voter's criteria for decision-making especially reflect an enhanced role of news media in shaping public opinion about political candidates. This study did not intend to determine whether such significant media effects are desirable or not. However, large media effects can occur in any society where political and media systems determine how the society operates. In other words, strong mass communication effects may not occur unless citizens believe in the media's independent role in the electoral process (e.g., Miller and Krosnick 2000). Voters are more likely to rely on the independent news media as sources of news and political expression. This means that voters are not just 'victims' to media effects, who are rather a part of the interactive dynamics in a democratic political system. Public opinion does not come from thin air, but is a product of the political communication process between news media and voters in a democratic society. The healthier our democracy, the more news media will have an influence on voters.

In a practical sense, the findings about the importance of candidate images in voters' decision-making can be useful to both journalists and public relations

personnel. The focus of news coverage of campaigns significantly influences the images of candidates in voters' minds. Such an influence, however, always brings up concerns about journalistic bias (e.g., Patterson 1994). The long argument about issue versus image reporting about political campaigns has not produced a final conclusive verdict, though. However, voters' decisions without adequate guidance can be foolish, and the diversity of news focus will largely compensate for some inevitable bias in news coverage. Public relations persons working in campaign camps also may refer to this kind of research findings because cultivating their candidates' image in certain ways can determine how voters think and what they do about the candidates. For example, candidates' personal qualities and characteristics and their domestic issue positions along with their party connections were at the top tier of voters' decision-making criteria. And these findings will assist campaign staffs in creating appropriate strategies for campaign communication, which emphasizes their candidates' positive aspects on those attributes.

Nonlinearity and nonadditivity, on the other hand, have become central in mass communication research, which is an interdisciplinary field in itself. The fact is that the more carefully we look at media effects, the clearer it becomes that the media effects link to numerous contingent variables with high complexity. The findings about the nonlinearity and nonadditivity among the relevant variables in this study are only a part of the far more complicated process of mass communication effects. Understanding the underlying relationships among various key variables

concerning media effects requires more rigorous and elaborated examinations. And nonlinearity and nonaddivity tests should be part of an effort to detect such complicated relationships from both theoretical and methodological perspectives. Either an inaccurate derivation of hypotheses from theories or an obtuse statistical tool for testing those hypotheses will eventually interfere with correctly evaluating the validity of the theories. Thus, in mass communication research, more nonlinear and nonadditive models need to be developed to assess intricate media effects involving multiple variables for both theoretical and methodological reasons. Another methodological concern in this study involves measurement of information processing ability, which is one of the most popular key variables in the media effects literature. Based on the relative strength of various operationalizations of the key variable, political sophistication, as measured by factual and ideological knowledge about politics, functioned as the most reliable representative variable in predicting the relationship between processing ability and media effects susceptibility. It is also hoped that future studies employing processing ability as their crucial predictor variable will be more aware of the effectiveness for using political sophistication rather than other commonly adopted concepts as a surrogate variable for processing ability.

In conclusion, the distinctive filter model represents a more theoretically and methodologically precise specification, which reconciles two sharply competing hypotheses concerning media effectiveness in political communication. As always,

converging theories and models produces more than just an arithmetic summation of them. This synthesizing model not only supports the assumption of the powerful media effects, but also adds some underlying psychological details to it. For future reference, more efforts should concentrate on the examination of media effectiveness in political communication, which also should involve diverse explanatory variables and rigorous research designs, to fully understand how democracy works in our society.

APPENDIX

Appendix A: Pilot Study of Media Content Analysis

Pilot study for media agenda similarity (1992)
among *ABC World News Tonight*, *CBS Evening News*, and *NBC Nightly News*

Correlations of campaign issue agendas among three different news media
(Mean correlation=.86)

	ABC	NBC	CBS
ABC	1.000	.920	.821
		(.001)	(.002)
NBC		1.000	.843
			(.001)
CBS			1.000

Note. Correlation coefficient is Spearman's rho.
Number in parenthesis indicates significance level (2-tailed).
Inter-coder reliability was .97 (Holsti's coefficient)

Correlations of candidate attribute agendas among three different news media
(Mean correlation=.71)

	ABC	NBC	CBS
ABC	1.000	.789	.674
		(.010)	(.033)
NBC		1.000	.654
			(.044)
CBS			1.000

Note. Correlation coefficient is Spearman's rho.
Number in parenthesis indicates significance level (2-tailed).
Inter-coder reliability was .95 (Holsti's coefficient)

Appendix A (continued)

Pilot study for media agenda similarity (2000)
among *ABC World News Tonight*, *CBS Evening News*, and *NBC Nightly News*

Correlations of campaign issue agendas among three different news media
(Mean correlation=.80)

	ABC	NBC	CBS
ABC	1.000	.750	.836
		(.005)	(.001)
NBC		1.000	.818
			(.001)
CBS			1.000

Note. Correlation coefficient is Spearman's rho.
Number in parenthesis indicates significance level (2-tailed).
Inter-coder reliability was .96 (Holsti's coefficient)

Correlations of candidate attribute agendas among three different news media
(Mean correlation=.68)

	ABC	NBC	CBS
ABC	1.000	.629	.621
		(.051)	(.055)
NBC		1.000	.794
			(.006)
CBS			1.000

Note. Correlation coefficient is Spearman's rho.
Number in parenthesis indicates significance level (2-tailed).
Inter-coder reliability was .93 (Holsti's coefficient)

Appendix B: Codebook for Media and Public Data

For Content Analysis Of Presidential Campaign News Coverage Of *ABC World News Tonight* (1992) And *NBC Nightly News* (2000)

Issue agenda codes for issue descriptions in news stories are 2 digits (from 01 to 12). Attribute agenda codes for candidate description in news stories are 3 digits. The first digit identifies the candidate who is being described. The next two digits identify the attribute agenda of the candidate that is being cited. The categories below for issue agenda analysis are based on the Most Important Problem master code of the National Election Studies (NES) survey. The categories for attribute agenda analysis are also based on the candidate description master code of the NES survey.

Candidates:

1XXX George H. Bush
2XXX Bill Clinton
3XXX Gorge W. Bush
4XXX Al Gore

V1 News Media:

5 ABC World News Tonight
6 NBC Nightly News
7 CBS Evening News

V2 Date: YYYYMMDD

V3 Number of Article/Description:

Appendix B (continued)

V4 Issue Agendas of News Stories:

1. **Social welfare problems** (including infrastructure, population, day care, unemployment, education, social security, health care, housing, poverty)
2. **Agriculture** (including farm economics, government aid to farmers, world food problems)
3. **Natural/Energy resources** (including conservation of natural resources, protecting the environment, development issues, pollution, nuclear power)
4. **Labor problems/Union-management relations** (including job safety issues, working conditions)
5. **Racial problems/Civil rights** (including social/economic/educational/political equality, discrimination issues)
6. **Technology** (including the Year 2000 computer (Y2K) problem)
7. **Public order problems** (drug/alcohol, women's rights, abortion, crime/violence, law and order, death penalty, legal reform, control of guns, extremist groups, euthanasia, moral/religious decay, prayer in school, family values/problems, divorce, problems with young people, homosexuality)
8. **Economic and business problems** (inflation, wage and price, food shortages; economic aspects, energy crisis, recession/inflation, monetary restraints/interest rates, government spending/budget deficit, taxes, productivity, stock market/currencies, big business, gap b/w rich & poor, deregulation, financial institutions, immigration policy, international economics, u.s. foreign trade, foreign investment in u.s./protection of u.s. industries)
9. **Foreign affairs** (foreign policy/relations, U.S.-NATO relationship, u.s. foreign military/economic involvement, peace and war prevention, take care of home problems)
10. **National defense** (defense budget, disarmament, weapons development, nuclear war, morale of nation, benefits for veterans, gays in the military)
11. **Issues relating to the functioning of government** (power/size of the government, honesty/morality in government/government personals, president's quality, president's scandals with women/impeachment, confidence/trust in political leaders/system, quality/efficiency of public employees, waste of government spending, government budget priorities, power of congress/supreme court, fair election procedures, public apathy, unfair criticism by the media, basic freedoms)
12. **Others** (other specific descriptions of important problems)

Appendix B (continued)

V5 Attribute Agendas of Candidate Description:

Experience/Ability

15. Experienced (qualified for the office etc.)
16. Dependable/Trustworthy/Reliable/Keeps or fulfills campaign promises
17. Good military/war record
18. Good record in public service/Has done a good job
19. Has government experience/political experience/seniority/incumbency
20. A statesman; has experience in foreign affairs
21. Other general characteristics of candidate experience/ability (positive)
22. Inexperienced (not qualified for the office etc.)
23. Undependable/Untrustworthy/Unreliable/Does not keep/fulfill campaign promises
24. Bad military/war record or no military/war record
25. Bad record in public service/Has not done anything
26. Lacks government experience/political experience
27. Not a statesman; lacks experience in foreign affairs
28. Other general characteristics of candidate experience/ability (negative)

Leadership Qualities

30. Dignified/has dignity
31. Strong/decisive/self-confident/aggressive
32. Inspiring/"a leader"/charisma
33. People has confidence in him
34. Patriotic
35. Good at communicating/dealing with blacks, young people, other groups
36. A politician/in politics
37. Independent/runs him/his own boss
38. Humble/knows his limitations/doesn't pretend to know all the answers
39. Careful/Cautious/Good judgment
40. Good at explaining himself/his positions/answer questions clearly
41. Helps/Represents/Cares people
42. Keeps people informed/Listen to the people
43. Has helped local economy/interests
44. Other positive characters of candidate leadership

45. Undignified/lacks dignity

Appendix B (continued)

46. Weak/indecisive/lacks self-confidence/vacillating
47. Uninspiring/not a leader/lacks charisma/not confident
48. People do not have confidence in him
49. Not patriotic
50. Poor at communicating/dealing with blacks, young people, other groups
51. Not a politician/not in politics
52. Not independent/run by others/not his own man/boss
53. Not humble enough/too cocky/self-confident
54. Impulsive/Careless/Bad/Poor judgment
55. Poor at explaining himself/his positions/doesn't answer questions clearly
56. Doesn't help/represent/care people
57. Does not inform people enough/Doesn't listen to people
58. Has not help local economy/interests
59. Other negative characters of candidate leadership

Personal Qualities

70. Honest/Sincere/keeps promises/man of integrity
71. Man of high principles/ideals
72. Not bigoted/prejudiced
73. Public servant/Man of duty/Hard-working
74. Doesn't use office for personal benefit
75. Supports Bush's stand on Pledge of Allegiance issue
76. Supports Dukakis' stand on Pledge of Allegiance issue
77. Understand nation's problems/Well-informed
78. Pragmatic/Practical/Realistic
79. Well educated/scholarly
80. Intelligent/Smart
81. Religious/Moral
82. Self-made/Not well off
83. A fresh face/Time for a change
84. Safe/Stable
85. Sense of humor
86. Kind/Warm/Gentle
87. Likeable/Friendly
88. Democratic (in non-partisan sense)
89. Talks straight/Can talk to common man
90. Description of his family
91. Description of his wife/spouse
92. Well-known

93. Good appearance/looks/health (e.g. on TV, etc.)
94. Aged/Old/Mature
95. Good communication skills/Speaking ability
96. Energetic
97. Regional reference (e.g. He is a Midwesterner, he is from the country)
98. Racial/Ethnic attribute
99. Previous occupation
100. He is a family man
101. Other positive personal qualities

102. Dishonest/Insincere/breaks promises/no integrity
103. Lacks principles/ideals
104. Bigoted/Prejudiced
105. Doesn't take public service seriously/Not dedicated
106. Uses/in office (mostly) for personal benefits (junket trips, big salary, other perks)
107. Does not understand nation's problems/Poorly informed
108. Not sensible/Impractical/Unrealistic
109. Poorly educated/unschooled
110. Unintelligent/Uninformed
111. Irreligious/Immoral
112. Wealthy/Rich/Born with silver spoon in mouth
113. Old hat/Has run before
114. Dictatorial/Ruthless
115. No sense of humor
116. Cold/Aloof
117. Not likeable
118. Undemocratic (in non-partisan sense)
119. Talks in circles/Can't talk to common man
120. Unknown/not well known
121. Bad appearance/looks/health (e.g. on TV, etc.)
122. Not aged/Young/Immature
123. Bad communication skills/speaking ability
124. Not energetic
125. Other negative personal qualities (e.g., takes underserved credit, etc.)

Other Miscellaneous Descriptions About Candidates

130. Treatment of Jesse Jackson
131. Sexual scandals

Appendix B (continued)

132. Non-sexual scandals (e.g., Whitewatergate, Travelgate, FBI gate, Bush Jr.'s drug and alcohol use, Watergate, etc.)
133. Campaign finance scandals (e.g., Gore soliciting funds from his office, Gore at the Buddhist temple, etc.)
134. Not enough choice for the office (e.g., need for a third party candidate, women for vice-president, etc.)
135. Description of debates or candidate's performance in the debates (positive)
136. Description of debates or candidate's performance in the debates (negative)
137. Description about unfair/undeserved/excessive criticism by media or public
138. He is "just" good
139. He is "just" bad
140. He is trying
141. He is not trying
142. The incumbent should have another chance
143. Lesser of two evils
144. Sympathy with opponent candidate or candidate with underdog position
145. Other miscellaneous descriptions relating to images of candidates (positive)
146. Other miscellaneous descriptions relating to images of candidates (negative)

Party Connections

150. A Democrat/Good Democrat/Typical Democrat
151. A Republican/Good Republican/Typical Republican
152. Controlled by party regulars/bosses/machine
153. Not controlled by party regulars/bosses
154. Descriptions related to the men around him/staff/followers
155. Descriptions related to other party figures (including running mates)
156. Would keep Democratic or Republican domestic/foreign policies
157. Would change Democratic or Republican domestic/foreign policies
158. More liberal (from the perspective of partisanship)
159. More conservative (from the perspective of partisanship)
160. Will listen to the party liberals/conservatives
161. Independent candidacy
162. Description of his speeches, campaign tactics, mud-slinging
163. Other descriptions of party connection (e.g. best choice for party victory, etc.)

Appendix B (continued)

Government Management

170. Efficient administration/Balanced budget/Spend less
171. Honest government
172. Brings about bureaucratic reform
173. General good description of administration (e.g. providing good administration, etc)
174. Works/Achievements he has done in office (positive)
175. Description about his response to domestic crisis or natural disasters (positive)
176. Description about his relationship with congress (positive)
177. Description of other positive management issues (e.g., doing a good job, face issues and problems, etc.)

178. Inefficient administration/Deficit budget/Spend more
179. Dishonest government
180. Not bring about bureaucratic reform
181. General bad description of administration (e.g. incompetent aides, etc.)
182. Works/Achievements he has done in office (negative)
183. Description about his response to domestic crisis or natural disasters (negative)
184. Description about his relationship with congress (negative)
185. Description of other negative management issues (doing a bad job, escape issues, problems, etc.)

Government Activity/Philosophy

190. Description of assessment of ideas/policies/stands (e.g., resistance to changes/new Ideas, political beliefs, etc.)
191. Description of political philosophies (e.g., liberal, conservative, left, right, socialistic, etc.)
192. Description of government activity/involvement
193. Description of social change/reform/improvement
194. Description of views about issues of separation of church and state/religion and politics
195. Other description of government activity/philosophy

Domestic Policies

200. Abortion and birth control

Appendix B (continued)

201. Affirmative Action programs
202. Civil and women rights/Racial justice
203. Clinton impeachment
204. Confidence/Trust in government
205. Daycare
206. Drugs
207. Ecology/Environment
208. Economic and financial policy/Inflation/Employment
209. Education
210. Energy/Gas shortage/Nuclear power
211. Financing of elections; campaign finance reform (campaign finance scandals go to 117)
212. Gun control
213. Health insurance/Medical reform/Medicare/Medicaid
214. Housing
215. Inflation/Cost of living
216. Influx of political/economic refugees
217. Labor policy
218. Law and order (including death penalty)
219. Monetary policy (including regulation of financial institutions)
220. National Health Insurance
221. Public morality
222. Social Security/Pensions
223. Space program
224. Tax/budget policy
225. Unemployment (including increase of coverage and benefits)
226. Urban problem/Cities
227. Welfare/Poverty problems (including government aid)
228. Other descriptions about domestic ideas/policies/stands

Foreign policies

240. Cold war/Detente
241. Foreign aid/Economic aid
242. Foreign trade/Tariffs/Free trade
243. Military/Defense position/spending
244. NATO
245. Interest in world role
246. Nuclear freeze/Disarmament
247. Persian Gulf war/ Desert Storm

248. Regional issues (e.g., Middle East, China, Russia, etc.)
249. Terrorism/Dealings with terrorists/Hostages
250. Regional wars outside USA
251. Other descriptions about foreign ideas/policies/stands

Group Connections

260. Special interests/Privileged people/Influential
261. Labor/Unions/Labor bosses/Racketeers
262. Big Business/Corporate rich/The rich individuals/People with power
263. Common man/people
264. White color
265. Middle class
266. Poor people
267. Farmers/Country people
268. Blacks/Black people/Negroes
269. People on welfare
270. Old people/Senior citizens
271. Young people/Kids
272. Women/Feminists
273. Veterans/Servicemen
274. Ethnic or racial groups
275. Minority groups (including gay/lesbian groups)
276. Other descriptions of group connection

Events Unique To One Campaign

280. Perot quit race
281. Other descriptions of any single events unique to one campaign

Appendix C: NES Survey Questions To Probe Relevant Key Variables

Issue Agenda

Respondents' most important problems (1992 and 2000)

"What do you think are the most important problems facing this country?"
"Of those you've mentioned, what would you say is the single most important problem the country faces?"

Attribute Agenda

Respondents' attribute agenda about presidential candidates (1992 and 2000)

Positive attribute
"Now I'd like to ask you about the good and bad points of the major candidates for President. Is there anything in particular about Mr. Bush [Mr. Clinton] that might make you want to vote for him? (What is that?)

Negative attribute
"Now I'd like to ask you about the good and bad points of the major candidates for President. Is there anything in particular about Mr. Bush [Mr. Clinton] that might make you want to vote against him? (What is that?)

Political Sophistication

Respondents' political sophistication (1992)

Party control of the House
Do you happen to know which party had the most members in the House of Representatives in Washington before the election this month? (N=2255: Correct=59.2%)

Party control of the Senate
Do you happen to know which party had the most members in the U.S. Senate before the election this month? (N=2255: Correct=51.0%)

Appendix C (continued)

Party ideological location

Which party is more conservative? (N=1476; Correct=87.1%)

Judicial review

Who has the final responsibility to decide if a law is constitutional or not...is it the President, the Congress, the Supreme Court, or don't you know? (N=2255; Correct=57.6%)

Office Recognition (Identifying the vice president)
Now we have a set of questions concerning various public figures. We want to see how much information about them gets out to the public from television, newspapers and the like.

The first name is Dan Quayle. What job or political office does he now hold? (N=2255; Correct=87.6%)

Office Recognition (Identifying the Russian president)

Boris Yeltsin (N=2255; Correct=44.8%)

Respondents' political sophistication (2000)

Party control of the House
Do you happen to know which party had the most members in the House of Representatives in Washington BEFORE the election this month? (N=1555; Correct=54.6%)

Party control of the Senate
Do you happen to know which party had the most members in the U.S. Senate BEFORE the election this month? (N=1555; Correct=49.9%)

Candidate ideological location

Where would you place Al Gore on this scale [seven scales of political ideology]? What about Al Gore? (Do you think he is extremely liberal, liberal, slightly liberal, moderate or middle of the road, slightly conservative, conservative, or extremely conservative?) (N=1555; Correct=61.9%)

Where would you place George W. Bush on this scale [seven semantic differential scales]? What about George W. Bush? (Do you think he is extremely liberal, liberal, slightly liberal, moderate or middle of the road, slightly conservative, conservative, or extremely conservative?) (N=1555; Correct=66.0%)

Office Recognition (Identifying the British Prime Minister)
Now we have a set of questions concerning various public figures. We want to see how much information about them gets out to the public from television, newspapers and the like.

TONY BLAIR
(What job or political office does he NOW hold?) (N=1555; Correct=34.5%)

Office recognition (Identifying the U.S. Attorney General)

JANET RENO
(What job or political office does she NOW hold?) (N=1555; Correct=55.1%)

Media Exposure

Respondents' Media Exposure (1992)

Campaign program watch
Did you watch any programs about the campaigns on television? Would you say you watched a good many, several, or just one or two?

Television news watch
How many days in the past week did you watch the news on TV?

Attention to television campaign news
How much attention did you pay to news on TV about the campaign for President -- a great deal, quite a bit, some, very little, or none?

Appendix C (continued)

Respondents' Media Exposure (2000)

Campaign program watch
Did you watch any programs about the campaign on television? Would you say you watched a good many, several, or just one or two?

Network news watch
How many days in the past week did you watch the national network news on TV?

Attention to network campaign news
How much attention do you pay to news on national news shows about the campaign for President -- a great deal, quite a bit, some, very little, or none?

Education

Respondents' Education Level (1992 and 2000)

What is the highest degree that you have earned?

1. 8 grades or less and no diploma or equivalency
2. 9-11 grades, no further schooling
3. High school diploma or equivalency test
4. More than 12 years of schooling, no higher degree
5. Junior or community college level degrees
6. BA level degrees; 17+ years, no advanced degree
7. Advanced degree, including LLB

Political Interest

Respondents' Interest in Politics (1992 and 2000)

Political interest
Some people don't pay much attention to political campaigns. How about you? Would you say that you have been very much interested, somewhat interested, or not much interested in the political campaigns so far this year?

Appendix C (continued)

Political discussion
How often do you discuss politics with your family or friends -- every day, 3 or 4 times a week, once or twice a week, or less often than that?

Respondents' Interest in Politics (2000)

Political interest
Some people don't pay much attention to political campaigns. How about you? Would you say that you have been very much interested, somewhat interested or not much interested in the political campaigns so far this year?

Political discussion
Do you discuss political matters...often, sometimes, rarely, or never?

Political Involvement

Respondents' involvement in political activities (1992)

Did you wear a campaign button, put a campaign sticker on your car, or place a sign in your window or in front of your house?

Did you go to any political meetings, rallies, speeches, dinners, or things like that in support of a particular candidate?

Did you give money to a political party during this election year?

Did you do any (other) work for one of the parties or candidates?

Respondents' involvement in political activities (2000)

Did you wear a campaign button, put a campaign sticker on your car, or place a sign in your window or in front of your house?

Did you go to any political meetings, rallies, speeches, dinners, or things like that in support of a particular candidate?

Appendix C (continued)

During an election year people are often asked to make a contribution to support campaigns. Did you give money to an individual candidate running for public office?

Did you do any (other) work for one of the parties or candidates?

Voting Intention

Respondents' voting intention for candidates (1992 and 2000)

Who do you think you will vote for in the election for President? (PROBE: We all know the election is some time away and people are not certain at this point who they will vote for. Still, who do you think you will vote for in the election for President?)

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