M.E.Sharpe

The Sleeper Effect and Negative Political Advertising

Ruth Ann Weaver Lariscy and Spencer F. Tinkham

The sleeper effect phenomenon is examined to explain how the impact of negative political advertising persists —and even increases —over time. Using a true experimental design with attack and defensive message treatments, adult subjects were asked to report their vote and its certainty immediately after message exposure and in a delayed telephone callback. Results indicate that a defensive advertisement following the attack is initially effective; however, over the next few weeks, the impact of the attack ad increases substantially. Similarly, an initial perception that the assailant has low credibility has only a temporary suppressive impact on the effectiveness of the attack ad. Our documentation of both an order-driven and a credibility-driven sleeper effect poses strategic challenges for those candidates who are attacked. Further, these results offer theoretical insights into the determinants and the pervasiveness of the sleeper effect in political campaigns.

Ruth Ann Weaver Lariscy (Ph.D., University of Missouri) is an Associate Professor, College of Journalism and Mass Communication, at the University of Georgia.

Spencer F. Tinkham (Ph.D., University of Illinois at Urbana) is a Professor, College of Journalism and Mass Communication, at the University of Georgia.

In the 1980's and the late 1970's, when negative advertising strategies were still regarded as somewhat "maverick," the volume and style of negativity in campaigns became a mainstay of election coverage (*Advertising Age* 1998; *Television/Radio Age* 1988; Will 1986). While such advertising is consistently disliked (Ansolabehere and Iyengar 1995; Hill 1989) and thought to alienate large numbers of potential voters (Freedland 1994; Rothenberg 1990; Teepen 1995), its effectiveness is endorsed by its continuing and increasing use at every level of campaigning (Jamieson 1992; *Newsweek* 1996; Tinkham and Weaver Lariscy 1997).

The prevalence and increasing legitimacy of negative attack ads (West 1992) raises the question of how to respond to and discount the influence of an attack particularly among candidates who will almost inevitably be attacked. In the 1980's a popular strategy was to "take the high road" if attacked, and not dignify the accusation with a response. Michael Dukakis' lack of response to the "Willie Horton" ad in 1988 is cited by political analysts and commentators (Jamieson and Campbell 1992) as well as by Dukakis himself (*Washington Journal*, C-Span, 1997) as a contributing factor to the landslide Bush victory.

Similarly, the use of positive messages unrelated to the attack (as attempts to counter negative ads) does not offset the specific message of the attacker. While these ads may bolster the evaluation of the attacked candidate, they are less powerful than the attack ad. Labeled the "negativity bias," results from numerous information processing and judgmental decision-making studies indicate that individuals weigh negative information more heavily than positive information (Kellerman 1984; 1989; Lau 1982; 1985) and are more likely to remember it (Ito, Larsen and Smith 1998; Lang 1991; Lang, Dhillon and Dong 1995).

Another strategy that is sometimes advocated by consultants is for the candidate to inoculate against a negative attack early in the campaign. This approach, colloquially referred to as "stealing the opponent's thunder" (Call 1996; Nelson 1995) is resisted by most potential targets of attack (virtually all candidates!), for fear that inoculation can raise potentially damaging issues about themselves.

This paper explores how defense against negative attack ads impacts the effectiveness of those attacks over time, as well as what effects, if any, will last until election day. This study was motivated by strategic political

decision-making rather than by the desire to test alternative theoretical interpretations. We also wanted to examine empirically, particularly in the current environment in which candidates frequently make pledges against the use of negative advertising, whether negative advertising "works" in the manner consultants believe it does. Further, this study presents, in an applied context, data-gathering procedures that are perfectly suited for observing the mass communication phenomenon called the sleeper effect (SE). As such, it provides an opportunity to explore and extend discussion of this phenomenon into theoretical territory, while remaining grounded by strategic motivations. Thus, we examine patterns of voter response to attack advertising over time and within the theoretical context of the sleeper effect.

Sleeper Effect

Sleeper effect is defined, in its most general and descriptive sense, as the phenomenon characterized by increased impact at some point in time after a stimulus event occurs (Gruder et al. 1978). Thus, in persuasive communication studies, the sleeper effect is typically found when a message has a greater *delayed* than *immediate* impact on receivers' attitudes. First named by Hovland, Lumsdaine and Sheffield (1949), the sleeper effect seemed both empirically contradictory and theoretically counter-intuitive. Typically the effectiveness of a message erodes over time due to a variety of factors; there is a diminishing persistence of persuasive impact. Sleeper effect is the opposite: it is observed when "a persuasive message (has) greater delayed than initial impact on subjects' attitudes..." (Gruder et al. 1978).

Various theoretical explanations have been advanced and tested to explain the phenomenon (See Allen and Stiff [1989] for an overview and classification of many of the SE studies; see also Cook, et al. [1979] for a history of the effect). The most widely used principle, (and the explanation that dominated research and discussion until recently) is dissociation of memory routes (Eagly and Chaiken [1993] p. 612) where "an unfavorably evaluated persuasion cue (e.g., a negative source) that was initially associated with the message presumably becomes dissociated from it over time." This negative source, or cue, is something in the persuasive situation that is associated with the message and causes recipients to discount it—that is, to regard the message as less valid, truthful, etc., than it would be regarded without the negative discount.

This *dissociation explanation*, originally called the *discounting cue hypothesis* (Hovland and Weiss 1951;

Kelman and Hovland 1953), specifies that when a source is initially regarded as untrustworthy, the message will have reduced impact upon first exposure, yet be better learned because it is more critically examined (Allen and Stiff 1989; Gruder et al. 1978; Petty and Cacioppo 1981). However, as time passes, the source is forgotten, or dissociated from the message, yielding an increase in effect from the message content itself. Simply put, while we may discount something initially because of *who* said it, or *where* we encountered it, over time we will forget the source, or dissociate it from the message, but remember the message.

A more recently advanced explanation for the sleeper effect is the "differential decay" interpretation (Moore and Hutchinson 1985; Pratkanis, Greenwald and Leippe 1988). This interpretation posits that a sleeper effect occurs when the impact of the discounting cue decays faster than does the impact of the message (Pratkanis, Greenwald and Leippe 1988). If the discounting cue is a source cue, it deteriorates more rapidly than does the message cue. Thus, over time, the source cue is forgotten more quickly than the message. In their review of persistence theories of attitude change, however, Eagly and Chaiken (1993) argue that not enough research documents this interpretation: "The differential decay theory of the sleeper effect, which is based on principles of forgetting, needs more substantiation before it can be regarded as having strong support." While the jury is still out on differential decay as a theoretical explanation for sleeper effect, those who base their research on this interpretation have rekindled interest in the phenomenon.

In its 40-year history as an explanatory phenomenon, sleeper effect has generated both periods of relative excitement as well as periods of discredit. The term was widely popular in the mid-1950s through the 1970s (Eagly and Chaiken 1993); yet, numerous researchers were unable to replicate findings and substantiate the phenomenon (Johnson and Watkins 1971; Schulman and Worrall 1970) leading some to claim the time had come to "lay the sleeper effect to rest" (Gillig and Greenwald 1974). Amidst the confusion and controversy, attention turned away from research that documented whether or not a sleeper effect occurred, to *the conditions under which* a sleeper effect may or may not be observed.

For our research, that examines political strategy as an applied context for the sleeper effect phenomenon, documentation of these conditions is more important than consideration of the competing theoretical explanations for the sleeper effect. We empirically examine attack and defense political advertising mes-

sages, and explore whether or not such strategic give-and-take messages, and their relative effectiveness, may meet established criteria for observation of an absolute sleeper effect.

Types of Sleeper Effects. There are two different, over-time phenomena that are often categorized as sleeper effects. The *absolute sleeper effect* —a statistically significant documentation of persuasion between the first message exposure and the delayed impact— is the dominant model, and the one examined in this research. For an absolute sleeper effect to occur, there must be a delayed *increase* in persuasive impact. It is understood in contrast with the *relative sleeper effect* in which the impact of the initial message may decline without a discounting cue. The relative sleeper effect involves a loss of persuasive impact for both high and low credible sources, but with no delayed increase in impact for either (Cook and Flay 1978; Cook et al. 1979; Eagly and Chaiken 1993).

Conditions For Observing Sleeper Effect. Regardless of their theoretical origin, all of the following conditions have been posited as requirements, or necessary conditions, for occurrence of the sleeper effect. Notably, some of the conditions require empirical observation or testing to determine whether or not they have been satisfied. Other conditions are not empirically determined; rather, they are dependent on the research design or the data-gathering procedures employed in the particular study for their validation.

The first four conditions for observation of an absolute sleeper effect are based on the dissociation explanation (Cook et al. 1979). These include:

1) the message itself must be persuasive; it must have a significant initial impact on attitudes (empirically determined);

2) the discounting cue must be strong enough in its immediate impact to inhibit the attitude change the original message would otherwise have produced (empirically determined);

3) there must be sufficient time prior to the delayed measure for the discounting cue and the original message to become dissociated (methodologically determined); and

4) the dissociation of the discounting cue and the original message must occur quickly enough that forgetting will not have yet occurred (empirically determined).

Petty and Cacioppo (1981) assess these four and add a fifth condition:

5) the discounting cue and the message content affect attitude change separately, and they must not affect each other (empirically determined).

From the differential decay explanation of sleeper effect, three additional conditions are advanced by Pratkanis, Greenwald and Leippe (1988). They assert that for an absolute sleeper effect to occur, each of the following must also be observed:

6) the subjects pay attention to the important arguments in the message (methodologically and/or empirically determined);

7) the discounting cue must be received after the message (methodologically determined); and

8) the subjects must rate the trustworthiness of the message communicator immediately after receiving the discounting cue (methodologically determined).

Conditions 3, 7 and 8 are functions of the design and may be satisfied by inclusion of specified measurements, explicit instructions, and the ordering of message treatments. Condition 6, stating that subjects should pay attention to the message arguments, may be met empirically through measurement of attention; but it may also be met methodologically through instructions and procedures that emphasize "paying attention." Methodological determination has been more prevalent in previous sleeper effect studies than has empirical determination (Pratkanis, Greenwald and Leippe 1988). It should be noted, however, that (because some conditions are empirical and others are methodological; and for Condition 6 they may be either) the conditions need not be mutually exclusive.

For this study we will not argue that a political campaign meets *only* one set of the criteria—*either* the original dissociation conditions *or* the latter differential decay ones. Rather, we will examine each condition in the political advertising context and assess its relevance. As different interpretations of sleeper effect have evolved, conditions have been added; the political context of this study provides an ideal setting for controlled observation.

From our overview of the sleeper effect literature and requisite conditions for its observation, we offer the following research hypothesis:

H1: All specified conditions for observing an absolute sleeper effect will be satisfied in this study of attack and defense political advertising.

Underlying all eight of the conditions is the assumption that an inherently persuasive message can have its impact moderated by its being associated with a low credible source. Further, the presumption exists that an effective discounting cue does in fact derogate the credibility of the source. Additionally, the conditions mandate that issues of both the con-

tent of the discounting cue and the order of exposure to the discounting cue be considered. Thus, beyond the specific criteria which led to H1, three issues require additional consideration and will result in determining H2.

Content of Discounting Cue. Over the years a wide variety of both source and message attributes have served as discounting cues. In early studies the discounting cue was often a simple designation of the source of the message (Hovland, Lumsdaine and Sheffield 1949; Hovland et al. 1953; Hovland and Weiss 1951), flashed on the screen at the beginning of a film. The typical finding was that, at the introduction of the initial message, the high credible source produced a stronger persuasive effect than the low credible source, but that after a period of time (often 3-4 weeks), the high credible source message experienced a decay in persuasive impact, while the low credible source message exhibited the sleeper effect.

Subsequent to these initial studies and findings, the discounting was accomplished by direct manipulation of the credibility of a communicator delivering the message (see Cook et al. 1979 for a complete review and discussion). The discounting cue has not always been a manipulated source or a communicator variable, however. In one set of studies the discounting cue was a specific written statement that came at the end of the persuasive message and told subjects the information they had just been exposed to was false and inaccurate (Gruder et al. 1978). In later studies (Pratkanis, Greenwald and Leippe 1988) discounting cues were expanded beyond a simple statement derogating the source to include explicit attacks on the credibility of the source of the initial message, making it a separate message altogether. Whether a manipulated source characteristic, or a derogation of the message argument, in all sleeper effect studies to date the discounting cue provides a direct reference to the source.

Placement of Discounting Cue. One of the conditions added by Pratkanis, Greenwald and Leippe (1988) is the specification that observation of the sleeper effect also requires that the discounting cue be introduced *after* the message. Many source cues affect how we respond to and remember messages when the source is identified *prior* to a message (Eagly and Chaiken 1975; Husek 1965). An extensive body of literature which examines discounting cues prior to attack messages can be found under the rubric of inoculation theory (Burgoon et al. 1976; McGuire 1961; McGuire and Papageorgis 1961; Pfau and Burgoon 1988). Such discounting cues are designed in effect as forewarnings which are intended to influence the sub-

sequent attack by creating resistance to arguments in the attack message. Thus the inoculation theory tradition is based on the premise that a discounting cue prior to an attack message interacts with the attack itself and influences the impact of that attack. The extensive sleeper effect literature suggests that an absolute sleeper effect is not a reliable phenomenon when the discounting cue precedes the message, i.e., the inoculation condition, even though the earliest research was based on this pre-message cue. Perhaps the explanation for this is that Pratkanis, Greenwald and Leippe (1988) viewed the discounting cue as a separate message, whereas the early studies incorporated the discounting cue in the original persuasive message itself.

Source Credibility. Effects of communicator credibility on message processing have a long, rich history in persuasion (i.e., Greenberg and Miller 1966; Hovland et al. 1953; Littlejohn 1971; Petty and Cacioppo 1984). Source credibility is recognized as a complex phenomenon, dependent on multiple cognitive and affective factors. Cognitive dimensions include judgments about perceived attributes such as power, prestige, and competence/expertise of the message source. The affective dimension concerns judgments regarding such elements as attractiveness, dynamism, and trustworthiness (Batra, Myers and Aaker 1996, pp. 402-404).

Yet, source credibility cannot be viewed as a simple additive formula that asks "how much of each ingredient?" does the source contain (Anderson 1971; Eagly and Chaiken 1993, p. 249-50; Haley 1996). In fact, research in recent years has emphasized that credibility need not be interpreted so literally; that it is more important to maintain focus on the overall, global evaluation of the source than on weighted shares of individual component parts (Batra, Myers and Aaker 1996; Eagly and Chaiken 1993).

Eagly and Chaiken (1993, p. 249) argue that source credibility, being a variable that interacts with other attributes of both the message and the communication setting, is not best analyzed in isolation. Some advertising research supports this point as well (Debevec and Iyer 1986; Gotlieb and Sarel 1991; Haley 1996; Stern 1994). The object of an ad (be it a branded product or a political candidate) is the central source component of advertising copy; but it is strongly impacted by other source components: namely the sponsor, the endorser, and the vehicle (Batra, Myers and Aaker 1996, p. 402). Thus, the global credibility of the company may impact the perceived credibility of the spokesperson which may interact with elements of the message.

In our study, as in much of the relatively recent literature on source credibility and advertising messages, we focus on a global or on an overall assessment of the source's credibility. Further, because of the competitive context of the political campaign, we will be examining source credibility of not one, but two message sources: the assailant and the defendant who is the target of attack. In this relative assessment a global rather than ingredient-specific approach is particularly well-suited. From this overview of the literature dealing with the content of discounting cues and their placement, as well as the role of source credibility, we offer this second hypothesis:

H2: Order of placement of the discounting cue and perceived credibility of the attacker will be determinants of an absolute sleeper effect.

In our analysis, source credibility of the attacker (immediately after message exposure) will be assessed in terms of how it differs from source credibility of the target upon exposure to the defensive ad.

Elapsed Time Between Initial and Subsequent Testing

Much has been written about the persistence of persuasive effects over time (see Eagly & Chaiken [1993] for a thorough review of persistence). The most common persistence function is the rate of decay, and central to this function is the amount of elapsed time between first and subsequent opinion measurements. As previously discussed, in most studies of the sleeper effect, the discounting cue is placed just prior to, embedded within, or just after the message itself; and more recently it has been conceived as a separate message, preceding or following the base message. Across all sleeper effect studies, however, the first opinion measurement has been taken immediately following message exposure. Then, depending on numerous factors (primarily the research design itself) a second opinion measurement follows—hours, days, or weeks later. When Pratkanis, Greenwald and Leippe (1988) conducted 17 simulations and replications of previous sleeper effect studies, they varied the amount of time for the delayed measure from several minutes (in four experiments) to over six weeks (in three experiments).

Earliest studies (Hovland, Lumsdaine and Sheffield 1949; Hovland and Mandell 1957; Peterson and Thurstone 1933; 1970) observed a more powerful sleeper effect as longer periods of time elapsed. Although the sleeper effect has been documented over a wide range of varying times (from minutes to many weeks), studies that emerged from the dissociation tradi-

tion tend to document greatest evidence of sleeper effect over longest (rather than shortest) amounts of time between initial and delayed measurement. Although research on this topic is limited, we do predict an increased power of sleeper effect over time. Specifically:

H3: When an absolute sleeper effect is observed, it will be stronger as the elapsed time between message exposure and delayed measurement increases.

The Sleeper Effect and the Political Campaign

This study extends examination of criteria for observation of an absolute sleeper effect to the political campaign context. Most previous sleeper effect studies have been conducted in laboratory settings and have manipulated either source or communicator credibility for the discounting cue. We suggest that a political campaign, with its nearly constant back and forth attack/defense messages, is a prototypical context for examination of the sleeper effect. Other applications of sleeper effect principles to political campaigns are rare, but not unheard of. One case study examining a U.S. Senate campaign offers the differential decay interpretation of the longitudinal source/message separation, wherein the source cue deteriorates more rapidly than does a message cue (Pfau, Parrott and Lindquist 1992). Since the notion of differing rates of decay from message source and message content was first advanced, however, it has found little empirical support (Pratkanis, Greenwald and Leippe 1988).

To examine the absolute sleeper effect as a theoretical explanation for the greater effectiveness of negative attack ads over time, the negative political attack ad is considered the base message because it is more likely (given the negativity bias) to have a stronger initial impact. The attacker is, thus, seen as initiating attitude change. The defensive message naturally plays the role of the discounting cue in that it attempts to "discount" either the source of the attack or the attack message content or both. The defensive message is seen as attempting to suppress the impact of the attack. Some defensive messages that merely support positions held by their sponsor may not work as discounting cues because they don't attempt to derogate directly the source of the attack. These indirect defenses (i.e., general positive supportive ads, endorsements, etc.) may lack the power to suppress the impact of an attack. Only direct defensive messages (which question the credibility of the attacker) may act in the manner of discounting cues in traditional sleeper effect studies. Unlike earlier sleeper

effect studies (where the discounting cue was part of the message itself, or was identified as the source/communicator of the message), the political advertising context contains two separate messages (attack and defense) which may often serve as the initial message and discounting cue. The sleeper effect, with its underpinnings of source credibility and message variables inherent in persuasion theory, has far-reaching implications for both the study and the practice of negative political advertising. Understanding its role in potential voters' processing of both attack and defense advertising messages may illuminate issues related to both voluntary and mandated guidelines for political advertising (see Andrews 1991; Elliott 1996; Lipman 1991; for discussions calling for increased regulation governing negative advertising). We are extending the investigation of sleeper effect to a naturalistic setting—the political campaign. In the political campaign, the defensive message assumes the role of the discounting cue.

Method

Overview. This study reports a primary analysis of data from a true experiment in which 339 participants were exposed to a televised negative attack ad and (depending on random assignment to treatments) either (1) no other message (the control group); (2) a defensive ad that precedes the attack ad; or (3) a defensive ad that follows the attack ad. In order to assess the empirical and methodological conditions that previous research has deemed necessary for observing an absolute sleeper effect, we considered each condition and assessed the extent to which this experiment met it through either design or observed patterns of response. Following this assessment, our method focused on the relationships that enabled us to assess the validity of our predictions involving an absolute sleeper effect. Thus we will be examining the relationship between order of exposure to the attack and defensive ads, the relative perceived credibility of the attacker, and elapsed time between immediate and delayed voting responses.

Design. This study employed a mixed 2x2x3x2 factorial design in which the first three factors were between-subjects predictors and the fourth factor was a within-subjects predictor based on the repeated measure, immediate versus delayed voting response. The three between-subjects factors were, respectively: (1) order of exposure to the discounting cue (before or after the attack); (2) perceived credibility of the attacker (low versus high); and (3) elapsed time between the immediate and the delayed response (early,

mid or late callback). Our criterion for observing the sleeper effect was immediate and delayed certainty of vote for a specific candidate, the attacker versus the target. For purposes of this analysis, this score takes the perspective of the attacking candidate, and is thus characterized by positive scores favoring the attacker and negative scores favoring the target of attack. For all manipulated variables in the design, subjects were randomly assigned. For the perceived credibility factor, subjects were blocked by dividing their scores at the median. The defensive ads in both pre-and post-attack exposures vary in their specific content, such that some are direct appeals (which explicitly derogate the attacker or his message) and others are indirect appeals (which positively bolster the attacked candidate). It should be noted that only the direct defensive messages are consistent with the content of discounting cues in all prior sleeper effect studies.

Subjects. Volunteer participants residing in a 10-county area of Northeast Georgia were enrolled in day or evening classes at Athens Technical Institute. The recruited sample was purposive in that we sought high representation of registered voters, over-age-25 adults, and proportional representation of racial minorities. The resulting sample contained 221 registered voters, 65% of whom had voted in the last national election. Forty-two percent were over 25 years old and 24% were members of minority racial groups. Because subjects were randomly assigned to treatment conditions, experimental subgroups analyzed in this study are consistent with overall sample characteristics.

Stimuli. The Attack Ad. The negative political commercial that is central to this analysis was produced by political media consultant Jon Franzen, under the auspices of the Harriman Foundation, for general use in edited form by candidates running for seats in the U.S. House of Representatives. Within each congressional district, the ad could be edited for a specific campaign. In our study the commercial was edited for a fictitious Congressional candidate in the state of Kentucky. We intentionally selected a state different from the residence of study participants to avoid potential context contamination from any known candidates in the ongoing campaign cycle.

This attack ad, sponsored by fictional candidate Pat Michaels, is subtly humorous even though it is also a character attack on his fictional opponent John Boorman. Throughout the commercial, a lie detector instrument is in use; this is the ad's primary visual content. As each of Boorman's claims (about his Vietnam military service, his position on tax issues, and his concern for the people of Kentucky) is mentioned and refuted in a voice-over, the lie detector graph

exhibits wide fluctuations, indicating that a lie was being told. In the last sequence, the lie detector machine actually explodes when the assailant (Pat Michaels) notes that Boorman claims to "care about the people of Kentucky."

The Defensive Messages. Each of the discounting ads was likewise professionally produced by area consultants. Whereas the discounting cue in many studies consists of a simple statement that calls the credibility of a message source into question (e.g., Cook et al. 1979; Gruder et al. 1978; Pratkanis, Greenwald and Leippe 1988), our discounting cues are entire advertising messages, sponsored by the target of the attack (Boorman) to accomplish the same purpose, i.e., to call into question the credibility of the assailant (Michaels). The use of a complete defensive message enhances the ecological validity of the study in that it characterizes the "give and take" in a political campaign.

In this study the defensive messages were classified as direct (those that explicitly question the credibility of the attacker) or indirect (those that bolster the credibility of the target of attack). Direct defensive ads challenged Michaels' attack on Boorman's claimed voting record, military service, and concern for the people, and provided evidence of Boorman's truthfulness on these topics. Indirect defensive ads supported Boorman's credibility by providing only positive information about him, without making specific references to the opponent's claims (see Karrh and Halpern [1997] for a similar conceptualization of direct and indirect defenses).

Manipulation Check. Following production of the attack and defensive messages, each was subjected to a rigorous manipulation check using a separate sample of 70 volunteer students from the same technical college that subsequently was the source of experimental subjects (see Tinkham and Weaver Lariscy 1994 for a thorough description of the pretest study). After the pre-test, participants were instructed to recognize attack ads as well as direct and indirect defenses, they were shown all stimulus materials in finished commercial format. The Michaels attack ad was correctly identified by 87.1% of these pre-test subjects; and Boorman's discounting messages had a mean accuracy score of 76.8% within the pre-test group. Minor revisions in the text of only one defensive ad were made in order to clarify its message strategy based on this pre-test.

Instrumentation. The instrument includes four sections, all of which were completed in a 50-minute testing session. Section 1, completed prior to ad exposure, assesses subjects' general attitudes toward political advertising and general measures of political involvement. The second section, completed after exposure to the first ad, contains global evaluations of the ad and the two candidates. In this section subjects also rated 17 different diagnostic items, like "ethical/ unethical," formatted as semantic differential scales. Section 3 followed exposure to their second ad and duplicated the items from Section 2. Section 4 asked basic demographic information; and also contained the candidate choice (vote) and choice certainty measures, which form the primary repeated dependent variables in the experiment. These will be described in detail below.

Composite Measures. Two composite measures were employed in the analysis: (1) a relative source credibility measure and (2) a relative vote certainty score. The first is a difference score between the evaluation of the attacker and the evaluation of the target of attack. Each evaluation was assessed immediately following exposure to the message sponsored by the attacker and by the target (that is at the time of message encoding). Based on five evaluative semantic differential items, internal consistency/reliabilities are, respectively: alpha=.98 and alpha=.97. As noted previously, the relative source credibility score is based on global evaluations of both source and target of attack. However, in an assessment of concurrent validity of this measure, two cognitive and affective message-generated factor scores based on the 17 diagnostic scales exhibited a multiple correlation of .61 with the global credibility measure. This indicates that the global measure effectively represents both the cognitive and affective dimensions of source credibility.

The second composite score (relative vote certainty) is the algebraic product of a contrast-coded vote score multiplied by the certainty scale (see Table 1 for its operational definition). These certainty measures have a long history in attitude research (see: Fishbein and Ajzen 1975; Petty and Krosnick 1998) where they are most often linked with intention to perform a particular behavior. We measure the intention to vote for a particular candidate—Boorman or Michaels—and multiply this choice by a 7-item certainty scale (Wegener et al. 1998). This two-step process is regarded as a standard behavioral intention indicator (Fishbein and Ajzen 1975; Fazio and Zanna 1978; Sample and Warland 1973; Wegener et al. 1998). For subjects who voted for the same candidate at each time, a simple regression of delayed vote certainty against immediate vote certainty yielded a test/retest reliability coefficient of R=.91 (p<.001); for those subjects who exhibited an inconsistent vote pattern upon retest, reliability of the certainty score was also exceptionally high, R=.84 (p<.001). Clearly, whether subjects switched their vote or maintained support for the

same candidate, their first vote certainty score was highly predictive of their second, indicating very little random error in the measure. These high reliabilities preclude the interpretation of any significant slope increases or decreases over time being attributed to the statistical artifact called "regression toward the mean."

This is important because the sleeper effect predicts positive slope changes, which might be merely artifactual for unreliable dependent measures.

Despite its high test-retest reliability, absolute levels of immediate vs. delayed vote certainty *did* exhibit a significant mean increase over time, but only among those subjects whose immediate and delayed vote did not change (p<.001). This significant increase was not observed for voters who switched candidates. Despite their switch, these voters maintained the same level of certainty over time nevertheless. The net effect of the certainty increase among the voters who did not switch was that their certainty of choice was significantly greater than that for voters who did switch at the time of the delayed vote (p <.001).

Procedure

Data were gathered over a four-week period, during day and evening sessions at the technical college. Within participating classrooms, recruits were asked to sign a standard consent form. Using a random start, volunteers were all given a number that corresponded to a randomly selected treatment condition and instructed to report to an assigned laboratory testing room for their treatment. In the lab, trained graduate students from psychology and communication programs followed a structured protocol, where subjects were instructed that no questions could be answered about the questionnaire or the materials they would see; no talking could occur during the testing session; and that there are no right or wrong answers.

When subjects completed Section 1 of the instrument, the moderator asked subjects to read with him/her the following scenario:

> Setting the Scene for the *Pat Michaels* vs. *John Boorman* Campaign
>
> All of the information you are about to see or read has been produced for a fictional political campaign. Any resemblance to actual people or true names is entirely coincidence. For the purposes of this study, please assume that you live in the 10th Congressional district of Kentucky. You intend to vote on November 8 in the General Election.
>
> The two candidates for Congress are John Boorman and Pat Michaels. Neither of them has served before in the U.S. Congress, making this an "open"

race. Intentionally, no political party affiliation will be mentioned in the information you are about to see. This is typical of most political advertising today.

Following introduction of the scenario, subjects were exposed to their first message for a 30-second period. In each treatment condition, message exposure #1 was followed by completion of Section 2 of the instrument. For all subjects except the control group (who saw only the televised attack), exposure to the second message plus completion of Section 3 of the instrument followed. The final section, in addition to asking personal demographic information, asked the question, "For whom would you vote if the election were held today?" followed by a measure of the certainty of that choice. This is the repeated measure of the study, also asked during the telephone call-backs. Participants were then told that the session was complete and that some of them would be called in the near future related to their participation. Two-thirds of the subjects were randomly selected for the callback interview (n=225). Of these, 10 subjects were unreachable. In the remaining callback subsamples, 96 received the indirect defensive treatment and 119 received the direct one. In the followup telephone calls, the randomly selected subgroup was asked once again, "If the election were held today between Pat Michaels and John Boorman, how would you vote?" This was followed with the second question. "How certain are you of this decision?" The use of the candidates' names in the question replicates the use of their names on the test ballot in the original session; additionally, interviewers described the 7-unit certainty scale for respondents.

These over-time measures are central to the sleeper effect analyzed in this study. Changes in choice over time were examined by looking at individual shifts in choice, within the called back group of subjects (the callback period began three days following the experiment); as well as shifts in choice among those subjects called back at various time periods after exposure. "Early callback" (Interval 1) is operationalized as those repeat-measure calls that occurred during the first seven days of the call-back procedure. "Mid callbacks" (Interval 2) were conducted during the second seven days of the callback period. "Late callbacks" (Interval 3) began during the fifth week and were completed during the sixth week of the callback period.

Results

Results and discussion are organized around each research hypothesis.

Hypothesis 1. The first hypothesis advanced that all specified conditions for observation of an absolute

sleeper effect will be observed in this study of attack and defensive political advertising. In this context, the defensive ad plays the role of a discounting cue and the attack ad is the message that initiates attitude change. Eight conditions have been established from prior research. As previously discussed, some of these conditions (numbers 1, 2, 3 and 5) lend themselves to being empirically observed while others (numbers 4, 6, 7 and 8) are more methodological. Because all empirical and methodological conditions are achieved in our study, the first hypothesis is fully supported. Specifically:

Condition 1 (empirically determined): the original message (the attack ad) must be persuasive in its own right. The data in this study provide multiple indicants of the independent persuasive impact of the attack ad. First, the effect of the attack ad in isolation favors the attacker over the target of attack; there was no backlash observed. Among that subgroup of subjects who saw the attack first, or saw only the attack in the control group, initial global attitudes on a -3 to +3 scale toward the attacker, the target of attack, and the ad itself illustrate this (A/attacker=-.33, sd=1.46; A/target=-1.29, sd=1.22; A/ad=-.63, sd=1.88). Thus, despite the fact that the ad itself was slightly disliked, as was its sponsor, the negative ad nevertheless worked to the persuasive benefit of its sponsor. The difference between sponsor and target attitudes was statistically significant (p<.001).

Further evidence of the positive persuasive impact of the attack ad in isolation is found by examining immediate vote and vote certainty within the control group. The percentage vote within the control group strongly favored the attacker, in that 80% cast their vote for this attacking candidate! The corresponding certainty score of the control group votes was 2.40, higher than all like scores in all treatment groups (p <.05). Thus in both attitudinal and behavioral terms, the attack ad had strong persuasive impact in its own right.

Condition 2 (empirically determined): the discounting cue must substantially suppress the impact of the attack. Table 1 provides documentation that the direct defensive ad is capable of suppressing the immediate impact of the attack ad, whereas the indirect defense is less powerful in countering its immediate impact. Additionally, whether a discounting cue substantially diminishes the impact of the attack depends not only on its content but also on its position in relation to the attack. Since this study considers both, Table 1 reports patterns of means for both content and order. Note that there is a significant main effect observed for order (p<.001), as well as a significant interaction between order and message content

(p<.01). The pattern of cell means indicates that the nature of this interaction is characterized by greatest inhibiting effect when the defensive message content is a direct derogation and when that message follows the attack ad. This inhibiting effect is significantly greater than when indirect derogations follow the attack (p<.05), or when either type of derogation precedes the attack (p<.01). Recalling that the initial vote certainty within the control group was 2.40, a mean vote certainty of -2.13 (over 4.5 units less than the control) might be viewed as not only statistically inhibiting (p<.001) but also of practical significance. Because direct derogation ads preceding and following the attack had, respectively, the least and the most inhibiting effect, these two conditions provide a framework for examining Hypotheses 2 and 3.

Condition 3 (methodologically determined): there must be ample time prior to the delayed measure for the attack and defense ads to become dissociated. Like previous sleeper effect studies, we meet this condition by our design, which possesses a wide range of elapsed times for delayed measurement, ranging from three to 48 days; of these, fully half occurred more than two weeks after the treatments. This amount of delay is greater than or equal to that provided in other sleeper effect studies designed to test the dissociation hypothesis.

Condition 4 (empirically determined): dissociation between the attack and defense messages must occur quickly enough that memory of the attack message will not have faded. This condition, in essence, requires that the attack have a *sustained* impact. Evidence for this can be found by examining our control group responses. Within that portion of the control group receiving a telephone callback, 83.3% initially voted for the attacker, Michaels. At the time of callback, 75% of this group of subjects maintained this same voting decision, confirming that the attack message, in isolation, does have a sustained impact. Mean number of elapsed days between the immediate and delayed votes for the control group was 9.5 days. The sustained impact of the attack message within the control group demonstrates that it was not quickly forgotten, thus empirically supporting Condition 4.

Circumstantial evidence for this condition being met is also found in our choice of an attack political advertisement as stimulus material. As previously discussed, negative information gains more attention and is better remembered than is positive information (Mizerski 1982; Pinkleton 1997; Till and Shimp 1998). This "negativity bias" provides a reasonable basis for assuming that a negative message will decay at a slower rate than its less remarkable positive

Table 1
How Immediate Vote Certainty (VC) Is Influenced by Content and
Order of the Defensive Advertising Message
(n=321)

Cell Means: Vote Certainty (VC)[1]

| | | Defensive Message Content | |
Order of Exposure	Row Means	Direct Derogation	Indirect Derogation
Preceding Attack	.20 (184)	.46 (94)	-.07 (90)
Following Attack	-1.55 (137)	-2.13 (92)	-.38 (45)
Column Means		-.82 (186)	-.17 (135)

Analysis of Variance Table

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	2-tailed p
Order	219.763	1	219.763	15.949	.001
Content	10.935	1	10.935	.794	.374
Interaction[2]	94.522	1	94.522	6.860	.009
Residual	*4367.942*	*317*	*13.779*		

[1]Vote Certainty (VC) is defined as the algebraic product of a contrast-coded vote score (where 1=vote for assailant, 0=abstain, and -1=vote for target of attack) and a 7-unit global certainty of vote scale (where 1=not at all certain and 7=completely certain)—so that a larger positive score indicates greater certainty with respect to a vote for the assailant and a larger negative score indicates greater certainty of a vote for the target candidate.

[2]When a direct derogation followed the attack, vote certainty (VC) favoring the attacker was substantially suppressed. The LSD (least significant difference) test indicates that this condition exhibits a mean score significantly lower than when an indirect derogation follows the attack (p <.05) or when either type of derogation precedes the attack (p <.01).

counterpart. Our design also accommodates the possibility of early decay of the negative message by measuring fully half of the callbacks within the first 13 days. Thus, if a sleeper effect is observed in the first two weeks, we are confident that the attacker would not have yet been forgotten.

Condition 5 (empirically determined): The attack and defensive ads must act independently rather than jointly. This condition would not preclude an additive impact on vote, but it would require an absence of an interaction effect. In order to test this condition, evaluation of both candidates was measured immediately after exposure to each ad. These post-exposure measures and their interaction were included in a hierarchical regression in which immediate vote certainty was the dependent variable. If an interaction term were observed to be non-significant, this is evidence that the impact of each ad is independent. In three of the four treatment conditions described in Table 1 this was found to be true: (1) where a direct defense follows the attack; (2) where the indirect defense precedes or

(3) follows the attack. However, in the condition where the direct defense precedes the attack, significant additive *and* interactive effects were observed (p<.05). This means that when a direct defense precedes the attack ad, it influences the way that attack ad is processed. This makes the resulting vote dependent not only on each ad considered separately, but also on their combined effect. Thus, it might be argued that a direct defensive message which precedes an attack contributes to both ads being processed as one message (Eagly and Chaiken 1993). Once again, the two order conditions that are in sharp contrast with one another correspond to the direct defensive ad treatments. Clearly, our attack and defensive messages acted independently in all but one treatment condition. This one exception will be further examined when testing Hypothesis 2. Thus, condition 5 is satisfied.

Conditions 6, 7 and 8 (methodologically determined): each of these three conditions is satisfied through the procedures and protocol of our study. Condition 6— that study participants must make note of the impor-

tant arguments in the message—was satisfied by two elements of our data gathering procedure. First, prior to exposure to any ad, the moderator instructed the participants to pay close attention to the ad they were about to see since they would only see it once. Second, following each advertisement exposure, subjects not only rated the ad and the candidates on global evaluative scales, but also rated each advertising message on several individual attributes. This process required them to think about and note important content elements of the ad. Our design also clearly satisfies condition 7—that the discounting cue must be received after the message—as fully half of our treatments place the direct defensive advertising message after the attack. Similarly, condition 8 specifies that subjects must rate the trustworthiness of the source immediately after exposure to the discounting cue (the defensive ad), which our subjects completed for both the sponsor and the opponent after each message exposure.

The empirical evidence and the procedures that were followed in our design support the conclusion that Hypothesis 1 is supported. That is, all empirical and methodological conditions previously identified as requisites for observing an absolute sleeper effect are satisfied in our political advertising experiment.

Hypothesis 2. Perceived source credibility and order of exposure to the discounting cue will be related to observation of an absolute sleeper effect. An absolute sleeper effect is expected when the credibility of the attacker is initially low and the defensive ad follows the attack. Table 2 reports a repeated measures MANOVA in which source credibility and order-of-exposure to the discounting cue are considered as between-subjects predictors of immediate and delayed vote certainty. Of pertinence to Hypothesis 2 are the significant main effects of order of exposure (p=.013) and source credibility (p=.002) as well as the significant interaction effects between these two factors and change in vote certainty (respectively p=.006 and p=.011) between immediate and delayed measures. Also of interest is the absence of a significant interaction between order of exposure and source credibility, suggesting that these two between-subjects factors influence vote certainty in a relatively independent manner. This is further supported by the absence of a three-way interaction involving order of exposure and source credibility.

The two main effects of order and credibility can be described simply: lower vote certainty is associated with the treatment in which the discounting cue follows the attack and when source credibility is relatively lower for the attacker versus the target of attack. Recall that a low score on the vote certainty scale may

be interpreted as indicating a relatively certain vote for the target of attack. This means that a defensive message which follows the attack or which calls into question the credibility of the attacker suppresses the impact of the attack ad, thus benefitting the target.

Figure 1 provides descriptive statistics that explicate the interaction effects. Further, it reports shifts in actual percent of votes for the attacker. Note that significant increases in both certainty and vote percent within the cells characterized by low initial source credibility were observed. When source credibility was low, and the discounting cue followed the attack, the most dramatic increases were observed. While Hypothesis 2 dealt with prediction of these sleeper effects, it is worth noting that when the discounting cue preceded the attack and source credibility was initially high, percent of votes for the attacker declined, indicating a decay in support for the attacker in this one condition.

Figure 2 presents graphical evidence of the significant interaction between order-of-exposure and change in vote certainty, and the significant interaction of source credibility and change in vote certainty. Note that an absolute sleeper effect is indicated for the "following attack" treatment. This is evidenced by the significant, positive slope of the within-subjects change in vote certainty when it was measured immediately following message exposure and again after delay. In contrast, note that when the discounting cue preceded the attack, no significant difference was observed between the immediate and delayed vote certainty scores.

Also demonstrated in Figure 2 is the pattern of interaction of perceived source credibility and change in vote certainty. This interaction effect is similar to that just described. Because of this similarity one might think that the order-of-exposure treatment and the blocking factor of perceived source credibility are interdependent. Recall, however, the evidence in Table 2 indicates that the treatment and blocking factors have statistically independent effects. Also, a chi square analysis relating the treatment and blocking factors indicates that their frequencies are statistically independent of each other, justifying their separate consideration. Note that when relative credibility of the attacker is initially low, an absolute sleeper effect is observed. This is evidenced by the significant positive shift in vote certainty for that group which initially had perceived the attacker as having low relative credibility when compared to the target of attack. In contrast, when initial source credibility favors the attacker, the shift in vote certainty between immediate and delayed is minimal.

Table 2
Effect of Order of Exposure to the Direct Defensive Ad and Source Credibility on Patterns of Vote Certainty Over Time[1]
(n=119)

Source of Variation: Tests of Between-Subjects Effects[2]	Dependent Variable: Immediate Voter Certainty (transformed to correspond to the "constant" within-subjects effect)			Source of Variation: Tests Involving Within-Subject Effect[3]	Dependent Variable: Delayed Vote Certainty (transformed to correspond to the "change" within-subject effect)		
	MS	F	2-tailed P		MS	F	2-tailed P
Within Cells	18.06			Within Cells	9.23		
Constant	3.53	.20	.659	Change in Vote Certainty (vc)	65.65	7.11	.009
Order of Exposure (oe)	113.51	6.28	.014	oe x vc	73.62	7.98	.006
Source Credibility (sc)	186.59	10.33	.002	sc x vc	61.94	6.71	.011
Oe x sc	59.84	3.31	.071	oe x sc x vc	1.72	.19	.667

[1]See Table 1 for our operational definition of the Vote Certainty measure.

[2]Between-subjects effects and their interaction explain 14.8% of the variance in the dependent variate. Order of Exposure (oe): direct defensive ad preceding TV attack ad vs. direct defensive ad following TV attack ad; Source Credibility (sc): high relative credibility (of attacker vs. target) vs. low relative credibility. For all between-subjects analyses, df=1,115.

[3]Within-subjects effects and their interactions explain 16.0% of the variance in the dependent variate. The within-subjects repeated measurement of Vote Certainty (vc) occurred twice as follows: immediate (at time of message exposure) and delayed (in a telephone callback 4 to 48 days after message exposure). For all within-subjects analyses, df=1,115.

Figure 1
### Shifts in Vote Certainty and Attacker's Vote Percentage
(n=119)

		Relative Source Credibility of Attacker vs. Target (sc)			
		Low		High	
		Vote Certainty	Vote Percent	Vote Certainty	Vote Percent
Order of Exposure to Defensive Ad (oe)	Discounting Cue before the Attack Ad	-1.61 *→ -.32 (n=28)	25.0% →*** 50.0%	2.32 → 1.24 (n=34)	76.5% →* 58.8%
	Discounting Cue after the Attack Ad	-2.75 ***→ .32 (n=28)	14.3% →*** 50.0%	-1.17 → .21 (n=29)	27.6% → 44.8%

Dependent Measure: Repeated Vote Certainty (vc) and Vote Percent

Immediate Vote → Delayed Vote

* Increase in Immediate vs. Delayed Vote Certainty significant at p<.05 (one-tailed).
** Decrease in Immediate vs. Delayed Vote Percent significant at p<.05 (two-tailed).
*** Increase in Immediate vs Delayed Vote Certainty / Percent significant at p<.001 (one-tailed).

Figure 2
Order-Driven and Credibility-Driven Sleeper Effects: An Analysis of Two Independent Interactions[1]
(n-119)

Order-Driven Interaction [2]
(oe x vc)

Credibility-Driven Interaction [3]
(sc x vc)
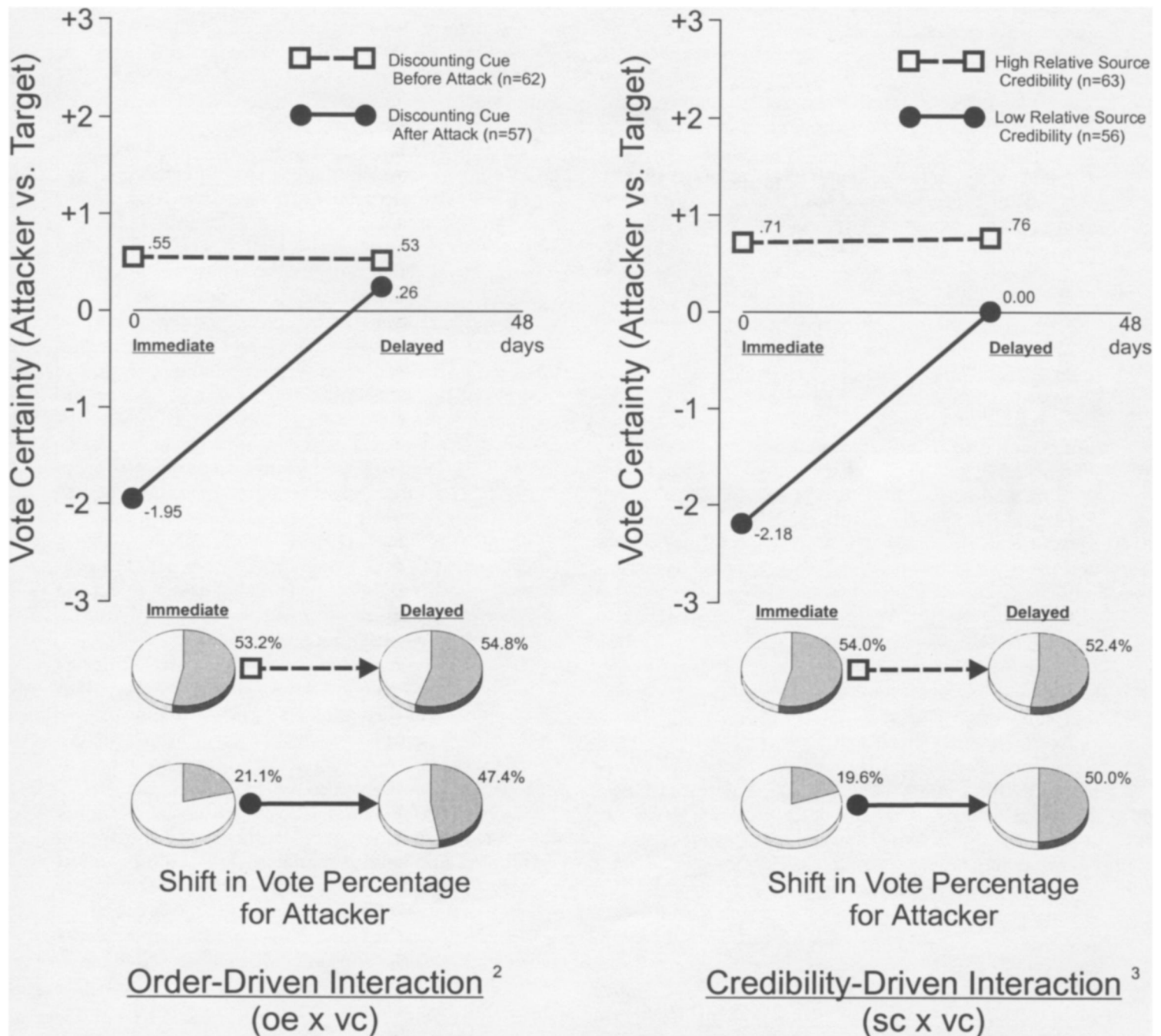
[1]The order-driven interaction (oe x vc) is significant at p<.01, and the credibility-driven interaction (sc x vc) is significant at p<.05. These two interactions are statistically independent: no significant (oe x sc) or three-way interaction was observed (see Table 2).

[2]A simple-effects analysis of the order-driven interaction shows an absolute sleeper effect in both vote certainty (p<.001) and in the attacker's vote percentage (p<.01) *only* when the direct discounting cue follows the attack.

[3]A simple-effects analysis of the credibility-driven interaction shows an absolute sleeper effect in both vote certainty (p<.001) and in the attacker's vote percentage (p<.001) *only* when relative credibility of the attacker is initially low.

The evidence (presented in Table 2 and in Figures 1 and 2) documents the presence of an absolute sleeper effect under the specified conditions; that is, when the discounting cue follows the attack and when the perceived credibility of the attacker is initially low. Further, the absence of an absolute sleeper effect in the contrasting conditions (discounting cue preceding the attack and high perceived credibility of the attacker) supports previous research that documents the importance of each of these as determinants of the sleeper effect. Hypothesis 2 is strongly supported.

Hypothesis 3. The sleeper effect, when observed, will become more powerful over time. Figure 3 considers that subsample of subjects whose response patterns exhibited an absolute sleeper effect, either determined by order-of-exposure or by initially low perceived source credibility or by both. For these sleeper effect subjects, immediate and delayed vote certainty, as well as their actual percent of vote for the attacker, is partitioned into three periods of elapsed time before the delayed callback occurred. Note that the strongest sleeper effect occurs for the middle time period, and tapers off for the latest callback subgroup. This means that the sleeper effect grew stronger during the first and second intervals of elapsed time following initial message exposure, and then was observed to exhibit moderate decay. With respect to the actual percent of votes, this represented a statistically significant shift such that the highest percentage vote for Michaels was significantly higher during the second interval than it was for the first one (73.1% vs. 31.7%). Further, within callback intervals, a significant positive shift was observed for the first two (the early and mid callbacks). This was not the case for the latest callback interval, which exhibited a positive but non-significant shift. Thus, Hypothesis 3 is partially supported in that a substantial increase in percent of votes for the attacker was observed, up to three weeks following message exposure! In fact, the vote for Michaels (the attacker), during the mid-callback time period could be said to have reached landslide proportions.

Discussion

We began this study motivated by a desire to gain insight into political advertising strategy rather than by the desire to test alternative theoretical explanations of the sleeper effect phenomenon. We recognize, however, that our findings have far-reaching implications for both strategists and theorists.

Strategic Implications. Our findings support the use of negative attack advertising in a political campaign. Not only do we have evidence that negative attack advertising has initial strong impact favoring its sponsor, but that this impact is sustained for a considerable period of time. Given that the most active phase of a political campaign is of fairly short duration, these sustained effects of negative political attack are particularly salient. Even when the impact of the attack is suppressed by a direct defensive advertising message, or when it is suppressed by perceived low credibility of the attacking candidate, these defensive strategies or negative source effects are merely temporary.

Strategic findings from this study also give credence to the unswerving advocacy of negative advertising by political consultants. They have long argued that "negative advertising works...period." (Totten 1991). Now they can argue that it also has lasting impact. From the perspective of the target of attack, negative advertising is not only damaging, it can wreak havoc that lasts until election day.
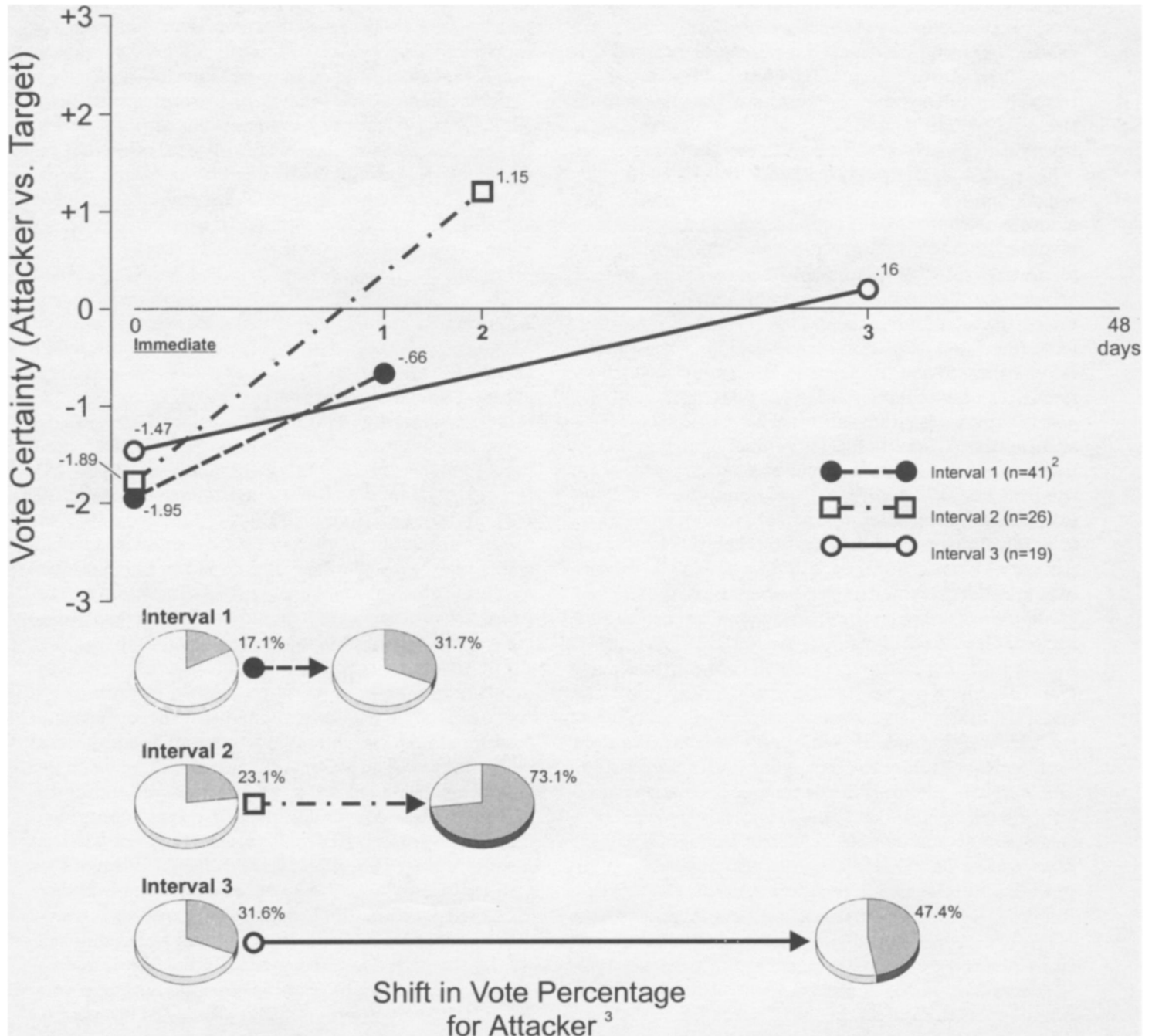
So what should a candidate who has been attacked do to counter the damage? A direct defense, issued as quickly after the attack as possible, should be mounted. It must be realized, however, that the suppressive effect of this defense is likely to be short-lived. This suggests that reinstatement of the defense, through frequently repeated messages, be undertaken through election day and that these defenses use explicit rebuttal strategies that call into question the credibility of the attacker. A savvy political consultant may also advise the target of attack to use his or her own attack, recognizing the inherently stronger impact of negative information.

The assailant should withdraw from attacking sufficiently prior to election day so that the suppression that results from low perceived credibility has time to dissipate. Concurrently, the target of attack should be prepared to respond to those attackers who unwisely continue their attack into the final hours.

Theoretical Implications. Although not our original intent, the findings from this study provide substantial insight into the conditions under which a sleeper effect is likely to be observed, the determinants of the sleeper effect phenomenon, and how long it is likely to last.

With respect to the conditions under which a sleeper effect is observed, we organized research which previously explored established conditions by classifying them into two groups: those that require empirical observation and those that are inherent to the design or data-gathering procedure. This categorization should be useful to future researchers seeking to observe a sleeper effect. We further recognized that these conditions are not necessarily mutually exclusive, nor are they necessarily interdependent. Our findings broaden rather than narrow the possible situ-

Figure 3
Absolute Sleeper Effects Observed at Different Time Intervals Following Message Exposure[1]
(n=86)

Interval 1 (n=41)[2]
Interval 2 (n=26)
Interval 3 (n=19)

Interval 1
17.1% → 31.7%

Interval 2
23.1% → 73.1%

Interval 3
31.6% → 47.4%

Shift in Vote Percentage
for Attacker [3]

[1]Interval 1 measurements took place during the first week of the callback period, median=8.89 days following message exposure. Interval 2 callbacks occurred during the second week, median=14.13 days. Interval 3 callbacks took place during the fifth and sixth weeks, median=34.80 days.

[2]Difference between Interval 1 immediate and delayed vote certainty is significantly different (p<.05); and Interval 2 immediate vs. delayed vote certainty is significantly different (p<.001). Difference between Interval 3 vote certainty measures not significant. Immediate vote certainty scores do not differ.

[3]The 14.6 percentage point increase in attacker's vote for Interval 1 is significant at p<.05 (one-tailed). The 50.0 point increase for Interval 2 is significant at p<.001. The 15.8 point increase for Interval 3 is not significant. Delayed vote percentage for Interval 2 is significantly higher than that for Interval 1 (p<.001) and for Interval 3 (p<.05, one-tailed). Immediate vote percentages do not differ.

ations in which a sleeper effect may be observed, by calling into question the requirement that *each* of the conditions *must* be met.

Dual-Determinants Hypothesis. Early literature on the sleeper effect emphasized the role of low source credibility as a cause of the sleeper effect, while more recent research has stressed multiple situational factors, the most important of which is order of exposure to the discounting cue. Through our testing we identified strong support for *both* of these determinants. Specifically, we observed a significant absolute sleeper effect when participants initially perceived the attacker to have low credibility at the time of exposure to the negative ad. This is perfectly compatible with the dissociation studies that dominated early sleeper effect research. A second and independent sleeper effect was observed when a direct defensive ad followed the negative attack. This finding is consistent with the differential decay explanation of the sleeper effect phenomenon, at least to the extent that those inspired by the differential decay explanation posit this specific message order as a requisite condition for its observation. The fact that these dual determinants of the sleeper effect were observed to act independently of each other calls into question the assumption that there is a single explanation for the phenomenon. Rather, *both* prior theoretical explanations for the sleeper effect may be concurrently valid; they need to be neither incompatible with nor contradictory of one another.

Because our design and response patterns are consistent with all prior conditions that have been specified as necessary for observing the sleeper effect, we are now able to assess how essential these conditions are. Our dual, independent explanations suggest that low perceived credibility is not an essential condition for the sleeper effect to occur, nor is a discounting cue following the persuasive message a necessary condition for its occurrence. These findings increase the relevance of the sleeper effect phenomenon by expanding the possible settings in which it may be observed, and releasing it from some previously narrow confines. By dismissing the order requirement as a necessary prerequisite (see Condition 7) the sleeper effect phenomenon may be observed in more naturalistic settings and is not dependent on highly structured experimental protocols.

For example, it was previously thought that only when the discounting cue followed the message could the sleeper effect occur. This assumption was invalidated by our observation of the sleeper effect independent of message order. Similarly, perceptions of low source credibility that were previously thought to be essential for observation of the sleeper effect, are not

necessary; a sleeper effect was observed as a function of order of exposure, whether or not the source was initially evaluated as possessing low credibility. Order of exposure and source credibility may be additive in their effect. Our findings support this notion through evidence that the strongest sleeper effect occurred for subjects who were exposed to the discounting cue after the attack *and* who also attributed low credibility to the attacker.

Methodological Assessment. Any experimental methodology raises issues of internal validity, as well as issues associated with transfer of results beyond the experimental setting. With our true experimental design we have given priority to internal validity, yet our design arguably has certain strengths with respect to external and ecological validity.

Internal Validity. Our successful random assignment procedure, evidenced by initial comparability of subgroups, controls most threats to internal validity. Further, our careful administration of the design (trained moderators, rehearsed identical protocols, etc.) enhances our confidence that internal validity was preserved during implementation. As previously noted, the high reliability of the dependent variable precludes interpreting blocking factor effects as artifactual, thus increasing our confidence that credibility is in fact a true determinant of the sleeper effect.

External and Ecological Validity. Can we state when a sleeper effect will occur? Previous documentation of a reliable sleeper effect has depended on highly structured laboratory settings and carefully controlled treatments (Pratkanis, Greenwald and Leippe 1988). While we also utilized an experimental methodology, our findings are based on real-world stimuli and a scenario, albeit fictional, in which the ordering of treatments is very likely to occur. The real world "give and take" of political attack and defense advertisements provides an ideal context that simulates the operations previously used in experimental settings to document an absolute sleeper effect. Further strengthening the applicability of our findings to a naturalistic setting is that the observation of an absolute sleeper effect didn't depend on the strict method/ order manipulation, but was also achieved independently through the relative credibility perceptions.

Arguably, in the decision process leading to a vote, it is likely that the relative credibility of both candidates will be assessed during the campaign. Those who use a negative attack ad are setting up conditions in which low levels of credibility are likely to be observed, at least initially. In the real world, a sleeper effect is very likely to occur when a negative attack is made. For voters who react with disdain toward candidates who attack (whether or not a defensive message

follows), a sleeper effect is likely to occur. That is, the over time impact of the negative attack increases.

In some of our own previous research, which examined immediate but not over time impact of negative attacks, we have advised candidates of the potentially powerful effects of negative advertising, but also warned of its risks (Tinkham and Weaver Lariscy 1997). After this study of over-time impact, we conclude, albeit unhappily, that negative messages are risky *only* in the short term; that any initial damage done to the attacker, either through an effective defense mounted by the target or by initial low credibility ratings from voters who do not like attackers, will not last. Damage to an attacker is but temporal. The primary way an attacking candidate can be damaged is if he or she launches a "final hour" attack, immediately prior to the actual election, wherein *some* voters will initially evaluate the attacker negatively and this short-term effect may not have time to dissipate, whether or not any defense is launched against it by the victim.

In summary, we offer several simple statements:

If an attack stands alone, unanswered, it is effective.

If an attack is refuted, the attack will, ultimately, still be effective.

If an attacker damages his or her own credibility, the attack message itself will still have positive impact over time.

If attacked, therefore, the best defense for the victim seems to be a strong, swift offense.

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