

MEDIA PRIMING EFFECTS: ACCESSIBILITY, ASSOCIATION, AND ACTIVATION

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ABSTRACT

In studying 'priming effects'—the process by which activated mental constructs can influence how individuals evaluate other concepts and ideas—political communication scholars have focused primarily on the frequency and recency of construct use in the *accessibility* of specific cognitions; less attention has been given to the *spread of activation* among related cognitions. Drawing from both of these research interests, we argue that media framing of issues in moral or ethical terms can prime voters to (1) make attributions about candidate integrity, and/or (2) evaluate other political issues in ethical terms. To examine these relationships, this research used the same experimental design with two sub-populations—evangelical Christians and university undergraduate students—expected to differ in the inter-connectedness of core values with political attitudes. A single issue, which varied in the types of values in conflict, was systematically altered across four otherwise constant political environments to examine priming effects. Findings suggest that future research should conceptualize priming more broadly to include considerations of both the accessibility of cognitions in short-term memory and the pathways among information in long-term memory.

Two related though differing research streams growing out of cognitive psychology offer insight into 'priming effects,' the process by which activated mental constructs can influence how individuals evaluate other concepts and ideas. Some scholars have studied how cognitions frequently or recently activated in response to a stimulus become more readily *accessible*—that is, available in short-term memory—for application to other attitude objects (see Iyengar and Kinder 1987, Wyer and Srull 1989). Other scholars have focused on the *spread*

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of activation among cognitions, stressing the manner in which constructs are arranged and linked in long-term memory (see Anderson 1983, Fazio 1986). In examining the means by which activated cognitions influence individuals' processing and evaluation of information, these research perspectives account for similar findings, but also provide unique insights.

Drawing from both of these research domains, we argue that media coverage of political issues has the potential to activate particular cognitions, which then may be used in evaluating other elements of the political environment. Specifically, media framing of issue information—by highlighting some dimensions of issues while excluding other aspects—seems likely to foster priming effects. In this article, we posit that framing issues in a manner that focuses on their moral or ethical dimensions can prime voters to (1) make attributions about candidate character, particularly integrity, and/or (2) evaluate other political issues in ethical terms. However, these relationships should be mediated by the specific features of any issue, the particular values emphasized in media coverage, and individuals' cognitive networks, thus fostering *different priming effects from different issues for different people*. To examine these ideas, this research systematically altered a single issue—which varied in the types of values in conflict—across four otherwise constant political environments to examine how voters process, interpret, and use issue information while 'voting' in a simulated election.

Two sub-populations expected to differ in their core values and the inter-connection of those values with political attitudes were selected for study: evangelical Christians and university undergraduate students. These groups were chosen for three reasons: (1) evangelical Christians have demonstrated increasing prominence and power in recent U.S. elections; (2) there has been little systematic study of evangelical Christians' political cognitions, although many have speculated about their values and behavior in electoral contexts; (3) most important, evangelical Christians, as a group, seem much more likely than undergraduate students to have well-integrated mental frameworks in which ethical or moral values—a key component of the theory advanced in this article—are closely linked with political attitudes. Thus, utilizing the same experimental design with these two populations provides a more thorough examination of our theory and allows consideration of differences in priming.

LITERATURE REVIEW

Insight into priming effects may be gained from research on information processing, particularly scholarship on construct accessibility, the spread of activation, and personal values.

As a result, Berkowitz and Rogers (1986, pp. 58–9) argue, 'When a thought element is activated or brought into focal awareness, the activation radiates out from this particular node along the associative pathways to other nodes', thereby increasing the probability that related constructs will come to mind. Drawing from these perspectives, theories of 'spreading activation' contend that the stronger or more numerous the mental pathways between constructs, the greater the chance that thoughts activated to process information about one construct will cascade through memory to other constructs, influencing subsequent evaluations and the formation of impressions (Lodge and Stroh 1993).

Research on accessibility and the spread of activation, then, suggests that priming effects may depend on a combination of factors: the frequency or recency of activation and the inter-connectedness between distinct cognitions. Only a few scholars, however, have examined how cognitions activated by media coverage may spread to other constructs via mental pathways. For example, in research from an agenda-setting perspective, Schleuder, McCombs, and Wanta (1991) examined how linkages between mental constructs influence the retrieval of information about candidates from memory; their conclusions suggest that examination of spreading activation should be expanded to study other media-related effects.

As many scholars argue, media do not merely serve an agenda-setting role in public discourse but, through selection and 'framing' of news and opinion, are crucial in establishing the range of criteria for constructing, debating, and resolving social issues (Gitlin 1980, Graber 1988, Gamson 1992, Neuman *et al.* 1992, Shah *et al.* 1996). In particular, Ball-Rokeach and colleagues assert that emphasis on particular values in media coverage shapes policy debates about social issues as political groups attempt to articulate and legitimate why their choice is more appropriate or 'moral' than their opponents' (Ball-Rokeach and Loges 1997, Ball-Rokeach *et al.* 1990). In this process, media constructions often probably serve as a heuristic for citizens, whose understanding of issues is 'powerfully shaped' by the values involved (Tetlock 1989, p. 130, Rokeach 1973, Johnson and Eagly 1989, Boninger *et al.* 1995). For example, research indicates that voters form different psychological linkages with issues based upon the interaction of their core values with media coverage; in turn, these issue interpretations' shape information processing and judgment (Domke and Shah 1995, Shah *et al.* 1997).

Further, how people interpret issues often conceived in 'social-moral' terms—such as abortion, gay rights, school prayer—may influence their evaluations of candidate character (see Page and Clelland 1978, Luker 1984, Moen 1984). Such moral issues may be particularly symbolic for evangelical Christians (Lorentzen 1980, Wuthnow 1989). Many issues in the present political environment, however, are not as 'easy' to evaluate because they are more complex

and 'means-oriented' (Carmines and Stimson 1980). For example, policy issues such as health care, the environment, and welfare are probably more open to differing interpretations because they have been discussed in both moral and economic terms (see Cook *et al.* 1994, Brown and Carmines 1995). For such issues, the particular values emphasized in media coverage are likely to play a critical role in voters' evaluations and information processing.

HYPOTHESES

In this study, we posit that media presentation of political issues, by selecting and emphasizing certain values while excluding others, is likely to influence which cognitions are activated as voters evaluate a political environment. In this process, the particular features of any issue and the specific values emphasized in media coverage should both interact with individuals' cognitions, resulting in clear differences in priming effects.

We contend that media coverage of 'social-moral' issues such as abortion or euthanasia may prime voters' evaluations of candidate character, in particular *integrity*, because positions on these issues are commonly considered symbolic of a candidate's deeper concerns and convictions. As a result, media coverage emphasizing such issues, which are primarily conceived in terms of morals and rights, is likely among certain voters to activate thoughts which then may be applied in evaluating components of a candidate's integrity such as morality, decency, and compassion. In comparison, attributions about candidate integrity should be less likely to occur when citizens encounter media coverage of issues regularly discussed in economic terms, since such issues (even if framed by media in ethical terms) are not considered by most voters to be symbolic of a candidate's core priorities and concerns.

We theorize that different priming effects may occur, however, when media coverage emphasizes issues that are more *ambiguous*—that is, they are not clearly moral *or* economic in nature. Such issues are discussed convincingly in either symbolic or instrumental terms by both politicians and media on a regular basis. Drawing upon conceptual distinctions developed by Shah, Domke, and Wackman (1996), we argue that, for many political issues, media framing focuses on either ethical or material concerns. Framing that focuses on *ethical* concerns emphasizes the dimensions of human rights, civil rights, religious morals, or personal principles present in the value conflict of an issue. Framing that focuses on *material* concerns emphasizes the tangible considerations grounded in economics, expedience, practicality, or personal self-interest present in the value conflict of an issue. In turn,

research suggests that media framing of issues interacts with voters' values and predispositions to guide individual issue interpretations.¹

We argue, further, that cognitions activated by media coverage of one issue may subsequently be used by voters to process information about additional issues. Such a 'carryover' effect seems most likely to occur when individuals evaluate issues that share similar dimensions and, as a result, may be considered appropriate targets for the activated constructs. Thus, value-relevant thoughts brought to mind by *ethical framing* of one ambiguous issue, such as health care or welfare, would seem likely to foster ethical interpretations of *other issues* that contain a similar mix of ethical and material dimensions. In contrast, cognitions brought to mind by media coverage of social-moral issues should be less likely to influence voters' interpretations of more materially based issues, since ideas about these differing types of issues are not likely to be considered applicable to one another. Accordingly, we state research hypotheses 1 and 2:

- H1: Individuals evaluating a political environment which includes a social-moral issue (e.g., abortion or euthanasia) will be more likely to make attributions about candidate integrity than individuals evaluating a political environment which does not include a social-moral issue.
- H2: Individuals evaluating a political environment which includes an ambiguous issue framed in ethical terms (e.g., health care) will be more likely to form ethical interpretations of material issues than individuals evaluating a political environment which does not include an ambiguous issue framed in ethical terms.

This research also explores whether the complexity and inter-connectedness of individuals' mental structures mediates *how* the process of priming occurs. In considering the populations utilized in this study and the topics under consideration, evangelical Christians, as a group, seem much more likely than undergraduate students to have well-integrated mental frameworks for two reasons: (1) the evangelical Christians are, on average, considerably older; and (2) moral or ethical values—a key component of our theory—are more likely to be closely associated with certain political attitudes among evangelical

¹ Some scholars have similarly grouped together concerns about religious morals, personal principles, and basic rights into a broader conception of symbolic or ethical concerns as contrasted against concerns grounded in economics or individual self-interest. While drawing upon this previous work, our distinction between ethical and material frames (and individual issue interpretations) substantially differs from these earlier conceptualizations. Specifically, Sears and Funk (1991) distinguish between 'self-interest' (material- or economic-oriented) and 'symbolic' (value-oriented) interpretations of issues, but they offer an affective approach to this distinction and generally do not examine socio-tropic concerns. Abramson and Inglehart (1995) distinguish between 'materialist' (economic- or fiscal-oriented) and 'postmaterialist' (freedom-, quality of life-, and self-expression-oriented) values, but these are conceived as traits tied to individuals or nations rather than contextualized ways in which issues might be discussed or conceived.

Christians. Because of these differences, we expect to find differing patterns of priming between these two populations.

We posit that 'spreading activation' priming effects should occur primarily among individuals who possess intersecting and highly integrated cognitive frameworks about the objects under consideration. Such tightly connected mental frameworks increase the likelihood that thoughts activated to process information about one construct will cascade through memory to other associated constructs. Among these individuals, then, media priming effects seem likely to occur via the following process: media coverage activates particular thoughts or ideas, which guide the evaluation of, *first*, the issue emphasized in media coverage, and *then* other constructs related in memory. Such an 'indirect' process of spreading activation, in which a person's initial evaluation triggers similar evaluations along a cognitive pathway, should be reflected in an identifiable pattern or 'trail' of evaluations in information processing.

In contrast, priming effects due primarily to 'construct accessibility' should occur among individuals whose mental frameworks are not as highly integrated. Without inter-woven pathways to direct active thoughts and ideas about objects under consideration, cognitions recently or frequently activated remain on top of one's mental bin, making them highly accessible for at least a period of time. Among these individuals, then, media priming effects seem likely to occur via the following process: media coverage activates particular thoughts or ideas, which then are used to evaluate the issue emphasized in media coverage *and/or* other constructs deemed applicable, though there may not be a correspondence between these two evaluations. In such 'direct' priming, a person's initial evaluation does not determine subsequent evaluations, since both are based simply on which ideas come to mind; as a result, there should *not* be an identifiable pattern of evaluations in information processing. Accordingly, the final research hypothesis may now be stated:

- H₃: Individuals with highly integrated mental frameworks about the objects under consideration will be more likely to exhibit spreading activation priming than individuals with less-integrated mental frameworks about the objects under consideration.

METHOD

This study, part of a broader research program, examines how citizens in distinctly different populations process media messages and evaluate issues and candidates in making voting decisions. In this study, 172 members of five evangelical Christian churches and 201 undergraduate students in a large U.S.

midwestern city were presented copies of newspaper articles and a questionnaire.² Most respondents took 35–45 minutes to complete the materials.

RESEARCH DESIGN

The core of this research strategy is the controlled presentation of political environments. Each environment contained newspaper articles, written by a former professional journalist, that presented the contrasting views of three candidates on four issues (for examples of the articles and a copy of the questionnaire, see Shah *et al.* 1996).³ Subjects were randomly assigned to one of four environments. All subjects received articles on three issues framed to emphasize material dimensions (education, economy, and government cuts), hereafter referred to as the ‘material’ or ‘other’ issues. Each political environment also included an article on a single manipulated issue, varied across the environment conditions.

The first environment contained the issue of abortion, framed in an ethical manner by pitting the sanctity of an unborn child’s life against the personal liberty of a woman to control her body and destiny. The second environment contained the issue of euthanasia, framed in an ethical manner by pitting the sanctity of all life against individual decisions about the quality of one’s own existence. The third environment contained the issue of health care, framed in an ethical manner by pitting personal responsibility to provide for one’s self against equality and compassion in access to medical treatment. Varying these issues across conditions created two environments (abortion, euthanasia) with issues similarly ‘moral’ in nature but differing in their duration in U.S. politics, while the third environment (health care) contained an ethically framed version of a long-standing issue often discussed in a mix of material and ethical terms. The fourth environment, which serves as a baseline in this study, contained a different version of health care, framed to emphasize material dimensions by pitting the merits of the free market against the need for government intervention to control costs.

Several steps were taken to ensure that (1) priming effects *across* research

² Pastors or ministers self-identified each church as ‘evangelical’—that is, with a Biblical foundation in faith and practice. While it is obvious that these two sub-populations are not mutually exclusive, analysis of demographic and orientational variables — such as age, income, religiosity, and political party affiliation— indicate that they differ substantially. For example, among evangelical Christians ages ranged relatively evenly between 20 and 76, while 83 percent of students were between the ages of 18 and 25. Throughout this article, we use the terms ‘evangelical Christians’ and ‘undergraduate students’ to distinguish the two sub-populations.

³ The candidates’ positions were composites or variations of actual political stances, taken from several campaigns. The fictitious candidates were competing for the Democratic nomination in a Congressional District primary in a nearby state, a political sphere likely to be unknown among the subjects. All articles were given female bylines.

conditions were due to media coverage of different issues, and (2) priming effects *within* research conditions were due to subjects' processing of issue information. Across political environments, all information was held constant except for varying the issues of abortion, euthanasia, health care (ethical frame), and health care (material frame). Within environments, subjects were provided with only four items of (identical or nearly identical) personal information about the candidates: gender, age, educational background, and occupational background. Candidates and issues were then rotated in each packet of articles to avoid order effects.

QUESTIONNAIRE AND CODING OF DEPENDENT VARIABLES

After reading the articles, subjects completed a questionnaire, which began by asking them to make a candidate choice, followed by a series of open-ended questions probing the factors considered in the decision. These questions were designed to assess specific decision-making strategies used by subjects in making a candidate choice. However, responses to these questions also were examined for the presence of attributions by subjects about candidate integrity. Although none of the questions focused specifically on evaluations of candidates, nevertheless a number of subjects formed impressions or drew conclusions about the candidates' integrity, particularly such factors as morality, convictions, and beliefs. Because the questionnaire did not explicitly examine media priming to candidate integrity, then, the amount of attributions actually made by subjects is likely to be under-estimated. These measurement limitations, however, should not interfere with any tests of the hypotheses.

Guided by research on voters' evaluations of candidate character (Kinder 1985, Iyengar and Kinder 1987, Graber 1993), responses were content analyzed for attributions about candidate integrity.⁴ For evangelical Christians, two coders agreed on 166 of 172 subjects as having made an attribution about candidate integrity or not, yielding an inter-coder reliability coefficient of .96, which was determined to be 89 percent greater than by chance (see Scott 1955). For undergraduate students, two coders agreed on 181 of 201 subjects as having made an attribution about candidate integrity or not, yielding an inter-coder reliability coefficient of .90, which was 64 percent greater than by chance. All remaining responses were discussed and then classified.

⁴ Factor analysis has demonstrated that voters focus on two correlated but empirically distinct dimensions of candidate character—integrity and competence (see Iyengar and Kinder 1987). This research, due to its focus on the priming effect of media coverage emphasizing ethical and moral values, examined attributions about candidate integrity. Specifically, subjects were coded as making integrity attributions if they discussed the following traits of at least one of the candidates: trustworthiness, honesty, morality/ethicality, compassion or decency, courage/convictions, degree of power-hungriness.

Individual interpretations of issues were measured by three open-ended questions that engaged subjects in a thought-listing procedure to tap how the issues related to their personal values, concerns about society, and personal life-situations. Each issue was coded as having received an ethical interpretation, material interpretation, a combination of these two, or as not mentioned. Issues were coded as receiving an ethical interpretation if the individual discussed the issue within the framework of human rights, civil rights, religious morals or personal principles. Issues were coded as receiving a material interpretation if the individual discussed the issue in terms of economics, expedience, practicality, or personal self-interest. Individuals could receive a coding of either ethical or material regardless of whether they discussed the issues in personal terms or in relation to the broader society. Guided by our theory and in an effort to maintain reasonable cell sizes for hypothesis testing, the small number of issue responses coded as having combinations of ethical and material interpretations were collapsed into the ethical category.

For evangelical Christians, two coders agreed on 618 of 688 individual-issue codings, producing an inter-coder reliability coefficient of .90, which was 80 percent greater than by chance. For undergraduate students, two coders agreed on 723 of 804 individual-issue codings, producing an inter-coder reliability coefficient of .90, which was 80 percent greater than by chance. All remaining individual-issue codings were discussed and then classified.

For analysis, subjects who did not mention an issue were combined with those who formed a material interpretation, thereby creating the categories of ethical interpretation or non-ethical interpretation for each issue. A manipulation check was run to examine if, as expected, the combination of issues and media emphasis upon ethical dimensions produced differences in subjects' interpretations of the manipulated issues. As expected, individuals in both populations were more likely to ascribe an ethical interpretation to the issues framed in ethical terms than to the issue framed in material terms (baseline environment). A one-way ANOVA using the Least Significant Differences (LSD) post-hoc test confirmed statistically significant differences between the first three environments and the baseline environment in both sub-populations (see Table 1).

Using individuals' interpretations of education, economy, and government cuts, the variable 'interpretation of the material issues' was constructed. To determine the overall amount of ethical interpretations of any of these three issues, which have often been discussed by media and politicians in material terms and were framed similarly in this study, subjects were coded as having an ethical interpretation if they interpreted as ethical any of the issues.

TABLE 1 Subjects' interpretations of the manipulated issue in different political environments (percentages)

<i>Issue interpretation</i>	<i>Political environment</i>			
	<i>Abortion</i>	<i>Euthanasia</i>	<i>Health care (ethical frame)</i>	<i>Health care (material frame)</i>
<i>Population 1: Evangelical Christians</i>				
Non-ethical	28.3	41.9	51.2	87.5
Ethical	71.7	58.1	48.8	12.5
Totals	100 (n = 46)	100 (n = 43)	100 (n = 43)	100 (n = 40)
$\chi^2 = 32.3$, d.f. = 3, $p < .001$				
<i>Population 2: Undergraduate students</i>				
Non-ethical	32.0	52.0	63.5	87.8
Ethical	68.0	48.0	36.5	12.2
Totals	100 (n = 50)	100 (n = 50)	100 (n = 52)	100 (n = 49)
$\chi^2 = 33.2$, d.f. = 3, $p < .001$				

RESULTS

HYPOTHESIS 1

Hypothesis 1 predicted that individuals evaluating a political environment which includes a social-moral issue will be more likely to make attributions about candidate integrity than individuals evaluating a political environment which does not include a social-moral issue. To test the hypothesis, crosstabs were run in both research populations between the experimental conditions and whether or not subjects made attributions about candidate integrity. The results provide support for the hypothesis (see Table 2).

In both populations, roughly 30 percent of subjects evaluating an environment containing a social-moral issue (abortion or euthanasia) made attributions about candidate integrity. When the social-moral issues were replaced in the environment by health care (regardless of the framing), the percent of subjects making attributions about candidate integrity was substantially lower—between 4 and 17 percent. A one-way ANOVA using the LSD post-hoc test showed significant differences among undergraduate students between the abortion and euthanasia environments and both health care environments; among evangelical Christians, statistical significance was achieved only between subjects receiving

TABLE 2 Subjects' attributions about candidate integrity in different political environments (percentages)

<i>Candidate integrity</i>	<i>Political environment</i>			
	<i>Abortion</i>	<i>Euthanasia</i>	<i>Health care (ethical frame)</i>	<i>Health care (material frame)</i>
<i>Population 1: Evangelical Christians</i>				
No attributions	73.9	65.1	88.4	82.5
Attributions	26.1	34.9	11.6	17.5
Totals	100	100	100	100
	(n = 46)	(n = 43)	(n = 43)	(n = 40)
$\chi^2 = 7.5$, d.f. = 3, $p = .056$				
<i>Population 2: Undergraduate students</i>				
No attributions	70.0	72.0	96.2	93.9
Attributions	30.0	28.0	3.8	6.1
Totals	100	100	100	100
	(n = 50)	(n = 50)	(n = 52)	(n = 49)
$\chi^2 = 20.8$, d.f. = 3, $p < .001$				

the euthanasia environment and subjects receiving the ethically framed health care environment.

It is noteworthy that attributions about candidate integrity—in both research populations—were *highest* among subjects receiving either abortion or euthanasia and *lowest* among subjects receiving the ethically framed version of health care. These results indicate that media emphasis upon the ethical dimensions of issues, alone, was not sufficient to prime subjects to make attributions about candidate integrity. Rather, a solid minority of subjects formed evaluations of candidate integrity *only* when media coverage included the social-moral issues abortion and euthanasia, which are commonly considered symbolic of a candidate's deeper concerns and convictions. These findings, then, provide support for hypothesis 1.

HYPOTHESIS 2

Hypothesis 2 predicted that individuals evaluating a political environment which includes an ambiguous issue framed in ethical terms (e.g., health care) will be more likely to form ethical interpretations of *material issues* than individuals evaluating a political environment which does not include an ambiguous issue framed in ethical terms. To test the hypothesis, crosstabs were run in both

TABLE 3 Subjects' interpretations of the other issues in different political environments (percentages)

<i>Interpretation of other issues</i>	<i>Political environment</i>			
	<i>Abortion</i>	<i>Euthanasia</i>	<i>Health care (ethical frame)</i>	<i>Health care (material frame)</i>
<i>Population 1: Evangelical Christians</i>				
Non-ethical	84.8	86.0	67.4	87.5
Ethical	15.2	14.0	32.6	12.5
Totals	100 (n = 46)	100 (n = 43)	100 (n = 43)	100 (n = 40)
$\chi^2 = 7.5$, d.f. = 3, $p < .058$				
<i>Population 2: Undergraduate students</i>				
Non-ethical	92.0	86.0	82.7	95.9
Ethical	8.0	14.0	17.3	4.1
Totals	100 (n = 50)	100 (n = 50)	100 (n = 52)	100 (n = 49)
$\chi^2 = 5.5$, d.f. = 3, n.s.				

research populations between the experimental conditions and subjects' interpretations of the three unmanipulated 'material' issues (see Table 3).

As predicted, subjects evaluating the environment with the ethical frame of health care were the most likely to interpret at least one of the issues of economy, education, and government cuts in ethical terms. Among evangelical Christians, a one-way ANOVA using the LSD post-hoc test showed significant differences between the ethically framed health care environment, in which 33 percent of subjects formed an ethical interpretation of the material issues, and the other three environments, in which no more than 15 percent of subjects interpreted the other issues in ethical terms. Among students, the highest percentage of 'carryover' also occurred in the health care ethically framed environment, but the only statistically significant difference found was between the health care environments: 17 percent of subjects receiving the ethical frame interpreted the other issues in ethical terms, compared to 4 percent of subjects receiving the material frame ($p < .05$).

These results indicate that value-relevant thoughts activated by media coverage of one ambiguous issue primed subjects to form value-based evaluations of other issues sharing similar dimensions. Individuals evaluating the ethically framed health care environment were the most likely to form ethical interpretations of economy, education, or government cuts. Differences across political environments were much stronger for evangelical Christians than

undergraduate students. Although the results are far from conclusive, a 'carry-over' of ethically based cognitions to material issues may be less likely when subjects evaluate social-moral issues, perhaps because, as we theorized, ideas about these differing types of issues are not considered applicable to one another. The pattern of findings, then, provides some support for hypothesis 2.

The consistent pattern of results across the research populations for hypotheses 1 and 2 indicates that media coverage, at a minimum, activated certain value-relevant thoughts which were then applied by subjects to attitude objects deemed appropriate. Within-groups analysis is necessary, however, to gain insight into whether these priming effects were due to spreading activation along mental pathways or merely to the increased accessibility of certain ideas at the top of mental bins.

HYPOTHESIS 3

Hypothesis 3 predicted that spreading activation priming will be more likely to occur among individuals with highly integrated mental frameworks (i.e., evangelical Christians given the focus of this study) than among individuals with less-integrated mental frameworks (i.e., undergraduate students). When focusing 'within the cognitive system of the individual' (Lavine *et al.* 1996, p. 298), one possible method to investigate the *process of priming*, which almost certainly occurs outside the conscious awareness of individuals, is to examine whether patterns are apparent in subjects' information processing and evaluations.

Our theory suggests that a key variable in any spreading activation is individuals' interpretations of the manipulated issues (abortion, euthanasia, or either version of health care). Specifically, we posit that, if there is spreading activation, thoughts activated in the formation of an ethical issue interpretation will trigger a pattern of ethically based evaluations that reflect linkages between mental constructs. Thus, evangelical Christians who form an ethical interpretation of the manipulated issue should become more likely to exhibit priming to either integrity attributions or ethical interpretations of the other issues, depending on the respective political environment. In contrast, there should *not* be a distinguishable pattern of evaluations if priming is due primarily to construct accessibility, since such effects, which we expect among undergraduate students, should occur based simply on which ideas come to mind, regardless of whether subjects initially form an ethical interpretation of the manipulated issue.

To explore these potential differences, we ran ANOVAs and crosstabs to examine the contribution to each priming effect of (1) the experimental manipulation, by isolating the political environment conditions in which each

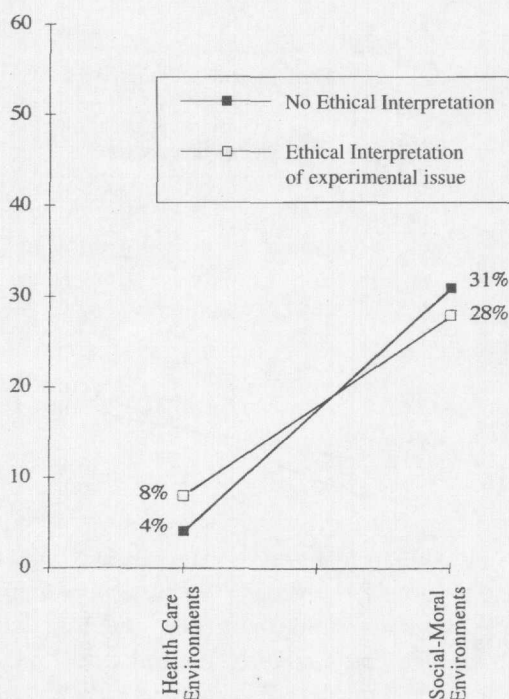


FIGURE 1 Percentage of undergraduate students making attributions about candidate integrity

effect was maximized,⁵ and (2) an ethical interpretation of the manipulated issues. The results of these analyses, arranged in Figures 1 to 4, clearly show differences between the populations in the process of priming.

Results in Figures 1 and 2 suggest that, among undergraduate students, the type of political environment encountered was the primary influence on both attributions about candidate integrity ($F=18.0$, $p<.001$) and ethical interpretations of the other issues ($F=2.4$, $p<.13$). The lines in each figure indicate that an ethical interpretation of the manipulated issue was unrelated—either as

⁵ For Figures 1 and 3, which present the priming effect of attributions about candidate integrity, the political environments were split so that individuals evaluating the social-moral environments (abortion or euthanasia) were separated from individuals evaluating the health care environments (regardless of framing). For Figures 2 and 4, which present the priming effect of ethical interpretations of 'material' issues, the political environments were split so that individuals evaluating the health care ethical framing environment were separated from individuals evaluating the other three environments. The political environments were coded in this fashion to isolate the experimental conditions in which each priming effect was maximized. In addition, subjects in the two political environments containing a social-moral issue were collapsed together because the results of hypotheses 1 and 2 revealed nearly parallel priming effects in these two political environments, in both research populations.

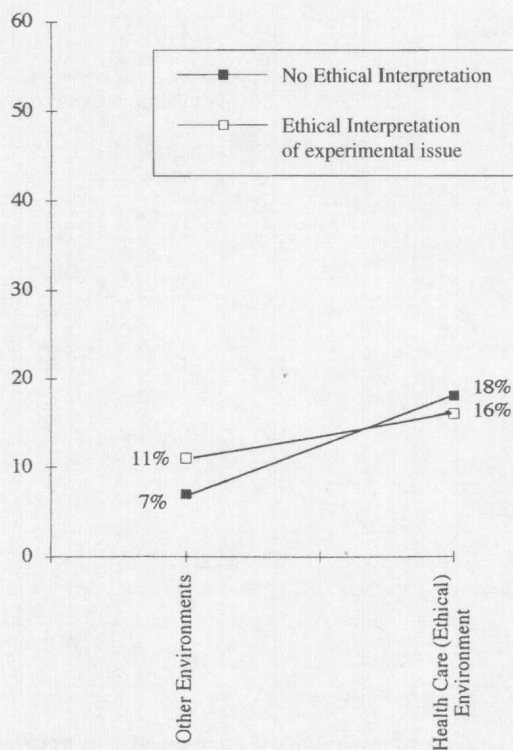


FIGURE 2 Percentage of undergraduate students forming ethical interpretations of the other issues

a main effect or as part of an interaction—to both priming effects. These results, then, suggest that priming among these subjects was probably simply due to temporary construct accessibility.

In contrast, the pattern of results in Figures 3 and 4 suggest that, among evangelical Christians, both interpretation of the manipulated issue and the type of political environment contributed to the priming effects, particularly the 'carryover' to subjects' interpretations of the material issues. Three points deserve further interpretation.

First, the distances between the lines indicate that, among evangelical Christians, interpretation of the manipulated issue had the strongest influence on both attributions about candidate integrity ($F=4.7$, $p<.05$) and ethical interpretations of the other issues ($F=16.0$, $p<.001$). Subjects with an ethical issue interpretation were consistently more likely to exhibit the priming effects than subjects without an ethical issue interpretation: this gap ranged from 6 percent to 38 percent, depending on the type of political environment. Second,

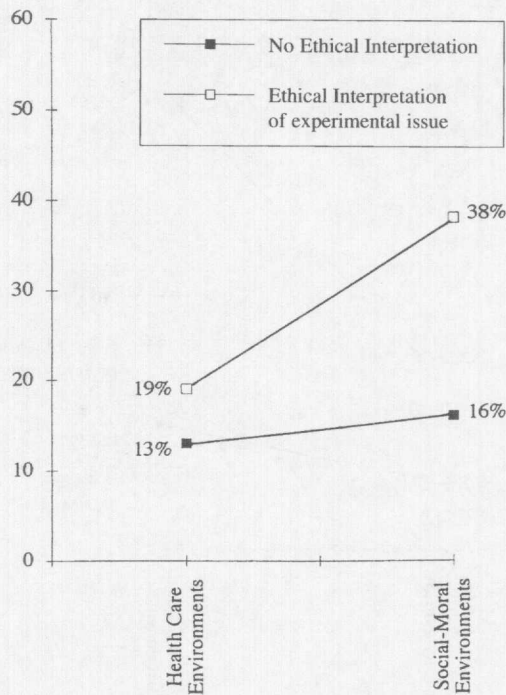
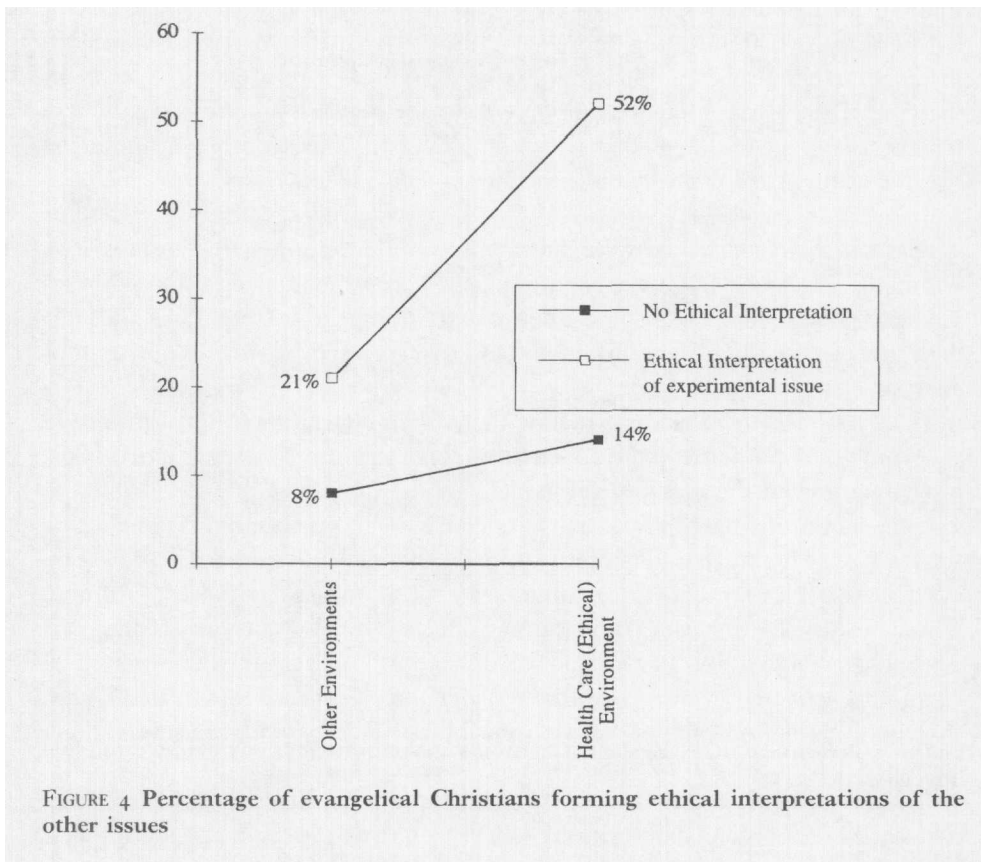


FIGURE 3 Percentage of evangelical Christians making attributions about candidate integrity

the upward slope of the lines—particularly among subjects with an ethical issue interpretation—suggests that manipulation of the political environment produced priming effects. That is, subjects evaluating social-moral environments were the most likely to make attributions about candidate integrity ($F = 2.9$, $p < .10$), while subjects exposed to an ethical framing of health care were the most likely to form ethical interpretations of the materially based issues ($F = 8.5$, $p < .01$). Finally, that the lines are not parallel indicates the priming effects occurred primarily when subjects (1) evaluated a particular political environment, emphasizing either social-moral or more ambiguous issues and (2) formed an ethical interpretation of the manipulated issue (the interaction was statistically significant only for priming to other issues, $F = 3.9$, $p < .05$). These results, then, strongly suggest that priming among evangelical Christians in this study was characterized by spreading activation that radiated from one cognition to other constructs via mental pathways.



DISCUSSION

These findings across two different sub-populations and four distinct political environments offer substantial insight into priming effects. Two consistent patterns emerged in analysis: (1) experimental tests indicated a clear pattern of different issues producing different effects, with some issues (i.e., social-moral) priming perceptions of candidate integrity and others (i.e., a more ambiguous issue with an ethical frame) priming ethical interpretations of more material issues; (2) within-groups analysis revealed differences between sub-populations in the process of priming, with only evangelical Christians exhibiting a pattern of linkages between ethical interpretations of the manipulated issues and other ethically based evaluations.

Tests of hypotheses 1 and 2 suggest that media coverage of political issues activates certain cognitions, which are then more broadly accessible for use by

individuals in evaluating other applicable elements of the political environment. Media frames that focus on moral or ethical dimensions of issues appear to prime perceptions of candidate integrity or ethical interpretations of other, materially based issues, depending on the nature of the issue presented. These results, then, suggest that media priming effects may be contingent upon the specific features of an issue and the manner in which media frame issue coverage. Moreover, analysis of hypothesis 3 suggests that priming effects that appear similar on their surface may be substantially different when researchers look within the 'black box' of human cognition. While experimental tests of hypotheses 1 and 2 reveal similar results among both evangelical Christians and undergraduate students, very different patterns emerged during within-groups analysis.

Data arranged in Figures 1-4 show that, when considering the contribution to priming of both the political environments encountered and individuals' interpretations of the manipulated issues, only evangelical Christians exhibited a string of ethically based evaluations. Indeed, among subjects in this population, the strongest effects were consistently provided by issue interpretation, indicating that this variable played a critical intervening role in initiating 'indirect' priming. These results suggest that the priming effects among evangelical Christians were characterized by the spread of activation, triggered when individual cognitions activated by media content radiated outward to activate related nodes, thereby creating a 'trail' or 'string' of similar value-based evaluations along cognitive pathways. In considering the broader implications of this finding, individuals who are highly cognitively integrated seem likely to display clearly patterned and predictable priming effects, in the process making implicit connections triggered initially by an ethical issue framing.

In contrast, a similar trail of ethical evaluations was *not* found among undergraduate students. Rather, the results suggest that among these subjects the priming effects, due almost solely to the experimental manipulation, were characterized by the temporary accessibility of particular cognitions. Indeed, priming effects among individuals with less cognitively integrated mental frameworks may depend primarily upon contextual cues such as media coverage. As a result, what issues news media emphasize, and how those issues are covered, may substantially influence which thoughts or ideas come to mind for voters as they evaluate *even seemingly unrelated* elements of a political environment. Perhaps even more importantly, in priming effects based on construct accessibility the activation (or not) by media content of particular values does not appear to generate a patterned or predictable string of linked evaluations. That is, there is no correspondence between an individual's interpretation of the media content and the priming effects, which appear to occur simply due to which ideas happen to be at the top of one's mental bin. These findings,

then, suggest that priming effects that appear similar or even identical at the aggregate level may actually be a result of different mental processes.

In considering more broadly the linkages between news media and public opinion, these findings may offer some additional insights. In particular, this research questions the long-standing dichotomy in popular understanding of the roles of political issues and candidate images in voting behavior. Findings presented in this article indicate that research should consider how issues, particularly the manner in which they are framed by both politicians and news media, influence voters' perceptions of candidate image characteristics. Indeed, it is quite likely that image-based voting represents the outcome, in part, of perceptions encouraged by individuals' issue preferences and interpretations. Further, media coverage of issues seems likely to influence how other issues are interpreted in cross-issue priming effects. Both of these conclusions have implications for models of candidate choice and more broadly for democratic theory. Issues may not only influence voting behavior *directly*, due to voters' acceptance or rejection of candidates based on issue stands, but also *indirectly*, due to priming effects that begin with voters' thoughts about issues and then 'carryover' to shape evaluations of candidate images and other issues in the electoral environment. What is clearly needed in political communication research, then, is a more nuanced understanding of the role of issues, and media framing, in individuals' political judgments.

While this study offers insights into priming effects, we recognize that it has some clear weaknesses. In particular, we theorize that *how* the process of priming occurs depends on the degree of inter-connectedness of an individual's mental system; with this perspective, we used two populations expected to differ in cognitive integration, but we are unable to offer concrete evidence of differences in mental structures, partly due to the difficulty in getting inside the cognitive 'black box'. Future research should examine differences in priming effects by using measurement strategies that explore in greater depth (1) the role of values for individuals, particularly the linkages between values and political attitudes, and (2) the potential explanatory power of variables such as degree of political sophistication, need for cognition, amount of political knowledge, level of integrative complexity, and extent of public affairs media use. While this research has focused on the centrality and integration of values, the observed relationships might also be explained by personality, cognitive or behavioral variables. Future research that examines these factors—with, for example, other politically relevant sub-populations such as environmentalist groups or women's rights activists—would be an important step toward understanding the contributions to priming of both the accessibility of cognitions in short-term memory and the pathways among information in long-term memory.

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