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CHAPTER 3

News Media Impact on the Ingredients of Presidential Evaluations: A Program of Research on the Priming Hypothesis

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Since the 1920s, social scientists in the United States have been concerned with the effects of the mass media on citizens' attitudes and behaviors. Initially, the fear that the news media could be a powerful propaganda tool led researchers to explore the persuasive impact of media messages (Roberts and Maccoby 1985). However, in 1960, Klapper reviewed the existing body of available research and concluded that the media do not in fact persuade individuals to change their attitudes but rather simply reinforce attitudes already in place. Support for this conclusion comes from investigations undertaken during World War II as part of a U.S. Army attempt to indoctrinate new draftees (Hovland, Lumsdaine, and Sheffield 1949), studies of presidential debates (Katz and Feldman 1962; Sears and Chaffee 1979), studies of the television series "Roots" (Hur and Robinson 1978; Ball-Rokeach, Grube, and Rokeach 1981) and more (e.g., Patterson and McClure 1976).

The psychological process of interest in this research, persuasion, presumably occurs when individuals decide to change an attitude in response to a message advocating a particular position or point of view. This can occur either because an individual finds the arguments contained in the message to be compelling or because the source of the message is viewed as credible (e.g., because of his or her expertise or attractiveness). In general, such attitude change is rare because preexisting attitudes guide individuals' exposure to and interpretation of media messages. Specifically, people are usually exposed only to attitude-consistent media messages (see Sears and Freedman 1965; Frey 1986), and attitude-inconsistent messages are typically interpreted and recalled in ways that reinforce rather than challenge existing attitudes (see, e.g., Cooper and Jahoda 1947; Lord, Ross, and Lepper 1979; Roberts 1985). Furthermore, attitudes changed as a result of perceiving the source of the message to be credible or attractive are unstable and as a result do not persist over time (Petty and Cacioppo 1986).

However, much research challenges the assumption that the media have no effects at all, by showing that they can influence attitudes by more subtle mechanisms (see, e.g., MacKuen 1981). Even as early as the 1920s, Lippmann (1920, 1922, 1925) proposed that the news media may affect public opinion by focusing attention on some national problems and political issues while ignoring others. This idea has come to be known as the agenda-setting hypothesis: media coverage of an issue increases the national importance that Americans ascribe to it (see, e.g., Kosicki 1993; McCombs 1993). A great deal of evidence offers support for this hypothesis, from longitudinal analyses matching survey data to content analyses of media coverage (e.g., Behr and Iyengar 1985), and from laboratory experiments that systematically manipulated media exposure (Iyengar and Kinder 1987).

Building on the notion of agenda-setting, Iyengar, Kinder, Peters, and Krosnick (1984) proposed another hypothesis regarding subtle media impact, this time on assessments of presidential performance. Such evaluations have important political implications. A president's power in Washington depends partly on how favorably he is evaluated by the nation, because popular presidents tend to have things their way with Congress (Neustadt 1960; Rivers and Rose 1981).

If the media do, indeed, shape what individuals consider important, they may also alter the bases of judgments about presidential performance. More specifically, by focusing on some issues and not others, the news may determine the standards by which a president's performance is evaluated and may, as a result, provoke surges and declines in presidential popularity. If this notion, dubbed the priming hypothesis, is correct, then it identifies a subtle mechanism by which the media alter the conduct of public policy-making.

In this chapter, we will describe a program of research on the priming notion. First, we will describe the five hypotheses that form the core of this work. Then we will review two laboratory tests of these hypotheses and two survey studies of them. Finally, we will highlight the implications of our findings for future research. As will become apparent, our original ideas regarding priming were quite straightforward and were largely empirically supported. But as we progressed through our investigations, our results began to paint an increasingly complex picture of how the media shape presidential approval.

Priming

The notion of priming is based upon psychological research showing that when people make decisions, they rarely take into consideration the entire array of available relevant evidence. Rather, because of the cognitive burdens imposed by a complete and comprehensive information search and integration

process, people tend to "satisfice" rather than "optimize" (see Simon 1957; Simon and Stedry 1968). That is, they often derive their decisions from limited subsets of the available information pool so as to make satisfactory judgments without expending a great deal of effort.

According to the theory of priming, satisficing occurs in political decision making just as it does for other sorts of judgments. When Americans are asked to evaluate the job performance of their president, an optimal assessment might entail gauging the president's performance in a wide array of policy domains and integrating those domain-specific judgments into an overall summary. More likely, according to the theory of priming, would be a satisficing approach: assessing presidential performance in only a small sample of policy domains.

Which particular pieces of information get used, according to the priming hypothesis, may be those that come to mind quickly and automatically for an individual—those that are most accessible (Higgins and King 1981; Wyer and Hartwick 1980; see also Zaller and Feldman 1992). And the accessibility of various policy domains are in turn presumed to be determined importantly by news media coverage. Issues that have been the subject of extensive attention on television and radio and in newspapers may be particularly likely to come to citizens' minds shortly thereafter and thereby enjoy enhanced impact on presidential evaluations. In contrast, topics that have been addressed only minimally in the news media are presumably rarely primed and are therefore likely to play little if any role in presidential assessment processes. Hence, by calling attention to some matters while ignoring others, news media may alter the standards by which the president is evaluated.

This notion of priming proposes quite a different mechanism by which the media may affect attitudes than the traditional persuasion approach presumes. Whereas persuasion focuses on media messages advocating particular positions, priming can be provoked simply by a news story devoting attention to an issue without advocating a position. And whereas persuasion is thought to result from effortful decision making about a message's likely veracity, priming presumably occurs as a result of automatic and effortless processes of spreading activation in people's minds.

The Gradient Hypotheses

In order to understand precisely what attitudes will be primed by what stimuli, it is useful to think of a person's stable of political attitudes as structured in memory within an associative network (Anderson 1983; Collins and Loftus 1975). In such a network, political attitudes can be thought of as nodes, each one having some inherent strength. The strength of a node is presumed to be a

competence, and integrity. Information made accessible by news coverage that is deemed highly relevant for one may be regarded as largely irrelevant for another. Because our research focused on news media coverage of national problems, the accessibility of news stories should have the greatest impact on judgments of the president's overall job performance. Such judgments, after all, are presumably just weighted averages of how well the president is doing on specific national issues. Inducing people to concentrate on one of these issues should therefore substantially influence its relative impact on judgments of how well the president is performing overall.

The standards used in judging competence should also be influenced, but not as much, because Americans no doubt recognize that performance on any one issue reflects the president's competence imperfectly. Even the most competent president cannot advance his agenda on every issue successfully. Performance is determined in part by forces beyond a president's control, including the economy, the Congress, other countries, and many more. Therefore, citizens probably assess presidential competence partly from domain-specific performance, but more weakly than when they make overall performance assessments. Good outcomes constitute good performance, regardless of whether a president deserves complete credit for them or not.

Judgments of a president's integrity should be affected even less than competence, because performance-diagnostic events seem even less informative with regard to this trait. However, some issues directly implicate a president's integrity (e.g., the Iran-Contra affair), and priming may affect integrity assessments more powerfully in such cases.

Thus, the gradient hypothesis has two parts. The first, which we shall call the target gradient hypothesis, addresses which attitudes have their accessibilities altered as a result of priming and by how much. The second, which we shall call the consequence gradient hypothesis, addresses which overall presidential evaluations are altered and to what degree.

The Dosage and Knowledge Hypotheses

The final hypotheses we tested addressed which citizens are influenced most by the news media. We presumed that the magnitude of impact of the news media on any particular individual is determined by two regulatory factors: dosage and resistance. By dosage, we mean the amount of media coverage on an issue that enters a person's short-term or working memory (see, e.g., Estes 1988). The greater one's dosage of media content, the more one should be influenced by it. And presumably, dosage is a joint function of the amount of news to which an individual is exposed and the amount of attention he or she pays to it.

Holding dosage constant, the more knowledge about politics one has, the

function of prior activation of it (see, e.g., Anderson 1983). The more one has thought about an attitude in the past, the stronger its node will be.

Within this representational structure, nodes are linked to one another. For instance, a person's attitude toward affirmative action may be linked to his or her attitude toward school integration. Such linkages evolve when the attitudes are thought about simultaneously and when one attitude is perceived to imply, support, or contradict the other (Judd and Downing 1990; Judd et al. 1991). Attitudes that are not conceptually related in some way are unlikely to become linked.

When a specific attitude is called to mind, activation of its node will spread to other attitudes to which it is linked. The stronger the activated node, the more spreading activation would be expected. Consequently, we would expect that priming induced by a news story would occur mostly for attitudes that are directly relevant to the story. For example, news stories about President Clinton's economic plan would presumably activate attitudes about economic performance most strongly. However, we might also observe spreading activation to, say, attitudes about health care policies, because they have economic implications. Thus, there might be a gradient of priming effects, decreasing in strength as attitudes become more and more remote from those being directly activated by a story.

At the same time, as media attention to certain issues enhances their impact, other issues are likely to see their impact diminished, for two reasons. First, people have neither the ability nor the motivation to comprehensively incorporate every potentially relevant issue into their presidential evaluations. As some issues are brought into the foreground of people's thinking by the news media, others will be pushed into the cognitive background. Second, because television news broadcasts are limited in length and newspaper front pages are of a fixed size, they can only focus on a small set of issues on any given day. Therefore, when the media devote attention to certain issues, they must of necessity devote less discussion to others. Consequently, priming is likely to be hydraulic in nature: increases in the impact of some issues should be accompanied by decreases in the impact of other, unrelated issues.

However, simply priming attitudes does not mean they will have enhanced impact on all political judgments. Rather, the impact of accessible attitudes may be great or negligible depending on their perceived relevance to the judgment at hand. Information regarding a person's intelligence may be largely ignored when evaluating that same person's honesty, for example (Hamilton and Fallot 1974). Therefore, increasing the accessibility of some information will influence only those judgments to which the information is relevant, and only to that degree.

When studying presidential evaluations, it is useful to distinguish among three types of judgments: evaluations of the president's general performance,

more resistant one should be, because knowledge helps one to withstand influence. Individuals who have a lot of knowledge about politics presumably have relatively crystallized calculi by which they make evaluations of a president's performance. Because these people are practiced at making such judgments, the weights they give to various pieces of information may become established and justified by knowledge about particular issues and politics in general. Consequently, knowledgeable people may be especially resistant to temporary increases in accessibility of one or another policy domain. Individuals with little knowledge, on the other hand, are presumably not practiced at making presidential performance evaluations and probably do not have crystallized formulas for making such judgments. Therefore, they should be highly responsive to increases in accessibility of policy domains emphasized by the media.¹

Overview

The two experimental studies (Iyengar et al. 1984) and two survey studies (Krosnick and Kinder 1990; Krosnick and Brannon 1993) we will describe tested all these hypotheses. We expected the media to influence only those aspects of public opinion that were directly implicated by a story and that the priming effect would be moderated by the relevance of the news stories to the judgment being made. In addition, we hypothesized that media impact would be greatest on people with the highest levels of exposure and attention and the lowest levels of knowledge about politics.

Laboratory Study 1: Energy Policy

Both of our laboratory studies were conducted while Jimmy Carter was president. The first study tested the basic priming hypothesis as well as the consequence gradient and dosage hypotheses. Yale undergraduates viewed one of three 40-minute sets of network television news stories. The sets of stories varied levels of exposure to energy stories. Some subjects viewed a set of stories that included six about energy, totaling 16 minutes (high exposure condition), others viewed three energy stories, totaling 8.5 minutes (intermediate exposure condition), while others viewed no energy stories (no exposure condition).² The energy stories were distributed evenly throughout the set, surrounded by stories about other contemporary problems.

After viewing one of the three sets of news stories, subjects completed a questionnaire that assessed (a) judgments of President Carter's performance in each of eight specific areas, including "implementing a national energy policy"; (b) judgments of Carter's overall performance; and (c) judgments of his competence and integrity.

As expected, the effect of energy performance on ratings of Carter's

overall performance was significantly larger in the intermediate and high exposure conditions than in the no exposure condition (see table 1). Thus, individuals who watched news stories that emphasized energy policy weighed their attitudes toward Carter's energy policy performance more heavily in their evaluations of Carter's overall performance than did those who watched no such stories. Contrary to the dosage hypothesis, however, no differences appeared between subjects in the intermediate and high exposure conditions, which suggests that even moderate amounts of activation are sufficient to maximize priming.

Consistent with the consequence gradient hypothesis, priming of energy performance ratings had more influence on evaluations of Carter's overall job performance than on judgments of his competence and integrity evaluations (see table 1). However, this gap was bigger than we expected: in fact, the impact of the news stories on the latter two judgments was negligible. Thus, the energy stories made attitudes about Carter's energy performance more accessible and thereby enhanced their influence on overall evaluations of his job performance, but they did not alter competence or integrity judgments.

Thus, the results of study 1 were consistent with both the priming and gradient hypotheses, though not the dosage hypothesis. To explore the generalizability of these findings to other issues and subject populations and to examine the role of political knowledge, we conducted a second laboratory study.

Laboratory Study 2: Energy, Defense, and Inflation

Subjects in our second study were adult residents of New Haven, Connecticut. As in study 1, these individuals viewed a set of 12 television news stories lasting again approximately 40 minutes. The amount of exposure to stories about three target issues (energy, defense, and inflation) was varied across individuals. Subjects in the high exposure condition saw six stories about

TABLE 1. Impact of Energy Performance Ratings on Overall Evaluations of President Carter in Study 1

Overall Evaluation	Condition	
	No Coverage	Some Coverage
General performance	.10	.27**
Competence	.15	.19
Integrity	.00	.06
N	21	73

Source: Iyengar, Kinder, Peters, and Krosnick (1984).

Note: Table entries are unstandardized regression coefficients.

** $p < .01$.

either energy, defense, or inflation. Subjects in the intermediate exposure condition saw three stories about one of these issues. And some subjects saw no stories about each issue. After viewing the news stories, subjects completed the same basic measures as in study 1. In addition, subjects answered nine political knowledge questions, three on each issue (energy, defense, and inflation).

As expected, subjects who viewed news stories on a target issue weighed President Carter's performance on that issue more heavily in deriving overall performance evaluations than did subjects who saw no stories on that issue (see table 2). Thus, exposure strengthened the relation between evaluations of Carter's performance on the specific issue and evaluations of his overall performance. Again, as in study 1, no differences appeared between subjects in the intermediate and high exposure conditions, which reinforces the notion that even moderate dosages can maximize priming.

Consistent with the consequence gradient hypothesis, judgments of Carter's competence and integrity were less influenced by the television story content manipulations. In fact, as table 2 illustrates, these latter effects were almost always nonexistent. Finally, as anticipated, subjects who were less knowledgeable about an issue were consistently more influenced by the priming manipulation than were more knowledgeable subjects (see table 3).

In sum, study 2 replicated the results of study 1 with a more heterogeneous sample of subjects. In addition, the results of study 2 were consistent with the hypothesis that political knowledge constitutes a basis for resisting priming effects.

The Iran-Contra Study

Next, we moved outside of the laboratory to evaluate how well these hypotheses explain presidential evaluations as they evolve naturally among represen-

TABLE 2. Impact of Problem Performance Ratings on Overall Evaluations of President Carter in Study 2

Overall Evaluation	Energy		Defense		Inflation	
	No Coverage	Some Coverage	No Coverage	Some Coverage	No Coverage	Some Coverage
General performance	0.43***	0.51***	0.37***	0.52***	0.65***	0.71***
Competence	0.17	0.13	0.17**	0.33***	0.28***	0.28**
Integrity	0.14*	0.19*	0.17**	0.03	0.24**	0.15
N	92	48	94	46	94	46

Source: Iyengar, Kinder, Peters, and Krosnick 1984.
 Note: Table entries are unstandardized regression coefficients.
 *p < .05; **p < .01; ***p < .001.

TABLE 3. Changes in the Impact of Problem Performance Ratings on Overall Ratings Due to News Media Coverage by Level of Political Knowledge

Issue	Low Knowledge	High Knowledge
Energy	0.19	0.06
Inflation	0.16	0.05
Defense	0.15	0.10

Source: Iyengar, Kinder, Peters, and Krosnick 1984.
 Note: Table entries are unstandardized regression coefficients.

tative samples of adults. Our first such attempt focused on the Iran-Contra scandal (Krosnick and Kinder 1990).

The Iran-Contra drama was ignited on November 25, 1986, when Attorney General Edwin Meese announced to a national television audience that funds obtained from the secret sale of weapons to Iran had been channeled to the Contras fighting to overthrow the Sandinista government in Nicaragua. In the months following this revelation, the news media were virtually consumed with the scandal. Along with this media attention came a major decline in President Ronald Reagan's approval ratings. The media's focus on the Iran-Contra disclosure, as per the priming hypothesis, should have enhanced the impact of attitudes toward U.S. policy in Central America on the public's views of President Reagan. Because citizens' attitudes toward U.S. intervention in Central America during this time were quite negative, Reagan's approval ratings would be expected to decline as a result, just as they did (Krosnick and Kinder 1990).

In order to test the priming hypothesis in this context, we analyzed data from the 1986 National Election Study. In late 1986, face-to-face interviews were conducted with a national probability sample of more than 2,000 U.S. adults, 1,086 of whom completed Form A of the questionnaire. This form included elaborate assessments of views of President Reagan as well as a battery of foreign affairs questions and standard questions about the campaign, the candidates, parties, national problems, policy attitudes, and demographics.

To test the priming hypothesis, we estimated regression equations predicting Reagan's overall performance from attitudes toward U.S. aid to the Contras and involvement in Central America, U.S. involvement in the affairs of other countries in general, or what we call *isolationism*, U.S. strength in the world, the health of the national economy, and federal aid to blacks. Such an equation was estimated once for respondents who were interviewed before the November 25 revelation (the pre-revelation group) and again for those who were interviewed after that date (the post-revelation group).

As anticipated, attitudes toward aid to the Contras and involvement in

on aid toward blacks attitudes were both strong among low-knowledge respondents and were reduced to nonsignificance among respondents high in knowledge. Interestingly, the priming effect on isolationism attitudes appears to have been a bit stronger among the more knowledgeable respondents. This may reflect the fact that such individuals were more likely to have such general attitudes and to see them as linked to more specific attitudes on intervention in particular regions of the world. Thus, it seems, less knowledgeable citizens were primed on those aspects most directly related to the content of the news coverage, whereas more knowledgeable individuals were influenced at a more abstract level.

The Gulf Crisis Study

Just as the news media's focus on the Iran-Contra scandal altered the standards by which U.S. citizens evaluated President Reagan, media attention to the Persian Gulf War in 1991 may have affected evaluations of President Bush. In October 1990, before the war began, Bush's approval ratings were moderate at best. However, after gradual massing of allied troops in the

TABLE 5. Impact of Policy Attitudes on Assessments of President Reagan's Character before and after the Iran-Contra Revelation

Opinion Domain	Unstandardized Regression Coefficients		Difference	Significance of Difference ^a
	Prerevelation Group	Postrevelation Group		
Assessing Reagan's Competence				
Contras-Central America	.09**	.20**	.11	.15
Isolationism	.04**	.09**	.05	.04
U.S. strength	.12**	.06*	-.06	.06
Economic assessments	.10**	.07	-.03	.07
Aid to blacks	.14**	.12**	-.02	.41
N	632	304		
Assessing Reagan's Integrity				
Contras-Central America	.03	.12**	.09	.14
Isolationism	.05**	.06**	.01	.21
U.S. strength	.07**	.07**	.00	.47
Economic assessments	.13**	.13**	.00	.39
Aid to blacks	.05*	.04	-.01	.28
N	629	303		

Source: Krosnick and Kinder 1990.
^aEntries in this column are one-tailed *p*s.
 **p* < .10 (one-tailed).
 ***p* < .05 (one-tailed).

Central America were more important determinants of overall performance evaluations in the postrevelation group than in the prerevelation group (see table 4). Consistent with the target gradient hypothesis, a slightly smaller priming effect appeared for general views about isolationism, the predictor most closely related to U.S. involvement with the Contras in Central America. Essentially no priming effects appeared for the even more distant predictors of U.S. strength and assessments of the U.S. economy. And, in fact, a negative effect appeared for aid to blacks: attitudes on this issue had less impact after the revelation than before. This finding is consistent with the idea that priming may be hydraulic in nature: as some problems come into the foreground, others are forced into the background.

The results were also consistent with the consequence gradient hypothesis, though the effect was a bit different than we saw in the laboratory studies (see table 5). The principal priming effect on Contras-Central America attitudes was just as apparent in judgments of Reagan's competence and integrity as in judgments of his overall job performance. This is not surprising, given that the Iran-Contra affair raised questions about Reagan's competence and integrity explicitly. However, the priming effect on isolationism attitudes was weaker for competence and integrity judgments than for overall performance evaluations, as was the negative effect we saw for attitudes regarding aid to blacks.

Finally, as expected, the Iran-Contra revelation had a substantial priming effect on people who knew relatively little about politics and was less effective among more knowledgeable people (see table 6). Specifically, the principal priming effect on Contras-Central America attitudes and the negative effect

TABLE 4. Estimates of the Impact of Policy Attitudes on Assessments of President Reagan's Performance before and after the Iran-Contra Revelation

Opinion Domain	Unstandardized Regression Coefficients		Difference	Significance of Difference ^a
	Prerevelation Group	Postrevelation Group		
Contras-Central America	.18*	.29*	.11	.17
Isolationism	.02	.10*	.08	.02
U.S. strength	.14*	.15*	.01	.45
Economic assessments	.33*	.35*	.02	.36
Aid to blacks	.22*	.00	-.22	.05
N	607	296		

Source: Krosnick and Kinder 1990.
^aEntries in this column are one-tailed *p*s.
 **p* < .05 (one-tailed).

pre- and postwar surveys, respondents were asked questions gauging evaluations of President Bush's overall job performance and his handling of the Gulf crisis, foreign affairs generally, and the domestic economy. To estimate priming, we computed regression equations predicting the first of these attitudes with the latter three.

Consistent with the priming hypothesis, the impact of Bush's Persian Gulf crisis performance on his overall evaluations increased after the war (see table 7). And consistent with the target gradient hypothesis, the impact of foreign policy performance and domestic economic performance did not change significantly. Thus, it seems that, for the nation as a whole, news media attention to the war increased the weight people attached to Bush's handling of the Gulf crisis in deriving their overall performance evaluations without shifting the impact of some other ingredients.

This latter finding is interesting, partly because it is conceivable that focusing the American people's attention on this conflict overseas might have increased attention to other political attitudes as well. That is, when a war occurs and news coverage of it is intense, it may stimulate thinking about related issues on which the conduct of the war has effects. At the very least, because the Gulf War involved complex coordination of efforts by many countries worldwide, Americans might have become more attentive to and concerned about U.S. relations with these various other countries. Instead, consistent with the experimental studies, our results suggest that no such widening of attention occurred.

TABLE 7. Impact of Domain-Specific Evaluations on Overall Evaluations of Bush's Performance before and after the Gulf War

Performance Domain	Unstandardized Regression Coefficient		Pre-Post Difference	Significance of Difference ^a
	Prewar	Postwar		
Gulf crisis	.21*** (.02)	.30*** (.02)	.09	.00
Foreign relations	.22*** (.02)	.21*** (.02)	-.01	.38
Economy	.26*** (.02)	.27*** (.02)	.01	.48
Number of cases	1090	1090	1090	

Source: Krosnick and Brannon 1993.
^aEntries in this column are one-tailed *p*s.
 ****p* < .001

Middle East and U.S.-initiated air attacks on Iraq beginning in mid-January 1991, the news media became obsessed with these events and provided nearly nonstop coverage of them for weeks. Interestingly, at the same time, Bush's approval ratings increased to a high of 90 percent (see Krosnick and Brannon 1993).

According to the theory of priming, the dramatic shift in news coverage at the onset of the war and continued focusing on the crisis for months after the war may have led individuals to weigh attitudes toward Bush's Persian Gulf performance more heavily when they evaluated his overall performance. Because most individuals approved of Bush's Persian Gulf decisions, this could partially explain the increase in his approval ratings beginning in mid-January.

We tested this possibility using data from the 1990-1991 National Election Panel Study of the Political Consequences of War. For this survey, a nationally representative sample of 1,385 U.S. adults was interviewed in late fall 1990, before the major events of the war and the dramatic increase in media attention to the Gulf crisis. These individuals were reinterviewed in summer 1991, long after the military strike was completed. During both the

TABLE 6. Impact of Policy Attitudes on Assessments of President Reagan's Performance before and after the Iran-Contra Revelation, Separately for Respondents High and Low in Political Knowledge

Opinion Domain	Unstandardized Regression Coefficients		Difference	Significance of Difference ^a
	Pre-revelation Group	Post-revelation Group		
Low-Knowledge Respondents				
Contras-Central America	.12*	.35*	.23	.06
Isolationism	.01	.08*	.07	.09
U.S. strength	.14*	.18*	.04	.32
Economic assessments	.29*	.39*	.10	.19
Aid to blacks	.20*	.03	.17	.05
N	383	191		
High-Knowledge Respondents				
Contras-Central America	.22*	.28*	.06	.43
Isolationism	.06	.20*	.14	.05
U.S. strength	.16*	.06	.10	.29
Economic assessments	.39*	.41*	.02	.41
Aid to blacks	.20*	.07	.13	.37
N	222	105		

Source: Krosnick and Kinder 1990.
^aEntries in this column are one-tailed *p*s.
 **p* < .05 (one-tailed).

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To test the knowledge hypothesis as we had in previous studies, we initially used respondents' answers to a nine-question political knowledge quiz to separate them into relatively more and less knowledgeable groups. And as expected, the priming effect was especially pronounced among the less knowledgeable individuals. Contrary to the dosage hypothesis, though, priming was stronger for people who were less exposed to and less attentive to the news media.³

When we examined the effects of knowledge, exposure, and attention simultaneously in a multivariate analysis, these latter two variables' effects stayed the same. Priming was more pronounced among individuals who were less exposed and who paid less attention to the media. However, the effect of knowledge on priming was precisely the opposite of what we expected. Priming was stronger, not weaker, as knowledge increased (see Krosnick and Brannon 1993 for the details of this analysis).

Given that these findings were quite surprising, we returned to the Iran-Contra data and conducted the same multivariate analysis using measures of knowledge, exposure, and attention. And, again, priming was greatest for individuals who were less exposed and paid less attention to the media. However, there was no effect of knowledge on priming in the Iran-Contra study.

Discussion

So where does this leave us? First, across all four studies, we have seen consistent evidence of priming, just as our hypothesis led us to expect. Furthermore, both the target and consequence gradient hypotheses were sustained, lending support to the associative network model of spreading activation. However, our findings regarding exposure, attention, and knowledge were quite surprising. We turn now to possible explanations of these findings.

Exposure and Attention

In our laboratory studies, we found no effects of increased dosage from some stories on a topic to many, which suggests that priming can be maximized with just a few stories when measurements are taken immediately after exposure. But when a delay is involved, as in our survey studies, weaker priming effects appeared among the most exposed and attentive.

We can see at least three possible explanations for this result. Consider first the Gulf War. The primary message of the news media during the lead War was the conduct and progress of the war itself. It was usually the lead story on television and on the front page of newspapers. In addition, periph-

eral war-related stories reported on the types of weapons being used, tales about local heroes, accounts of government relations with the press, and more. People who were only minimally exposed and attentive to the news media probably absorbed these main messages about the war and little else.

In contrast, highly exposed and attentive individuals certainly absorbed the war messages, but these people probably absorbed more peripheral stories as well, on topics completely unrelated to the war (e.g., crime, unemployment, and inflation). Consequently, the priming impact of the principal message may have been diluted by the many other knowledge domains that were also made accessible. This might explain why priming effects of a principal story theme (such as the Gulf War) were strongest among individuals lower in exposure and attention. Needless to say, at absolute zero levels of exposure or attention, no priming at all should occur. But such low levels were probably exceedingly rare among Americans during the Gulf War. Likewise, because the Iran-Contra affair dominated the media only a short time before presidential evaluations were assessed, it was probably primed even among minimally exposed and minimally attentive people. For highly exposed and attentive people, stories of the Iran-Contra affair probably were diluted by other stories, as in the case of the Gulf War.

This sort of dilution might also have occurred at a point in time much later than encoding, via retroactive interference. People who are especially interested in politics and who absorb lots of information about a particular primed issue no doubt continue to attend closely to political news after the priming event has occurred. Consequently, as the media's attention to matters other than the primed issue increases subsequently, these highly attentive individuals fill their minds with this new information, which would interfere with the cognitive effects of the initial priming. Thus, greater attention and exposure may yield more absorbing of information about the primed problem, but also of information about a range of other political matters. Thus, priming effects for these people may be relatively short-lived, because they are quickly overcome by subsequent increases in the accessibility of new issues and problems.

Another possible explanation for the attention result involves awareness of priming manipulations. Recent studies suggest that such manipulations may have the greatest impact when they occur without people paying much attention to them (Lombardi, Higgins, and Bargh 1987; Strack et al. 1993; see also Berkowitz and Troccoli 1990). When people attend closely to and are aware of the potential impact of context on their judgments, they correct for it. In our case, highly attentive viewers may therefore have said to themselves, "I know the news media have paid a lot of attention to inflation lately, but I don't want that to cause me to place too much weight on inflation in deriving my

presidential performance evaluation. So I'll reduce its weight a bit." This could explain why weaker priming effects appeared among the most attentive citizens.

There is one other possible explanation for the attention and exposure findings as well (see Hastie and Park 1986; Lodge, McGraw, and Stroh 1989). People who are highly attentive and exposed to the flow of political news are likely to think a great deal about political affairs. This extensive thought may lead them to form a set of general political evaluations (e.g., regarding a president's overall job performance) stored in memory and to continually update them as new relevant information is acquired. Therefore, if asked by a pollster to report an assessment of a president's performance, these individuals need only retrieve and report these previously formed evaluations. Such judgments have a great deal of inertia, because they are based on large sets of previously acquired information, so new pieces of information have only a small impact on them. Consequently, recent news media content might have relatively little effect on highly attentive and exposed citizens.

In contrast, citizens low in attention and exposure are unlikely to have such general political evaluations stored in memory. They will most likely have to respond to an inquiring pollster by recalling whatever they can about presidential performance and deriving an overall evaluation on the spot. As the priming hypothesis suggests, instead of drawing upon expansive arrays of performance domains, these individuals are most likely to consider only the small handfuls of performance domains that come to mind most easily. Thus, lower levels of exposure and attention would again be associated with the greatest priming effects because a memory-based judgment strategy would be employed.

Knowledge

In our two laboratory studies, we found low knowledge respondents to be more susceptible to priming. But when we controlled for exposure and attention, higher knowledge was found to facilitate priming in the Gulf War Study, whereas no knowledge effect was present in the Iran-Contra Study. One possible explanation for this discrepancy goes as follows. In the laboratory studies, presidential evaluations were assessed immediately after exposure, and knowledge was presumably positively associated with resistance. Therefore, priming was stronger among the least knowledgeable (see the top line in figure 1).

But in the Gulf War Study, presidential evaluations were measured long after the media exposure of interest. The news media content would only affect these evaluations if it was stored in people's memories and could be retrieved at the time of judgment. Thus, factors that enhance the likelihood of

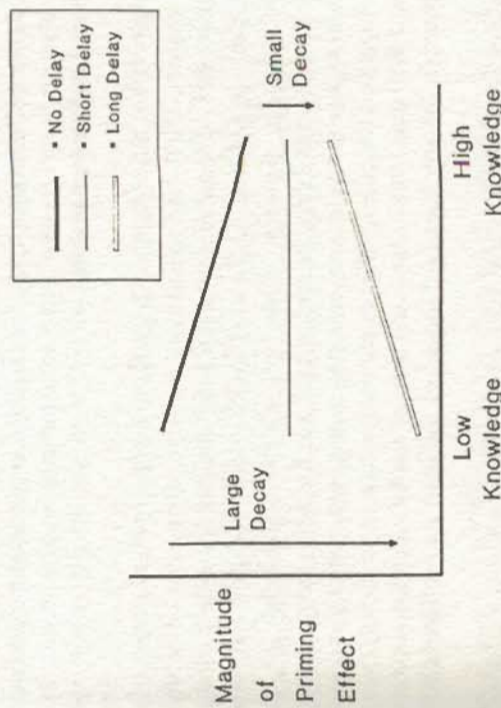


Fig. 1. Effect of political knowledge and delay on the magnitude of priming.

storage and retrieval should enhance media priming effects, and political knowledge may be one such factor.

In general, the more schematically organized knowledge one has about a domain, the more efficiently and effectively one can make sense of new information, find an appropriate place to incorporate it into one's memory, and retrieve it sometime later (see Fiske and Taylor 1991, 121-32). The more knowledge one has about politics, the more quickly and easily one can make sense of a news story, and the more efficiently one can store it in and retrieve it from an elaborate and organized mental filing system. Therefore, when there is a delay between media exposure and attitude assessment, as in the Gulf War Study, knowledge might facilitate priming by facilitating retention over time.

The bottom line in figure 1 illustrates how the resistance and retention functions of knowledge might combine with one another. When presidential evaluations are measured a significant period of time after media exposure, the priming effect decays a great deal among low-knowledge individuals (shown on the left side), whereas it decays only a small amount among high-knowledge people (shown on the right side). Consequently, after a delay, the priming effect that remains is stronger among the latter individuals than among the former, even though the opposite was true immediately after exposure.

In the Iran-Contra Study, presidential evaluations were assessed after a relatively short delay of days or weeks. After this moderate delay, there could

be no effect of knowledge on the strength of the priming effect, as the middle line of figure 1 illustrates.

Directions for Future Research

The research we have outlined suggests a number of useful directions for future research. First, the speculations we have offered can all be tested in future laboratory experiments manipulating dilution, awareness, delay, and other factors. In addition, future work might attempt to test the mechanism of priming explicitly. Although it has been widely assumed that the relevant mechanism is accessibility, its mediational role has never been documented. One could expose individuals to news stories on a particular political issue and assess impact on the accessibility of attitudes on that issue directly (see, e.g., Fazio and Williams 1986). One could also see whether increased accessibility is responsible for any increased impact of the issue on presidential evaluations.

Although accessibility may turn out to be the sole mediator of priming, it is also possible that agenda setting mediates priming. That is, increased accessibility of an issue may increase the likelihood that people will view that issue as nationally important. And that belief in national importance may cause increased weight to be attached to the issue in presidential evaluations. This, too, can be tested in future studies.

Coda

If accessibility mediates priming, our results imply a rather unflattering view of the American public. Indeed, they would hark back to the first phase of media research, in which citizens were viewed as passive recipients of "hypodermic" injections from the media. And if people are simply victims of the architecture of their minds, then the attitudes they express toward presidential performance should probably not play the central role in policy-making that they do.

NOTES

1. Our conceptions of dosage and resistance are a bit different from treatments of similar concepts by others. For example, although we view political knowledge simply as a basis for resistance, Zaller (1987, 1992, chap. 2 in this book) views knowledge as a measure of political awareness, which he defines as the confluence of high exposure to political information, high attention to that information, and good understanding of it, yielding high levels of absorption (see Zaller 1992, 21). We believe that exposure and attention can be conceptualized as distinct from the amount of knowledge a person

has stored in memory, that these various constructs can be effectively measured separately, and that understanding their effects may require multivariate statistical analyses using all of such measures simultaneously. In such analyses, we treat knowledge as a measure of just that: the amount of political information a person has stored in memory.

2. We did not measure attention in either of the two laboratory studies, so we could not control for it.

3. In this study, we combined respondents' answers to questions about their frequency of watching television news in general, watching television news about the 1990 elections, reading newspapers in general, and reading newspaper stories about the 1990 elections to yield an index of general exposure to the news media. Attention was assessed using answers to a question regarding how much attention respondents had paid to news about the Gulf War.

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