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How media influence public opinion: a schematic approach

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In order to better understand the nature of media effects on viewers' attitudes, investigators have turned to theories drawn from cognitive psychology. This theoretical framework offers a sophisticated account of how effects transpire, and it is from this perspective that certain inadequacies in our understanding of media effects can now be addressed. This paper reviews our current understanding of the nature of media effects upon viewers' attitudes, underlining the contribution of schema theory to that understanding, and its potential to guide further investigation of media effects.

THE investigation of media effects on viewer attitudes has focused typically on the existence and strength of effects. Recently, communication theorists have broken from this tradition with attention now being given to exploring the nature of "media effects". To this end, a few investigators have turned to theory drawn from cognitive psychology. Such a theoretical framework offers a sophisticated account of how effects transpire, and it is from this perspective that certain inadequacies in our understanding of media effects can now be addressed.

This review essay assesses the literature, evaluating recent theoretical and empirical developments in order to clarify our current understanding of the nature of media effects upon viewer attitudes. We synthesise the literature, and in light of this review offer a research agenda that addresses some remaining deficiencies in our understanding of media effects. We

focus on the level of individual attitudes, following a tradition of research that recognises that the impact of the media on viewer attitudes is mediated by various audience attributes (Rogers and Dearing 1989, pp.574, 581; McGraw and Pinney 1990; Iyengar and Kinder 1987, pp.90–97).

Secondary literature

Research tradition

A number of studies over the past decade (Bartels 1985; Page, Shapiro and Dempsey 1987; West 1991; Bartels 1991; Weaver 1991) challenge accounts of media effects — including agenda-setting and minimal-effects schools — that assert that viewers retain autonomy in the immediate formation of their assessments of news bulletins. While various research questions guide these investigations — for example, can the media affect the basis of voters' assessments of political objects; what moves public opinion; and what are the determinants of approval of political leaders — they have in common the finding that media coverage has a strong impact on voters' assessments of political objects and events. For instance, Bartels (1985) found that media exposure had significant momentum effects on voters' expectations in United States presidential nominating campaigns. Media exposure played a strong part in the development of the expectation that Bush would win the Republican nomination (Bartels 1985, p.810). Similarly, Page, Shapiro and Dempsey (1987, p.38) demonstrated that news variables are the principal determinant of short-to-medium-term change in public opinion, accounting for over half of the variance therein. West (1991) likewise found a strong relationship between television exposure and presidential popularity, independent of the influence of party identification, ideology, education, and presidential expectations. The more people watched and paid attention to television, the more disapproving they were of the president (West 1991, pp.207–209). In sum, there is currently sufficient empirical evidence to suggest that media coverage strongly affects viewer attitudes.

Given the body of research supporting the “strong effects” hypothesis, increasingly media effects research is turning to investigation of the nature of effects. A handful of studies (Graber 1984; Iyengar and Kinder 1987; Entman 1989; Krosnick and Kinder 1990; Kepplinger, Brosius and Staab

1991) working within the information-processing paradigm have sought to explain how audience members integrate messages into their thinking and to identify precisely how effects take place. The contribution of this work is that it disentangles how audiences process the news while providing a plausible account of how effects may occur. In this essay we focus on these investigations that adopt an information-processing perspective.

Theoretical background

Schema theory

The most informative accounts of how viewers process new information emanate from the information-processing paradigm. Within this paradigm, schema theory provides an account of how persuasive effects may occur, contending that "media effects" depend upon the processes involved in selecting new information. Schema theory is widely accepted within cognitive psychology and has been tested using both non-political (Graber 1984, pp.10, 23; Lodge and Hamill 1986) and political data (Stenner-Day 1991; Miller, Wattenberg and Malanchuk 1986; Conover and Feldman 1984). The argument is that while opinions may not be prescribed for viewers, if the media can affect the information that viewers process, the media can affect their attitudes (Entman 1989, p.349).

It is thought that as people cannot deal with all the information with which they are presented, they typically avoid complex analysis of information and opt for simple heuristics:

When faced with a judgement or choice, people ordinarily do not take all plausible considerations into account, carefully examine and weigh all their implications, and then integrate them all into a summary decision. (Krosnick and Kinder 1990, p.499)

Rather, the impressions people form of objects and events tend to be organised around a few themes. In the political realm these may include leader prototypes, partisan preferences and political ideologies. These themes or schema, developed from prior experience, provide the basis for evaluating political objects and events, allowing an efficient conception of each new environment (Fiske and Kinder 1981, pp.172, 173).

A schema is defined as a cognitive structure of "organised prior knowledge, abstracted from experience and specific instances" that guides "the processing of new information and the retrieval of stored information" (Conover and Feldman 1984, p.96; Taylor and Crocker 1981; Fiske and Taylor 1984; Graber 1984; Lodge and Hamill 1986; Wilcox and Williams 1990; Lau, Smith and Fiske 1991; Lodge et al. 1991). Schema are cognitive devices which are thought to aid their users in dealing with complexity by guiding the selection, interpretation and evaluation of new information; by providing inferences when information is missing or ambiguous; and facilitating its retention (Graber 1984, p.23; Wilcox and Williams 1990, pp.375-377).

The nature of effects

Research from this theoretical perspective is principally interested in the immediate selection and evaluation of news. When formed, it is thought that schema rest in an inactive state awaiting cognitive cues. A particular schema is activated as people tend to rely on information that is most accessible in memory and that comes to mind effortlessly (Krosnick and Kinder 1990, p.499).

Which considerations will be taken into account and which will be ignored depends on their relative accessibility, that is, the ease with which they come to mind. (Iyengar 1990, p.21)

Thus, our explanation of media effects begins with the notion that news coverage influences the accessibility of certain schema. Schematic processing of news occurs when news is "highly prototypic of the schema" (Lau, Smith and Fiske 1991; Fiske and Taylor 1984, p.171). Schema theory asserts that the media have an effect when particular schema are "primed"; that is, when schema are brought to the forefront of memory by coverage of an issue. It is thought that priming brings salient schema into play in viewers' political assessments, while de-emphasising other grounds for assessment which may previously have been important.

Through priming particular schema, the media influence viewers' standards of evaluation of governments, policies, leaders and candidates, by bringing their attention to certain criteria while de-emphasising or ignoring others. Where the media frame an issue in say, ideological terms, the issue may then be linked to ideological schema in voters' minds and

tend to be assessed in those terms. Likewise, when asked to evaluate a political leader, voters will tend to focus only on those aspects of their knowledge that happen to be most accessible at the time of assessment. Thus, by cuing certain evaluative "themes", media coverage may induce viewers to use certain criteria in assessing political leaders. In sum, when viewers confront news coverage of political objects and events, their assessments will tend to be made in terms of the schema most congruent with media coverage (Taylor and Crocker 1981, p.109; Fiske and Kinder 1981, p.176; Iyengar 1990, pp.20, 21).

The way the media frame news stories has important implications for shifts in public opinion. According to schema theory, shifts in news content can alter the importance that audiences attach to particular events and issues in their political evaluations (Krosnick and Kinder 1990). The activated schema tend to be used in the processing of subsequent news stories even though equally appropriate schema may have been used in the absence of "priming". The implication is that the media can effectively alter viewers' assessments of political objects and events by framing a situation in one way rather than another (Lau, Smith and Fiske 1991, pp.660-661; Iyengar 1987; Iyengar 1990, p.20; Kahneman and Tversky 1984).

Empirical evidence of priming effects

Investigations employing both experimental and survey methods provide substantial evidence of priming effects (Iyengar and Kinder 1987; Iyengar 1987; Iyengar 1990; Krosnick and Kinder 1990). Experimental research by Iyengar and Kinder (1987) showed that television newscasts could alter voters' standards of assessment of political leaders and issues. Their experiments clearly demonstrated that television news reshaped the standards viewers used to evaluate political objects and events. Exposure to an issue via a simulated news broadcast doubled the importance subjects assigned to the "primed" issue (Iyengar and Kinder 1987, pp.68, 69). Other experimental research by Iyengar (1987, 1990) demonstrated that media framing of the issue of poverty affected peoples' understanding of, and attribution of responsibility for, the problem. Iyengar (1990, pp.34-35) found that "beliefs about who or what is responsible for poverty vary considerably, depending on how poverty is framed", so that

what people take to be the causes and cures of poverty depends significantly on the manner in which television news presentations frame the issue. When poverty is defined as a general phenomenon, responsibility is assigned quite differently than when poverty is defined as a specific instance of a poor person. People hold government responsible to a greater degree when the media frame is thematic rather than episodic. (Iyengar 1990, p.28)

Further confirmation of priming effects is provided by survey research investigating voters' assessments of President Reagan in light of the Iran-Contra affair (Krosnick and Kinder 1990). Respondents interviewed after the Iran-Contra revelation assessed the president in significantly different terms from those interviewed beforehand. Those interviewed after the Iran-Contra affair tended to assess Reagan in terms of presidential competence and integrity, and there was a significant decline in the use of other grounds of assessment which had previously been important, such as domestic policy concerns. Consistent with the priming hypothesis, variation in the bases of evaluation employed by the two groups reflected the changing way the media framed Reagan's performance (Krosnick and Kinder 1990, pp.505, 509). Media coverage of the Iran-Contra issue altered the foundation of support for the president both by bringing certain considerations to the forefront and by forcing previously important issues off the public agenda (Krosnick and Kinder 1990, pp.506, 509).

Research agenda

We make three general observations regarding the literature. First, there is sufficient evidence to suggest that the media affect viewers' attitudes. Research of this order has been the mainstay of media effects investigations in political science and communication studies. Second, while the media have a strong impact, there is a growing consensus that the effect is not via direct persuasion but occurs because of the way in which individuals process news. Viewers' political assessments depend on schema being activated by media coverage of that domain. There is strong, although preliminary, evidence to support the basic priming hypothesis; that is, that although television news may be unable to alter viewers' attitudes directly, it is able to set and reset the criteria underlying public assessment of political objects and events. Third, the potential of information-processing models to account for the extent to which, and the manner

in which the media affect public opinion is not yet fully realised, and more sophisticated analyses are possible. A number of conjectures regarding media effects remain unexplored. Most importantly, the responsiveness to priming of viewers with different cognitive structures and abilities has eluded thorough investigation. One of the main inadequacies in our understanding of media effects is that we do not yet fully understand the determinants of responsiveness to priming. Hence, we cannot adequately grasp the circumstances under which media effects may occur. Additionally, research to date has tended to focus narrowly on the immediate selection and evaluation of news. The extent to which, and the manner in which, media coverage may affect viewer attitudes in the long term, for example, by influencing the development and/or revision of their cognitive structures remains unclear. In this final section, then, we expand on this third observation. We propose that information-processing models have the potential to further contribute to our understanding of media effects, both by explaining individuals' differential responsiveness to priming, and the potential for more enduring effects to occur via long-term schema revision.

The determinants of responsiveness to priming

The schema structures of individuals differ widely and depend upon practice or expertise in different domains. In cognitive psychology, individuals who have established knowledge structures of a domain are labelled schematics, while those without a developed knowledge structure are aschematics (Lodge and Hamill 1986, p.507; Fiske and Kinder 1981, pp.177, 178). While there is no consensus on measuring the development of a person's schema structure (Kuklinski, Luskin and Bolland 1991; Lodge et al. 1991) typically the measurement of schema relies upon observation of individuals' processing of information. For instance, subjects may be given information to read and subsequently asked to recall that information. This test assumes that how subjects recall the information reflects how it is organised in their memory (Conover and Feldman 1984, p.101).

Differing cognitive structures and abilities provide differing capacities to conceptualise and assess issues. In this respect, the schema of experts differ from non-experts on three dimensions: experts' schema have stronger links among the concepts and components of knowledge; the

knowledge represented by experts' schema consists of larger units; and the more efficient organisation in memory allows more effective recall of these units of information. Schematics have a more integrated knowledge structure allowing more connections to be drawn between the units of knowledge (Fiske and Kinder 1981, p.177; Lau and Erber 1985, p.40). Schema thereby supply efficient devices for assessments of newscasts.

Schema theory thus suggests that people have different capacities to process information depending on their schema structures. The notion that people have different levels of schema development in various domains helps illuminate an individual's differential responsiveness to priming.

One of the keys to explaining media effects is issue-schema congruence: possession of schema in a particular domain enables priming by newscasts that are framed in congruence with that schema. Thus, one hypothesis is that when the media prime schema that a viewer typically uses in political assessments, schematics are most responsive. This accords with Iyengar and Kinder's (1987, pp.93–94) finding that partisans were most responsive to priming by coverage framed in partisan terms, independent of the impact of education and political involvement. Party identification is an efficient schematic device (Fiske and Kinder 1981, p.180) allowing prototypic assessments of newscasts. Moreover, the responsiveness of partisans to priming reflected the different priorities of the political parties. Whereas Republican identifiers were primed more effectively by news about inflation, arms control and defence, Democrats were primed more effectively by news about the environment, unemployment and civil rights (Iyengar and Kinder 1987, pp.90–97). Further, when news reports are framed in a way that is congruent with certain schema, it leads to either a strong positive or negative effect for viewers with developed schema in that domain. Iyengar and Kinder found that television coverage that contradicted partisan loyalties weakened priming effects among those possessing partisan schema.

A second hypothesis is that when the primed schema is one that a viewer does not typically use in assessments, aschematics are more responsive. The key is that it is relatively easier for schematics to counter-argue than for aschematics. Most people pay limited attention to news stories and have limited background knowledge, and counter-arguing requires a level of knowledge, cognitive effort, and ability that is pos-

sessed by schematics. For people who have undeveloped schema structures, it takes greater effort to resist the media's framing of an issue in terms other than those in which one would normally assess it.

The persistence of media effects: schema revisions

The evidence is that the media can prime schema in the immediate context of exposure. Data from experimental settings (Iyengar and Kinder 1987) demonstrate it requires only a small quantity of exposure for priming effects to occur, provided there is issue-schema congruence. Investigations of media effects drawing on schema theory have primarily focused on these short-term (priming) effects. Yet while priming is significant during that time when a particular schema is activated, there is clearly the potential for enduring effects which also merits exploration. Television newscasts would have their most potent and enduring effects on public opinion where they are able to induce revision of schema associated with voters' long-term beliefs such as partisanship and ideology.

How are schema revised? Schema theory contends that people develop their cognitive models of the social world informed by personal experience and indirect sources including information provided by the mass media. Thus attitudes emerge from the interaction of incoming information and viewers' enduring beliefs. Processing political news may lead a viewer to either store or discard the information: if stored, the information may activate new beliefs or revise existing beliefs.

Existing schema may be altered when media coverage challenges their accuracy and completeness. Media coverage may alter schema — and subsequently affect the processing of information — in at least three ways: where discrepant information encountered changes an individual's schema gradually; where a single piece of incongruent information changes a schema totally and suddenly; and where incongruence causes the perceiver to form subcategories within the overall schema, although maintaining the schema at a broader level (Fiske and Taylor 1984, pp.177–78). Where audience members lack a well-developed schema structure, they are most prone to such revisions. Since schema guide the evaluation and interpretation of new information, more enduring media effects may occur via inducing such long-term schema revision.

Conclusion: the value of schema theory

This paper reviews theoretical and empirical developments in our understanding of media effects from the perspective of the information-processing paradigm. We undertake this task at a time when the focus of investigation is shifting from the strength of media effects to the nature of those effects. Where the nature of effects is inadequately understood, investigators may overlook key determinants of attitude change, or attribute effects to confounding variables. This new focus, substantially aided by insights from schema theory, affords a more precise and comprehensive understanding of how media effects may transpire; accounting for how viewers select out new information from the profusion of news stories they are subjected to each day; and why viewers may use particular themes or criteria to assess political events and objects.

We propose a research agenda that addresses some of the remaining deficiencies in our understanding of the media's impact on public opinion. This research agenda would draw on the as yet unrealised potential of schema theory to account for how media effects may be mediated by various audience attributes which affect responsiveness to priming; and how the media may have a more enduring impact via inducing long-term schema revision.

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