

*Arguments are presented for looking at cognitive outcomes as dependent variables in communication research rather than placing emphasis only on affective realms. This approach also brings attention to the independent-dependent variable emphases found in the communication literature over the last few decades. The social context of media use and the motivations that spring from this contextual embeddedness are also discussed with regard to information utility and the distribution of information availability. Finally a comment is offered on how these perspectives may relate to developments in new media technology.*

## **MEDIA EFFECTS RECONSIDERED**

### **Some New Strategies for Communication Research**

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**W**e have at least one reason to be thankful for research on the consequences of televised violence and pornographic materials. These inquiries have reinstated the belief that mass communication media may exert discernible effects on people's lives. Two decades of null findings about communication and voting behavior had threatened to drown confidence in the power of mass communication under a sea of references to "reinforcement" and "selective exposure."

Processes leading to learning of aggression or display of sexual behavior may not be equivalent to those involved in learning about government. But our curiosity is stimulated, at least, to reexamine null results about media effects.<sup>1</sup> It may be that conventional variables and sterile research designs have a great deal to do with widespread doubts about the effectiveness of media in society.<sup>2</sup>

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Antidotes to the no-media-effects theme can be found in a variety of new research enterprises. The work of McCombs and Weaver (1973) and of Funkhouser (1973) on agenda-setting comes to mind. Robinson's (1972) examination of aggregate media effects during the 1968 election is another. And insights from research in the uses-and-gratifications tradition (Katz, Blumler, and Gurevitch, 1974; Katz, Gurevitch, and Haas, 1973) remind us that audiences manipulate media content to serve their own needs, whether or not those needs match the communicator's intent.

We would like to raise several other issues in connection with media effects research, as it is typically conducted. Our discussion pursues the following leads:

- (1) What people learn from communicative activity is a more rewarding topic for media effects research than attitude formation or change.
- (2) Researchers need to advance beyond conventional definitions of both independent and dependent variables—what communication and what knowing mean.
- (3) These inquiries should not neglect the social context of communication and learning.
- (4) The study of information-seeking in the media should include attention to information availabilities.

In some instances illustrations of these points will be based on data drawn from our own research. In other cases we will cite the work of colleagues. Our focus will be less on individual pieces of data, however, than on a rethinking of how media research is conducted and the uncertainties about effects we seek to resolve.

#### **SEPARATING LEARNING EFFECTS FROM ATTITUDE CHANGE**

We might start by reducing confusion over effects variables themselves. Patterson and McClure (1973a, 1973b) of Syracuse University have made headway toward this in their study of voter change during the 1972 presidential election. They use Fishbein's distinction between "beliefs" and "attitudes" to

trace the impact of TV spots on voters—among other topics.

Beliefs are defined as knowledge linkages—for example, awareness of issue stands taken by candidates, or associations between candidates and personal attributes. Attitudes are defined as evaluations, good or bad, placed on issue positions and attributes. Patterson and McClure hypothesize substantial media effects on beliefs, but little (or at best indirect) effects on attitudes.

Their rationale alludes to the informational focus of much political communication, including TV spots, and to the anchoring of evaluations among other cognitions. Patterson and McClure suggest that persuasive messages in politics mostly attempt to provide the audience with new linkages. In simplified terms: "our man favors the actions you (already) favor," or "our man is the kind of person you (already) want to see as president." Messages seldom seek reversals in the way publics evaluate policies or personal characteristics—partly out of the realization that change in these judgments requires change in supporting cognitive structures.

The usefulness of this approach can be illustrated with part of the Syracuse data on effectiveness of political spot ads on TV. One of the most frequently aired of the Nixon commercials dealt with Senator McGovern's stand on military budgets. The visual frame showed a hand sweeping away models of various weapons while the voice-over explained the proposed cuts. The message concluded that "President Nixon doesn't believe we should play games with our national security."

Patterson and McClure suggest the effectiveness of this commercial by analyzing campaign changes in voters' beliefs about whether McGovern favored spending less money on the military, and changes in attitudes toward the wisdom of spending less money. The investigators found evidence for belief change—which is consistent with the position that "learning" is a more common outcome of mass communication than attitude change.

Table 1 combines data from their report. It shows percentage differences between voters changing in the direction of the Nixon message, and percentage changing away from the Nixon

TABLE 1  
 CHANGES IN VOTERS' BELIEFS ABOUT McGOVERN'S POSITION  
 ON MILITARY SPENDING, AND CHANGES IN ATTITUDES  
 TOWARD MILITARY SPENDING, BY TV EXPOSURE

	Beliefs About McGovern's Position	Attitudes Toward Military Spending
High TV exposure	+29%	+1%
Low TV exposure	+11%	+1%

SOURCE: Patterson and McClure (1973b).

message. Positive scores mean a net change in the Nixon direction. Distinction is made between heavy and light TV viewers in order to index—albeit crudely—the likelihood of frequent exposure to the Nixon commercial.

Not all the TV commercials in 1972 are associated with results as graphic as these. And, of course, the investigators do not provide an unambiguous index for exposure to individual messages (pro-Nixon or pro-McGovern) about issues such as military spending. Changes summarized in Table 1 could be attributed to communications other than the TV spots that received so much journalistic attention during the campaign.

The structure of Patterson and McClure's analysis does provide, however, a clearer view of communication outcomes than typically found in survey research on the mass media.

Patterson and McClure interviewed 731 New York State voters. They found little evidence that either partisanship or interest in the campaign affected comprehension of Nixon and McGovern commercials that received heavy airing. This holds true whether comprehension is measured by recall of the commercials' "intended messages," as interpreted by the investigators, or by number of discriminable statements that respondents used to describe the TV spots they had seen. Even recall of seeing TV spots is unrelated to political preference, and only modestly associated with campaign interest.

The barriers of selectivity—part of our conventional wisdom about most communication—were not operating with respect to these informational outcomes of TV advertising. The scale of these barriers might indeed seem more modest if communication research distinguished carefully between outcomes that

are attempted in messages, and those that are not, and between outcomes that require sudden change in evaluative structures, and those that imply, at most, a delayed change in these structures.

### MEDIA EFFECTS ON LEARNING

One setting for redefining communication and information variables is to examine links among levels of education, use of media, and knowledge about public affairs. Survey research commonly finds that correlations between use of mass media and levels of information pale by comparison with correlations between educational attainment and information (Clarke and Jackson, 1968; Wade and Schramm, 1969; Tichenor, Donohue, and Olien, 1970).

A common generalization from these results regards educational institutions as the primary energizer for citizen participation. The implications of this viewpoint are not trivial. If the relatively static fact of one's educational attainment provides the major explanation for level of public affairs information, changes in aggregate levels of information are likely to be slow—regardless of the amount of communicative activity. In addition, efforts to encourage information-based competence in the citizenship role will be directed toward increasing school resources, rather than toward enlarging access to mass communication. Differential costs between these two sectors are great in both per capita and absolute terms.

Despite the weight of circumstantial evidence, however, a minimization of media effects, compared to education, may be premature. We can suggest at least two ways in which questions concerning mass communication and learning may have been cast in ways that bias results in favor of education as the all-powerful agent.

First, most research on information-holding about public affairs adopts a strictly normative definition of "knowing." To be informed means to grasp the kinds of facts about public events that usually interest educators. The identities of statesmen, dates of events, and awareness of sanctioned viewpoints

figure prominently in tests of public knowledge. Most often these kinds of cognitions are measured concerning public events that are salient to researchers, who are educators themselves—whether or not the events are relevant to mass publics.

Edelstein (forthcoming), among others, has noted the intrusiveness of this approach. One remedy is to inquire how people become informed about issues that are important to them. A corollary need is to measure “knowledges” about these issues that are of value to respondents, as well as the researcher. This calls for respondent-centered and open-ended measurement techniques.

A second fault of research on mass communication and learning concerns the definition of independent communication variables. Most often indexes amount to an inventory of time spent with various media or frequency of reading, listening, or viewing behavior.

We propose to abandon *media use* as an index of communication experience in favor of *message discrimination*. To discriminate a message is to have perceived some symbols concerning a specified object—be it a public policy, consumer product, or candidate. The person may additionally recall the mass or interpersonal medium by which the message was conveyed.

A recent study of information-holding by adults about national public affairs provides a setting in which to examine the utility of redefining information variables and substituting message discrimination as the communication event. Three rather primitive questions start the analysis:

- (1) Is message discrimination in the mass media a substantial predictor of knowledge about public issues?
- (2) How do correlations involving mass communication compare to the familiar, but static, variable of education?
- (3) Are there any media differences—such that, for example, message discrimination in print correlates more highly with information-holding than message discrimination in broadcast channels?

Our survey method is straightforward. Respondents are first invited to nominate “problems facing this country that you

think the government in Washington should work to help solve." (The institutional focus can, of course, be altered.) Following the respondent's recitation of ills, he is asked to specify a "most important" problem and to further narrow his attention to the part of that problem he thinks government should work on the most. Each interview proceeds to retrieve information-holding and communication experiences associated with an individually specified public issue.

Three kinds of information concern us most, although our studies to date have dealt only with the latter two kinds. First is what we call "salience information," which is cognitions about the personal relevance of an issue. Relevance can include the ways a problem is thought to affect one's health, finances and property, or allocation of time.

We term the second kind of information "solution information." This is awareness of proposals, whether good or bad, that have been advanced to deal with a public issue. The third kind of cognition is "actor information." This includes the identities of groups or persons trying to influence what government does about a problem, including whether or not their efforts are approved, and how influential they are thought to be. Mentions of actors inside and outside government are solicited.

It can be seen that the latter two kinds of information, solution and actor, represent the individual's perception of public policy machinery that is dealing—for good or ill—with an issue important to him.

Message discrimination is measured by asking whether the person has read, seen, or heard anything lately about his nominated problem. Those who recall these experiences are asked to describe messages in terms of content and channel of communication.

The total pool of solution and actor information about individually nominated public issues can be divided four ways—into the number of solutions perceived, number of actors thought to be at work, number of positive cognitions held, and number of negative cognitions held. Table 2 shows the correlations between message discrimination and each type of information.

TABLE 2  
CORRELATIONS BETWEEN MESSAGE DISCRIMINATION AND  
FOUR TYPES OF PUBLIC AFFAIRS INFORMATION-HOLDING

	Tau-B	P-Value <sup>a</sup>
Number of solutions	.28	<.01
Number of actors	.39	<.01
Number of positive cognitions	.39	<.01
Number of negative cognitions	.30	<.01

a. Statistical tests are one-tailed.

The Tau-B correlation between message discrimination and total amount of information-holding is .43, which compares to a coefficient of .28 for level of schooling. Data under review come from a probability sample of 137 Ann Arbor heads-of-household (excluding student living areas and faculty ghettos). Larger numbers than usual of postgraduate educated persons were obtained, thus increasing the amount of variance in the education variable. Nonetheless, the education correlation—though significant—is modest compared to communication behavior.

Close inspection of the data discloses no channel differences. Message discrimination in the broadcast media correlates as highly with information-holding as discrimination in print media. Television, newspapers, and magazines figured prominently as sources of messages—in that order. About one out of five persons reported message obtained from other individuals.

#### THE SOCIAL CONTEXT OF INFORMATION-HOLDING

Infrequent mention of interpersonal sources should not obscure social bases for information-holding, however. Part of our research on public affairs has been stimulated by a concern for effects of coorientation on communication and learning (see papers edited by Chaffee and McLeod, 1973). Accordingly, we have studied a variety of interpersonal perception variables.

Chief among these has been an individual's awareness of "agreement" and "disagreement" partners. Does he know others, personally, who tend to agree or tend to disagree with his ideas about the nominated governmental problem? The type



of coorientation milieu affects both amount and kind of information-holding.

Four kinds of persons can be distinguished in terms of their awareness of agreement and disagreement partners. First is the person with few acquaintances who coorient with him about the nominated public issue. Second is the person with a greater-than-average number of disagreement partners. Third is the individual with a greater-than-average number of agreement partners. And fourth is the person aware of many others who agree and who disagree with his views about the issue.

Table 3 discloses how the coorientation typology is constructed and shows how amount and type of solution-actor information vary according to coorientation. Persons with few coorientation partners of either kind tend to have less information than persons who experience a social context for information-holding. Persons who are aware of others who disagree with their point of view (those with a "discrepant" or a "varied" milieu) are more likely to know disapproved solutions

TABLE 3  
PUBLIC AFFAIRS INFORMATION-HOLDING—POSITIVE AND  
NEGATIVE—BY TYPE OF COORIENTATION

Coorientation Typology		Agreement Partners Named	
		Few	Many
Disagreement partners named	Few	Absent	Supportive
	Many	Discrepant	Varied

  

Information:	Coorientation			
	Absent	Discrepant	Supportive	Varied
None	37%	13%	7%	6%
Mainly pos. cognitions	33	23	41	24
Equal pos. and neg., or mainly neg. cognitions	30	64	52	70
	100%	100%	100%	100%

Chi-square = 26.0, 6df;  $p < .001$

and actors than persons who enjoy primarily a "supportive" social environment.

When the appropriate correlational analysis is carried out, the presence of agreement and of disagreement partners is as powerful a predictor of information-holding as level of education. Together, the variety of social milieu and amount of message discrimination (chiefly in mass media) explain a substantial amount of variance in information-holding.

It seems to us that these data suggest the value of reconceptualizing communication behavior and its cognitive outcomes. The definitions proposed here lead to a less static view of the distribution of political knowledge, and encourage more searching inquiry into the communicative and social correlates of certain configurations of knowledge-holding.

#### **DIFFERENCES BETWEEN PREMEDITATED AND UNPLANNED COMMUNICATION**

Message discrimination can result from at least two kinds of communication events that differ in amount of preparation. One event is premeditated information-seeking—planned scanning of the environment for messages about a specified topic. The second kind of event is the unplanned discovery of a message, followed by continued processing of it.

In either case, messages have been discriminated. But we should not be surprised to find that premeditated information-seeking and message discovery involve the use of different communication media. Different learning outcomes may also occur.

Some illustrative data are provided by a study of high school students and their orientation toward jobs they might like to get into when they start earning a living. When asked if they tried to get information about jobs like this during the past month, 54% said yes.

Institutional contacts were the primary sources used in this premeditated search. School people, such as teachers and counselors, accounted for 4 out of 10 seeking attempts. Business and employment help agencies accounted for another

2 out of 10. Mass media were seldom cited, except for books and pamphlets (6% of source mentions), supplied perhaps by institutional contacts.

From a study of premeditated communication alone one could conclude that adolescents' learning about occupations they might enter depends on use of structured interpersonal communication. The mass media contribute little.

Closer questioning provides a more complete picture, however. Youngsters were asked to describe anything they had read, seen, or heard in the media about jobs or job opportunities during the past month. Their replies were classified according to types of job attributes they described learning from the media. These included schooling necessary to enter various jobs, availability of job openings, other qualifications, rewards jobs provide, and tasks that various job holders are required to perform.

Approximately half the sample reported recognizing these kinds of things about jobs in media such as newspapers, television, magazines, billboards, movies, and the like. Twenty-nine percent told of schooling qualifications they saw or heard in media content, 18% described other qualifications, 28% described job openings, 10% mentioned job rewards, and 6% the kinds of tasks jobs entail.

This recent, self-reported recognition of information in the media does not represent all that youngsters know about the world of work, of course. Levels of descriptive ability are much greater when the adolescents are asked to tell all they know about particular jobs—especially the occupation they think most likely for them.

Different consequences of planned and unplanned communication deserve more careful study. For example, is learning from planned message discrimination in the media less vulnerable to forgetting or extinction than learning from unplanned use? And, if planned access to media-stored information represents an important context for learning, what kinds of media indexing services would help people become more rational and effective information seekers?

### COMPARING MESSAGES DISCRIMINATED TO THE MEDIA AGENDA

A neglected theme in effects research has been the perception of media content—as an intervening variable between what information is made available and measured outcomes. Attention to this perceptual realm helps specify the configuration of media content, as recognized by receivers, and discloses differences in amount and kind of information conveyed by various media channels.

A recent study in two Midwest cities questioned teenagers closely about messages they might have seen or heard lately about family planning. The topics of family planning and birth control lead to a great deal more unplanned than premeditated information-seeking. We wanted to characterize the variety of information conveyed by different media channels, and to discover the kinds of information recognized by segments of the target adolescent audience.

Messages that youngsters discriminated in the media were coded into six content categories—information about (1) clinics and other agencies dispensing birth control devices or help; (2) the topic of abortion; (3) specific methods of avoiding pregnancy; (4) reasons one might have for using birth control; (5) planning family size; and (6) overpopulation as a social issue.

Within each media channel, the distribution of messages discriminated can be compared by chi-square with a theoretical, or rectangular distribution. The contingency coefficient, derived from chi-square, is an appropriate index for message variety.

A low contingency coefficient indicates a high relative amount of information conveyed by a channel (see Garner, 1962). High contingency coefficients alert us to media with skewed distributions of information—defined in terms of the category system used here.

Table 4 shows the results. The most-used channel of information about family planning is television, but it conveys relatively redundant messages—in terms of the category system used here. By contrast, books and pamphlets are used half as often as television, but adolescents recognize a strikingly varied menu of information in them.

**TABLE 4**  
**PERCENTAGE OF YOUNGSTERS WHO DISCRIMINATED MESSAGES**  
**IN EACH MEDIUM, AND DEGREE OF MESSAGE VARIETY**  
**CONVEYED BY EACH MEDIUM**

	% Mess. Discr.	Variety
Television	45	.60
Books and pamphlets	24	.20
Newspapers	23	.49
Radio	23	.76
Billboards	22	.69
Magazines	20	.45
Films	14	.52

NOTE: Message variety is indexed by contingency coefficient; low coefficient means greater variety than high coefficient.

The apparent redundancy of radio and television is not surprising in light of industry constraints against candor about family planning. Both media concentrate their energies in airing announcements about clinics and other help facilities in the community. Newspapers, in the middle range on variety, convey many messages about the political issues of abortion and overpopulation, but far fewer messages about help agencies and birth control methods.

Policy implications of these results depend on an analysis of target audience segments. Public health agencies devote a considerable share of their energies to diffusing information about ways to prevent pregnancy. Discrimination of messages about specific methods of birth control (category three) is a variable of special urgency. Our findings show, not surprisingly, that magazines, books, and pamphlets are the primary vehicles in which this information is recognized. The data also portray the extent of our failure to inform portions of the target audience.

The very young, particularly boys, are not reached by the most information-laden media. For example, 16 and 17 year olds report twice as much message discrimination in print (magazines, books, pamphlets) about all family planning topics as 14 to 15 year olds. Of messages discriminated by the older youngsters, 31% deal with birth control techniques, compared to 17% by younger adolescents.

The segment of adolescents most informed about human sexuality and birth control is older girls. They are also the group reporting greatest use of print and most message discriminations about birth control techniques.

A closer examination of actual content presented by various media allows us to calculate output/recognition ratios. Briefly, how does the distribution of messages contained in a medium compare with the frequency with which those messages are recognized?

Difficult technical questions arise in comparing media (newspapers versus television, for example), but some sense of the communication effectiveness of a single medium can be gained.

We analyzed content of newspapers circulating in our two survey sites using four of the six topic categories applied to data on message discrimination. The content study coded the most prominent and second-ranked topic discussed in news articles and advice columns. The left-hand column of percentages in Table 5 shows the actual distribution of topics in local newspapers published four months prior to interview dates. The center column of percentages shows the distribution of topics discriminated in newspapers by adolescent respondents. The right-hand column shows differences between these figures.

For the most part, there is a close fit between content available and messages recognized. The major exception concerns information about reasons why one might practice birth control or family planning. These items seem to be recognized at a lower rate than they are made available.

We should keep in mind that reports of message discriminations cannot be interpreted in terms of numbers of articles seen, number of paragraphs seen, or any other producer-based unit of media content. Message discrimination means the recognition and recall of an indeterminant number of symbols, which we then code into substantive categories.

More complete content analyses are necessary, including high-information media such as magazines, to enable prescriptions of how content emphases might be changed to set the stage for learning goals. The structure of this analysis does show, however, how insufficiencies of a communication system

**TABLE 5**  
**COMPARISON BETWEEN NEWSPAPER CONTENT AND**  
**TEENAGERS' MESSAGE DISCRIMINATION ABOUT**  
**FAMILY PLANNING**

	Primary or Secondary Topic of Advice Col. or News Item		Messages Discriminated		Differences %
	%	(n)	%	(n)	
Abortion	36	(68)	33	(31)	-3
Birth Control Methods	17	(33)	18	(17)	+1
Reasons for Birth Control	13	(24)	15	(14)	+2
Overpopulation	34	(65)	33	(31)	-1
Total	100	(190)	100	(93)	

can be pinpointed by comparing the actual to the discriminated media agenda.

### CONCLUSIONS

Our purpose has been to stimulate imagination about mass communication and effects variables that can help disclose ways that media contribute to learning. We have illustrated a distinction between belief and attitude outcomes of communication, proposed redefinitions for information-holding and for its communicative antecedents, looked at the social context of learning, separated the analysis of premeditated and unplanned mass communication, and suggested that we account for the content and complexity of media, as seen by receivers.

Even if adoption of conceptual innovations in research design lag seriously behind their development, fundamental changes in communication systems will force us to reexamine media effects issues. The literature is extensive on new communication technology and software possibilities, and it needs no review here. As new systems become operational they will impact traditional media in terms of content, economic support, and audience use. New media present communication researchers

with at least four structural differences between conventional and new audience behaviors:

- (1) New media, at least in the foreseeable future, will create excess channel capacity where scarcity has been familiar.
- (2) Excess channel capacity will increase the amount of differentiation among offerings at any fixed time period. The increase in content diversity is unlikely to be at a 1 : 1 ratio to channel increase, but expansion in programming has already occurred.
- (3) These conditions lead to a potential increase in the purposiveness with which the audience selects among communication opportunities. Clues to this purposiveness might be found in the demand for mass media abstracting and indexing services (in newspapers and other popular fare, as well as esoteric storage devices), use of television program logs, and reduced use of media as a "secondary" experience.
- (4) Interactive communication facilities enable the audience to modify the content and structure of incoming messages—not just "psychologically," as at present, but physically.

There is some irony in the possibility that businessmen and engineers may force a more substantial transformation in scholarly views of mass communication behavior than will be attributed to theoretical advances.

#### NOTES

1. There is an ample literature about the reinforcement potential of mass mediated communication, compared to one's "real" social environment. These issues are too tangled for extensive discussion here. A research project that seems destined to explore this subject with some fresh insights is being supervised by Nathan Maccoby at Stanford. Work by his group deals with communication about preventing cardiovascular illness, and behavior modification leading to avoidance of high risk. For a preliminary report, see Meyer and Henderson (1973).

2. Several new approaches to the study of mass communication effects can be found in chapters prepared for Clarke (1973).

#### REFERENCES

CHAFFEE, S. H. and J. M. McLEOD [eds.] (1973) "Interpersonal perception and communication." *Amer. Behavioral Scientist* 16, 4.



- CLARKE, P. [ed.] (1973) *New Models for Communication Research*. Beverly Hills, Calif.: Sage Pubns.
- and K. JACKSON (1968) "Media use, information seeking and knowledge about the war in Vietnam." Presented to the Association for Education in Journalism.
- EDELSTEIN, A. S. (forthcoming) *The Uses of Communication in Decision Making*. New York: Praeger.
- FUNKHOUSER, G. R. (1973) "The issues of the sixties: an exploratory study in the dynamics of public opinion." *Public Opinion Q.* 37: 62-75.
- GARNER, W. R. (1962) *Uncertainty and Structure as Psychological Concepts*. New York: John Wiley.
- KATZ, E., J. G. BLUMLER, and M. GUREVITCH [eds.] (1974) *The Uses and Gratifications Approach to Mass Communication*. Beverly Hills, Calif.: Sage Pubns.
- KATZ, E., M. GUREVITCH, and H. HAAS (1973) "On the use of the mass media for important things." *Amer. Soc. Rev.* 38: 164-181.
- McCOMBS, M. and D. WEAVER (1973) "Voters' need for orientation and use of mass communication." Presented to the International Communication Association.
- MEYER, A. J. and J. B. HENDERSON (1973) "Multiple risk factor reduction in the prevention of cardiovascular disease." (unpublished)
- PARKER, E. B. and D. A. DUNN (1972) "Information technology: its social potential." *Sci.* 176: 1392-1399.
- PATTERSON, T. E. and R. D. McCLURE (1973a) "Political advertising on television: spot commercials in the 1972 presidential election." *Maxwell Rev.* 9: 57-69.
- (1973b) "Political advertising: voter reaction." Presented to the American Association for Public Opinion Research.
- ROBINSON, J. P. (1972) "Perceived media bias and the 1968 vote: can the media affect behavior after all?" *Journalism Q.* 49: 239-246.
- TICHENOR, P. J., G. A. DONOHUE, and C. N. OLIEN (1970) "Mass media flow and differential growth in knowledge." *Public Opinion Q.* 34: 159-170.
- WADE, S. and W. SCHRAMM (1969) "The mass media as sources of public affairs, science, and health knowledge." *Public Opinion Q.* 33: 197-209.

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