

# A Longitudinal Analysis of Local Non-Political Agenda-Setting Effects

*Study in small city  
with only one newspaper  
finds little evidence of  
agenda-setting by newspaper,  
but finds that people  
read about what they talk about.*

► Mass communications theorists have been struggling for quite some time to define and specify if and how the media affect our social world. While this study does not presume to answer all the questions, it does examine in depth one medium's effect on a panel of respondents who live in a small rural community served by one daily newspaper. The study is directed at testing the general hypothesis that the local daily newspaper is effective in causing topics emphasized in the newspaper to be emphasized in the community discussion arena over time.

The focus of this study is agenda-setting. The earliest explicit reference to agenda-setting was made by Cohen. The following quotation is frequently used to explain agenda-setting:

The press may not be successful much of the time in telling people what to think but it is stunningly successful in telling its readers what to think about.<sup>1</sup>

The agenda-setting assertion is that the media suggest the topics about which the

public thinks or concerns itself. While the media may not tell people "what" to think about those topics, it is active in focusing public attention on them.

Several researchers have offered explanations for the agenda-setting function of the media. McCombs and Weaver<sup>2</sup> have suggested the media serve an orientation function for the consumer. They point out that every individual has a need to know or be familiar with his surroundings—both physical and cognitive—and the media provide the orientation by suggesting topics which then become part of the personal agenda of individuals.

McGuire suggests a number of psychological explanations for the media's agenda-setting function. He hypothesizes that it is quite natural for the public to turn to the media for information not related to what they already know about their own family, friends and community. By attending to the messages of the media, the public can keep up with current topics of interest in the world of politics, entertainment, sports or whatever—probably giving "one some feeling of participation and control in things larger than oneself."<sup>3</sup> He says the media provide a sense of participation for consumers and provide individuals with a starting point for interaction with others.

Atkin supports this view of the communicatory utility of the media and says:

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<sup>1</sup> Bernard C. Cohen, *The Press and Foreign Policy* (Princeton: Princeton University Press, 1967).

<sup>2</sup> Maxwell McCombs and David Weaver, "Voters' Need for Orientation and Use of Mass Communications." Paper presented at the International Communication Association Convention, 1973.

<sup>3</sup> William McGuire, "Psychological Motives and Communication Gratification," in Jay Blumler and Elihu Katz, eds., *The Uses of Mass Communications* (Beverly Hills: Sage Publications Inc., 1974), p. 179.

Information that the individual obtains at one point in time may be useful in a variety of subsequent communicatory situations, including everyday communication with friends and relatives, and casual interaction during special occasions such as meetings or parties.<sup>4</sup>

If the agenda-setting hypothesis is tenable, there seem to be a number of important pragmatic concerns to consider. Among these is the idea that the media may be providing very limited horizons or agenda for the public. Agenda-setting research has suggested the media may influence society's priorities, at least to the extent that they "legitimate, articulate and sometimes restrict public discussion."<sup>5</sup>

In addition, it is not known to what extent the media set the agenda for local items which are potentially within the realm of personal experience. While most of us must depend upon the media for news outside our immediate environment, local news can be obtained from personal observation or sources other than the media. If the agenda-setting effect can be demonstrated for local news, the hypothesis may have further reaching ramifications than first predicted.

It is the purpose of this study to provide data which will be helpful in determining more precisely the relationship between media and consumer agenda and consumer utilization of media agenda.

The majority of agenda-setting studies have concentrated on media messages about political issues, candidates or topics. However, if the hypothesis is to be generalized beyond a very restricted interpretation, tests must be made in non-political arenas. The general thrust of this study is non-political. Shared community and media agendas over a wide variety of content areas (including but not exclusively politics) are examined.

In addition to exploring the agenda-setting hypothesis in a non-political context, the study deviates from most prior research in that it focuses on agenda agreement at the "local" level. It is felt that while the media may have been shown to set the agenda for the public on national

news, the realm of personal experience and the hypothesis must be tested in a "local" setting where there is more opportunity for personal observation or contact with news "close to home." If the hypothesis is to be generalized, it must be tested in situations where at least the opportunity or potential for individual surveillance of the immediate world and less dependency on the media may exist.

### Methodology

This study examines a community newspaper's influence on the local information the public has and the topics the public considers salient over time. Content analysis of the newspaper and answers given by respondents to open-ended questions at two points in time supply the raw data for the study. As is the accepted practice in agenda-setting studies, appearance of newspaper and respondent mention of news items is used to determine the agenda, and correlations are used to test the agreement between the agenda.

One of the most critical considerations in cross-lagged analysis is the time interval chosen. According to Chaffee:

Selection of the optimal time-lag is no perfunctory matter. If a substantive causal hypothesis is really at stake, the investigator should presumably know enough about the suspected phenomenon that he will not use a time-lag that is shorter than the period he suspects the process requires.<sup>6</sup>

However, McCombs, Becker and Weaver point out the decision on an appropriate time interval can be a difficult one to make.

Where the theoretical conceptualization of the process does not state in specific terms, at least tentatively the nature of the time-lag between cause and effect the researcher

<sup>4</sup>Charles K. Atkin, "Anticipated Communication and Mass Media Information Seeking," *Public Opinion Quarterly*, 36:190 (1972).

<sup>5</sup>Leonard Tipton, "Setting the Agenda in Those 'Other' Campaigns," Paper presented at the Conference on the Media and the Agenda-Setting Function, Syracuse University, 1974.

<sup>6</sup>Steven H. Chaffee, "Longitudinal Designs for Communication Research: Cross-Lagged Correlation," Paper presented at the Association for Education in Journalism convention, 1972.

simply must guess where to plug in his empirical observations and collect the data needed for cross-lag or time series analysis.<sup>7</sup>

Researchers have experimented with two-month and four-month time frames.<sup>8</sup> However the lack of replication on non-political agenda-setting studies has prevented any definitive answers concerning appropriate time lags. The time frame chosen here is nine months—longer than most others reported.

Data were gathered during mid-July 1975 from 150 residents of a small southern Illinois city (population about 8,000). The sample was a two-stage probability sample designed to provide a representation of the community, not just known subscribers to the local daily newspaper. In April of 1976 as many of the 150 original panel members as possible were interviewed. Sixty-nine respondents could be located and were asked the same questions they had been asked the previous summer.

In addition to the interviews, the con-

tent of every news story on every page of the local paper was analyzed starting two months prior to each interviewing period and continuing through the interview period. A total of 2,011 local news stories was analyzed for both time periods.

In this study, news stories were defined as all non-advertising content and included stories, editorials, columns, features and photographs. Local content included all material focusing on or dealing with the town and county being studied.

A set of 41 general categories expected to be covered in the newspaper and mentioned by respondents was constructed for the content analysis.<sup>9</sup> The 41 categories including areas that were of unique newspaper and community interest for this particular region and may not be applicable to all small towns. For instance, some of the categories dealt with aspects of the mining industry which allowed for coding of stories about organized mine labor or union issues and the sinking of new mines.

All local news stories and responses given by the panel were coded into one or more of the 41 categories. This was a departure from the usual requirement that an item be coded into one and only one news category (the requirement of mutual exclusivity) because it is felt that complex news items generally deal with more than one topic. For instance, a local news story about the weather might also deal with the effect of the weather on the fruit crops; therefore, it could be coded into both the weather and agriculture categories.<sup>10</sup>

The newspaper agenda was computed by collapsing all data into a 2 X 2 table and recording whether a content item appeared or not. If it was mentioned at least once it was recorded under "Yes," and if it was not mentioned it was recorded under "No" in a fourfold correlation table.

Respondents were asked in the summer and again in the spring what they read in the local newspaper and what local topics they talk about with friends and fam-

<sup>7</sup> Maxwell McCombs, Lee Becker and David Weaver, "Measuring the Cumulative Agenda-Setting Influence of the Mass Media," Paper presented at the Speech Communication Association convention, 1975.

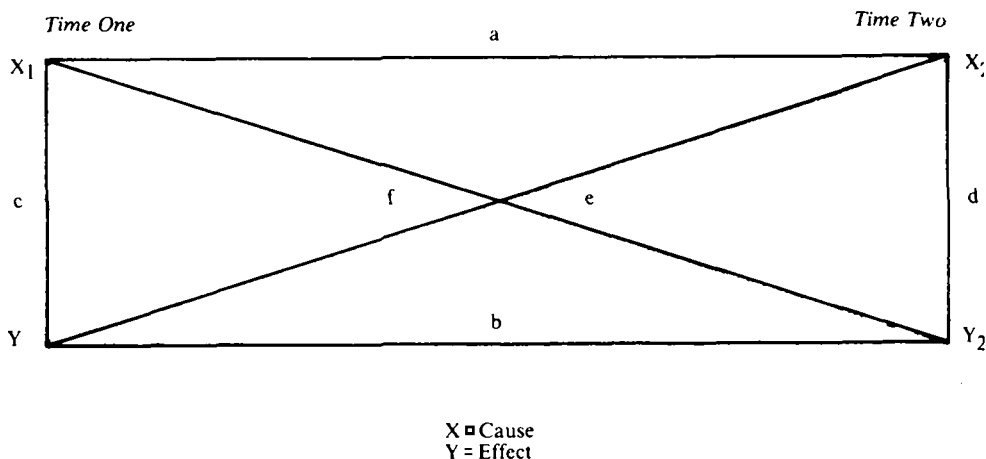
<sup>8</sup> See for instance, Leonard Tipton, Roger Haney and John Basehart, "Media Agenda-Setting in City and State Election Campaigns," *JOURNALISM QUARTERLY*, 52:15-22 (1975) and McCombs, Becker and Weaver, *op. cit.*

<sup>9</sup> Many of the definitions were based on two references either *per se* or in modified form: Chilton R. Bush, "A System for General News Content," *JOURNALISM QUARTERLY*, 37, 206-210 (1960); David H. Weaver, L. E. Mullins, and Maxwell McCombs, "Competing Daily Newspapers: A Comparison of Content and Format," *American Newspaper Publishers Association News Research Bulletin* 8:19-21 (December 31, 1974). In addition, preliminary study of editions of the newspaper and visits with members of the community suggested content categories that would be applicable to the research. See author for definitions of following categories: Accidents, Agriculture, Arts, Community Construction, Community Improvements, Crime (Non Drug), Crime (Drug), Defense, Drugs (Noncriminal), Economics (General), Economics (Prices), Economics (Business), Economics (Government), Economics (Labor—Nonmining), Economics (Taxes), Education, Energy, Entertainment, Environment, Government, Health, Holiday-Related, Individual Achievement, Milestones, Mining (New), Mining (Other), Miscellaneous, Oddities, Politics, Race, Religion, Sciences, Sex, Social (Secondary), Social (Primary), Space, Sports, Transportation, War, Weather.

<sup>10</sup> Deutschmann demonstrated an increase in intercoder reliability with double coding although it is noted that multiple coding results in sum totals of more than 100%. See Richard W. Budd, Robert V. Thorp and Lewis Donohew, eds., *Content Analysis of Communications* (New York: Macmillan Co., 1967), p. 45.

FIGURE 1

## Cross-Lagged Correlations



ily.<sup>11</sup> Up to three responses were considered for each question with every response coded into the applicable category.<sup>12</sup> The reading and talking agendas of respondents were figured in essentially the same way as for the newspaper.<sup>13</sup> If a content item was mentioned at least once it was recorded under the "Yes" category in a 2 x 2 table. Fourfold correlation coefficients between newspaper content and respondent answers were computed to determine significant relationships between public and media agenda for the two points in time.<sup>14</sup>

Longitudinal analysis of the agenda-setting hypothesis provides a check on the stability of correlations between the content of the media and the "personal" agenda of the public over time. If communication is a continuing "process" that is ongoing over time, then longitudinal studies should show a consistency and generality of results.

Because the agenda-setting hypothesis asserts a cause-effect relationship between the media and the public, a method of testing the assertion of directional correlation must be built into the research design. Pelz and Andrews suggest the causal relationship can be satisfac-

torily investigated with panel studies—"taking the same measurements on the same people on at least two different occasions."<sup>15</sup> By testing various correlation coefficients between two variables measured on two occasions a cross-lagged panel correlation is provided. McCombs, Becker and Weaver suggest the "key assumption" in the design is that an effect correlates higher with a prior cause than with a subsequent cause. In terms of graphic depiction, see Figure 1 where  $r_{X_1Y_2}$  should be greater than  $r_{X_2Y_1}$ . In other words, a "cause" at Time 1 should correlate higher with an effect at Time 2 than an effect at Time 1

<sup>11</sup> This study is a portion of a larger one sponsored by the Southern Illinois University School of Journalism. The larger study focused on the agenda-setting effects for five news levels: 1) international; 2) national; 3) state; 4) regional; 5) local.

<sup>12</sup> Interviewers were instructed to do thorough probing to encourage as many people as possible to give three responses.

<sup>13</sup> The reliability coefficient for time one coders was .95 and for time two coders .91 for questionnaire coding. The coder reliability for newspaper coding for both time periods was .87 and .99.

<sup>14</sup> The following formula was used to compute fourfold correlation coefficients:

$$rp = \sqrt{\frac{(a+b)(c+d)(a+c)(b+d)}{bc \cdot ad}}$$

<sup>15</sup> Donald C. Pelz and Frank M. Andrews, "Detecting Causal Priorities in Panel Study Data," *American Sociological Review* 29:837 (1964).

correlates with a cause at Time 2.<sup>16</sup>

In order to test the cause-effect assertion, you need a baseline statistic for comparison with the cross-lagged correlation. The baseline statistic indicates what relationship reasonably might be expected with the cross-lagged test. If the cross-lag correlation is higher than the baseline statistic then a direct-effect conclusion is tenable. Correlations are computed between variables X and Y at Time 1 and Time 2 ( $r_{x_1y_2}$  and  $r_{x_2y_1}$ ). These are then compared to the baseline statistic.<sup>17</sup>

Among the conditions which should be considered with the cross-lagged design are 1) constant changes in the state of variable X are expected; 2) the causal effect of X on Y is not immediate but occurs over a certain interval and 3) while it must be assumed that X is not completely consistent over time, it is necessary to assure that X is not markedly inconsistent. Pelz and Andrews<sup>18</sup> suggest that synchronous correlations (c and d in Figure 1) would be expected to be positive and about the same magnitude while lagged or horizontal correlations (a and b in Figure 1) would be expected to reflect consistency of each variable over time. In addition, they predict the state of  $X_1$  should be more closely associated with the state of  $Y_2$  than the state of  $Y_1$  with the state of  $X_2$ .<sup>19</sup>

<sup>16</sup> McCombs, Becker and Weaver, *op. cit.*

<sup>17</sup> See Richard M. Rozelle and Donald T. Campbell, "More Plausible Rival Hypotheses in the Cross-Lagged Panel Correlation Technique," *Psychological Bulletin*, 71:74-80 (1969). The baseline statistic is computed via this formula:

$$\frac{c+d}{2} \sqrt{\frac{a}{R_a} \cdot \frac{b}{R_b}}$$

where  $R_a$  and  $R_b$  are respective time one and time two internal reliability coefficients. For this study intercoder reliability coefficients for both time periods were used to compute  $R_a$  and  $R_b$  since internal test reliability coefficients were not available. The formulas used are:

$$R_A = \sqrt{r_{a1} \cdot r_{a2}} = \sqrt{.87 \cdot .99} = .9280$$

$$R_b = \sqrt{r_{b1} \cdot r_{b2}} = \sqrt{.95 \cdot .91} = .9297$$

<sup>18</sup> Pelz and Andrews, *op. cit.*

<sup>19</sup> All assumptions are tested and met except the following: the correlation for the read content is not significant ( $p > .05$ ) at .2779; the correlation between newspaper content in time two and talk content in time two is not positive (-.0392); and talk content in time one is more closely related to read content in time two than talk content in time two is related to read content in time one.

<sup>20</sup> McCombs, Becker and Weaver, *op. cit.*

The following hypotheses were tested:

H1 There will be a correlation that is significantly different from zero between the newspaper content in Time 1 and the read content in Time 2.

The newspaper content in July is expected to significantly affect the read content in April.

H2 The correlation between the read content in Time 1 and the newspaper content in Time 2 will not be significantly different from zero.

Since the relationship expected is from cause (the newspaper) to effect (reading activity) and not vice versa, it is not expected that read content in July will be related significantly to newspaper content in April.

H3 There will be a correlation that is significantly different from zero between the newspaper content in Time 1 and the talk content in Time 2.

There is expected to be a significant correlation between newspaper content in July and talk agenda in April since researchers have indicated there is a strong cumulative learning effect for newspapers over time.<sup>20</sup> It is likely, then, that people in April will still be talking about what was in the paper in July.

H4 The correlation between the talk content in Time 1 and the newspaper content in Time 2 will not be significantly different from zero.

Since in most cases talk content is expected to flow from the newspaper and not the other way around, it would not be expected that the talk agenda would set the newspaper agenda.

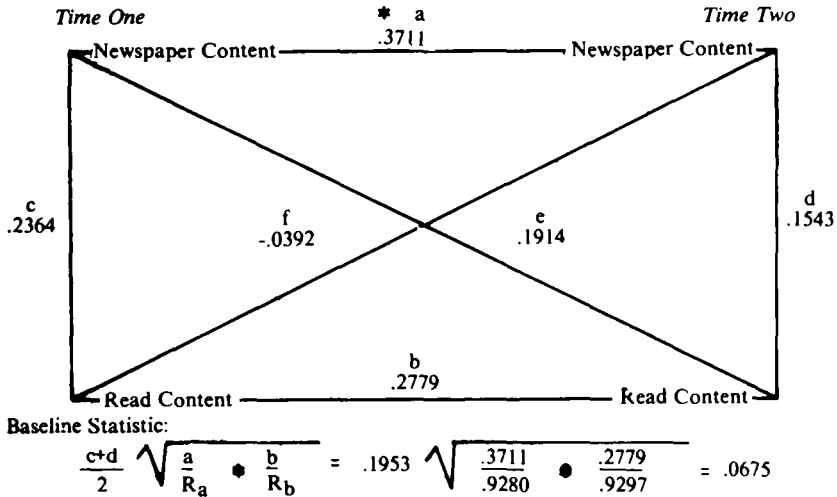
H5 There will be a correlation that is significantly different from zero between the read content in Time 1 and the talk content in Time 2.

It is expected that what people read in July and what they talk about in April will be significantly related since the effects of reading the paper are expected to be cumulative.

H6 The correlation between the talk content in Time 1 and the read content in Time 2 will not be significantly different from zero.

FIGURE II

Fourfold Correlation Coefficients for Newspaper Content  
and Read Content in Both Periods



\*Correlation Coefficient That Is Statistically Significant ( $p < .05$ )

The talk content is expected to come from the read content which is expected to come from the newspaper content. As Edelstein and Larsen<sup>21</sup> found, it is expected the "more an item is read, the more it will be discussed," and not vice versa. The relationship for general items of community interest is expected to be one-way (from read to talk).

### Results

In deciding to reject or retain the six hypotheses two criteria were used. The first of these required that cross-lag correlations be examined for statistical significance. With 39 degrees of freedom, the correlations had to be greater than .33 to be significant ( $p < .05$ ).

The second criterion involved comparing the cross-lag correlation with the baseline correlation. In order for the crosslag relationship to be significant the cross-lag correlation had to be greater than the baseline statistic.

Using the above criteria four of the hypotheses dealing with the cross-lag relationships are retained and two are rejected.

Hypothesis 1 is rejected. The fourfold

correlation coefficient is .1914 between the newspaper content in Time 1 and the read content in Time 2. This correlation is not statistically significant ( $p > .05$ ) although it is greater than the baseline statistic of .0675 (see Figure II, line e).

Hypothesis 2 is retained. The fourfold correlation coefficient between the read content in Time 1 and the newspaper content in Time 2 is -.0392. This correlation is not statistically significant ( $p > .05$ ). See Figure II, line f.

Hypothesis 3 is rejected. The fourfold correlation coefficient between the newspaper content in Time 1 and the talk content in Time 2 is .2365, which is not statistically significant ( $p > .05$ ) although it is greater than the baseline statistic of .0912 (see Figure III, line e).

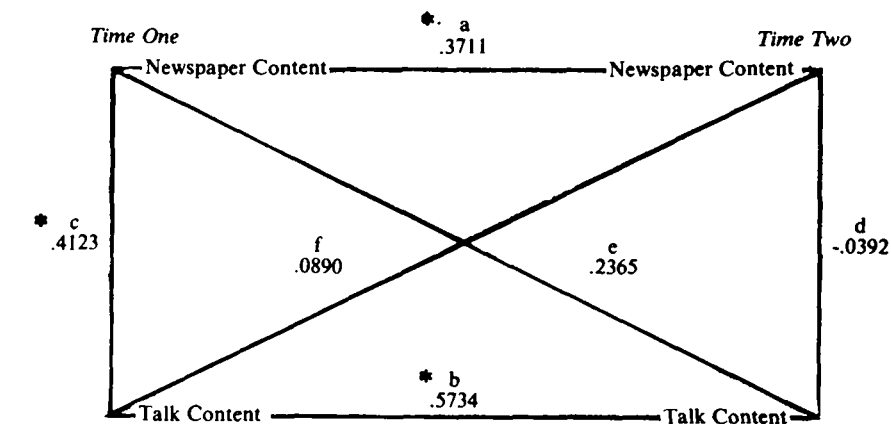
Hypothesis 4 is retained. The fourfold correlation coefficient between the talk content in Time 1 and the newspaper content in Time 2 is .0890. This correlation is not statistically significant at the .05 alpha level (Figure III, line f).

<sup>20</sup> McCombs, Becker and Weaver, *op. cit.*

<sup>21</sup> Alex Edelstein and Otto N. Larsen, "The Weekly Press' Contribution to a Sense of Urban Community," *JOURNALISM QUARTERLY*, 37:497 (1960).

FIGURE III

Fourfold Correlation Coefficients for Newspaper Content  
and Talk Content in Both Time Periods



Baseline Statistic:

$$\frac{c+d}{2} \sqrt{\frac{a}{R_a} * \frac{b}{R_b}} = .1865 \quad \sqrt{\frac{.3711}{.9280} * \frac{.5449}{.9297}} = .0912$$

\*Correlation Coefficient That Is Statistically Significant ( $p < .05$ ).

Hypothesis 5 is rejected. The fourfold correlation coefficient between read content in Time 1 and talk content in Time 2 is .1990, which is not statistically significant at the .05 alpha level (see Figure IV, line e).

Hypothesis 6 is rejected. The fourfold correlation coefficient between the talk content in Time 1 and read content in Time 2 is .4642 which is significant ( $p < .05$ ) and greater than the baseline statistic of .1113 (Figure IV, line f).

### Summary and Conclusions

In order to test the agenda-setting hypothesis that the media "cause" people to think about certain topics, a panel of 150 respondents was interviewed in July and again in April. The respondents were asked in both time periods what they read in the local newspaper and what local topics they talk about with friends and family. These responses were coded into 41 content categories.

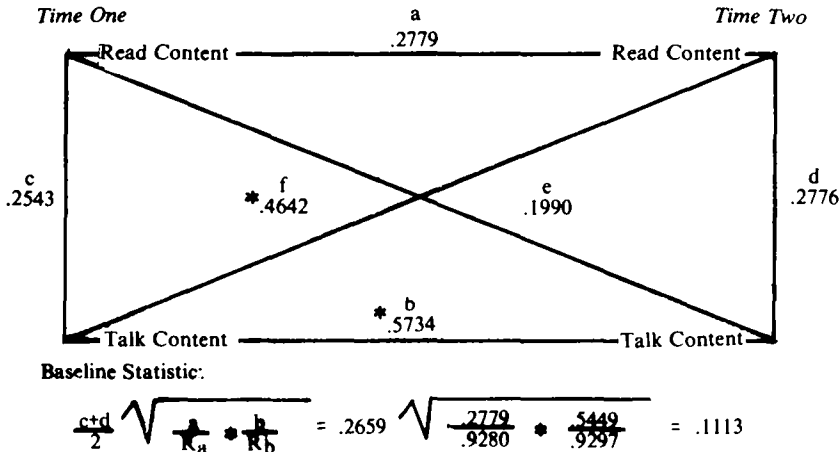
In addition, the content in the local newspaper was analyzed for a two-month

period during both interviewing times. All local news stories were coded into the same 41 categories that had been used for analyzing respondent answers. Fourfold correlation coefficients were computed to compare newspaper content with what people reported reading and talking about in both time periods. Cross-lag correlations were also computed to determine if there were significant relationships between newspaper content in Time 1 and read and talk content in Time 2 and vice versa. Cross-lag correlations were also computed between read and talk content to determine if relationships existed over time.

The findings show there is a significant ( $p < .05$ ) correlation between newspaper content in July and newspaper content in April. There is also a significant ( $p < .05$ ) relationship between talk content in July and April but no such relationship for the read content over the nine-month period. It is found there is no significant synchronous relationship ( $p > .05$ ) between newspaper content and read content in July or April. That is,



FIGURE IV  
Fourfold Correlation Coefficients for Read Content and  
Talk Content in Both Time Periods



\*\*Cross-lag Correlation That Is Statistically Significant ( $p < .05$ ) and Greater than Baseline Statistic

\*Correlation Coefficient That Is Statistically Significant ( $p < .05$ )

the newspaper content that had been printed for a two-month period prior to the end of the interviewing period is not related to what people said they had been reading for both time periods.

It is also found there is a significant ( $p < .05$ ) synchronous relationship between newspaper content and talk content for Time 1 but not for Time 2. What the newspaper had been printing for a two-month period prior to the end of the interviewing period is significantly ( $p < .05$ ) related to what people say they were talking about in July but not April.

In July and April there is no significant synchronous relationship ( $p > .05$ ) between what people said they were reading and talking about.

In order to support the causal assertions of the agenda-setting idea, cross-lag correlations had to be both statistically significant ( $p < .05$ ) and greater than the baseline statistic that might be expected. When cross-lag correlations were examined with these two criteria in mind, it was found that the newspaper content in July is not significantly re-

lated to what was read by respondents in April.

When the reverse cross-lag correlation between what people read in July and what the newspaper printed in April are examined it is also found there is no significant ( $p > .05$ ) relationship and indeed a negative relationship ( $-.0392$ ) exists.

The cross-lag correlation between newspaper content in July and talk content in April is not significant ( $p > .05$ ). The cross-lag correlation between newspaper content in April and talk content in July is also non significant ( $p > .05$ ). It appears something other than the local newspaper is effective in setting the read and talk agenda over a nine-month period. It is also possible that the nine-month time lag is inappropriate for testing this relationship.

The cross-lag correlation between read content in July and talk content in April is not significant ( $p > .05$ ). However, there is a significant ( $p < .05$ ) reverse cross-lag correlation between talk content in July and read content in



April indicating that what people were talking about in July they were reading about in April.

In terms of the agenda-setting hypothesis this study gives no support to the idea that the local newspaper is effective in setting the reading agenda and only limited support to the assertion that the local newspaper is effective in setting the local talking agenda for respondents. A significant relationship between newspaper and talk agenda is found for only one of the two month time periods—July. This finding could be a product of an inappropriate time lag period or it could suggest that for “local” topics the newspaper has less influence in setting agenda than has been reported for national topics.

There is evidence that local topics people talk about in one time period may influence what they read about in a later time period. This study provides evidence that this talk-to-read relationship exists for as long a time period as nine months. This finding seems to contradict the conclusion of Edelstein and Larsen, who reported that “the more an item is read the more it is discussed.”<sup>22</sup> This study suggests just the opposite—that what is

talked about may prompt reading of the newspaper.

At least two interpretations of this finding seem plausible. The first is that information seeking may be occurring. That is, after people talk about a topic, they may seek out more information about that topic by reading about it in the newspaper. However, the possibility should also be considered that after talking about a topic, people may just become “aware” of the topic and this awareness may cause them to notice and read about that topic the next time they scan the newspaper. In other words, no deliberate “seeking out” of the topic may be occurring at all.

It also seems important to remember that the agenda-setting hypothesis asserts the media “cause” people to “think” about certain topics. Thinking and talking are quite different activities and examination of the linkages between the two is necessary before any inferential leaps can be made by researchers investigating agenda-setting.

It is inappropriate to generalize from one study of one community to all other communities. However, this research does provide some data which should be useful in studying similar communities and similar newspapers.

## BROADCASTING'S IMPACT ON NEWS STORY SELECTION

(Continued from page 305)

### Conclusions

The findings suggest that young adults spend a considerable portion of their media time with television and radio, but are continuing to utilize newspapers both as a primary source of information and as a follow-up to obtain additional information about stories they heard elsewhere. Their tendency to use newspapers to obtain additional information was clearly evident in their response to important and unimportant stories. College students were far more likely to

read important than unimportant stories that they had already heard broadcast by radio and television stations. Newspapers are also important sources of additional information about local news. College students read proportionally more local than nonlocal stories that they have heard elsewhere.

This study also revealed differences in students' reaction to stories they heard on radio as opposed to television. Respondents were more likely to read a story after hearing it on radio than after seeing it on television.

<sup>22</sup> *Ibid.*