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Agenda-Setting With Environmental Issues:
A Study of Time Process, Audience
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presented by

Michael Brian Salwen

has ~~been~~ accepted towards fulfillment
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Charles Atkin
Major professor

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AGENDA-SETTING WITH ENVIRONMENTAL ISSUES: A STUDY OF TIME PROCESS, AUDIENCE SALIENCE, AUDIENCE DEPENDENCY, AND NEWSPAPER READING

by

Michael B. Salwen

A DISSERTATION

Submitted to
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in partial fulfillment of the requirements
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DOCTOR OF PHILOSOPHY

The College of Communication Arts and Sciences

1985

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Michael Brian Salwen

1985

ABSTRACT

AGENDA-SETTING WITH ENVIRONMENTAL ISSUES: A STUDY OF TIME PROCESS, AUDIENCE SALIENCE, AUDIENCE DEPENDENCY, AND NEWSPAPER READING

By

Michael B. Salwen

This study had four primary purposes: (a) to trace the relationship between the media and the audience over time to observe whether audience salience rises and falls with media coverage, (b) to determine how long the media must report issues before they have maximal impact on the audience, (c) to determine how dependency on media and reading the local newspaper mediates or enhances agenda-setting, and (d) to investigate the interrelationships among different types of audience salience.

Respondents were categorized as media-dependent or non-dependent based on where they learned about environmental issues. Audience salience was measured three ways: (a) personal salience (intrapersonal), (b) perceived-community salience, and (c) perceived-media salience.

The maximal media effect span for media coverage to impact audience salience was found to be 8-10 weeks long. That duration was used as an a priori measure to test hypotheses. The findings showed that both dependent and regular readers displayed a greater agenda-setting effect than non-dependent and non-regular respondents. The regular readers, however, showed no relationship between their agenda and that of the local newspaper. It was

audience members process an array of media to form their cognitions about this nationally important issue.

Finally, the study examined whether (a) dependent respondents had intrapersonal agenda that correlated higher with their perceived-media agenda than their perceived-community agenda, and (b) whether non-dependent respondents had intrapersonal agenda that correlated higher with their perceived-community agenda than their perceived-media agenda. Little support for these hypotheses was found.

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Thanks to my major professor, Dr. Atkin, for his insistence that I be thoroughly familiar with all the relevant literature before formulating hypotheses and research questions. I would recommend this to anyone. In addition, his thorough knowledge of the literature and his suggestions relating to design and construct formulation have left their mark on this project.

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CHAPTER I

INTRODUCTION

The Progenitors of Agenda-Setting

Researchers, philosophers, psychologists, public policy analysts, and others have long been intrigued by how people know about their social environment. Obviously, people know about their world by experiencing and seeing things themselves. But clearly people know about much more than what they observe.

Is there a difference between how people perceive and think about information that they learn through direct experience and that they learn through other sources? Media researchers before World War II thought so. They thought that information learned through the mass media had a powerful, persuasive effect. Perhaps this had to do with the aura of the new radio technology developing at the time. In retrospect one must ask why information learned through the mass media, which is often learned indirectly in passing, should be perceived as so important and accepted without question.

The hypodermic-needle effect of the mass media, as it came to be called, assumed that powerful mass media content could be injected like a needle into a malleable, passive audience. Harold Lasswell (1927), an early proponent of this view, described the effect in chilling terms.

> A new and subtler instrument . . . weld(s) thousands and even millions of human beings into one amalgamated mass of hate and will and hope . . . . The name of this new hammer and anvil of social solidarity is propaganda . . . . All the apparatus of diffused erudition popularizes the symbols and forms of pseudo-rational appeal; the wolf of propaganda does not hesitate to masquerade in the sheepskin. All the voluble men of the day--writers, reporters, editors, preachers, lecturers, teachers, politicians--are drawn into the service of propaganda to simplify a master voice. (p. 221)

Since Lasswell assumed that propaganda was a universal and omnipotent force, his book focused on the methods rather than the effects of propaganda. There seemed to be an absence of empirical evidence to support this powerful effect. Rather, political masterminds such as German information minister Goebbels (Doob, 1950); the radio broadcasts of Father Charles Coughlin (Lee & Lee, 1939), Franklin Roosevelt (Cherry, 1971), and Hitler (White, 1949); and the war bond appeal by Kate Smith (Merton, 1946) were taken as strong support for this effect.

But long before Lasswell, scholars and others conceptualized a different, less nefarious, media effect. The psychologist William James (1896) first made the distinction between "acquaintance with" and "knowledge about" information. He maintained that information that one is acquainted with is the type one learns in passing from other people and the media with little direct experience. In general, such information is only known in the gestalt and is usually not considered personally important. By contrast, "knowledge about" usually concerns detailed levels of information and is frequently learned through direct experience.

The Jamesian view was adopted and modified by media critic Walter Lippmann, sociologist Robert Ezra Park, and British researcher Graham Wallas among others to explain how people perceive and understand their social environment. Park (1923), in particular, invoked the writings of James and argued that the essence of journalism was to provide the public with an "acquaintance with" their environment. Unlike the media researchers before World War II, these early formulations of what would come to be known as the agenda-setting function of the press did not portray the media as nefarious agents of persuasion. Rather, the mere ability to structure audience members' perceptions of their environment was seen as a "power."

Wallas (1914) appeared to be the first to link public opinion to mass media. He argued that the working class was becoming "more and more dependent upon the passive reading of many newspapers, newspaper placards, and a smaller number of magazines and books." This led the news media audience to see a "world beyond the reach of their senses" (p. 282). Lippmann (1922) expanded on this view of a mass media-created world. He maintained that given the limited first-hand contact most people have with issues in the news, the press is able to create "pictures in our heads":

> It is often very illuminating . . . to ask yourself how you got at the facts on which you base your opinion . . . you can ask yourself these questions, but you can rarely answer them. They will remind you, however, of the distance which often separates your public opinion from the event in which it deals. (p. 29)

The writings of Wallas and Lippmann took on new meaning after World War II when research failed to substantiate the hypodermic-needle effect. Research led by Paul F. Lazarsfeld and Bernard Berelson examined the voting intentions of panels of voters using a before-after design in a limited geographic location during the course of political elections. They found that people were able to learn information from the media and elsewhere while tenaciously clinging to their views (Lazarsfeld, Berelson, & Gaudet, 1944; Berelson, Lazarsfeld, & McPhee, 1954). Klapper (1960) drew heavily on the work of Lazarsfeld and Berelson when he posited what came to be called the "limited-effects" model, which maintained that the function of the media was to reinforce existing views. The limited-effects model had such a strong impact on mass communication researchers that by 1960 researchers at the University of Michigan conducted a large-scale study in the Lazarsfeld-Berelson tradition that viewed the mass media as simply one of many factors influencing the voter:

> . . . it is seldom wise to rely on even the most rigorous study of the mass media for indications of the public's familiarity with any specific issue. In general, public officials and people involved in

> public relations tend to overestimate the impact that contemporary issues have on the public. They find it difficult to believe that the reams of newspaper copy and hours of television and radio time could be ignored by any normal person within the reach of these media. The fact seems to be, however, that human perception is highly selective, and unless it happens to be tuned to a particular wavelength, the message transmitted over that wavelength will be received only as noise. (Campbell, Converse, Miller, & Stokes, 1960, p. 99)

But public officials and people involved in public relations were not the only ones who found it difficult to believe that media coverage could have so little impact upon the audience. Mass communication researchers did, too (Lang & Lang, 1959; Key, 1961; Halloran, 1964). The assassination of President Kennedy in 1963 led to several studies that forced researchers to reassess the role of the mass media in imparting knowledge to the audience (Greenberg, 1964; Spitzer & Denzin, 1965). Prior to the assassination, media research generally found a low level of public knowledge of political issues. One pair of researchers even went so far as to label a segment of the public "chronic know-nothings" (Hyman & Sheatsley, 1947). Campaign research on important political issues affirmed this low level of political knowledge (Star & Hughes, 1950). But the assassination of President Kennedy showed that under conditions of an event with amazing national impact coupled with high levels of media coverage and interpersonal communication, all 419 respondents sampled by Greenberg (1964) were aware of the assassination. However, when detailed knowledge of aspects of the assassination were observed, audience knowledge decreased considerably (Spitzer & Denzin, 1965). These findings suggest that mass media may be influential at making people initially aware of an event at the gross level, and thereby placing it on the public agenda of concern. Research such as this led Maxwell E. McCombs and Donald L. Shaw at the University of North Carolina at Chapel Hill to examine the media's ability to place issues on the public's issue agenda.

Examining Lippmann's (1922) assertion that the mass media structure "the pictures in our heads," McCombs and Shaw matched those political issues that Chapel Hill voters said were the most important in the 1968 presidential campaign with those emphasized most often by the New York Times, Time, Newsweek, NBC, CBS news, and several regional daily newspapers. A filter question was used to select only respondents who had not made up their minds for whom to vote. They assumed that these respondents would be most susceptible to the agenda-setting effect. The researchers found a correlation of .967 between what the media portrayed as important and what the respondents said were important. This finding led to a proliferation of research on agenda-setting. In 1981(b), McCombs noted that more than 50 scholarly papers on agenda-setting were produced within the past six years.

Even though McCombs and Shaw (1972) are usually--and rightly--credited with the first empirical test of the agenda-setting hypothesis, Lippmann and Merz (1920) conducted a crude content analysis suggesting such an effect more than a half century earlier. They examined over 1,000 issues of the New York Times over a 36-month period to see how the prestigious paper covered the Bolshevik revolution. They concluded that the Times created a false picture of the revolution, making the public believe the revolution could never succeed.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The agenda-setting hypothesis, which has been repeatedly replicated and has received at least modest support since the seminal study by McCombs and Shaw (1972), is a succinct summary of the impact of the mass media upon the audience. Simply stated, the hypothesis proposes that the issue priorities of the mass media will subsequently become the issue priorities of the mass media audience. The hypothesis states that the audience will give a similar weight of importance to each issue that the media give to each issue (McCombs, 1975, 1976a, 1976b; Eyal, Winter, & McCombs, 1983). McQuail and Windahl (1981) graphically portrayed the agenda-setting model (see Figure 1). As can be seen from the model, audience issue salience (represented by "X") is proportionate to media issue emphasis (represented by rectangles).

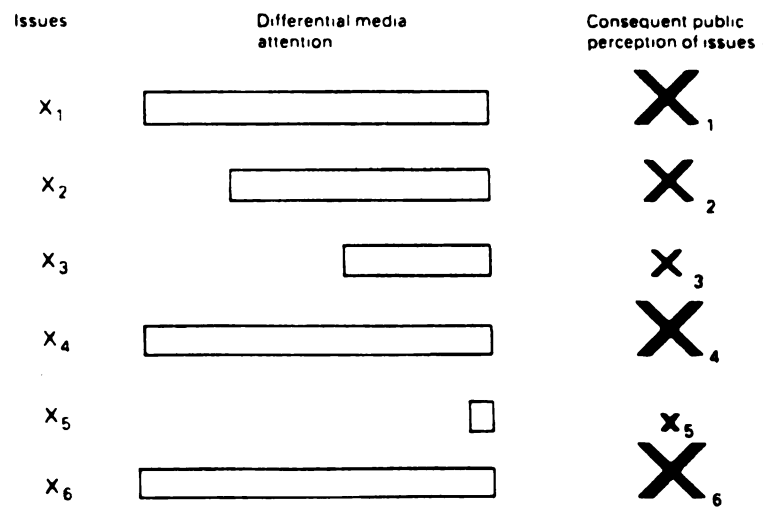

Figure 1. The agenda-setting model (McQuail & Windahl, 1981, p. 63).

The seminal study by McCombs and Shaw showed a strong correlational relationship between the media and audience's issue priorities, but the single-wave study made it impossible to infer causality. A subsequent two-wave study by McCombs (1977b) supported the agenda-setting function for newspapers but not television. The consistently positive correlations in the hypothesized direction throughout the literature, however, suggests that "there is something going on" that can be regarded as evidence for agenda-setting. It would be an overstatement, however, to suggest, as Oskamp (1977) did, that "probably the most important effect of the mass media is their agenda-setting effect" (p. 161). Although the hypothesis has been accused of being atheoretical (Meadow, 1978), methodologically weak (Chaffee, 1978), unable to explain the process by which agenda change (Westly, 1976), and merely a set of empirical generalizations in search of a theory (Lang & Lang, 1983), among other things, the tenets of the approach are generally accepted.

The literature, while lacking in many specifics, generally supports the notion that there exists a consistent, though sometimes low, correlation between media issue coverage and subsequent audience issue salience (Kraus & Davis, 1976). The relationship has been tested in various contexts, ranging from major political elections (McCombs & Shaw, 1972; Weaver, Graber, McCombs, & Eyal, 1981; Shaw & McCombs, 1977) to specific events (Kaid, Hale, & Williams, 1977; Watt & Van der Berg, 1981; Miller & Quarles, 1984; Sears & Chaffee, 1979) to specific political issues (Winter & Eyal, 1981; Abbott & Richardson, 1981; Atwater, Salwen, & Anderson, 1984, forthcoming) and social issues (Baade, 1980; Beniger, 1978; Culbertson & Stempel, 1984; Grunig & Ipes, 1983; Pollock, Robinson, & Murray, 1978; Sandman, 1976; Schmeling & Wotring, 1976). Further, the hypothesis has been directly or indirectly examined in other nations, including Canada (Winter, Eyal, & Rogers, 1982; Black & Snow, 1982; Black, 1982), Denmark

(Siune & Borre, 1975; Christensen & Jensen, 1982), Australia (Galloway, 1977; Gadir, 1982), Israel (Caspi, 1982; Elizur & Katz, 1977), Ghana (Anokwa & Salwen, in progress), Sweden (Asp, 1983), West Germany (Schoenbach & Weaver, 1983), Columbia (Chaffee & Izcaray, 1975), and Ecuador (McLeod, Rush, & Friederich, 1968-1969). Even in the Soviet Union, one study has shown that Communist Party members are aware of those issues the party regard as important by skimming the party press (Rogers, 1968). In addition, the hypothesis has been tested with minority groups (Stroman, 1978) and women (Graber, 1978; Schmeling & Wotring, 1976). Researchers have conducted agenda-setting studies looking at different units of analyses, including the aggregate audience (McCombs & Shaw, 1972), individuals in the audience (Stevenson & Ahearn, 1979), communities as systems (Chaffee & Wilson, 1977; Sohn & Sohn, 1982-83), political decision makers (Gaziano, 1984; Cook, Tyler, Goetz, Gordon, Protess, Leff, & Molotch, 1983), and political bodies (Kingdon, 1976; Walker, 1977; Weaver & Elliott, 1984). In terms of design, the great body of research has coupled audience surveys with content analyses. At least one study used historical research (Nord, 1981), and there have been at least two experimental studies (DeGeorge, 1981; Iyengar, Peters, & Kinder, 1982).

Supporters of the hypothesis emphasize that they are not resurrecting the hypodermic-needle model. They stress that the hypothesis is concerned with cognitions (what people think about). Not attitudes and behaviors. An often-cited quote by Cohen (1963), perfunctory in many agenda-setting studies, summarizes the agenda-setting hypothesis well: The press may not be successful much of the time in telling people what to think, but they are stunningly successful in telling people what to think about.

The simplicity of the hypothesis and the design might at first create the impression that there is little more to investigate in agenda-setting. But that

would be misleading. The general nature of the existing knowledge concerning agenda-setting suggests that there is much to be known concerning its specifics. For instance, "media agenda duration" has been operationally defined as media content measured for as little as one week (Mullins, 1977) and as long as three years (Cohen, 1975); the concept of "audience priorities" has been operationalized as those issues audience members perceive as being personally important to them, those they talk about most often, and those they perceive as most important by their peers in their communities (DeGeorge, 1981); and the "media agenda" has been defined as the print medium, television medium, or a combination of both (McCombs, 1977b). These differences and more in the research raise questions as to whether the hypothesis has been replicated as often as is ordinarily believed.

What follows is not an exhaustive review on agenda-setting. Rather, it is a critical review, focusing on the problems in the research and how they might be approached. The following is a summary of the problems this discussion will examine:

--determining the direction of causality in the media-to-audience relationship

--distinguishing between issues and events

--determining how long to analyze media content

--conceptualizing media and audience "salience"

--the roles of print and broadcast media

--differential audience and issue traits that may mediate or enhance the effect

--the possible effect on attitudes and behaviors

Causality

The agenda-setting hypothesis clearly stipulates that the issue priorities of the media cause the issue priorities of the audience. In order to infer causality, most researchers have relied on cross-lag correlation. At least two studies, however, have used path analysis (Kimsey & Atwood, 1979; Weaver, Auh, Stehla, & Wilhoit, 1975). Another study has used multiple regression analysis (Winter, 1980).

In its simplest form, cross-lagging involves the measurement of two variables at two time points. If the relationship between the independent variable (the media's agenda) at time 1 and the dependent variable (the audience's agenda) at time 2 (X_1Y_2) is significantly greater than the alternative hypothesis (X_2Y_1), then the independent variable is said to precede the dependent variable, and causality is frequently inferred (Rozelle & Campbell, 1969; Atkin, Galloway, & Nayman, 1976). McComb's (1977b) two-wave panel study of Charlotte, North Carolina, voters during the 1972 presidential election used such a design. He surveyed voters and analyzed newspaper content at two time points, June and October. He then computed rank-order correlations between the media and the audience. As can be seen from Figure 2, the correlation of the newspaper in June with the voters in October is .51. By contrast, the alternative hypothesis is .19 (see Rozelle & Campbell, 1969, for interpretations of the technique).

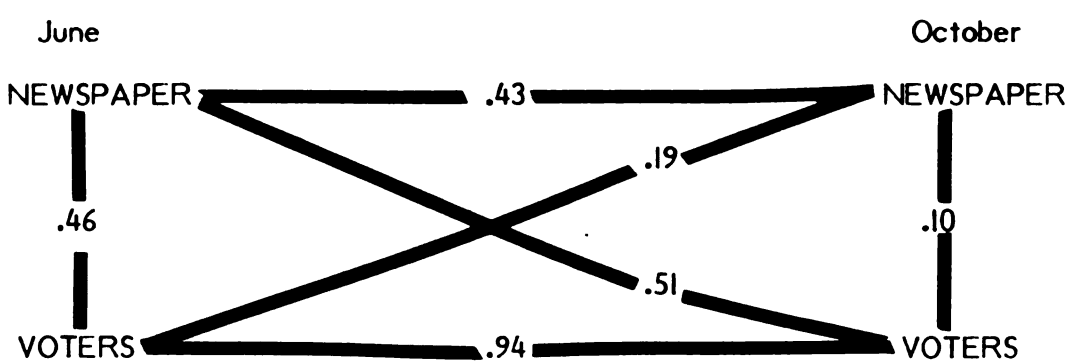

Figure 2: Cross-lag correlation, from McCombs (1977b, p. 91).

Some researchers wrongly jump to the conclusion that a significant cross-lag means causality. That may not be the case. Kenny (1979), in Correlation and Causality, outlined three conditions that must be extant to infer causality: (a) time-precedence, where one variable precedes the other; (b) relationship, where the two variables are shown to be conceptually linked with each other; and (c) nonspuriousness, where it is shown that intervening variables are not the cause of the dependent variable. In order to meet Kenny's condition of nonspuriousness, some research has attempted to examine for possible intervening variables. The underlying assumption is that if the media agenda and the audience agenda are associated with each other even after other variables have been eliminated, then the two variables must be linked. These studies have generally found a modest agenda-setting effect, suggesting that while the media agenda and audience agenda are linked, other variables may intervene in the relationship.

Becker (1982) set forth a list of assumptions conceptually linking the two variables:

1. individuals have a desire to keep themselves informed about their environment;

2. the mass media provide a means for individuals to keep themselves informed about their environment;

3. because of the limitations on resources, often the mass media are the most efficient way for audience members to keep themselves informed;

4. included in the information provided to audience members by the mass media are material identifiable by the audience members as dealing with something called an issue;

5. the media provide cues as to which issues are more important through techniques of selection and display; and

6. audience members accept the media cues regarding importance of issues and adopt them as their own (p. 530).

Erbring, Goldenberg, and Miller (1980) tested for causal linkage by conducting a secondary analysis on data which allowed for an an audience to

media-specific relationship measure. In addition to obtaining psychographic and demographic data on each respondent, each respondent was asked which newspaper he or she read. The researchers were thereby able to analyze the agenda-setting effect in terms of such factors as individual media use and crime and unemployment in the respondents' neighborhoods. They argued that media priorities alone would not explain the agenda-setting effect:

> The focus of the overall pattern or gestalt ignores the obvious fact that issue concerns can and do arise from sources other than media exposure--notably from personal experiences, group perspectives, and real-world conditions--and these factors will not only vary across individuals, but also among issues over time. Differential media treatment is but one factor among many that determine the saliences of issues (p. 18).

Erbring et al. found that direct experience may intervene and mediate the agenda-setting effect. They found that direct experience with issues proved to be a better predictor of issue salience than media exposure. Thus, union members and people with recent unemployment in their households were more likely to regard unemployment as an important issue than other respondents. Similarly, people in high-crime neighborhoods were more likely to regard crime as an important issue than other respondents.

Iyengar, Peters, and Kinder (1982) attempted to control for intervening variables in agenda-setting by using an experimental design. Respondents were told that they were to evaluate network news for a week in Yale University laboratories. They filled out questionnaires before and after viewing the news as to how important they regarded several issues in the news. During the study, respondents were placed randomly in groups. Each group had newscasts about certain issues inserted and emphasized in the newscasts.

The researchers found that the media were able to alter the subjects' issue saliences in two of the three experimental groups--those who had the issues of pollution and defense spending inserted into the newscasts. However, the media

were not able to alter the cognitions of those respondents who had inflation stories emphasized in the newscasts. The results suggest that the media may be able to alter cognitions about issues where audience members have little direct experience. But when audience members have direct experience with an issue--such as with inflation--direct experience may act as an intervening variable. This point will be examined further in the following section.

Although some research has taken the agenda-setting effect for granted, the question concerning direction of causality has by no means been settled. Michael J. Robinson, director of the Media Analysis Project at George Washington University, has argued that even the conventional wisdom that the press "sets the agenda" of public interest is wrong. All it does is "keep momentum going for an agenda set by the political leadership" (cited in Alter, Howard, & Stadtman, 1984, p. 72). Nevertheless, Cohen (1963), in his frequently cited book, The Press, the Public, and Foreign Policy, has observed that the press-government agenda-setting relationship is reciprocal. He noted that international news stories that appeared in prestigious American newspapers were among the most influential documents circulated in the State Department. The documents were influential, he argued, not because they directly influenced American foreign policy but because they brought to the attention of public officials which issues should be addressed and dealt with.

Research at the state and local levels has found little support for an agenda-setting function of the press (Sohn, 1976; Tipton, Haney, & Baseheart, 1975; Palmgreen & Clarke, 1977). Tipton, Haney, and Baseheart even found evidence for the alternative hypothesis at the local level, suggesting that the media were reflecting public concern about issues as much as they were influencing it. Perhaps audience members do not regard the local press as a indicator of which issues they should regard as salient. Or perhaps they have

direct experience with issues in the local press, so they are not as dependent upon the press for their salience of local issues.

Differential Traits of Audience Members and Issues

As was noted in the preceding section, agenda-setting research found that variables other than the media agenda may at least partially explain audience issue salience. Only recently have researchers given attention to identifying these "contingent conditions" on agenda-setting. This research reflects the need to scrutinize and understand the variable interaction effects on the relationship between media presentation and audience issue salience (Blood, 1982; McCombs, 1977a, 1981b; McCombs & Weaver, 1977; McCombs & Shaw, 1980; McCombs, Shaw, Shaw, & Mullins, 1973; Winter, 1981; Weaver, 1982).

Most of this research has focused on audience attributes. For instance, McCombs (1973) and Weaver, McCombs, and Spellman (1975) have found that increased exposure to media is associated with increased agenda-setting. It seems obvious that if mass media are to have an agenda-setting effect, respondents must be exposed to media. A line of research called "need for orientation" argued that researchers must determine why audience members expose themselves to the media. In their initial development of the need-for-orientation model, McCombs and Weaver (1973) drew upon the work of Tolman (1932) and Berlyne (1960) and argued that relevance and uncertainty are the key variables leading to media exposure. Tolman argued that people seek to draw a cognitive map of their environment. Berlyne provided a three-factor theory of epistemic curiosity to explain the mapping process. Berlyne argued that the tendency to seek information increased with (a) level of uncertainty; (b) level of perceived-importance, defined in terms of relevance or usefulness in decision-making; and (c) subjective evaluation of success.

Implicit in Berlyne's theory is the belief that information-seeking is linked to actions and behavior. McCombs and Weaver (1973) developed the need-for-orientation model in a political campaign context, where the action or behavior is voting. They hypothesized that a highly relevant situation coupled with high uncertainty would lead to high need for orientation and high exposure; high relevance with low uncertainty would lead to moderate exposure; and low relevance would lead to low exposure (see Figure 3). Implicit in their model was the assumption that relevance is an antecedent condition to uncertainty.

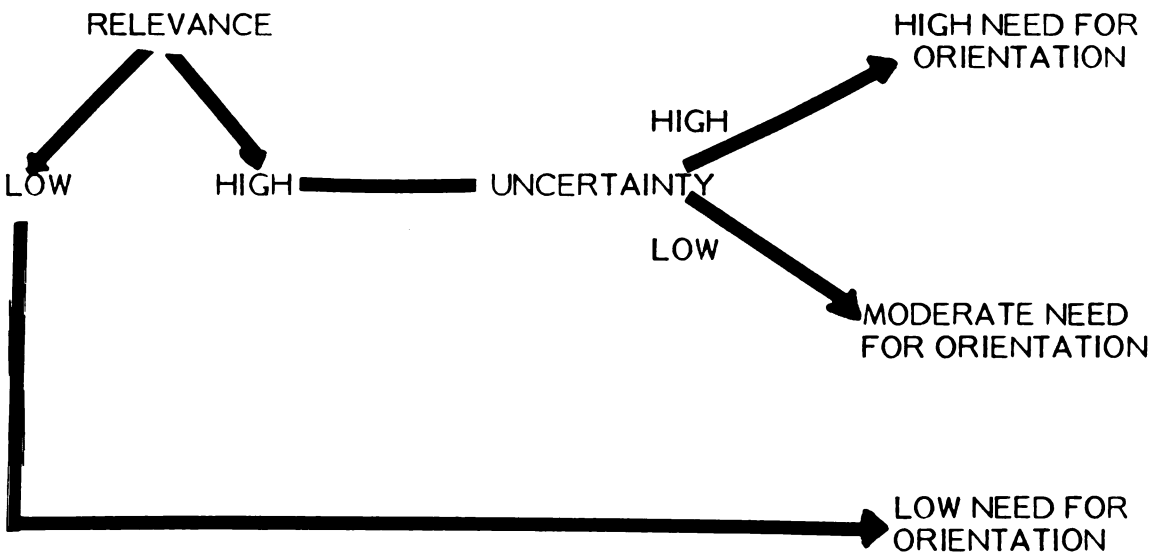

Figure 3: Need for Orientation Model (McCombs & Weaver, 1973, p. 5).

The basic proposition for this model was put forward by Weaver (1977a): "Increased need for orientation leads to increased media use, which in turn leads to increased agenda-setting effects by media. As an individual strives to map political (or other) issues through the use of mass media, he is more susceptible (at least in many situations) to the agenda-setting effects of the media" (p. 108).

The need-for-orientation model was clearly constructed with the same underlying assumptions involved in McCombs and Shaw's (1972) seminal study. In that study a strong correlation was found between media issue salience and audience issue salience. Only voters who had said they had not made up their minds for a candidate were sampled. Since they said they would vote, these respondents found the campaign to be relevant; and since they had not made up their minds for whom to vote, they were in a state of uncertainty.

The need-for-orientation model has received some support (Weaver, 1977b). Nevertheless, the support has been so modest that Weaver (1978) argued that it might be more realistic to argue that relevance of political information and uncertainty are reciprocally related (i.e., they both affect each other). Evidence for the reciprocal relationship was found during a recent year-long election study (Weaver, Graber, McCombs, & Eyal, 1981). As a result, Weaver (1978) put forward a typology where the two variables interact (see Figure 4).

		UNCERTAINTY	
		LOW	HIGH
RELEVANCE	LOW	Low need for orientation.	Moderate need for orientation.
	HIGH	Moderate need for orientation.	High need for orientation.

Figure 4: Need for orientation model II (Weaver, 1978, p. 6).

Another line of research that may explain why people expose themselves to media messages is the uses-and-gratifications approach. This functional approach maintains that people actively expose themselves to mass

communications to gratify certain needs (Palmgreen, 1984; Windahl, 1981). The seminal study on uses and gratifications was conducted in England during the 1964 British general election (Blumler & McQuail, 1969). British researchers McQuail, Blumler, and Brown (1972) put forward a typology of four gratifications: diversion, personal relationships, personal identify, and surveillance of the environment. A subsequent large-scale study of 4000 Israeli adults gave support to these gratifications' categories. These researchers also noted that different types of media may be associated with different gratifications (Katz & Gurevitch, 1976). Salwen and Anderson (1984) found that people in different demographic groups may use the same medium to gratify different needs. They suggested that lifestyles of people in different demographic groups created different needs. In the United States, five gratifications have been consistently examined within a political communications context. These gratifications have been summarized by Becker (1976):

> Audience members seeking vote guidance want help in making a vote decision. Reinforcement seekers have already made a decision and have turned to the media to gain support. Persons using the media for surveillance of the political environment hope to keep in touch with events in the world around them. Excitement seekers are spectators in the competitive sport of politics and seek the conflicts and uncertainties of the electoral process. Those who use the media because of anticipated communications are seeking ammunition for further arguments (p. 28; original emphasis).

Recently some researchers in uses and gratifications and agenda-setting have suggested that the uses-and-gratifications and agenda-setting approaches can be merged (McCombs & Weaver, forthcoming; McLeod & Becker, 1981; Tillinghast, 1976; McCombs & Einsiedel, 1980). These researchers have suggested that even after audience members actively expose themselves to mass communications they may be unconsciously impacted by that conscious act in terms of having the media orient their cognitions.

The role of interpersonal communication remains one of the most nagging problems in agenda-setting research. As McCombs (1981a) wrote,

> The disparity between focal points of conversations and personal concerns points up largely unexplored distinctions between types of public issues. What characteristics ensure spontaneous discussion of some issues, while others are relegated largely to the sphere of private concern (p. 129).

Hong and Shemer (1976) conducted an agenda-setting study with health-related issues that compared the effects of media salience and talk partners' salience on respondents' evaluations of personal salience. They found that interpersonal contacts had a greater impact on respondents' perceptions of personal salience than the media. They suggested that a two-step flow may have existed. Atwater, Salwen, and Anderson (1984) gave further explication to the role of interpersonal influences in an agenda-setting study concerning environmental issues. They separated the media-dependent respondents (i.e., those who said they received most of their information about the environment from media sources) from the nondependent respondents (i.e., those who received most of their information from nonmedia sources, primarily other people). They found a stronger correlation between media salience and personal salience for the dependent group than the nondependent group. They suggested that interpersonal discussions mediated the agenda-setting effect for the nondependent respondents because they had access to sources of environmental information other than the media.

Mullins (1973) found that interpersonal discussion during a political campaign enhanced agenda-setting. By contrast, Weaver, Auh, Stehla, and Wilhoit (1975) found that interpersonal discussion during a campaign decreased agenda-setting. Both studies looked at student populations, although Mullins' study was during a presidential campaign while the Weaver study was during a senatorial campaign. Winter (1981) argued that these contradictory findings are

largely an artifact of designs and operational definitions. He argued that researchers must operationally and conceptually explain what they mean by interpersonal discussion and set boundaries for interpersonal discussions, such as with whom and for what types of issues. For instance, Hong and Shemer (1976) may have found a weak relationship between media salience and audience salience concerning health-related issues because such issues are likely to be common topics of conversation. By contrast, Atwater, Salwen, and Anderson (1984) may have found a moderate to strong relationship between media salience and audience salience concerning environmental issues because such topics are not likely to be common conversational topics.

Although most of the research on contingent conditions has focused on audience attributes, a small body of research has examined differences in issues. Tichenor, Rodenkirchen, Olien, and Donohue (1973), for instance, have suggested that issue conflict increases issue learning. Auh (1977) supported this hypothesis in an agenda-setting study. He conducted an agenda-setting study with Indiana University students during the course of a conflict-laden senatorial election. Auh analyzed issues in the media on both frequency and degree of conflict, based on whether the candidates agreed or disagreed on the six issues examined in the study. He found that the audience agenda rankings correlated higher with the media's agenda rankings based on frequency and conflict (rho = .73) than on frequency alone (rho = .51).

The variable of media dependency in agenda-setting also needs further explication. DeFleur and Ball-Rokeach (1982) hypothesized that as society becomes more complex and channels of interpersonal discussion break down, members of society become more dependent on the mass media for their knowledge about their environment. It may be that in modern, urban-industrialized America today, the findings in the classic studies by Lazarsfeld

and Berelson that showed interpersonal discussion as a mediator of media effects may no longer be relevant. There may be very little interpersonal discussion mediating media effects. Obviously, as Becker and Whitney (1980) noted, this level of dependency varies from individual to individual. They found that dependency on specific media for news was critical for understanding media effects. It is just as likely that dependency on media for specific issues is necessary for understanding media effects (Winter, Eyal, & Rogers, 1982).

McLeod, Becker, and Byrnes (1974) found that dependency served as a contingent condition on agenda-setting, at least to the extent that only those people exposed to newspapers demonstrated a relationship between their issue priorities and newspapers' issue priorities. McLeod, Brown, Becker, and Ziemke (1977) found dependency effects beyond the awareness or salience levels. They found that respondents following the televised Watergate hearings in the print media were more likely to see the affair as atypical and be less likely to blame America's political system than those dependent on the broadcast media. Such findings hark back to the writings of Marshall McLuhan (1964, 1967). Irrespective of media content, each particular medium has certain characteristics that effect and structure society in different ways.

A contingent condition that has sparked much research recently involves audience members' direct or perceived direct experience with issues in the news. Blood (1981) has observed that although direct experience should be regarded as an audience trait, some researchers have treated the variable as if it were an issue trait. That is, they simply assumed that certain issues by their nature affect most or all audience members. Zucker (1978) initiated this line of research by distinguishing between obtrusive and non-obtrusive issues based on the presumed direct contact audience members have with issues. The more

contact audience members have with an issue, the more the issue obtrudes into their lives and, presumably, the less the agenda-setting effect:

> People today live in two worlds: a real world and a media world. The first is bounded by the limits of direct experience of the individual and his acquaintances. The second spans the world bounded only by the decisions of news reporters and editors. (p. 239)

Zucker traced audience issue importance (using Gallup poll results) against news media presentation (using the Readers' Guide to Periodical Literature) over eight years. He found that non-obtrusive issues were subsequently deemed important by the audience, as the agenda-setting hypothesis proposes. With obtrusive issues, however, it was the audience that first deemed issues important. The media subsequently devoted coverage to them.

Eyal (1979b) substantiated Zucker's finding. He found only a moderate relationship between the media agenda and the audience agenda when he looked at the array of 11 issues. But after he used factor analysis to distinguish between obtrusive issues and non-obtrusive issues, he found that obtrusiveness was acting as a supressor variable. By using factor analysis to determine issue obtrusiveness, rather than simply assuming an issue is obtrusive, Eyal treated obtrusiveness as an audience characteristic. He found only a weak correlation between the media agenda and the audience agenda among the obtrusive issues and a high correlation among the non-obtrusive issues. Subsequent research by Erbring, Goldenberg and Miller (1980) and Iyengar, Peters, and Kinder (1982) cited earlier in this paper lent further support to the issue obtrusiveness hypothesis. At least one study, however, found that media exposure to crime was a better predictor of salience than direct experience (Einsiedel, Salomune, & Schneider, 1984).

Tardy, Gaughan, Hemphill, and Crocket (1981) found that involvement may mediate agenda-setting. They looked at the differential agenda-setting effects

of those respondents who participated in a presidential campaign with those who didn't. They hypothesized that involvement, which they operationalized as political participation, decreases the agenda-setting effect because highly involved people are not as dependent upon the mass media for campaign information as low involved people. They defined "active" respondents as those who voted in some, most, or all presidential elections and participated in at least one campaign activity; those who voted in only some or no presidential elections and never participated in a presidential campaign were defined as "inactive"; those who voted in most or all elections but never participated in campaigns were defined as "voters." Through the use of cross-lag correlation, they found that as political participation increased, agenda-setting decreased. For the active participants, both the agenda-setting effect and the competing alternative effect were equal. By contrast, they found that the agenda-setting effect for the voters and the inactive respondents was significantly greater than the alternative effect. They concluded that political participation mediates the media's ability to make issues salient (see Figure 5).

The research on agenda-setting and direct experience seems to suggest that agenda-setting works best under conditions when audience members are dependent upon the mass media for their knowledge and when they have little direct experience and involvement with issues. It is not surprising, therefore, that some of the strongest agenda-setting effects have been reported during presidential campaigns (McCombs & Shaw, 1972; Shaw & McCombs, 1977; Weaver, Graber, McCombs, & Eyal, 1981). As Patterson (1980) observed, voters' perceptions of a presidential campaign are largely determined by the mass media:

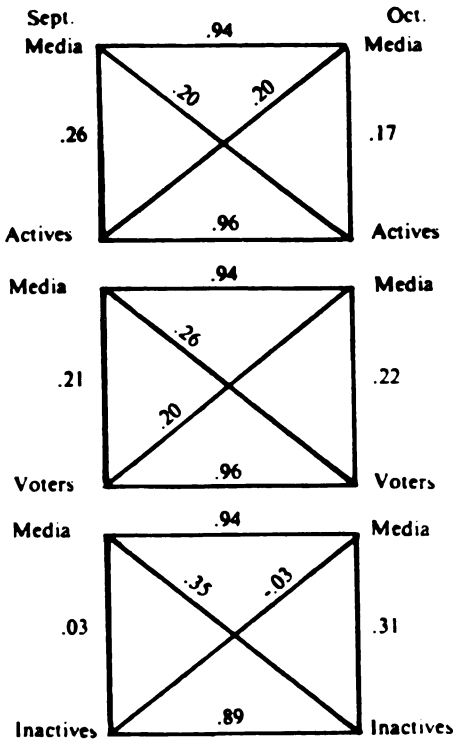

Figure 5: Cross-lagged correlations for media and public agendas; source: Tardy, Gaughan, Hemphill, & Crockett, 1981, p. 627.

> Today's presidential campaign is essentially a mass media campaign. It is not that the mass media entirely determine what happens in the campaign, for that is far from true. But it is no exaggeration to say that, for the large majority of voters, the campaign has little reality apart from the media version. Without the benefit of direct campaign contact, citizens must rely on the media for nearly all their election information (p. 3).

Agenda-setting studies conducted during state and local elections (Tipton, Haney & Baseheart, 1975) and concerning regional issues (Palmgreen & Clarke, 1977; Kaid, Hale, & Williams, 1977; Sohn, 1978; Black & Snow, 1982) have generally found a modest agenda-setting effect. These findings suggest that in

situations where people are able to observe and experience the issues, the agenda-setting effect will be mediated.

Issues and Events

There appears to be general agreement among researchers that agenda-setting should focus on the "major" issues of the day. But just what is an issue? Agenda-setting researchers have operationally defined issues by saying that they are what the coders agree, but conceptually that sidesteps the matter. Becker, McCombs, and McLeod (1975) brushed the matter aside by claiming that an issue covers any causal relationship "between media coverage and the salience of topics in the minds of individuals and the audience" (p. 38). The purpose of this section is to put forward a conceptual distinction between issues and events. This is important because issues and events may have different agenda-setting effects.

Shaw (1977) appears to have been the first to have conceptually distinguished between issues and events in an agenda-setting context. He noted that events are discrete and limited by space and time. Issues, by contrast, involve cumulative press coverage over time of a series of related events that fit into a broad, easy-to-assimilate issue category. Cobb and Elder (1972, 1976) gave theoretical precision to the issue-formation process by applying a systems view, where the input consisted of events fed into the body politic and the output consisted of issues on the public agenda. McGuire (1974) added a psychological dimension by applying categorization theory, where he argued that it is a natural human trait for people to handle novel stimuli by associating them with familiar categories. The process makes it possible for individuals to avoid the discomfort that arises when they encounter novel stimuli.

If people naturally categorize events into familiar issues, then it isn't necessary for the news media to "peg" discrete events to larger issues; audience members will do that anyway. As sociologist Robert Ezra Park (1940) observed, through the course of interpersonal discussion, audience members transform events in the news into issues:

> News comes in the form of small, independent communications that can be easily and rapidly comprehended. In fact, news performs somewhat the same functions for the public that perception does for the individual man; that is to say, it does not so much inform as orient the public, giving each and all notice of what is going on . . . . But the singular thing about it is that, once discussion has been started, the event under discussion soon ceases to be news and, as interpretations of an event differ, discussions turn from the news to the issues it raises. The clash of opinions and sentiments which discussion invariably evokes usually terminates in some sort of consensus or collective opinion--what we call public opinion (p. 677).

Despite the fact that audience members fit discrete events in the news into larger issues, the news media still go out of their way to peg novel events to larger, existing issues. Chaffee (1975) argued that this is the case because, while the news media value events for their newsworthiness, events create tension within the news organization because the media are unsure or unprepared for how to handle and present events. Thus, the killing of 241 U.S. marines in Beirut in October 1983 was often pegged to the larger issues of "international terrorism," the "Middle East," or "Lebanon." It is likely that if the bombing had occurred while an agenda-setting study was in progress, it would have been subsumed under one of those broad categories. As Chaffee (1975) writes: "It is small wonder that the news media have developed elaborate plans and procedures that allow them to routinize the handling of almost all news events--even though news by definition consists of events that are to some extent unanticipated" (p. 110).

Thus, it appears that events are naturally categorized into larger issues by the audience. To make this categorization process even easier, the media

package events so they are associated with familiar issues. And as more and more events cumulate into issue categories, the more important the audience perceive those issues to be. While the accumulation of a series of events into an issue category may contribute to an issue's importance, it is not likely that this process alone can explain issue importance. Lang and Lang (1981) posited three factors that contribute to the newsworthiness of an issue--contention, controversy, and debate:

> What is an issue? In the last analysis, it is whatever is in contention among a relevant public. The objects of potential controversy are diverse. A policy, a party and its platform or past performance, a personality, a particular act, or even a theory about such things as the state of the economy or the causes of a disease can stir public debate . . . . The public agenda, as opposed to the various institutional agendas, consists of only those issues on which "the people" form opinions and are inclined to take sides (pp. 451-2, emphasis added).

Just what is it then that people form opinions about and take sides on? Not discrete events, such as the shooting of a president, Alaskan statehood, or the launching of a satellite. These are objective and incontrovertible facts, the fodder of news diffusion research (Hill & Bonjean, 1964). Rather, what they form opinions about and take sides on are the larger issues in which these events are subsumed, such as gun control, the desirability of statehood, or the need for improved education in the sciences to turn out future scientists.

Most researchers will probably agree that issues are broad categories that subsume discrete events. But some studies have examined issues that are more well-defined than others. For instance, some agenda-setting studies have separate categories for inflation, cost of living, and recession (Benton & Frazier, 1976). Other studies lump these together under "the economy" (Weaver, Graber, McCombs, & Eyal, 1981). Since issues can be broad or well-defined, some researchers have asked whether these different "levels" of information have different agenda-setting effects (Palmgreen, Kline, & Clarke, 1974). To

investigate whether the media are able to transfer knowledge more detailed than broad labels, some researchers have engaged in sub-issue agenda-setting, where a single issue is divided into its component parts. Studies that have gone this route have generally found a low to moderate agenda-setting effect (Cohen, 1975; Gormley, 1975; Kaid, Hale, & Williams, 1977). At least two other studies found a fairly strong effect (Benton & Frazier, 1976; Atwater, Salwen, & Anderson, forthcoming).

Gormley (1975) examined the agenda-setting effect looking at the transferal of gross-level issues (e.g., minority rights, education, health, etc.) and specific problems (e.g., no-knock legislation, regulation of milk prices) from the media to the audience. The sample consisted of 30 North Carolina state senators. The study found a significant rank-order correlation at the gross-issue level (rho = .75), but only a weak and insignificant relationship at the specific-problem level (rho = .206). The results should be interpreted with caution, however, since Gormley looked at an elite sample.

Not all agenda-setting research has examined audience members' issue salience. Patterson (1980), in his comprehensive study of the 1976 presidential campaign, found that the media set the agenda for the candidates' images. He found that audience members perceived Carter to be honest and fuzzy on the issues, as the media portrayed him. For President Ford, the media were not as powerful in setting the candidate's image. Presumably, since he was a sitting president, his image was already well formed by the electorate.

The Duration of the Effect

Since the agenda-setting hypothesis asserts a causal relationship between media issue emphasis and subsequent audience issue salience, the temporal variable is crucial. Logic requires that the media agenda precede the audience

agenda. This is usually accomplished through the use of cross-lag correlation analysis, discussed in the section on causality. But while cross-lag correlation may account for the sequencing of the two variables, the method does not allow the researcher to determine how long each variable should be measured. As Chaffee (1972) has written:

> Selection of the optimal time-lag (in cross-lag correlation) 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 progress requires. A time-lag that exceeds the process is not as serious, perhaps, but there is always the danger that a causal effect will "dissipate" over time if the researcher waits too long to measure it. (pp. 7-8)

News diffusion is one of the few approaches in mass communications that specifically incorporates time as a variable (Chaffee, 1975; Gaziano, 1983). Researchers generally examine how long it takes for awareness of an event to disseminate within a population. Over intervals of time, they examine what percentage of the audience is aware of an event. They usually examine the cumulative percentage of respondents knowing of an event by time elapsed, in which case the frequently observed S-shaped percentile curve manifests itself. This curve usually occurs because after an event initially breaks, only a small number of people are aware of it, accounting for the flatness at the bottom of the "S." The number of people aware of the event rapidly climbs, over time, accounting of the sharp rise. Awareness saturates and peaks, accounting for the flatness at the top of the S-curve. Time is represented on the horizontal axis and the percentage of "knowers" is represented on the vertical axis.

Another form of diffusion focuses not on how long it takes for an audience member to simply be aware of an event, but for how long, if at all, it takes for him or her to adopt a new idea or innovation (Rogers & Shoemaker, 1971). This distinction between awareness and adoption is important. There is little doubt

that the mass media are able to make a large proportion of the audience aware of a breaking event by giving saturation coverage to it (Greenberg, 1964). This is a cognitive effect. The adoption approach, however, goes beyond cognitive effects and implies a possible persuasive behavioral effect.

Surprisingly, few agenda-setting researchers have incorporated the variable of time explicitly into their research, although a few have conceptually conceived of time as an underlying variable (Elizur & Katz, 1977; Katz, Adoni, & Parness, 1977). As far back as 1975, McCombs, Becker, and Weaver called on researchers to consider including time as a variable in their research. Every agenda-setting study that employs a cross-lag design implicitly assumes that time is a variable since the audience is measured at least two times (McCombs, 1977b).

Intuitively, it makes sense to keep the duration of the audience agenda as short as possible. Because of the ephemeral nature of issues in the news, what may be regarded as important by the audience one day may be forgotten the next day. Nevertheless, the literature reveals that some studies have measured the audience agenda for as long as four weeks (McLeod, Becker, & Byrnes, 1974; Gormley, 1975; Sohn, 1978). These are anomolies in the literature, however. Most studies measured the audience agenda for one or two weeks (Eyal, 1979b). Atwater, Salwen, and Anderson (1984) measured it for three days; Hilker (1976) measured it for one day.

While the duration of the audience agenda may be determined by intuition, there is no intuitive way for a researcher to determine the duration of the media agenda. And, unfortunately, there is little research to guide the prospective researcher in this area. The literature reveals that researchers have used a variety of media durations, ranging from one week (Mullins, 1977) to four and a half months (Gormley, 1975) to three years (Cohen, 1975).

Even though most agenda-setting researchers have implicitly accepted the notion that audience issue salience is a function of media presentation over time, few researchers have tackled the problem concerning the amount of time required for the media to make an issue or set of issues salient among the mass media audience. Those few that have attempted to tackle this problem have yielded a wide range of results. These differing results may have been due to the reseachers' different designs, choice of media, choice of issues, and audience samples.

The model for the prototypical design of drawing backward in time from the audience measure was developed by Zucker (1978). The design consists of measuring the audience at one or more time points and then drawing backward in time from that measure and correlating it with numerous media measures. For instance, if the media agenda were measured for 12 weeks and the audience agenda were measured for one week immediately after the last observation of the audience, the audience agenda could be correlated with the 12th week of the media measure, with the 11th and 12th weeks, with the 10th through 12th, etc., until all media measures (i.e., all 12 weeks) are correlated with the audience measure. The design should show that the media have a cumulative impact over time on audience issue salience.

Eyal (1979b) conducted secondary analysis looking specifically at time-related factors in agenda-setting. He divided the media agenda into three durations: two, four, and eight weeks long. His findings suggested that the optimal media duration is two to four weeks. But since Eyal only looked at three media durations, he could not capture the full cumulative nature of agenda-setting.

Stone and McCombs (1981) measured the relationship between the issue priorities of Time and Newsweek with those of sophomore university students.

They measured the media agenda for six months before and three months after the survey. Examining differing media durations by moving backward in time from the interviews, they found a monotonic increase in the correlations that peaked at between two and six months. The major weakness of this study was that the researchers looked at major news magazines, which summarize and elaborate the major issues of the day. Unlike newspapers, which are usually examined in agenda-setting, issues are already "major" by the time they receive coverage in these publications. The issues probably had been widely covered in newspapers and on television. Another obvious drawback to this study was that the sample consisted of university sophomores. The Stone and McCombs study made a major contribution by showing that forgetting--as well as learning--is important in agenda-setting research. When issues are no longer in the news, they are soon forgotten. Sprague (1982) has observed that continuous reinforcement of issue salience, which is a trait of media campaign coverage, "teaches rapidly but provides poor protection against extinction. Take away the campaign and deterioration may be anticipated" (p. 115). On the other hand, some very salient issues may be remembered long after media coverage is withdrawn. Funkhouser and McCombs (1971) found that interest in news tended to decrease forgetting and reduce interference by competing news.

Winter and Eyal (1981) extended this design to a single issue. They compared the results of 27 Gallup polls conducted between 1954 and 1976 concerning the civil rights issue with front-page coverage of the issue in the New York Times. Moving backward in time after each poll, they found the peak correlations between media presentation and audience salience occurred within four to six weeks. By looking at a single issue, Winter and Eyal were able to control for any canceling effect an array of issues may have had. For instance, Eyal, Winter, and DeGeorge (1981) noted that the measurement of the wholesale

transfer of the media agenda to the audience may mask any differences in issues or audience traits.

Winter, Eyal, and Rogers (1982) conducted a study similar to Winter and Eyal's in Canada, correlating front-page coverage in the Toronto Star with the percentage of respondents who cited each of three issues as "most important" in Canadian Gallup polls. They hypothesized that there would be differing agenda-setting relationships for different issues depending on the nature of each issue. They found support for their hypothesis. The issues of national unity (with Quebec and other provinces) and unemployment both peaked after four or five months of issue coverage. The issue of inflation, however, didn't correlate well with the media. They suggested that there was little relationship with the issue of inflation because many Canadians had direct experience with the issue. As a result, Winter, Eyal, and Rogers suggested that time-related studies in agenda-setting examine a single issue to control for differing life-spans among an array of issues.

> Thus, this study provides evidence against the continued treatment of issues in the aggregate. This suggests that it is no longer adequate in agenda-setting research to treat issues en masse, any more than it is to lump respondents together, independent of media use patterns and other contingent conditions (p. 8).

Issue Salience

The agenda of any mass communication medium consists of information presented before to the audience. Decisions concerning whether an issue will be selected, and if selected how much play it will receive, are determined by media "gatekeepers" trained and socialized in newsworthiness. It has frequently been argued that by selecting and rejecting issues, the gatekeepers have the ability to structure the audience's "unseen environment" (McCombs & Shaw, 1976c). Because of the power these gatekeepers supposedly have concerning how

audience members view their world, the gatekeepers' attitudes and beliefs about news judgment, politics, and the audience have been widely studied (White, 1950; Snider, 1967; Burgoon, Bernstein, & Burgoon, 1983). As journalist James M. Perry (1973) of the National Observer wrote of his observations of press coverage of the 1972 presidential campaign:

> We are filters. It is through our smudgy, hand-held prisms that the voters meet the candidates and grow to love them or hate them, trust them or distrust them. We are the voters' eyes and ears, and we are more than that, for, sometimes, we perform a larger and, some would say, a more controversial function. We write the rules and call the game (p. 10).

Just how great this ability to determine which issues will be addressed and considered important and which will not was demonstrated in a study by Gilberg, Eyal, McCombs, and Nicholas (1980). They correlated the issue priorities of the New York Times, the Washington Post, and the evening newscasts of the three national networks with the issues addressed by President Carter during his 1978 State of the Union address. By conducting their content analysis both before and after the address, they found the relationship between the media agenda and the address was greater before the address than after it. As a result, they suggested that the media have the power to determine what issues the president will address. They concluded, "While the information presented here obviously is limited in time and place, the implications are vast" (p. 588). The findings of this study were reaffirmed in a replication by McCombs, Gilberg, and Eyal (1982) when they examined President Nixon's 1970 State of the Union address.

Once the gatekeepers determine how salient the issues are, they give them the attention they believe they deserve. Cues that reflect the media's salience of issues are determined by organizational and structural factors. On television, for example, issues deemed important will be emphasized by extended coverage. Such stories are usually placed at the beginning of a broadcast. They may be

accompanied by visual coverage as well as verbal coverage. In the print media the front page usually carries the top items on the agenda. Such items may also be emphasized by being placed above the fold, having larger headlines than other stories, or being accompanied by photographs or other illustrations. The agenda-setting hypothesis asserts that the audience is aware of these media salience cues:

> In choosing and displaying news, editors, newsroom staff and broadcasters play an important part in shaping political reality. Readers learn not only about a given issue, but also how much importance to attach to that issue from the amount of information in a news story and its position (McCombs & Shaw, 1972, p. 176).

Gatekeepers may be anyone in the news industry who have the ability to allow information to pass through the gate. Much of the research on editors has been scholarly in nature (White, 1950; Snider, 1967) while much dealing with reporters has been popular in nature (Crouse, 1972; White, 1973; Perry, 1972). This can probably be explained by the fact that reporters like to write about the news industry and their own exploits.

Rolling Stone reporter Timothy Crouse (1972) recounted many first-hand observations of how reporters relied on each other to determine what issues and stories were important during the 1972 presidential campaign. In particular, the "pack" of reporters would determine what was important based on what the wire services and the New York Times covered. The reporters found that if their stories differed significantly from these sources, they received dreaded "call backs" from their editors asking why their stories differed from the establishment press.

The media agenda is easier to operationalize and conceptualize than the audience agenda because it's observable and steeped in tradition. For instance, many audience members are probably consciously aware that television news programs place their most important stories first and newspapers place their

most important stories on the front page above the fold. A conceptual understanding of audience salience, however, involves a psychological analysis rather than an organizational analysis (McCombs & Shulte, 1975).

The traditional view of audience salience is that issue salience is highly correlated with knowledge about the issue. Palmgreen, Kline, and Clarke (1974) suggested that agenda-setting researchers obtain measurements of subjective knowledge or "information holding" in order to "more adequately reflect an individual's store of information concerning political conflicts and problems of personal importance" (p. 2). Underlying this view is the belief that audience members obtain most of their political information from mass media exposure. But research on audience members' direct experience or perceived direct experience with issues in the news (Zucker, 1978) and dependence upon the news media for their information (Atwater, Salwen, & Anderson, 1984) have cast doubt on the notion that mass media exposure alone causes issue salience in all instances. Such findings have led some researchers to refine their conceptualization of audience salience.

McLeod, Becker, and Byrnes (1974) conceptualized three distinct types of audience agenda: (a) "the intrapersonal agenda," conceived as the issues an individual sees as personally important; (b) "the interpersonal agenda," conceived as those issues the individual talks about; and (c) "the perceived-community agenda," conceived as those issues the individual thinks others are talking about and view as important. Atwater, Salwen, and Anderson (1984, forthcoming) asked audience members what issues they believed the news media regarded as important. Bowes and Zandpour (1982) examined audience members' perceptions of the candidates' salience of issues during the 1980 presidential campaign. As election day approached, they found that the congruence between their

perceptions of their preferred candidates' issue agenda became closer with their own agenda.

DeGeorge (1981) suggested that validity problems may exist in the research because different types of audience agenda are frequently compared. Nevertheless, what little research looked at several types of audience agenda in a single study found high intercorrelations (McCombs, 1974; Weaver, Graber, McCombs, & Eyal, 1981; Atwater, Salwen, & Anderson, 1984).

Television Versus Newspapers

The agenda-setting hypothesis maintains that the media transfer their perceptions of what issues are important to the audience. Because of this the choice of a medium or media selected by the researcher can be crucial. For that reason, it seems appropriate to ask what differences exist in the two media most frequently used in agenda-setting research, newspapers and television (Eyal, 1979a).

Most people say that they trust television more than newspapers. Nevertheless, most of the research shows that the relationship between newspapers and public affairs knowledge is greater than the relationship between television and public affairs knowledge (Roberts & Bachen, 1981). Few studies show even a modest relationship between public affairs knowledge and television (Atkin, Galloway, & Nayman, 1976; Atkin & Heald, 1976); and most studies show a near-zero relationship (McClure & Patterson, 1976; Williams & Semlak, 1978; Becker & Whitney, 1980). Common explanations for the superiority of newspapers over television usually stress structural factors: television has severe time limitations, newspapers go into more detail, television relies too heavily on visuals, and so forth (Carey, 1976; McCombs, 1977b). Patterson (1980), however, posited an audience-related explanation. He argued that television

news watching is largely inadvertant, requiring little effort and, therefore, unlikely to make a strong cognitive impression.

McCombs (1977b) analyzed the differential effect of newspaper and television agenda-setting upon the voters of Charlotte, North Carolina, during the 1972 presidential campaign. He found that throughout most of the campaign, newspapers had a greater agenda-setting effect than television. Only as the campaign climaxed did the television agenda reflect the audience's agenda. This suggests that for long-range, developing stories, newspapers are superior to television. Newspapers can provide cumulative, detailed knowledge of an issue as it unfolds. In contrast, television seems valuable in imparting information about already-established major events.

Because newspapers have been shown to be superior to television in imparting information to the audience, some researchers have vehemently castigated the role of television as an informational medium. McClure and Patterson (1976) referred to television news as "little more than a headline service" (p. 26). Manheim (1976) concluded that television is to blame for many of society's ills, including declining scores on scholastic aptitude tests, the inability of a substantial portion of the public to balance their checkbooks, or to maintain attention spans longer than the average sitcom.

Since it is generally agreed that newspapers are superior to broadcast in transmitting detailed information to the public, agenda-setting studies conducted at the sub-issue level (i. e., when a single issue is divided into component parts) have used newspapers (Cohen, 1975; Benton & Frazier, 1976; Atwater, Salwen, & Anderson, 1984, forthcoming). Research is needed, however, that looks at sub-issue agenda-setting using both television and newspapers.

The above-cited literature is not to say that television plays a minor role in agenda-setting. Patterson (1980), in his study of the 1976 presidential election,

found that television was more effective than newspapers in transmitting images of the candidates to the voters:

> Its influence in this area, in fact, is greater than in most others. While television's pictures lack any capacity to enlighten voters about the candidate's policy positions, they certainly contribute to the development of people's images of the candidates. Furthermore, television's limited news space is not an overly severe restriction in the area of image formation. (p. 146)

A question that arises in all correlational research, but surprisingly not raised very often in the newspaper-television controversy, involves cause and effect. Do the mass media make the audience knowledgeable of public affairs matters or are people who are knowledgeable of public affairs inclined to use the mass media? Atkin, Galloway, and Nayman (1976) used cross-lagged correlation to determine the direction between political knowledge and media exposure. Even after partialling for education and social class, they found a modest relationship in the media-to-audience direction, with newspaper reading being somewhat stronger than television viewing.

Attitudes and Behavior

Most agenda-setting research has examined the media's impact on cognitions (what the audience thinks about) and has avoided examining attitudes and behaviors. McCombs and Shaw (1977b) have described agenda-setting as serving a beneficial societal function, that of achieving community consensus: "Both by deliberate winnowing and by inadvertant agenda-setting the mass media help society achieve consensus on which concerns and interests should be translated into public issues and opinions" (pp. 151-152). Lasswell (1984), one of the most influential pre-empirical theorists in mass communication research, referred to this phenomenon as the "correlation function" of the media. Popular writers who fail to find a nefarious conversion effect and instead find an agenda-setting effect continue to excoriate the media for their profligate abuse of their

"power." Theodore White (1973), in his popular book, The Making of the President 1972, described this "power" in a chilling tone:

> The power of the press in America is a primordial one. It sets the agenda for public discussion; and this sweeping political power is unrestrained by any law. It determines what people will talk about and think about--an authority that in other nations is reserved for tyrants, priests, parties and mandrins . . . . And when the press seizes a great issue on its own--the cause of the environment, the cause of civil rights, the liquidation of the war in Vietnam, and, as climax, the Watergate affair were all set on the agenda, in first instance, by press (p. 327).

At least part of this emphasis on cognitions can be explained by historical circumstances. Agenda-setting became popular in 1972 when McCombs and Shaw published their seminal article in Public Opinion Quarterly. At that time the hypodermic-needle model, which maintained that mass media messages could be injected like a needle into a passive body politic, was in disrepute. Survey and experimental research conducted after World War II found that people were able to attend to and learn information from sources antithical to their own while tenaciously clinging to their views (Hovland, Lumsdaine, & Sheffield, 1949; Lazarsfeld, Berelson, & Gaudet, 1944; Berelson, Lazarsfeld, & McPhee, 1954). As a result, the hypodermic-needle model was replaced with limited-effects model, which maintained that the primary function of the mass media was to reinforce existing views (Klapper, 1960).

Agenda-setting made its debut in research circles at a time when the limited-effects approach was in decline (McCombs, 1972a). The limited-effects model, it was argued, portrayed the audience as so selective and active as to come close to resembling the "fable of the omnificent audience" (McLeod & Becker, 1974, p. 137). Agenda-setting maintained that the media do have an effect; they are able to set the political agenda for what issues are worthy of discussion. The media are able to tell the public what to think about, but--as agenda-setting researchers emphasize--not what to think. Or do they? Even

some scholars such as Elihu Katz, David Weaver, and Elisabeth Noelle-Neumann have expressed skepticism about the absence of the role of attitudes and behaviors in agenda-setting research. As Katz (1980) has written, "As a latent consequence of telling us what to think about, the agenda-setting effect can sometimes influence what we think" (p. 128).

In general, agenda-setting research has not found that the media have no effect on attitudes and behaviors. Rather, as Weaver (1983) has written, the bulk of the research simply has not addressed agenda-setting's impact on attitudes and behaviors:

> Very few researchers studying agenda-setting effects have shown much interest in trying to link cognitive effects of mass media to attitudinal effects. Instead, the tendency has been to focus on specifying contingent conditions under which agenda-setting is more or less likely to occur. This is a worthwhile endeavor, because we need to understand better the agenda-setting process, but studying contingent conditions does little to link agenda-setting research with the broader field of mass communication and public opinion (p. 2).

There is a small amount of research which suggests that agenda-setting, at least in some indirect way, may affect attitudes and behaviors. That small body of research will be reviewed at the end of this section. Before that research is presented, however, this section will review the psychological and sociological processes by which agenda-setting may affect attitudes and behaviors.

There are at least two ways mass media agenda-setting may have an indirect impact on attitudes and behaviors: (a) mere salience may be related to attitudes and behaviors and (b) the media may be able to orient the audience toward certain positive or negative aspects of an issue at the expense of other aspects.

Salience

There is some research suggesting that there exists a relationship between salience and attitude holding. Some models of agenda-setting, such as the one by

Becker and McLeod (1976),specifically include attitudes as reciprocally related to cognitions (see Figure 6). Nevertheless, the role of attitudes has been skirted in agenda-setting research.

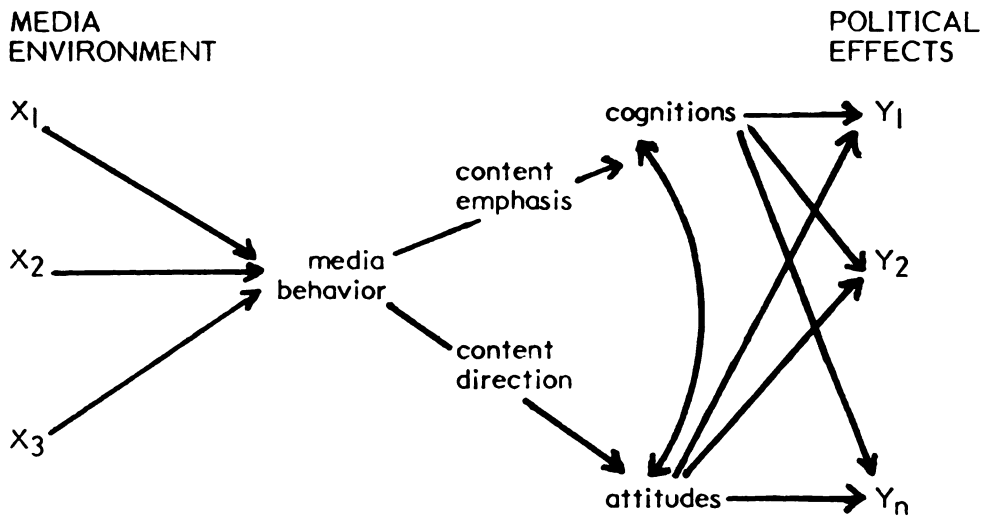

Figure 6: A model of antecedents of media behavior (Becker and McLeod, 1976, p. 10).

It is axiomatic that people can only hold attitudes about issues that they are aware of. But the salience notion holds that the greater the salience, the greater the attitude holding. Kaplin and Fishbein (1967) computed Spearman rank-order correlations between issue priorities and attitudinal intensity. They found a .90 correlation with the first six issues on the list, with the correlation steadily declining as the number of items on the list was extended. Similarly, Tesser (1978) argued that "merely thinking" about an object can lead to self-generated attitude change, and the attitude will be exaggerated in the direction in which it is already leaning. Anything that causes the individual to "think about" the attitudinal object will cause the individual to hold a stronger attitude about the object. In terms of agenda-setting, this suggests that the more

attention the mass media give to an issue, the more strongly the public will feel toward the issue.

The relationship discussed thus far, however, does not show that the media tell people what attitudes to hold toward issues; rather, they tell them how strongly to hold attitudes. Zajonc (1972), however, in his classic monograph "The Attitudinal Effects of Mere Exposure," showed that when subjects are repeatedly exposed to neutral stimuli, they gain favorable attitudes toward those stimuli. Over several laboratory experiments, Zajonc exposed subjects to several series of nonsense words, foreign words, and college yearbook photographs, unobtrusively inserting items from previous exposures into the latter exposures. It was found that subjects held more favorable attitudes toward items that they encountered before than those they were exposed to for the first time.

Atkin (1977) found a positive relationship between number of exposures to political commercials about a candidate and liking of that candidate among children. In real life, adults rarely hold neutral attitudes toward political stimuli. But there are some issues and candidates that people hold stronger views toward than others. And this points to one of the main problems with agenda-setting research. Most of the major research has been conducted within the context of high-definition political campaigns, such as presidential campaigns (McCombs & Shaw, 1972; Shaw & McCombs, 1977; Weaver, Graber, McCombs, & Eyal, 1981). These studies have frequently been cited as cases where the mass media are able to tell people what to think about, but not what to think.

This has led some researchers to speculate whether the media, through repeated exposure, may have an influence on attitudes or behaviors when interest and definition are low. Atkin (1981) conducted similar studies on the differential effects of university students' exposure to newspaper endorsements

during both high- and low-definition campaigns. He found that exposure to the college newspaper endorsement during a low-definition city council election was positively related to voting for the endorsed candidate. The same relationship did not hold for a high-definition presidential primary. He concluded:

> From a theoretical perspective, the study indicates that the mass media can play a key role in voting behavior when other inputs are less prominent. The media of mass communication need not always be relegated to a secondary status in determining such important social behaviors as the voting act (p. 6).

Research that has related exposure and salience to the fields of advertising and public relations has also found that the media may affect behavior (Sutherland & Galloway, 1981). In particular, Krugman's (1965) learning-without-involvement model maintains that product salience alone can lead to increased purchase behavior. Contrary to what is ordinarily found in agenda-setting research, advertising research that has correlated brand name awareness with product purchase has consistently found strong relationships (Axelrod, 1968; Gruber, 1969).

Orientation

The mass media not only present issues before the public, they present them in a certain context, such as favorable or unfavorable. This frequently is not so much the result of a decision making process by media gatekeepers, but, rather, because some issues are inherently favorable or unfavorable (e.g., balanced budgets, full employment, a clean environment, etc.). In order to present a fair picture of every issue, journalists have adopted the practice of presenting all sides of an issue. Nevertheless, there is always the possibility the favorable or unfavorable aspects of an issue may receive more prominent coverage than other aspects. Several content analyses of presidential campaigns

by Stempel have found that the prestige press present reasonably balanced coverage of the campaigns (Stempel, 1965, 1969; Stempel & Windhauser, 1984).

The fact that it is possible to orient cognitions toward some issues and away from others has not gone unnoticed by slick media professionals. As Sutherland and Galloway (1981) wrote, "Adroit committee chairmen maintain that if you control the agenda you control the meeting" (p. 25). Hitler (1939 (1925)) stands as an example of a politician who understood that if he repeated information over and over, he would get the item high on both the media and public agendas.

There is, in fact, a body of evidence accumlating in political communications suggesting that a political campaign is, at least as far as the candidates are concerned, a battle for issue salience. As Atkin and Heald (1976) wrote:

> If a candidate can elevate the importance of those qualities and issues on which he is positively perceived by most voters, the campaign may favorably influence voters without actually persuading them to change issue positions. The crucial goal may be to focus voter attention on which factors to think about rather than to convince them about what to think (p. 218, emphasis added).

Elizur and Katz (1979), in their agenda-setting study of the 1977 election for prime minister in Israel, argued that the Likud party led by Menacham Begin was able to defeat the Labor Party led by Shimon Peres because it was able to focus the election on Israel's economic problems. By contrast, Labor was unable to shift the focus to its forte, foreign relations.

In addition to orienting the agenda toward those issues that make the source popular, an adroit relations person can also orient the agenda toward negative issues that make the opposing candidate unpopular. Becker and McLeod (1976) speculated that if the McGovern camp in 1972 had been successful in

creating honesty in government as a serious campaign issue, then McGovern's chances would have been greatly improved.

Asp (1983) examined whether the media agenda or political parties' agenda had a greater effect on audience issue salience during the 1979 Swedish election campaign. He found that the news media were more powerful in setting the audience's agenda, even in a nation where party loyalty is far greater and political volitility is far lower than in the United States or most West European nations. He suggested that despite the efforts of the parties to emphasize their particular issues and de-emphasize the issues of the opposing parties, the media tend to select issues independent of party emphasis.

Because possible media manipulation may orient peoples' cognitions toward some issues and away from others, researchers have asked, "Who controls the media agenda?" Depending upon the design of the study and the population examined, researchers have come up with different answers. Researchers have discovered that news and editorial content is influenced by publishers (Breed, 1955), the wire services (Schramm & Atwood, 1981; Whitney & Becker, 1982), economic influences (McCombs, 1972b), professional norms and journalistic socialization (McLeod & Hawley, 1964), the elite press (Breen, 1968; Talese, 1969; Crouse, 1972), public relations organizations (Atwood, 1980), political bodies (Kingdon, 1976; Walker, 1977), and editors (White, 1950), among others. It is probably unwise to conceive of any one group controlling the media in most situations. Probably all these forces converge as news is filtered during transmission to create the media agenda.

Nevertheless, agenda-setting researchers have shown that in some situations the source of the news may be very powerful in setting the media--and hence audience--agenda. As Gans (1979) has observed:

> The relationship between sources and journalists resembles a dance, for sources to seek access to journalists and journalists to seek access to sources. Although it takes two to tango, either sources or journalists can lead, but more often than not, sources do the leading. (p. 116)

The relationship between the source and the journalist in setting the agenda was empirically demonstrated by Weaver and Elliot (1984). They compared the issue priorities of the Bloomington, Indiana, City Council (by measuring the issues emphasized in the official minutes of the meetings) with a subsequent measure of the city's daily newspaper, The Herald-Telephone. They found a strong correlation for most of the 19 issues examined, but nearly one-third of the issues emphasized in the newspaper differed substantially from the Council. The differences were most distinct with recreational and social issues. When he was delivering his paper, Weaver said that he did a follow-up interview with the journalist. The interview suggested that the media agenda consisted of an interaction between the media and the source. The journalist did not like the term "agenda-setting" because he felt it reflected a passive activity. The journalist felt he was a gatekeeper, actively deciding which issues should be played up, played down, or not reported at all. Weaver's creative approach of examining issues that do not neatly transfer from the media agenda to the audience agenda and explanation why is innovative. It is an approach that should be followed up with further research.

Even though most agenda-setting research has focused on cognitions, at least a few studies have shown that the mass media may have at least an indirect effect on attitudes and behaviors. The most recent such study used a before-after quasi-experimental design. Cook, Tyler, Goetz, Gordon, Protess, Leff, and Molotch (1983) investigated the relationship between a televised investigative news report on fraud in federally funded health care and possible actions by decision makers. They found that the decision makers exposed to the expose said

they were more likely to advocate policy action to correct the problem than those who were not exposed.

Two other studies, both dealing with the salience of airplane crashes, also examined media salience in relation to attitudes and behavior. Bloj (1975) examined the impact of news coverage of air crashes on the subsequent behavior of air travelers. He found that audience salience of crashes was negatively correlated with purchasing tickets and positively correlated with purchasing flight insurance. Phillips (1980), observing that noncommercial plane crashes increased after publicized murder-suicide stories, suggested that salience of these stories made pilots with suicidal tendencies crash their planes. He noticed that there was an increased level of crashes for nine days after the coverage, and then the level of crashes returned to normal. Phillips' research has been severely criticized on methodological grounds (Altheide, 1981).

One of the most recent and perhaps best agenda-setting studies to show a linkage between salience and attitudes was conducted in the laboratory by Iyengar, Peters, and Kinder (1981). They suggested that the media may be able to alter attitudes by linking or "priming" evaluative stimuli with other stimuli. They found that when participants in one of their experiments were asked to evaluate President Carter's performance after they were subjected to a week of televised broadcasts emphasizing America's alleged weakness in military defense, Carter's evaluation dropped significantly.

Summary

This critical review has shown that despite the apparent wealth of research pertaining to agenda-setting, numerous problems still exist. This review served to highlight those problems. Some of these problems involved design; others involved conceptual distinctions.

An area of agenda-setting that needs further investigation involves differential audience and issue traits. A considerable body of research is accumulating that suggests direct experience and involvement with an issue may mediate the agenda-setting effect. On the other hand, audience dependence on the media for knowledge about the issue may enhance the effect. An audience trait that has received only cursory research in agenda-setting involves the role of interpersonal communication.

One of the most interesting problems to emerge from this review involves the duration of the effect. Many researchers believe that agenda-setting involves "agenda-building," where coverage of an issue must accumulate and go through a filtering process over time before it has an effect on the audience's issue priorities. But just how long it takes for the media to have such an impact has yet to be determined. Obviously, the duration will differ depending upon audience and issue traits.

This review also addressed the problems of "issue importance" (both from the media's perspective and the audience's perspective) and the distinction between issues and events. These were included not so much because they pose design problems to agenda-setting researchers but rather to make researchers conceptually aware of these variables which are frequently taken for granted.

Another aspect of agenda-setting that needs more exploration involves the role of the mass media in attitudes and behaviors. While this does not mean that the hypodermic-needle model should be resurrected, it does mean some indirect media effects on attitudes and behaviors may exist.

CHAPTER III

THE PRESENT STUDY

Among other things, this study explicated the temporal process in agenda-setting. The initial focus, before specific hypotheses were tested, sought to determine how long it takes the mass media to make a set of issues salient among the public. This involved locating the "maximal effect span," or the period of best association between the media agenda and audience agenda. After the maximal effect span was determined, the study proceeded to examine how type of audience salience, audience dependency on mass media for information, and regularity of newspaper reading enhanced or mediated agenda-setting.

The Maximal Effect Span

The search for the maximal effect span implies that media coverage must accumulate over time to impact the audience. Such a perspective assumes that learning of issues in the mass media gradually increases over time and eventually peaks or levels, marking the maximal effect span. Research supports the notion that the passage of time is required for the mass media to have an agenda-setting effect on the audience, but the period has ranged from two weeks to six months. Some recent research studies have relied on this varied body of time-related agenda-setting research to justify the duration of the content analysis selected in those studies. Rather than make any assumptions about the maximal effect span, the present study used an a priori method to determine the duration.

A discussion of the temporal process in agenda-setting necessarily involves a discussion of the issue or issues being examined. Much of the research on

time-related agenda-setting has focused on an array of issues in the news and has examined how long it took the mass media to make those issues salient among the audience. As this review has noted, different issues have different lifespans and traits. According to Zucker's (1978) theory of issue obtrusiveness, for instance, some nonobtrusive issues may be transferred from the media agenda to the audience agenda quite rapidly. Obtrusive issues, which audience members may directly experience, may not be adopted as salient by the audience. Other factors--such as level of issue conflict, extent to which audience members talk about the issue, extent to which audience members actively seek information about the issue, and level of involvement with the issue--may mediate or enhance agenda-setting over time.

Some researchers attempted to remove the effects of possible mediating variables by examining how long it took the media to make a single issue salient among the audience. In this way researchers were better able to observe changes over time (Winter, Eyal, & Rogers, 1982). The prototypical design consisted of secondary analysis of public opinion polls measuring the percentage of respondents who regarded a certain issue as the "most important problem facing the nation" and correlating that measure with media coverage concerning the issue at various time points before the audience agenda (McCombs, Becker, & Weaver, 1975; Winter & Eyal, 1981; Stone & McCombs, 1981; Winter, Eyal, & Rogers, 1982).

This form of measurement raises problems. Even though such a design is ostensibly looking at a single issue, it is conceivable that changes in audience salience toward other issues may have a mediating effect. Thus, if a researcher is conducting an agenda-setting study on the issue of the environment, and during the course of the study the mass media devote massive coverage to a foreign war, audience salience toward the environment will decrease (i.e., the

percentage will decrease) even though the media may devote just as much coverage to the environment and the audience may regard the issue as salient as before in absolute terms.

The present study used a sub-issue agenda-setting design, where component parts of a single issue were examined over time. Benton and Frazier (1976) and Atwater, Salwen, and Anderson (1984, forthcoming) developed this line of research. If a researcher divides the issue of, say, the environment into the sub-issues of toxic waste dumping, water pollution, and air pollution, audience salience of these sub-issues should fluctuate with media coverage regardless of coverage of a foreign war or any other issue that may intervene during the course of the study. In this case then, issues before the audience would be limited to environmental matters rather than issues facing the nation. The salience of sub-issues would be measured relative to other sub-issues.

It might be argued that the use of sub-issues is only a methodological artifact. Perhaps audience members cannot discriminate between broad, gestalt-level issues and specific aspects or components of an issue? Blood (1981) has argued that individuals are unable to distinguish among issues as easily as researchers do. On the other hand, there is some evidence suggesting that audience members can distinguish between broad issue labels and component parts of issues (Benton & Frazier, 1976; Gormley, 1975). One of the many purposes of this study was to determine whether agenda-setting functions at the sub-issue level.

The literature on time-related agenda-setting research gives no indication of how long it takes the media to make a set of issues salient among the audience. Therefore, no specific hypothesis can be put forward, only a general research question asking what is the maximal duration. However, the literature on what some scholars have referred to as "agenda-building" (Cobb & Elder, 1972,

1976; Cobb, Ross, & Ross, 1976; Lang & Lang, 1981) gives some indication of the rise and subsequent fall of issues over time. Agenda-building assumes that media coverage of an issue must accumulate and undergo transformations over time for audience members to regard the issue as salient. Thus, both time and coverage contribute to audience salience. Most of the research in agenda-setting has focused only on measuring media coverage as the crucial independent variable predicting audience salience.

As media coverage of an issue accumulates over time, audience members respond to the issue by regarding it as salient. Such an approach assumes that media coverage of the issue must be reiterated to enhance the cognitive impact. Even after the coverage subsides, audience members continue to regard the issue as salient until some duration passes with little or no coverage about the issue (Funkhouser, 1973a, 1973b; Graber, 1984). Thus, agenda-building involves learning and forgetting over time. The present study drew several samples from the same population at different time periods to observe whether audience salience rises and falls with media coverage over time. This multi-wave sampling design ensured that the observed maximal effect span, if it occurs several times, is not likely to be a fluke finding.

The literature has shown that different issues affect the audience differently. Audience level of direct experience with issues in the news has been dealt with to a considerable extent in this review. Although direct experience with issues in the news varies from individual to individual, there are some issues, such as pollution, where it is likely that most audience members will have little direct experience with the issues. With other issues, such as the economy, most audience members may perceive that the issues directly affect them. To find evidence for a media agenda-setting effect over time, this study selected an issue with which most audience members were likely to have little direct

experience. Direct experience and interpersonal communication and other factors that are often referred to as "contingent conditions" in agenda-setting are all related to media dependency. When people have access to direct experience or interpersonal communication about an issue, they are not as likely to be dependent upon mass media for their knowledge about the issue. This study examined individual levels of direct experience via a dependency measure (i.e., audience members who are highly dependent upon the mass media for most of their information about an issue are likely to have little direct experience with the issue).

Media Dependency

Conceptually, media dependency can be viewed as an individual or group's dependence on mass media for information about the social environment. Media dependency should not be viewed as a dichotomous but rather a continuous variable. Complete dependency, in the theoretical realm, occurs when an individual or group has no access to direct experience or interpersonal communication about some or all aspects of the social environment and is solely dependent on mass media. Media nondependence, in the theoretical realm, occurs when an individual or group learns about some or all aspects of the social environment through direct experience and interpersonal communication.

DeFleur and Ball-Rokeach (1982) developed the media dependency model as an outgrowth of the philosophical writings of Tonnies (1957 (1887)), Durkheim (1964 (1893)), and others. Both Tonnies and Durkheim observed that individuals' relationships to society change as society changes. Tonnies, writing when the industrial revolution was burgeoning in his native Germany, distinguished between gemeinschaft and gesellschaft. Members of hamlets and small villages displayed a gemeinschaft-type mentality. They depended on close interpersonal

ties, trust, and tradition. By contrast, the division of labor that resulted in an industrialized society created a gesellschaft mentality. In a society marked by gesellschaft, trust and interpersonal ties disintegrated. Contracts, rather than trust, were required for jobs, housing, and other essential matters. Many modern societies display both gemeinschaft and gesellschaft characteristics (Ryan, 1952). Durkheim also noted how the division of labor affects individuals' relationships to their society. He hypothesized that as society becomes more complex, and as members of society become more preoccupied with their specialized pursuits, they lose the ability to identify and communicate with each other. When individuals in society become disattached from other members in society, they may develop existential feelings of dread that Durkheim referred to as anomie. DeFleur and Ball-Rokeach suggested, without specifically saying, that in some situations the media may function to vicariously make individuals feel close to society and thus reduce such social pathologies as anomie.

DeFleur and Ball-Rokeach (1982) and Ball-Rokeach and DeFleur (1976) expanded on the writings of Tonnies and Durkheim. They included the variable of the mass media in the audience-society relationship and conceptualized an audience-society-mass media tripartite relationship. They took a broad, general systems' theory approach and argued that as society becomes more complex and channels of interpersonal communication break down and direct experience with the social environment decreases, people in society become more dependent on mass media for their cognitions about their environment. They defined "dependency" as "a relationship in which the satisfaction of needs or the attainment of goals by one party is contingent upon the resources of another party" (Ball-Rokeach & DeFleur, 1976, p. 6). They further argued that the present lack of knowledge concerning media effects exists because researchers have failed to include media dependency as a variable in their research. Ball-

Rokeach and DeFleur specifically cited the ambiguous findings in agenda-setting research and asked why the effect seems to function in some situations and not others. They rhetorically answered their question by citing their dependency theory:

> First, why is there a considerable similarity in agenda of concern regarding certain types of topics among members of the mass media audience? Second, in spite of such instances of similarity, why do members of the public who attend to the media show numerous differences in their personal agenda of concern regarding media-presented topics?
>
> This seeming dilemma between tendencies toward both uniformity and differences in personal agenda can be resolved quite simply. To be certain, individuals will set their personal agenda in relation to their unique backgrounds of prior socialization, experience, and personal structure. However, the society produces broad strata of people with sufficient uniformity of social circumstances that they share many problems and concerns in greater or lesser degree in spite of individual differences. (pp. 11-12).

DeFleur and Ball-Rokeach (1982) put forth two propositions concerning the relationship between society and the audience and the media and the audience to explain audience dependency on media and hence media effects: (a) the greater the degree of structural stability in society the less the audience members' dependence on mass media and (b) the greater the number and centrality of specific information-delivery services provided by the media, the greater the audience members' dependence on mass media.

They further argued that under certain conditions society and the media respond to audience effects. This may explain why under certain conditions media gatekeepers keep their fingers in the wind to try to gauge audience members' interests and the "give them what they want." By contrast, during other conditions, media gatekeepers feel obligated to inform the audience about what they need to know (Stevens & Garcia, 1980). The tripartite, reciprocal relationship among the three systems is presented in Figure 7.

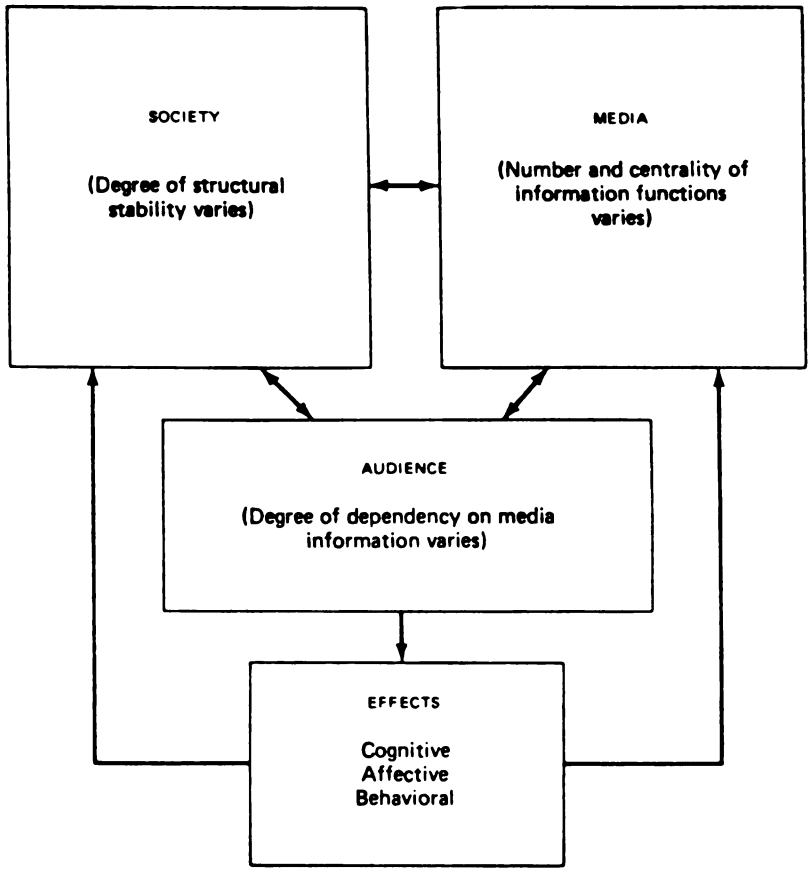

Figure 7. The tripartite, reciprocal relationships among society, the media, and the audience (DeFleur & Ball-Rokeach, 1982, p. 243).

Recently, researchers have argued that the agenda-setting approach can be merged with other approaches in mass communications (McCombs & Weaver, forthcoming). The present study merged DeFleur and Ball-Rokeach's dependency theory with agenda-setting. Based on dependency theory, it was argued that (a) dependence on mass media will lead to a stronger relationship between intrapersonal salience and perceived-media salience than intrapersonal salience and perceived-community salience. This should be the case because media dependency should create a situation where the mass media are able to structure audience cognitions. It was further argued that (b) nondependence on mass media will lead to a stronger relationship between intrapersonal salience and perceived-community salience than intrapersonal salience and perceived-media salience.

Media-dependency, as a variable, poses considerable measurement problems. Past media-dependency studies relied on respondents' own evaluations of their level of dependency on mass media or some medium (Miller & Reese, 1982; O'Keefe, 1980; Miyo, 1983; Robinson, 1976, 1977). These researchers generally found that respondents who rely on broadcast media for most of their information about political affairs are less knowledgeable than those who rely on print media. Robinson, who sought to test an all-embracing media effect that he called "videomalaise," didn't limit his dependency measure (he called it "reliance") to political affairs. He argued that reliance on broadcast media over print media led to cynicism and feelings of political inefficacy. Some researchers sought to obtain more refined measures of media dependency by measuring the interaction of several variables (Becker & Whitney, 1980).

In trying to determine whether a respondent is dependent upon the mass media for news, the respondent may be asked to evaluate his or her own level of media dependence or may be asked about some behavior to infer actual media dependence. No study found in the literature review sought to measure dependence by observing behaviors. The distinction is important because frequently self-evaluation responses are not as valid or reliable as behaviors. Research on obtrusiveness in agenda-setting illustrates this problem. Issues have been regarded as obtrusive because it was assumed by the researcher that audience members have direct experience with the issues (Zucker, 1978). Other researchers, however, directly asked respondents whether they had experience with the issues (Blood, 1982; Einsiedel, Salomone, & Schneider, 1984). Yet other researchers have examined respondents' social environments to determine whether they had experience with the issues (Erbring, Goldenberg, & Miller, 1980). The present study measured media-dependency two ways: (a) as a top-of-the-mind response to a question asking respondents where they obtained most of

their news (dependency) and (b) by examining respondents who read the major newspaper in the Lansing, Michigan, area regularly (regularity).

This latter measure of media dependency is integrally related to media exposure. It is a measure of dependence to the extent that readers of the Lansing newspaper depend on that particular paper for their news. Even if they are exposed to other media, as undoubtedly many of them are, perhaps as much as or more than the nonregular readers, they still have more input from the Lansing newspaper structuring their cognitions of issues in the news than nonregular readers. If readers of the Lansing newspaper are dependent on that paper for their cognitions, then their issue priorities should correlate higher with the issue agenda of the Lansing newspaper than the combined agenda of all the newspapers.

Audience Salience

The audience agenda consists of those issues the audience regard as salient. Researchers have conceptualized the audience agenda in numerous ways (T. Smith, 1980). The most common measure has been the intrapersonal agenda, which consists of measuring how personally important audience members say they regard issues in the news to be. This seems logical within the agenda-setting context because the hypothesis states that the media impact on audience members' cognitions concerning what to think about.

McCombs and Shaw, who formulated the hypothesis along Lippmann's (1922) concern with the effects of the mass media upon the audience's views of reality, are largely responsible for the initial interest in audience members' intrapersonal salience. McLeod, Becker, and Byrnes (1974), however, related agenda-setting to the writings of sociologist Robert Ezra Park (1923, 1925, 1940). Park was concerned about the effects of media presentation upon topics of

conversation in the community. As a result, these researchers conceptualized audience salience both in terms of what audience members talk about with others and what others talk about with them. This led to a conceptualization of the interpersonal and perceived-community agenda. German researcher Noelle-Neumann (1973, 1974, 1984) has also discussed the need of researchers to investigate audience members' perceptions of others in their communities. The conceptualization of these audience agenda took agenda-setting on a different path. The measures no longer focused exclusively on audience members' cognitions, but rather the perceived cognitions of others.

Although McLeod et al. and McCombs and Shaw did much to conceptualize the different levels of audience salience, DeGeorge (1981) argued that the different types of audience salience measures were not being theoretically applied to explain the results. The present study attempted to theoretically link intrapersonal and perceived-community salience to different levels of audience dependence. In addition, a third type of audience salience developed by Atwater, Salwen, and Anderson (1984, forthcoming) was used, perceived-media salience. Atwater et al. suggested that audience members may be consciously aware of media issue salience if directly asked what issues the media regard as important. It does not necessarily follow, however, that conscious awareness of media issue salience should lead in all situations to intrapersonal salience. They suggested that the audience is most likely to be aware of media issue emphasis when audience members have little direct experience with the issue or issues in the news. Thus, it seems likely that audience members who depend upon the mass media for information about a particular issue that they have little direct experience with will be likely to have intrapersonal agenda and perceived-media agenda concerning that issue that are more similar than nondependent respondents and their perceived-media agenda. This will be the case because,

according to the agenda-setting hypothesis, the media will have a strong and direct impact upon their cognitions. By contrast, audience members who receive information about the issue from non-media sources (primarily other people) will be likely to have intrapersonal agenda and perceived-community agenda that are more similar than media-dependent respondents and their perceived-community agenda.

Media dependency, of course, should be viewed as an ever-changing process. The present study accounted for this process by obtaining repeated measures over time. Nevertheless, it could not include in the process the large number of other variables that may interact with media dependency, such as audience members' values and demographic and psychographic factors. Future research will have to elaborate the effects of these and other variables on media dependency. The present study also ignored the possible synergistic interaction among the three systems variables. Nevertheless, as a first-step empirical application of the relationship between agenda-setting and media dependency, the present study makes a significant contribution.

The distinction among audience salience levels is important because public opinion researchers have recently begun to consider audience members' perceptions of others' opinions as important (Lemert, 1981; Glynn, 1984). This approach, led mainly by Noelle-Neumann (1973, 1974, 1977, 1984), maintains that people try to be aware of the "climate of opinion" and publicly express views that they believe are in the mainstream. This, Noelle-Neumann argued, creates a spiralling effect--a spiral of silence, where most of the opinions expressed publicly by individuals are socially acceptable opinions:

> Individuals form a picture of the distribution of opinion in their social environment and the trend of opinion. They observe which views are gaining strength and which are declining. This is a prerequisite for the existence or development of public opinion as the interaction of individual views and the supposed view of the environment. The

> intensity of observations of the environment varies not only according to the degree of interest in a particular question, but also according to how far the individual expects to have to expose himself publicly on a particular subject. (1974, p. 44)

The Issue

The environment was selected for study. Environmental issues were defined as "news items relating to humanity's unintentional disruption of the ecological system" (Atwater, Salwen, & Anderson, 1984, p. 4). Thus, stories concerning the use of chemical weapons by Iraq against Iran in the Iraq-Iran War, which received considerable media coverage during the course of the present study, were not considered environmental stories because the consequences of the disruption are intentional. By contrast, stories concerning utility corporations' emissions of sulphur dioxide and nitrogen oxides that are converted in the atmosphere to potent acids ("acid rain") were considered environmental stories because the intended purpose is to generate energy, not intentionally cause health problems or defoliate forests.

Stories that indirectly or incidentally involve environmental matters but emphasize some other subject were not included. Examples of such stories include bureaucratic procedures in environmental agencies, such as the hiring and firing of personnel. Also not included were stories concerning the lifestyle and controversial statements made by people associated with environmental issues, such as when former Secretary of the Interior James Watt slurred blacks, handicapped people, women, and Jews in a single sentence. These stories, however, were used when the lifestyle stories and statements concerned environmental matters.

The environment was selected because it was assumed that most audience members rely on the mass media for most of their information about the environment. Even though the environment is ubiquitous--it is in the air we

breathe and the water we drink--it is not usually directly observable. Relating agenda-setting to the study of the environment is important because environmental researchers implicitly assume that greater environmental awareness and knowledge are necessary conditions for intelligent environmental policy making (Grunig, 1983).

Downs (1972) used the issue of the environment to describe the audience's "issue-attention cycle." He maintained that public awareness of political issues went "up and down" as a result of a number of factors, including media coverage.

> Public perception of most "crises" in American domestic life does not so much reflect changes in real conditions as it reflects the operation of a systematic cycle of heightening public interest and then increasing boredom with major issues. This "issue-attention cycle" is rooted both in the nature of certain domestic problems and the way the major communications media interact with the public (p. 39).

Downs' description of the environment bears close semblance to Zucker's (1978) original conceptualization of a nonobtrusive issue. If this is the case, then it seems likely that audience salience of environmental issues should fluctuate with media coverage. When Zucker initially distinguished between obtrusive and nonobtrusive issues, he presented the issue of pollution as an example of a nonobtrusive issue:

> The less direct experience the people have with a given issue area, the more they will rely on the news media for information and interpretation in that area. The public does not need the mass media to see or be upset with rising prices or a line at the gas pump. When they exist, these conditions are obtrusive in the daily life of the public. However, there are other sorts of conditions which can be just as serious, without being obtrusive. Pollution can be one of these conditions. In these cases, direct experience is not a clear guide, and the public derives many of its ideas about the importance and implications of these types of issues from the news media (p. 227).

No one can pinpoint exactly when the issue of the environment became a major media and public concern in the United States. Awareness of the issue can be at least partially attributed to a general heightened awareness of social problems during the 1960s and 1970s. Rachel Carson's popular Silent Spring

(1962), describing how DDT and other pesticides have been introduced into the ecological cycle with devastating effects, contributed to the awareness of the environment. Schoenfeld, Meier, and Griffin (1979) offered some evidence that little was written in the media about environmentalism prior to 1959. Sociologists Dunlap and Gale (1972) cited Earth Day (April 22, 1970) as critical in the ability to "overnight elevate environmental quality into the public ken as a social problem" (p. 379). Nevertheless, journalists and others wrote about the nation's environmental problems long before the 1960s without a subsequent increase in public salience. Most notable among these efforts was Upton Sinclair's The Jungle (1905), which depicted rancid environmental conditions in inner-city Chicago. While his book led to reform in the meat packing industry, the environmental problems he described were largely overlooked by social reformers. Perhaps this was because people could easily identify with matters that they believed affected their pocketbooks and stomachs. They could not foresee how environmental matters could affect them financially or bodily.

Even though the issue of the environment has remained a major media and audience concern since the 1960s, specific environmental concerns have changed over the years. The media, it has been argued, have played a major role in making specific environmental concerns salient. Just how powerful the mass media have been in making specific environmental concerns salient among audience members was suggested by similar content analyses concerning the issue by Ruben and Sachs (1973), Bowman and Hanaford (1977), and Atwater, Salwen, & Anderson (1984). Ruben and Sachs found the "population explosion" to be a widely covered issue in the San Francisco press. Pervasive coverage of the matter in the media and the publication of Paul Ehrlich's The Population Bomb (1968) contributed to making the issue a major media concern. Bowman and Hanaford (1977) also found population problems to be a major environmental

concern. They found 18 population explosion stories among 139 environmental stories reported in popular magazines sampled from 1971 to 1975. By contrast, Atwater et al. did not find even one population explosion story during the course of their two-month media analysis of the Lansing, Michigan, area daily press. They found, however, that disposal of wastes was a major media concern. Neither Ruben and Sachs nor Bowman and Hanaford included such a category. These studies suggest that although the environment has remained a major social issue since at least the late 1960s, specific environmental concerns have changed over the years. A perusal of the literature suggests that while oil spills, DDT, the whooping crane, and population problems were major concerns of the 1960s and 1970s, disposal of wastes, saving the panda, EDB, and acid rain have become the major media concerns of the 1980s.

The Ruben and Sachs and Bowman and Hanaford studies did not include an audience survey, so generalizations about media impact on the audience would be speculative. The Atwater et al. study did show a moderate to strong relationship between media emphasis of environmental matters and subsequent audience concerns, but their single-wave study made inferences about causality speculative. Neither study addressed the time issue.

Van Liere and Dunlap (1980) gave further support to the nonobtrusive nature of the environmental issue. They summarized 50 environmental studies and suggested that standard demographic information such as age, income, and education were better predictors of environmental concern than direct experience with the issue. They found that people most concerned with the issue of the environment were likely to be young, well educated, and politically liberal.

Hershey and Hill (1977-78) showed that urban blacks, who are more likely to be directly affected by pollution than middle-class whites, were far less

concerned about pollution than whites. The finding led the researchers to ask whether pollution was a "white thing." Not only was pollution not deemed to be a serious problem among black respondents, but blacks saw the issue as irrelevant and viewed environmental activists with hostility.

Taken together, the research by Van Liere and Dunlap and Hershey and Hill seem to suggest that people have little direct experience with the issue of the environment, even if they regard the issue as important. Murch (1971) gave further explication to "environmental concern" when he found that people who viewed the issue as important saw it as a serious matter facing other people's lives rather than their own. He asked Durham, North Carolina, residents how serious a problem the environment is both in the nation and in Durham. He found that 74% of the respondents found the issue to be a serious problem facing the nation. However, only 13% of the respondents regarded it as a serious matter in Durham, even though the data showed that Durham was just as afflicted with environmental problems as the rest of the nation.

The research shows that most respondents find it socially desirable to regard the issue of the environment as a serious concern. But regarding the issue as serious and saying it affects one's life are different matters. Atwater, Salwen, and Anderson (1984) argued that respondents would find it socially desirable to say that the issue of the environment affects one's life, so measures of direct experience may be misleading. They measured direct experience via a media dependency measure, arguing that the more dependent respondents are on the media for their knowledge about environmental matters, the less direct experience they have with the issue. Donohue, Olien, and Tichenor (1974) reviewed public opinion polls concerning environmental concern and also suggested that the environment is what Campbell, Converse, Miller, and Stokes

(1970) referred to as a "valence" issue (i.e., the type of issue that respondents would find it socially desirable to say is serious and affects their lives):

> Environmental quality may be regarded as a universal concern, appealing to all shades of political and economic opinion. A cursory examination of recent public opinion poll data on the subject suggests that environment is regarded as a God, mother and country issue by most Americans (p. 29).

In summary, the research reveals that most audience members have little direct experience with the environment. The media provide most audience members with their knowledge and, according to the agenda-setting hypothesis, salience about the issue. Ironically, the research suggests that the issue is of most concern to those least affected by environmental problems. Finally, the research suggests that people view environmental problems as something that affects other people.

The Research Question and Hypotheses

The present study sought to understand the agenda-setting relationship between the media and the audience concerning the component parts of the issue of the environment over time, with a particular interest on the interaction of audience dependency, regularity of newspaper reading, and type of issue salience. Therefore, the following research question and four hypotheses were tested:

RQ: What is the maximal duration for the media to make a set of environmental sub-issues salient among the audience?

H_1: Audience salience of environmental sub-issues will increase, peak, or level, and then decrease as the audience agenda is drawn back in time from the media agenda.

H_2: Audience members who depend upon the mass media for most of their information about the environment will show a stronger intrapersonal sub-issue agenda-setting effect than audience members who do not depend upon the mass media for most of their information about the environment.

H_3 Regular readers of the local newspaper will have a stronger intrapersonal sub-issue agenda-setting effect with the agenda of the local newspaper than with the agenda of the entire media.

H_4: Audience members who depend upon the mass media for most of their information about the environment will have intrapersonal agenda that correlate stronger with their perceived-media agenda than with their perceived-community agenda.

H_5: Audience members who depend on nonmedia sources for most of their information about the environment will have intrapersonal agenda that correlate stronger with their perceived-community agenda than with their perceived-media agenda.

Method

The Media Agenda

The media agenda consisted of a content analysis of the three largest circulation local and regional daily newspapers serving the Lansing, Michigan, area--the Lansing State Journal, the Detroit Free Press, and The Detroit News.[1] The papers were examined over a 239-day period, from October 5, 1983, to May 30, 1984. Print rather than broadcast media were selected because previous research has shown that newspapers have a stronger agenda-setting effect than television (McCombs, 1977b; McClure & Patterson, 1976).

Since media salience of news topics is often exhibited through prominence of story treatment and display, only the front sections of the newspapers were analyzed. All nonadvertising content was analyzed, including letters to the editor, cartoons, obituaries, editorials, news stories, etc. Each story was weighted for column inches, based on two-inch wide columns and the page on which the story initially appeared, using the following formula:

$$\frac{N_p - (P - 1)}{N_p} \times CI$$

Where: N_p = number of pages in the front section

P = page of first appearance of the story (up to page four)

CI = column inches

The weighting formula included all parts of the story, including headlines and graphics. All portions of each story were measured, even if the story jumped beyond the front section. When a story jumped, the entire story was weighted based on the page on which it first appeared. This was done because whether a story jumped or not, it was assumed that where it first appeared in the newspaper is crucial in determining audience salience. All weights were rounded to the nearest whole number and no story received a weight of less than one. Stories that appeared within the first three pages of the front section received greater weight than other stories in the section. Intuitively, this makes sense because most audience members are likely to regard a front-page story as more important than a second- or third-page story. Stories that appeared on page four to the end of the section received the same weight on the assumption that audience members perceive little difference in media salience after page three. The weighting formula also makes sense because it gave greater weight to stories that received extended treatment than those that received minimal treatment. Thus, according to the weighting formula, a 20-inch story on page one of a 10-page section received a weight of 20; a similar story on page two received a weight of 18; a similar story on page three received a weight of 16; and a similar story elsewhere in the front section of the paper received a weight of 14.

The unit of analysis was the individual story. Each story was coded into one environmental sub-issue category. Three coders examined each story to check for intercoder reliability. The story was coded the way two or all three coders agreed. When there was no agreement among the coders, the story was not analyzed. Coders were given the opportunity to refuse to categorize a story if they believed it did not fall into any of the categories, in which case the decision was coded as a disagreement.

Seven environmental sub-issues were examined: (a) hazardous substances, (b) disposal of wastes, (c) quality of water, (d) quality of land, (e) quality of air, (f) wildlife conservation, and (g) noise pollution. The first six sub-issues were selected because they were found to be the most salient sub-issues reported in the Lansing area newspapers examined in this study from October 5, 1983, to December 5, 1983, during a pretest. The sub-issue of noise pollution was included to see whether audience members attached little salience to a sub-issue that received little media coverage.

The sub-issues were defined in the following way:

Hazardous substances: stories that emphasize substances that are known to be or may be dangerous. Also included in this category is the danger of cancer or other health problems from substances in the environment. Examples include stories concerning pesticide use, dioxin, agent orange, radon, PCB (polychlorinated biphenyls), EDB (ethylene dibromide), TCE (trichloroothylene), etc.

Disposal of wastes: stories that emphasize the storage, siting, placement, or "dumping" of toxic or waste products. Examples include landfill-related stories, "midnight dumping," dangers of waste sites, controversies surrounding where to place spent nuclear wastes, etc. Interviewers were permitted to explain the "dumping" aspect of this category to help respondents distinguish between hazardous substances and disposal of wastes.

Quality of water: stories that emphasize the pollution of bodies of water and water for human consumption. Examples include the discharge of wastes in bodies of water, oil spills into bodies of water, groundwater contamination, tainted tapwater, etc.

Quality of land: stories that emphasize the use or condition of land or soil. Examples include the development of land, preserving land for aesthetic or recreational use, dangers to soil, threats to forests and other stretches of land, etc.

Quality of air: stories that emphasize the pollution of the atmosphere. Examples include the emission of sulphur dioxide (acid rain), air pollution destroying famous monuments, smokestack emissions, auto emissions, etc.

Wildlife conservation: stories that emphasize the endangerment of animals other than humans. Included in this category are threats to baby harp seals, the bald eagle, whales, the whooping crane, storks, the killing of animals for their fur or horns, attempts to save wildlife in general, etc.

Noise pollution: stories that emphasize noise as a disruptive factor in the environment. Examples include noise levels of traffic and other activity, sounds of supersonic jets, etc.

The categories were not mutually exclusive. A coding pretest revealed several examples of coding overlap. For instance, some acid rain stories dealt with air pollution, threats to land, and threats to wildlife. Similarly, some disposal of waste stories dealt with hazardous substances. Some quality of water stories also dealt with hazardous substances. Cases of category overlap frequently occur in content analysis. Consistent and clear instructions to coders and a check for intercoder reliability are methods to ensure that the coding is systematic and reliable (Krippendorf, 1980; Holsti, 1969). Coders were instructed to categorize each story by the sub-issue that appeared to be emphasized "up high," as would be in accordance with the journalistic tradition of mentioning the most important aspects of a story in the beginning.

The Audience Agenda

The audience agenda consisted of a three-wave survey of audience members randomly selected from the most recent Lansing area telephone directory. The last digit of each number selected was increased by one to permit audience members with unlisted numbers to be included in the study. The first

wave of respondents was contacted during the evenings of December 5-7, 1983. The second wave was contacted April 11-12, 1984. The third wave was contacted May 30-31. Three waves were obtained to have a measure of reliability and to study the effects of mass communication on the audience as a "process" that changes over time. Few researchers studying the effects of the mass media on the audience have included data observed at more than one time. Thus, media effects research lacks propositions that reflect a changing process.

Each respondent's intrapersonal agenda was measured by asking him or her how important he or she regarded each of the sub-issues. During the first wave, respondents were asked to respond on a 0 to 10 scale. Interviewers were instructed to emphasize all words and phrases on the questionnaire that were underlined by inflecting their voices (Sudman & Bradburn, 1982). During the second and third waves, a 0 to 7 scale was used to reduce receiving a preponderance of responses of 0, 5, and 10. The first wave did not include the sub-issue of noise pollution.

The intrapersonal agenda was measured by the following question:

Now I would like to talk about some specific environmental problems that other people have told us are important to them. After each one, please tell me how personally important each one is to you on a zero to seven scale (EXPLAIN SCALE AS NEEDED).

Disposal of wastes (DUMPING)	0	1	2	3	4	5	6	7	DK/REF
Hazardous substances	0	1	2	3	4	5	6	7	DK/REF
Noise pollution	0	1	2	3	4	5	6	7	DK/REF
Quality of water	0	1	2	3	4	5	6	7	DK/REF
Quality of air	0	1	2	3	4	5	6	7	DK/REF
Wildlife conservation	0	1	2	3	4	5	6	7	DK/REF
Quality of land	0	1	2	3	4	5	6	7	DK/REF

Respondents' perceived-community ("other people") and perceived-media agenda were elicited in a similar fashion:

Now please tell me how important you think other people in your community, such as friends, family, and coworkers, regard these matters to be (EXPLAIN SCALE AS NEEDED).

Disposal of wastes	0	1	2	3	4	5	6	7	DK/REF
Hazardous substances	0	1	2	3	4	5	6	7	DK/REF
Noise pollution	0	1	2	3	4	5	6	7	DK/REF
Quality of water	0	1	2	3	4	5	6	7	DK/REF
Quality of air	0	1	2	3	4	5	6	7	DK/REF
Wildlife conservation	0	1	2	3	4	5	6	7	DK/REF
Quality of land	0	1	2	3	4	5	6	7	DK/REF

I'd like to go over that list one final time and then quickly finish up. This time, please tell me how important you think the news media regard these matters to be (EXPLAIN SCALE AS NEEDED).

Disposal of wastes	0	1	2	3	4	5	6	7	DK/REF
Hazardous substances	0	1	2	3	4	5	6	7	DK/REF
Noise pollution	0	1	2	3	4	5	6	7	DK/REF
Quality of water	0	1	2	3	4	5	6	7	DK/REF
Quality of air	0	1	2	3	4	5	6	7	DK/REF
Wildlife conservation	0	1	2	3	4	5	6	7	DK/REF
Quality of land	0	1	2	3	4	5	6	7	DK/REF

Media dependence for environmental information was measured by asking respondents an open-ended question as to where they received most of their information about the environment. Respondents were allowed to name as many sources as they wished. These responses were later coded as media dependent (e.g., newspapers, magazines, television, radio, books, etc., or any combination)

and media nondependent (e.g., school classes, talking to other people, observing it, etc., or any combination). People who responded with both media and nonmedia sources were coded as nondependent since these respondents did not rely exclusively on the media for their information about the environment.

This measure of media dependence was a general, self-evaluation response in that it did not specify any particular medium such as the New York Times or CBS Evening News, although some respondents responded by naming a particular medium. Whether the respondents regarded themselves as media dependent may not have had any relation to actual media exposure. Many respondents who infrequently exposed themselves to media infrequently may have regarded themselves as media dependent if asked.

Although the general self-evaluation response of media dependence was valuable, a specific, objective measure for comparison was also necessary. Therefore, regular readers of the Lansing State Journal (those who reported reading the paper four days a week or more) were analyzed separately from nonregular readers (those who read the paper three days a week or less, including those who did not read the State Journal at all). The State Journal was selected from among the three papers for intensive analysis because it is the most widely read daily newspaper in the Lansing area (cf Footnote 1). It was also selected because it is a local paper rather than a regionally prestigious paper. It tends to focus more on Lansing area issues than the Detroit papers. Therefore, it seems appropriate to compare the State Journal readers' agenda with the agenda of the State Journal to obtain the medium-specific measure.

Data Analysis

In line with most agenda-setting research, the present study employed correlational analysis. All audience and media salience measures were collapsed

into ranks and the Spearman-rho rank-order statistic was used (r_s). Statistical analyses were performed using the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). Once the frequencies for the media and audience data were computed, the rank-order correlations were computed on an Apple personal computer.

The use of time-series analysis was used to test the research question and hypotheses that involved relating audience salience with media salience over time. Audience intrapersonal measures were drawn back in time from each media measure and correlated. Media measures consisted of week-long intervals from Sunday to Saturday. The intervals were never less than seven days. Some intervals were longer in some instances. Since the analysis of media content began on Wednesday (October 5, 1983), the first media interval was 10 days long (October 5 to October 15). Since the audience surveys were conducted on weekdays, it was necessary to extend the duration of some media agenda intervals during each wave. This was done by extending the duration of the first week after the surveys to include those extra days in addition to the Sunday to Saturday interval before the audience survey.

Time-series analysis is appropriate in situations where observations of one or more variables are measured over distinct points in time (Ostrom, 1978). In this study there were 33 observations of the independent variable (i.e., the media agenda in weeks) and three measures of the dependent variable (i.e., the three audience surveys). Ostrom (1978) notes that there are two types of time-series measurements: lagged and nonlagged. A nonlagged model concerns the relationship between an independent and dependent variable at the same time. A lagged model involves the relationship at different times. In the most simple time-series design in agenda-setting--a two-wave, cross-lag design--there are both lagged and nonlagged measurements. The correlations between the media

at time 1 with the audience at time 1 and the media at time 2 with the audience at time 2 are both nonlagged measures. The correlations between the media at time 1 with the audience at time 2 (the agenda-setting hypothesis) and the media at time 2 with the audience at time 1 (the alternative hypothesis) are lagged measures. The correlations between the media at times 1 and 2 and the audience at times 1 and 2 are measured to observe change or stability of the same variable over time (see Figure 2).

The present study extended the simple two-wave design to a three-wave survey with multiple measurements of the independent variable. Such a design permitted powerful inferences about changes over time. The design allowed the research question and first two hypotheses to be tested with the assumption that media salience increases cumulatively over time. The design is graphically portrayed in Figure 8 for a hypothetical single audience measure with 12 individual measures of the media agenda.

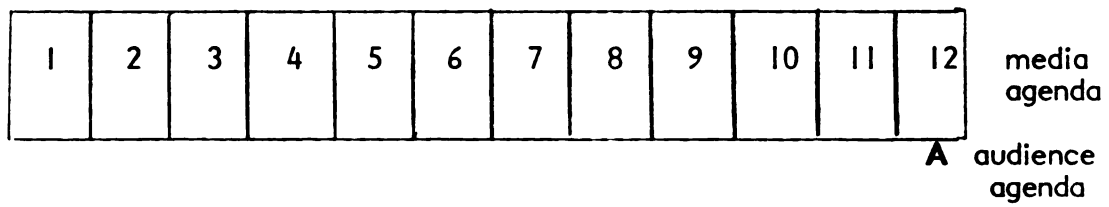

Figure 8. Design for cumulative and lagged agenda-setting over time.

The correlation of the week-long media agenda in cell 12 with the audience agenda in bolded cell A represents the correlation of the audience agenda with media agenda for the week before the audience measure. Cell A with cells 11 and 12 represents the agenda-setting effect of the cumulative two weeks of media content immediately before the audience agenda measure. Cell A with cells 1-12 represents the cumulative agenda-setting effect of the media for the entire 12-week period.

The research question and the first two hypotheses were analyzed by examining all the results from all the data by drawing backward in time from the audience agenda in the manner described above. The purpose of the research question and first hypothesis was to locate the maximal media effect span and the shape of the relationship between the media and audience agenda over time. In addition, the location of the maximal media effect span served as an a priori measure to determine the durations of the media agenda in the next two hypotheses. As was noted in the literature review, researchers have used a wide variety of media durations. Frequently, the researchers selected the durations by intuition with little empirical data as guidance. The use of an a priori measure of the maximal effect span to test hypotheses was a major design-related contribution of this study.

The second and third hypotheses involved elaborating the effect of media dependency and regularity of newspaper reading on agenda-setting. After the cumulative weeks of media content that showed the best correlational fit with the audience agenda was determined, the correlations of the media-dependent respondents with the media and the nondependent respondents with the media were computed. Similarly, to test the third hypothesis, the correlation of the regular readers with the media and nonregular readers with the media were computed.

The last two hypotheses did not involve measures of the media agenda. The third and fourth hypotheses were tested by correlating the intrapersonal agenda of the dependent and regular readers with their perceived-media and perceived-community agenda. According to the hypotheses, the dependent and regular readers have intrapersonal agenda that correlate more strongly with their perceived-media agenda than their perceived-community agenda. Nondependent and nonregular respondents have intrapersonal agenda that

correlate more strongly with their perceived-community agenda than their perceived-media agenda.

CHAPTER IV

RESULTS

A Description of the Sample

A total of 1,145 Lansing area residents were sampled during the three waves. A total of 880 responded, for a response rate of 76.9%. The response rate increased with each wave. This was accomplished by reducing the length of the questionnaires and using more experienced interviewers during latter waves. The response rate was 70.9% during the first wave (N=304), 79.7% during the second wave (N=291), and 81.2% during the third wave (N=285). Basic demographic characteristics reproduced in Table 1 showed no consistent differences during the waves. The demographics of the sample compare favorably to the population of Ingham County. For instance, the proportion of males during each wave ranged from 45.3 to 52.2%, compared to 47% countywide. The proportion of whites ranged from 84.9 to 90.7% during each wave, compared to 89% countywide (U. S. Bureau, 1983).

The proportion of respondents who reported relying exclusively on mass media for their information about environmental matters was approximately the same during each wave: 82.3% of the valid cases during Wave 1 (N=247), 77.3% during Wave 2 (N=215), and 76.3% during Wave 3 (N=216). The fact that most audience members gave one or more media responses exclusively to an open-ended question concerning where they learned about environmental matters suggests that most audience members in the sample regarded the issue as nonobtrusive. Further validity for the nonobtrusive nature of the issue was ascertained in a manner similar to Murch (1971). Respondents were asked to

evaluate how serious a problem environmental matters were in "the country" and in "the Lansing area." Respondents were asked to respond on a zero to seven scale, where seven was very serious. During Wave 2, the mean response was 5.3 for the country, compared to 4.2 for the Lansing area. During Wave 3, the mean response was 5.2 for the country, compared to 4.2 for the Lansing area. The question was not asked during Wave 1. These findings suggest that most respondents perceived environmental problems to be more serious in the nation than in their own communities. The proportion of respondents who read the State Journal regularly (four days a week or more) was approximately the same during each wave: 48% during Wave 1 (N=146), 54.3% during Wave 2 (N=158), and 53.4% during Wave 3 (N=150).

Since it was necessary to divide the samples into media-dependent (dep)/nondependent (non) and regular (reg)/nonregular (nonr) readers of the State Journal to test hypotheses, some characteristics of these groups were examined. The differences included standard demographics (sex, race, age, income, and education), media habits (newspaper reading and news interest), political orientations (conservative, liberal, or middle of the road), and attachment to the community (years in Lansing area, home ownership, union membership, and church attendance).

Overall, there were no consistent differences between the media-dependent and non-dependent groups. Despite their professed reliance on the mass media for environmental information, Table 2 reveals no consistent trend for the dependent respondents to read the newspapers examined in this sample more often than the nondependent respondents. Differences between the dependent and nondependent respondents may exist, however. Regardless of how often respondents actually expose themselves to media, the fact that they cited top-of-the-mind media or nonmedia sources as to where they received most of

Table I
Demographic Description of Samples

SEX	Percent Male
Wave I	46.4
Wave 2	52.2
Wave 3	45.3

AGE	Mean
Wave I	36.6
Wave 2	38.9
Wave 3	37.0

RACE	Percent White
Wave I	86.2
Wave 2	90.7
Wave 3	84.9

EDUCATION (by percent)	Wave I	Wave 2	Wave 3
Less than 12th	11.4	15.3	11.9
H.S. degree	16.8	22.6	19.6
Some college	35.6	25.3	35.1
College degree	15.8	19.8	16.5
Beyond college	20.5	16.0	16.9

INCOME (by percent)*	Wave 2	Wave 3
Less than 8000	15.8	9.5
8000 - 15,000	14.6	17.4
15,000 - 30,000	39.5	41.5
More than 30,000	30.0	31.6

* Wave I was not comparable to the other waves because different categories were used.

their information about environmental matters may be significant in terms of the agenda-setting function of the press. It is worth noting that the agenda-setting paradigm is premised on a top-of-the-mind self-evaluation of issue salience. In addition, this survey did not tap respondents' use of other newspapers and other media. Respondents may have responded to media-dependency with television use in mind.

Table 2
Newspaper Reading in Media-Dependent and Nondependent Groups

	Wave 1		Wave 2		Wave 3	
	Depend.	Nondep.	Depend.	Nondep.	Depend.	Nondep.
State Journal	75.3*	85.7	81.3	75.4	77.3	85.1
	(3.5)**	(3.8)	(4.4)	(3.2)	(4.0)	(4.3)
Free Press	44.9	53.1	44.0	46.2	46.8	32.8
	(1.6)	(1.8)	(1.7)	(1.8)	(1.8)	(1.2)
News	26.3	46.9	20.0	12.3	23.6	23.9
	(0.9)	(0.5)	(0.6)	(0.5)	(0.8)	(0.6)

* Percent who said they read the paper
** Mean number of days per week readers read the paper

In contrast to the media-dependent/nondependent groups, consistent and sometimes sharp differences between the regular and nonregular readers of the State Journal emerged; however, no major differences were found between the regular and nonregular readers concerning how often they read the two other newspapers in this study. Thus, respondents who read the State Journal only three days a week or less were frequently regular readers of the other newspapers in this study. An analysis of the other media habit measure, interest in news, showed a sharp difference between the regular and nonregular readers. As can be seen from Table 3, regular readers were far more likely to be interested in news of the Lansing area than nonregular readers. By contrast, nonregular readers were somewhat more likely to be interested in international news than regular readers. There is almost a 28% gap between regular and nonregular readers concerning their interest in Lansing area news. The gap narrows to 12.6% for Michigan news. There is little difference in the two groups' interests in national news. The findings reverse with respect to international news, with nonregular readers more likely to be very interested in international news than regular readers.

Table 3
Media Habits Description of Regular and Nonregular Groups

Newspaper Reading

	Wave 1		Wave 2		Wave 3	
	Reg	Nonr	Reg	Nonr	Reg	Nonr
Free Press	48.6* (1.7)**	44.3 (1.5)	42.2 (1.7)	46.9 (1.7)	43.1 (1.7)	43.5 (1.6)
News	29.5 (1.0)	29.7 (1.0)	21.7 (0.7)	13.8 (0.3)	22.9 (0.7)	24.4 (0.9)

Interest in News***

	Lansing		Michigan		National		International	
	Reg	Nonr	Reg	Nonr	Reg	Nonr	Reg	Nonr
Very interested	67.8	39.9	71.2	58.6	57.5	55.4	39.7	47.1
Somewhat interested	29.5	46.2	27.4	35.0	37.0	39.5	48.6	42.7
Not very or not at all interested	2.8	13.9	1.4	6.4	5.5	5.1	11.6	10.2

* Percent who said they read the paper
** Mean number of days per week readers read the paper
*** Only asked during Wave 1

Some demographic differences between regular and nonregular readers were found. As can be seen from Table 4, during each wave the typical regular reader was likely to be more than 10 years older than his or her nonregular counterpart. The data also reveal that regular readers were somewhat more likely to be male. During the first two waves, there was a tendency for whites to be regular readers more often than nonwhites. Regular readers were also more likely to earn $30,000 a year or more than nonregular readers. No significant difference was found regarding education.

Table 4
Demographic Description of Regular and Nonregular Samples

SEX (Percent Male)

	Reg	Nonr
Wave 1	47.3	44.9
Wave 2	53.4	50.8
Wave 3	56.9	48.1

RACE (Percent White)

	Reg	Nonr
Wave 1	91.1	82.7
Wave 2	93.2	87.6
Wave 3	85.9	89.8

AGE (Mean)

	Reg	Nonr
Wave 1	41.8	31.7
Wave 2	44.1	32.5
Wave 3	43.1	31.3

EDUCATION (Percent)

	Wave 1		Wave 2		Wave 3	
	Reg	Nonr	Reg	Nonr	Reg	Nonr
Less than 12th	12.0	10.9	15.0	17.3	11.8	9.4
High sch. diploma	21.8	12.2	25.5	18.9	21.6	18.0
Some college	26.8	43.6	24.2	26.8	32.0	39.8
College degree	6.3	6.4	23.0	15.7	16.3	17.2
Beyond college	33.1	26.9	12.2	21.3	18.3	15.6

INCOME (Percent)*

	Wave 2		Wave 3	
	Reg	Nonr	Reg	Nonr
Less than 8000	10.3	23.1	9.4	9.6
8000 - 15,000	13.8	15.7	14.5	20.9
15,000 - 30,000	40.7	38.0	37.0	47.0
More than 30,000	35.2	23.1	39.1	22.6

* Wave 1 was not comparable to the other waves because different categories were used.

Regular readers were consistently more likely to describe themselves as conservatives and less likely to describe themselves as liberals than nonregular readers. Regular readers also tended to describe themselves according to one of the three conventional political orientations more often than nonregular readers. Nonregular readers were more likely to volunteer some other response such as "radical" (see Table 5).

Table 5
Political Orientations of Regular and Nonregular Groups

	Wave 1		Wave 2		Wave 3	
	Reg	Nonr	Reg	Nonr	Reg	Nonr
Liberal	24.0	27.4	11.2	23.1	16.2	20.6
Middle of road	41.1	38.6	56.2	50.8	58.2	52.0
Conservative	30.9	24.7	29.4	22.3	24.8	21.4
Other	4.0	9.2	3.2	3.8	0.8	6.0

Finally, some strong and consistent differences were found concerning attachment to the community. Regular readers reported living more years in the Lansing community than nonregular readers. They were also more likely to attend church or have union members in the household. A major difference concerned home ownership, where there was a more than 21% gap between the two groups (see Table 6).

Table 6
Attachment to Community Description of Regular and Nonregular Groups

YEARS IN LANSING AREA (Mean)*			OWN HOME (Percent)**		
	Reg	Nonr		Reg	Nonr
Wave 2	23.0	11.8	Wave 1	61.6	40.5
Wave 3	20.0	14.2			

UNION MEMBERSHIP (Percent)**			CHURCH ATTENDANCE (Percent)**		
	Reg	Nonr		Reg	Nonr
Wave 1	39.7	27.8	Wave 1	65.8	53.8

* Not asked as an open-ended question during Wave 1
** Only asked during Wave 1

The preceding data were meant to present a picture of the entire sample, the media-dependent/nondependent samples, and the regular/nonregular samples. In presenting these data, trends rather than occasional differences were highlighted. In this way, the study took advantage of the reliability that comes with having three waves.

Overall, the data showed no consistent differences between the media-dependent and nondependent groups. However, some consistent differences between the regular and nonregular readers were found. The typical reader was in his or her forties and was somewhat more likely to be a white male than a typical nonregular reader. He or she was likely to be a conservative and have firm roots in the community, living 20 or more years in the area. He or she was also more likely to own a home, attend church, have a union member in the household, and earn a higher income than his or her nonregular counterpart.

A Description of Media Content

A total of 707 stories were examined. Another four stories were eliminated from analysis because they failed to meet the a priori requirement of

having at least two of the three coders agree on sub-issue category classification. The intercoder reliability was 93.7%. The number of stories, sum of weighted column inches, and mean length in weighted column inches for each sub-issue are presented in Table 7. In sheer numbers, the sub-issues of hazardous substances and noise pollution were extreme cases. There were 100 more hazardous substances' stories than the second most frequent sub-issue, quality of air. There were 56 fewer noise pollution stories than the next most infrequent sub-issue, quality of land. The other five sub-issues were relatively close to each other, ranging between 60 and 130 cases. Not all sub-issues received the same media treatment. The mean length of disposal of wastes and quality of water stories was somewhat longer than the length of other stories.

Table 7
Description of Media Agenda

Subissue	n	Column Inches	Mean Length
Hazardous substances	230	2,263	9.8
Disposal of wastes	106	1,669	15.7
Quality of air	130	1,444	11.1
Quality of water	76	1,173	15.4
Wildlife conservation	101	1,047	10.4
Quality of land	60	556	9.3
Noise pollution	4	23	5.8

It was determined a priori to set the ranks according to weighted column inches rather than the number of stories. This was done because the weighting process takes into account the length, display, and prominence of media

treatment. The agenda-setting hypothesis asserts that audience members are aware of these media salience cues. Past research generally found correlations of around .90 between column inches and number of stories (Stone & McCombs, 1981). The present study found a Spearman rank-order correlation of .93 (p .01) between number of stories and weighted column inches.

Since it was necessary to examine the agenda of the State Journal in order to test hypotheses, a description of the State Journal's agenda is presented in Table 8. The State Journal reported 189 environmental stories, about 26.7% of the entire sample. The mean length of stories in the State Journal was consistently lower than that of the entire sample, except for the sub-issue of noise pollution. This may have been because the State Journal's newshole is smaller than that of the two other papers in the study. The rank-order of the State Journal's agenda was not radically different from the entire sample. There were some differences, however. Disposal of wastes was Rank 4 in the State Journal compared to Rank 2 in the entire sample. Wildlife conservation was Rank 3 in the State Journal compared to Rank 5 in the entire sample. These differences may be because disposal of wastes is an inner-city problem, likely to be of interest to Detroit area readers. By contrast, wildlife conservation is not as likely to be of interest to Detroit readers as the readers of the State Journal. Despite these differences, however, the rank-order correlations between the State Journal's agenda and that of the two Detroit newspapers was .82 (p .05).

Since the audience agenda was correlated with different durations of the media agenda, the number of stories in the media differed during each wave. During the eight-week duration of Wave 1, there were 118 stories in the media. During the 26-week duration of Wave 2, there were 517 stories. During the entire 33-week duration of Wave 3 there were 707 stories. When the regular and nonregular readers of the State Journal were correlated with the agenda of the

Table 8
Description of State Journal Agenda

Subissue	n	Column Inches	Mean Length
Hazardous substances	61	533	8.7
Disposal of wastes	21	247	11.8
Quality of air	39	291	7.5
Quality of water	20	139	7.0
Wildlife conservation	26	288	11.1
Quality of land	20	102	5.1
Noise pollution	2	17	8.5

State Journal, the number of stories decreased sharply. During Wave 1, there were 17 stories in the State Journal (14.4% of the sample for this period). During Wave 2, there were 171 stories (33.1%). During Wave 3, there were 189 stories (26.7%). Since the number of the environmental stories in the State Journal during Wave 1 was so small, no analyses were computed using the Wave 1 State Journal agenda.

The results of the research question and first and second hypotheses in later portions of this chapter will be presented in tables with correlations for individual weeks of media analysis. Table 9 presents the dates of the individual weeks for each wave.

Table 9
Dates for Individual Weeks During Each Wave

Wave 1		Wave 2		Wave 3	
Week	Dates	Week	Dates	Week	Dates
1	10/5 - 10/15 (1983)*	1	10/5 - 10/15 (1983)*	1	10/5 - 10/15 (1983)*
2	10/16 - 10/22	2	10/16 - 10/22	2	10/16 - 10/22
3	10/23 - 10/29	3	10/23 - 10/29	3	10/23 - 10/29
4	10/30 - 11/5	4	10/30 - 11/5	4	10/30 - 11/5
5	11/6 - 11/12	5	11/6 - 11/12	5	11/6 - 11/12
6	11/13 - 11/19	6	11/13 - 11/19	6	11/13 - 11/19
7	11/20 - 11/26	7	11/20 - 11/26	7	11/20 - 11/26
8	11/27 - 12/3	8	11/27 - 12/3	8	11/27 - 12/3
		9	12/4 - 12/10	9	12/4 - 12/10
		10	12/11 - 12/17	10	12/11 - 12/17
		11	12/18 - 12/24	11	12/18 - 12/24
		12	12/25 - 12/31	12	12/25 - 12/31
		13	1/1 - 1/7 (1984)	13	1/1 - 1/7 (1984)
		14	1/8 - 1/14	14	1/8 - 1/14
		15	1/15 - 1/21	15	1/15 - 1/21
		16	1/22 - 1/28	16	1/22 - 1/28
		17	1/29 - 2/4	17	1/29 - 2/4
		18	2/5 - 2/11	18	2/5 - 2/11
		19	2/12 - 2/18	19	2/12 - 2/18
		20	2/19 - 2/25	20	2/19 - 2/25
		21	2/26 - 3/3	21	2/26 - 3/3
		22	3/4 - 3/10	22	3/4 - 3/10
		23	3/11 - 3/17	23	3/11 - 3/17
		24	3/18 - 3/24	24	3/18 - 3/24
		25	3/25 - 3/31	25	3/25 - 3/31
		26	4/1 - 4/11*	26	4/1 - 4/7
				27	4/8 - 4/14
				28	4/15 - 4/21
				29	4/22 - 4/28
				30	4/29 - 5/5
				31	5/6- 5/12
				32	5/13 - 5/19
				33	5/20 - 5/30*

* Indicates that the media interval was longer than seven days

Research Question and Hypothesis 1

The results of the research question and first hypothesis are being presented together because they are related and can be displayed with the same

tables and figures. The research question sought to determine the maximal effect span or period of best fit between the media agenda and audience agenda:

RQ: What is the maximal duration for the media to make a set of environmental sub-issues salient among the audience?

The first hypothesis sought to determine the shape of the relationship between the independent and dependent variables. The hypothesis asserts that the media's agenda-setting effect on the aggregate audience is cumulative. The effect increases over time as the audience members learn from the mass media and adopt media sub-issue priorities. The period of peak learning marks the maximal duration. After this duration is attained, the hypothesis asserts that forgetting occurs and the effect decreases:

H_1: Audience salience of environmental sub-issues will increase, peak, or level, and then decrease as the audience agenda is drawn back in time from the media agenda.

The audience's intrapersonal agenda was compared with the media to test the research question and first hypothesis. The intrapersonal agenda was used because it is the traditional method used in agenda-setting research. Few studies have used the perceived-media or perceived-community agenda. In addition, the intrapersonal agenda reflects McCombs and Shaw's original conceptualization of agenda-setting. They conceptualized the agenda-setting function of the press based on Lippmann's assertion that the mass media structure and create audience members' personal cognitions of reality. The intrapersonal agenda refers to personal cognitions. By contrast, the perceived-media and perceived-community agenda refer to audience members' perceptions of the cognitions of others. All time-related results are presented both in tabular and graphic forms. The tabular results show the actual correlations. The graphic results provide a visual illustration of the shape of the relationship between the media and audience agenda over time.

Table 10 and Figure 9 show no clear evidence for a maximal agenda duration or an increasing-peaking-and-leveling shape for the eight weeks of media content prior to the Wave I survey. The correlation between the audience agenda and the media agenda for the week before the survey (November 27 - December 3, 1983) was .18. The relationship increased to .41 when the media agenda was extended to two weeks (November 20 - December 3). That sharp increase, however, did not mark a trend. The increase may have been a chance finding due to the volitility of data with such a small number of sub-issues. Since the data were so volatile, inferences about the maximal duration and shape were made by examining trends rather than only significant relationships. In this way the study took advantage of its major strength: reliability through repeated measures. None of the correlations came near attaining statistical significance which, with six issues and direction predicted, is .83 at the .05 level.

Table 10
The Relationship Between the Audience Agenda and Media Agenda (Wave I)

Cumulative Weeks	r_s	Cumulative Weeks	r_s
1	.18	5	.09
2	.41	6	.17
3	.17	7	.09
4	.09	8	.41

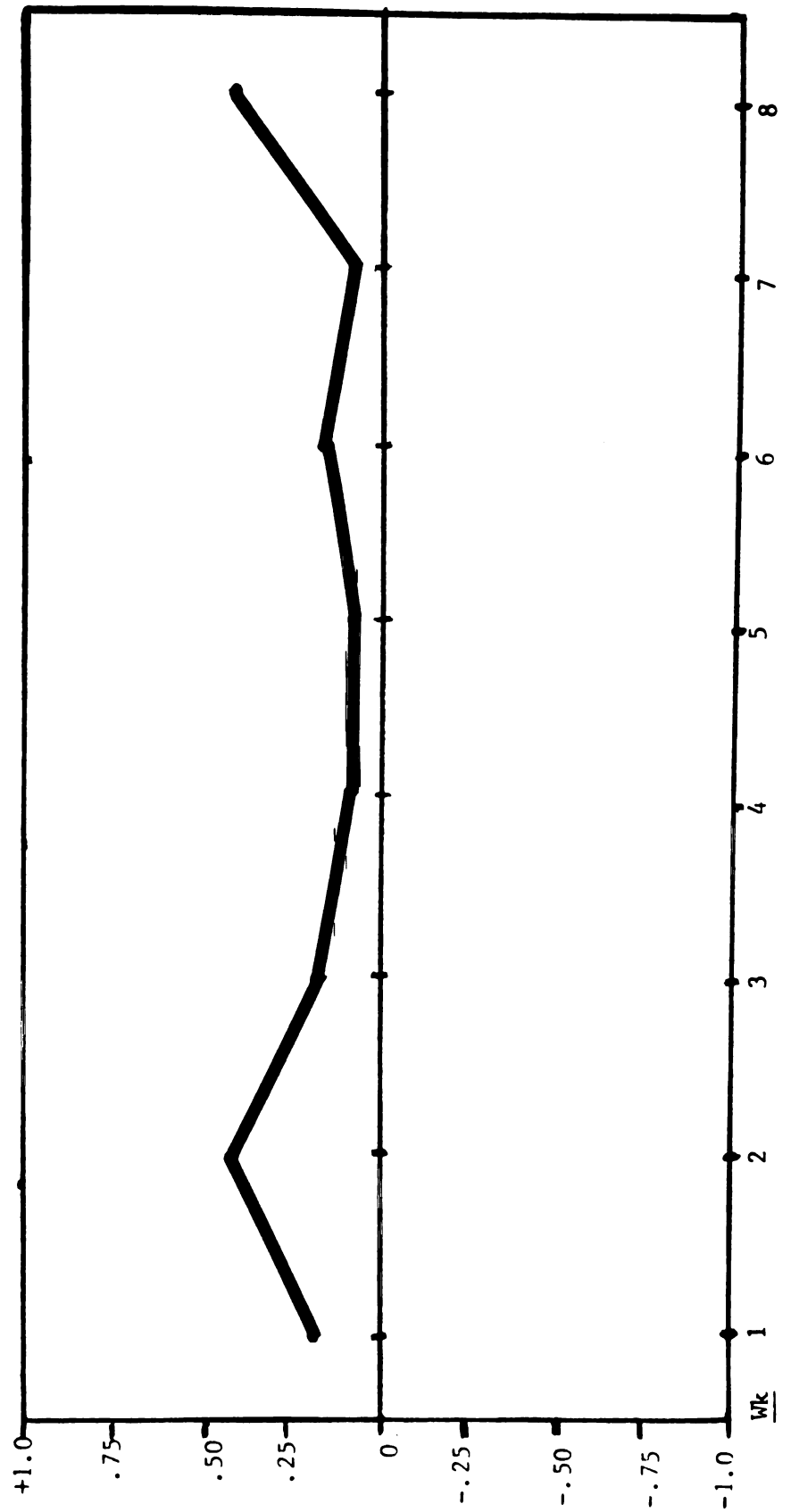

Figure 9. Graphic representation of the relationship between the audience agenda and the media agenda (Wave 1).

Table II and Figure 10 show the relationship between the audience agenda with the media agenda over 26 weeks of media content before the Wave 2 survey. The data show an increasing trend that begins to climb sharply at the sixth week, with a correlation of .50. That trend continues after the accumulation of seven and eight weeks with correlations of .61 and .65, respectively. The relationship peaks after the accumulation of nine and ten weeks with correlations of .77 (p .05) and then declines. With seven issues, as were used during Waves 2 and 3, a correlation of .71 is needed to attain statistical significance at the .05 level.

Table II
The Relationship Between the Audience Agenda and Media Agenda (Wave 2)

Cumulative Weeks	r_s	Cumulative Weeks	r_s	Cumulative Weeks	r_s
1	.18	10	.77*	19	.43
2	.28	11	.65	20	.43
3	.32	12	.61	21	.43
4	.23	13	.43	22	.50
5	.25	14	.50	23	.50
6	.50	15	.50	24	.50
7	.61	16	.43	25	.61
8	.65	17	.43	26	.61
9	.77*	18	.39		

* Significant at the .05 level

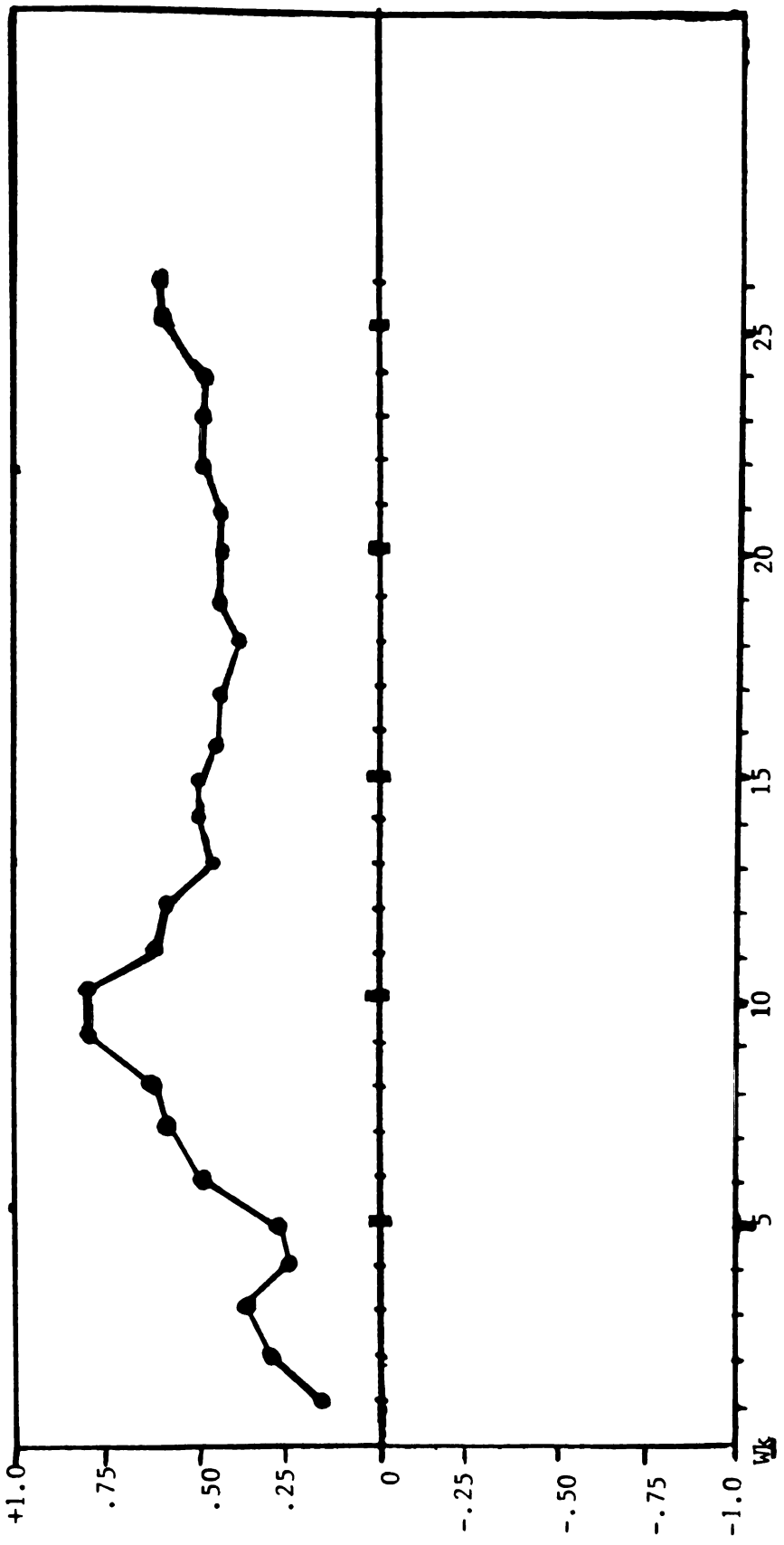

Figure 10. Graphic representation of the relationship between the audience agenda and the media agenda (Wave 2).

While the data show an increase, peak, and decline, the rate of decension after the peak is not nearly as sharp as the rate of ascension before the peak. While the relationship does decline after the peak, the correlations still remain moderately high. It may be that people adopt the mass media's issue priorities quite rapidly and maintain those personal priorities for some period after media coverage fades.

Table 12 and Figure 11 show the relationship between the audience agenda with the media agenda over 33 weeks of media content prior to the Wave 3 survey. Unlike the previous waves, the correlations began to ascend rapidly. By the second week there was a strong relationship between the independent and dependent variables (r_s = .71, p .05). The relationship increased as the time period was extended. A correlation of .93 (p .01) was attained by the seventh week. This strong relationship stabilized until the 14th week when it increased to a near perfect relationship. Even though the data showed some decline by the 25th week (r_s = .82), it remained strong throughout the rest of the sample period.

As with Wave 2, the data show an increase, peak or level, and decline. A period of leveling emerged during the seventh week and didn't begin to decline until the 25th week. Once again, the ascension was much sharper than the descension.

Determining the maximal effect span requires examination of all the data during all the waves and locating trends. By itself, Wave 1 did not provide enough information to make inferences concerning the maximal duration or the shape of the relationship. By the seventh week of cumulative media content, however, the relationship climbed sharply, giving some evidence for what may have been the first indication of the audience's adoption of the media's sub-issue priorities. However, this may have been a chance finding due to the volitility of the data.

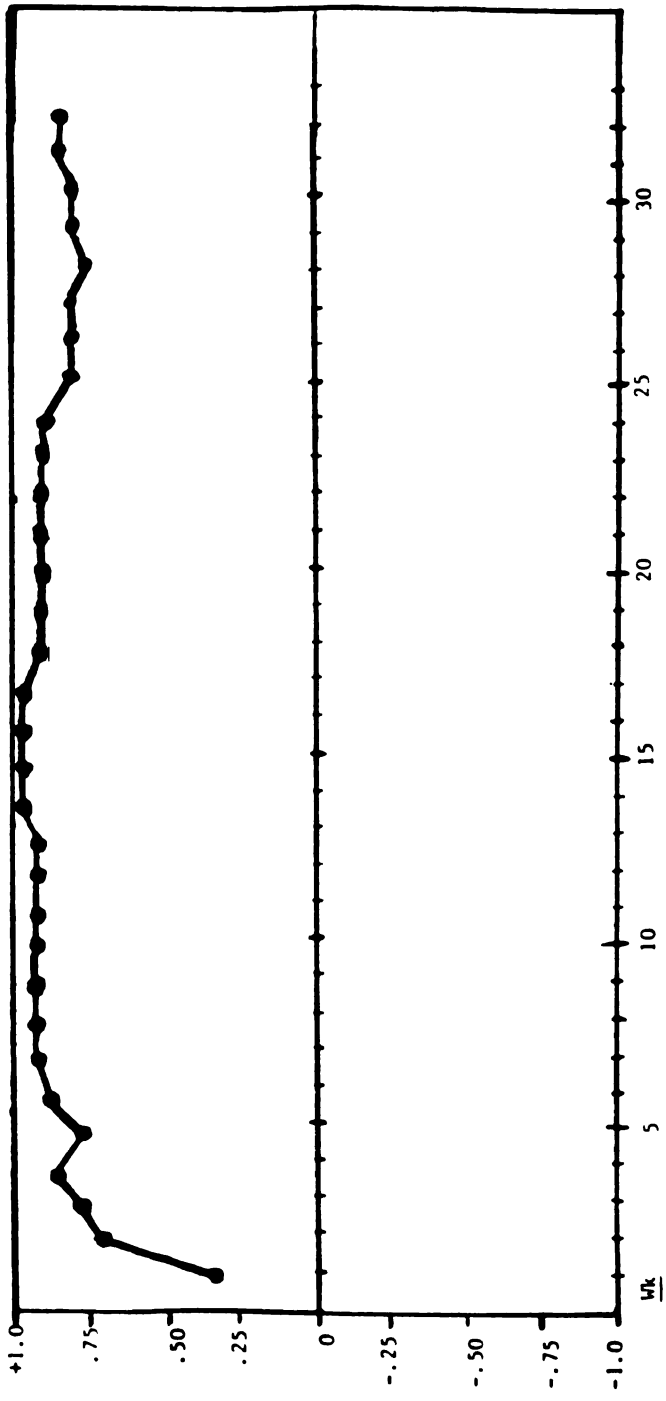

Figure 11. Graphic representation of the relationship between the audience agenda and the media agenda (Wave 3).

Table 12
The Relationship Between the Audience Agenda and Media Agenda (Wave 3)

Cumulative Weeks	r_s	Cumulative Weeks	r_s	Cumulative Weeks	r_s
1	.36	12	.93**	23	.93**
2	.71*	13	.93**	24	.93**
3	.76*	14	.98**	25	.82*
4	.87*	15	.98**	26	.82*
5	.76*	16	.98**	27	.82*
6	.87*	17	.98**	28	.82*
7	.93**	18	.93**	29	.76*
8	.93**	19	.93**	30	.82*
9	.93**	20	.93**	31	.82*
10	.93**	21	.93**	32	.87*
11	.93**	22	.93**	33	.87*

* Significant at the .05 level
** Significant at the .01 level

Wave 2 showed the first signs of audience adoption of the media's sub-issue priorities during the sixth week. That relationship continued to climb through seven and eight weeks of media coverage and peaked during the ninth and tenth weeks. Afterward, the relationship declined but not at the rapid pace at which it initially increased.

Wave 3 differed from the first two waves in that the relationship "took off" as early as the second week. Nevertheless, as with the second wave, it continued to increase. By the sixth week the relationship was .87. It increased to .93 during the seventh week. It remained at .90 or above until the 25th week. Even

though the data declined after 25 weeks, the relationship remained high throughout the rest of the sample period.

Wave I showed evidence for what may have been the first indication of the maximal effect span after eight weeks of media coverage. Wave 2 showed the initial ascension of the correlations clearly after six weeks. The ascension continued through weeks seven and eight and peaked during weeks nine and ten. Wave 3 showed high correlations during the entire sample period. Nevertheless, the relationship increased after five and six weeks of media coverage and leveled afterwards. As a result of these findings, it appears that the first indication of audience adoption of media salience manifests itself five to seven weeks after media coverage. The period of peak relationship appears to be about eight to nine or ten weeks after media coverage. The period may be more aptly described as "leveling" rather than "peaking" since the rate of the decension of the correlations after adoption is much less than the initial ascension before adoption. As a result of these findings, which serve as an a priori measure to test the second and third hypotheses, the maximal media effect span was determined to be eight to ten weeks in duration.

In general, the data supported the hypothesis concerning the shape of the relationship. During the second and third waves, when enough data were accumulated to make inferences about the shape of the relationship, the relationship increased and then peaked or leveled. While the relationship decreased after that point, the descent was not as sharp or distinct as the initial increase. This suggests that while audience members may learn about news media fare quite rapidly after the outset of media coverage, they tend to regard media fare as salient even after media coverage decreases.

Hypotheses 2 and 3

The results of the second and third hypotheses are being presented together because they are theoretically related, being rooted in media dependency theory, and are displayed with similar tables. Both hypotheses were conceptualized on the assumption that media dependence has an impact on intrapersonal sub-issue salience. Such an assumption is in accordance with the agenda-setting function of the press. The hypotheses assert that audience members who are not dependent upon the mass media will not exhibit as strong a relationship between their intrapersonal sub-issue priorities and the media's sub-issue priorities as those who are dependent on the mass media. This is in accordance with much of the recent literature on agenda-setting which has argued that there exist "contingent conditions" that may enhance or mediate the effect. It may be that those respondents who describe themselves as nondependent on the mass media for most of their information about the environment have greater access to interpersonal sources about and direct experience with the issue. The second hypothesis states:

> H_2 Audience members who depend upon the mass media for most of their information about the environment will show a stronger sub-issue agenda-setting effect than audience members who do not depend upon the mass media for most of their information about the environment.

The third hypothesis states:

> H_3 Regular readers of the local newspaper will show a stronger intrapersonal sub-issue agenda-setting effect with the agenda of the local newspaper than with the agenda of the entire media.

The same analysis used to test the first hypothesis and research question was used. Media sub-issue salience for eight, nine, and ten weeks prior to each survey was correlated with audience salience. Results relating to the eight-week long first wave survey present the results for the eighth week only. To test these hypotheses, audience data were divided into media-dependent and

nondependent respondents and regular and nonregular readers of the State Journal. In addition, the agenda of the regular and nonregular readers were correlated with the agenda of the State Journal.

Table 13 shows the relationship between the media agenda and the audience agenda for the media-dependent (r_{MD}) respondents and the media agenda and the audience agenda for the nondependent (r_{MN}) respondents during the first wave. The agenda-setting effect for the dependent respondents is higher than for the nondependent respondents, although neither correlation attained statistical significance. To determine whether the correlations were significantly different from each other, a test for the difference between independent correlations (i.e., between r_{MD} and r_{MN}) was computed (Bruning & Kintz, 1977). The use of a difference between correlations test assumes normality. For the Spearman-rho correlation to meet this assumption, it would have to be about as powerful in its predictive abilities as the most powerful parametric correlation, Pearson r. Siegal (1956), in his classic text on nonparametric statistics, cited others as arguing that the Spearman statistic is about 91% as powerful as the Pearson statistic. The correlations in Table 13 were statistically different from each other at the .001 level.

Table 13
Relationship Between the Media Agenda and the Audience Agenda for the Dependent and Nondependent Groups (Wave 1)

Cumulative Weeks	Dep r_s	Non r_s
8	.49	0[1]

[1] Pair of correlations are significantly different for each other at the .001 level

Table 14 shows the relationship between the media agenda and the audience agenda for the regular and nonregular readers during Wave 1. The correlations are higher for the regular readers than the nonregular readers. Neither of the correlations, however, attained statistical significance. The .71 correlation for the regular readers, however, barely failed to attain statistical significance. The pair of correlations were statistically different from each other at the .001 level.

Table 14
Relationship Between the Media Agenda and Audience Agenda for the Regular and Nonregular Groups (Wave 1)

Cumulative Weeks	Reg r_s	Nonr r_s
8	.71	.23[1]

[1] Pair of correlations are significantly different for each other at the .001 level

The relationship between the regular and nonregular readers of the State Journal with the State Journal's agenda for Wave 1 was not computed. The sample size in the State Journal agenda for this period was so small that analysis would have been misleading (N = 17).

Table 15 shows the results for the media-dependent and nondependent respondents during the second wave. During two of the weeks, the dependent measures were high and attained statistical significance. None of the correlations for the dependent respondents, however, was significantly greater than the nondependent respondents.

Table 15
Relationship Between the Media Agenda and Audience Agenda for the Dependent and Nondependent Groups (Wave 2)

Cumulative Weeks	Dep r_s	Non r_s
8	.70	.64
9	.77*	.69
10	.77*	.69

*Significant at the .05 level

Table 16 shows the results for the regular and nonregular readers during the second wave. All of the correlations for the regular readers were statistically significant. The correlations for the regular readers were each greater than the correlations for the non-regular readers by more than .20. The differences between all pairs of correlations were statistically significant at the .001 level.

Table 17 shows the results for the regular and nonregular readers of the State Journal with the State Journal's agenda. Though the correlations of the regular readers were higher than the nonregular readers, all of the correlations were low and none even approached statistical significance. There were no statistical differences between correlations.

Tabl- 16
Relationship Between the Media Agenda and Audience Agenda for the Regular and Nonregular Groups (Wave 2)

Cumulative Weeks	Reg r_s	Nonr r_s
8	.77*	.56[1]
9	.85*	.63[1]
10	.85*	.63[1]

*Significant at the .05 level
[1]Pair of correlations are significantly different for each other at the .001 level

Table 17
Relationship Between the Audience Agenda and the State Journal Agenda for the Regular and Nonregular Groups (Wave 2)

Cumulative Weeks	Reg r_s	Nonr r_s
8	-.02	-.07
9	.16	.04
10	.20	.04

Table 18 shows the results for the media-dependent and nondependent respondents during the third wave. The correlations were high and statistically significant for both the dependent and nondependent respondents. The correlations for the dependent respondents were statistically significant at the .01 level. The correlations for the nondependent respondents were significant at

the .05 level. The differences between correlations were all statistically significant at the .001 level.

Tabl
Relationship Between the Media Agenda and the Audience Agenda for the Dependent and Nondependent Groups (Wave 3)

Cumulative Weeks	Dep r_s	Nonr r_s
8	.93**	.79*[1]
9	.93**	.79*[1]
10	.93**	.79*[1]

* Significant at the .05 level
** Significant at the .01 level
[1] Pair of correlations are significantly different for each other at the .001 level

Table 19 shows the results for the regular and nonregular readers during the third wave. Once again the correlations are both high and significant. The correlations for the regular readers are significant at the .01 level. The correlations for the nonregular readers are significant at the .05 level. The differences between correlations are statistically different from each other at the .01 level.

Table 19
Relationship Between the Media Agenda and the Audience Agenda for the Regular and Nonregular Groups (Wave 3)

Cumulative Weeks	Reg r_s	Nonr r_s
8	.93**	.88*|
9	.93**	.88*|
10	.93**	.88*|

* Significant at the .05 level
** Significant at the .01 level
| Pair of correlations are significantly different for each other at the .01 level

Table 20 shows the results for regular and nonregular readers of the State Journal with the State Journal's agenda during the third wave. As with the medium-specific comparison in Table 17, none of the correlations attained statistical significance. Most of the correlations were low, hovering about zero. The agenda of the nonregular respondents were slightly higher than those of the regular respondents in two of the three pairs of correlations. None of the pairs of correlations was statistically different from each other.

Table 20
Relationship Between the Audience Agenda and the State Journal Agenda for the Regular and Nonregular Groups (Wave 3)

Cumulative Weeks	Reg r_s	Nonr r_s
8	0	.02
9	.16	.20
10	.05	.02

Overall, the results generally supported the second hypothesis. During Wave 1, there was a sharp difference between the dependent and nondependent respondents in the predicted direction. That difference was even sharper for the regular and nonregular readers. During Wave 2, there was a general tendency for dependent respondents to show a stronger relationship with the media agenda than the nondependent respondents, although none of the correlations was statistically different from each other. Once again during Wave 2, there was a sharp and significant difference between regular and nonregular readers in the predicted direction. Wave 3 also supported the hypothesis.

During Waves 2 and 3, there was a medium-specific test of the hypothesis. There were not enough news stories in the media agenda during Wave 1 to test the hypothesis in this fashion. The results did not support the hypothesis when it was tested in the medium-specific fashion. Perhaps this is because people do not form their cognitions based on any single medium. Perhaps they process an entire range of media fare to form their cognitions. As the demographic and psychographic data before the results of the hypotheses were presented showed, the State Journal's agenda was not quite like that of the other two newspapers. Being a local newspaper, perhaps respondents recognized the special nature of the State Journal and did not use this medium to structure their cognitions of nationally important environmental issues.

Hypotheses 4 and 5

The last two hypotheses involved examining different types of audience salience. They involved the relationship of the intrapersonal agenda, which is used in most agenda-setting research, with the perceived-media and perceived-community agenda. The hypotheses state:

H_4: Audience members who depend upon the mass media for most of their information about the environment will have intrapersonal agenda that correlate stronger with their perceived-media agenda than with their perceived-community agenda.

H_5: Audience members who depend on nonmedia sources for most of their information about the environment will have intrapersonal agenda that correlate stronger with their perceived-community agenda than with their perceived-media agenda.

The results of these hypotheses are being presented together because they pertain to different aspects of the same phenomenon. Hypothesis 4, which was conceptualized on dependency theory, maintains that dependence on mass media has a cognitive effect on the audience--an agenda-setting effect. Therefore, those respondents who evaluate themselves as dependent upon mass media for environmental information and those who are regular readers of the State Journal will have intrapersonal agenda that correlate more strongly with their perceived-media agenda than their perceived-community agenda. Hypothesis 5, which was conceptualized based on the body of research dealing with contingent conditions on agenda-setting, maintains that nondependence on mass media mediates the ability of the mass media to set audience members' agenda. Such respondents, this conceptualization maintains, have greater access to interpersonal communication and direct experience with issues in the news than dependent respondents.

Table 21 presents the results of the fourth hypothesis. In addition to presenting the correlations between the intrapersonal with perceived-media agenda (r_{im}) and intrapersonal with perceived-community agenda (r_{ic}), the correlations between the perceived-media and perceived-community agenda (r_{mc}) are also presented. This was done to see whether respondents make a distinction between their own evaluations of issue salience and those of "others." Unlike the differences between correlations in the previous hypotheses, the

differences between correlations to test the fourth and fifth hypotheses are not independent. Therefore, a test of the significance of the difference between dependent correlations of r_{im} and r_{ic} are presented (Cohen & Cohen, 1975).

Table 21
Intercorrelations of the Intrapersonal, Perceived-Media, and Perceived-Community Agenda of Dependent and Regular Groups

Wave 1 Dependent (N = 247)		Wave 1 Regular (N = 146)	
Intra with P-C	.71 (NS)	Intra with P-C	.85 (p .05)
Intra with P-M	.71 (NS)	Intra with P-M	.81 (p .05)
P-C with P-M	1.0 (p .00)	P-C with P-M	.92 (p .05)
Wave 2 Dependent (N = 215)		**Wave 2 Regular (N = 158)**	
Intra with P-C	.88 (p .01)*	Intra with P-C	.97 (p .01)*
Intra with P-M	.69 (NS)	Intra with P-M	.88 (p .05)
P-C with P-M	.85 (p .05)	P-C with P-M	.86 (p .05)
Wave 3 Dependent (N = 216)		**Wave 3 Regular (N = 150)**	
Intra with P-C	.94 (p .01)*	Intra with P-C	.96 (p .01)*
Intra with P-M	.88 (p .05)	Intra with P-M	.87 (p .05)
P-C with P-M	.78 (p .05)	P-C with P-M	.77 (p .05)

* Difference between r_{ic} and r_{im} is significant at the .001 level

The results did not support the fourth hypothesis. In fact, the results suggested the opposite--that respondents in the dependent and nonregular groups were influenced more by their perceptions of members of the community than the mass media. The r_{ic} correlations were significantly greater than the r_{im} correlations in four of the six cases at the .001 level. In one case an r_{ic} correlations was significant at the .05 level; in four cases the correlations were significant at the .01 level. Nevertheless, all the r_{im} correlations were moderate to strong. In four cases, they attained significance at the .05 level.

The r_{cm} correlations were all strong. Nevertheless, they appeared no stronger than the other correlations. In two cases they were the strongest correlations; in two cases they were the weakest correlations. All the r_{cm} correlations attained significance.

Table 22 presents the results of the fifth hypothesis.

Table 22
Intercorrelations of the Intrapersonal, Perceived-Media, and Perceived-Community Agenda of Nondependent and Nonregular Groups

Wave 1 Nondependent (N = 49)		Wave 1 Nonregular (N = 158)	
Intra with P-C	.60 (NS)*	Intra with P-C	.57 (NS)**
Intra with P-M	.71 (NS)	Intra with P-M	.43 (NS)
P-C with P-M	.94 (p .01)	P-C with P-M	.96 (p .01)
Wave 2 Nondependent (N = 65)		**Wave 2 Nonregular (N = 130)**	
Intra with P-C	.94 (p .01)	Intra with P-C	.84 (p .05)**
Intra with P-M	.96 (p .01)	Intra with P-M	.63 (NS)
P-C with P-M	.96 (p .01)	P-C with P-M	.83 (p .05)
Wave 3 Nondependent (N = 67)		**Wave 3 Nonregular (N = 131)**	
Intra with P-C	.99 (p .01)**	Intra with P-C	.96 (p .01)**
Intra with P-M	.68 (NS)	Intra with P-M	.76 (p .05)
P-C with P-M	.67 (NS)	P-C with P-M	.73 (p .05)

* Difference between r_{ic} and r_{im} is significant at the .01 level
** Difference between r_{ic} and r_{im} is significant at the .001 level

The results generally supported the fifth hypothesis. In four of the six cases, the r_{ic} correlations were significantly greater than the r_{im} correlations at the .001 level. In another case the r_{ic} correlation was greater than the r_{im} corelation, but that finding failed to attain significance. In yet another case the r_{im} correlation was significantly greater than the r_{ic} correlation at the .01 level. Once again, the r_{ic} correlations were generally strong, as high as .99. In four cases they attained statistical significance. In two cases, however, they were as

low as .57 and .60. The r_{im} correlations ranged from .43 to .96. Only two of the r_{im} correlations attained statistical significance.

Once again, the r_{cm} correlations were high. But once again they appeared no stronger than the other correlations. In two cases they were the strongest correlations, in one case the correlation tied for strongest, and in two cases they were the weakest correlations. In five cases the r_{cm} correlations attained statistical significance.

Taken together, Tables 21 and 22 suggest that audience members in general--despite their level of dependency on the mass media or regularity of newspaper reading--seem to have more in common between their intrapersonal agenda and perceived-community agenda than their intrapersonal agenda and perceived-media agenda. This finding may be attributed to the fact that respondents see themselves as part of the community. (They certainly do not see themselves as part of the mass media.) All the intercorrelations were quite high, however, including the correlations between the perceived-media and perceived-community agenda. This suggests that it may be difficult to separate the extraneous influences affecting audience members' cognitions using the present analysis.

CHAPTER V

DISCUSSION

Temporal Process

The present study sought to understand those factors that may enhance or mediate the relationship between media issue emphasis and audience issue salience. But before the research question or any of the hypotheses were examined, the study sought to explicate the temporal process in agenda-setting. Although several attempts at elaborating the temporal process have been conducted, the literature reveals that the duration of the maximal media effect span has ranged from as short as two weeks to as long as six months. Differences in issues selected, populations sampled, designs, and measurement techniques were probably responsible for these differences.

It is important to study the temporal process to understand when the mass media have their greatest cognitive impact on the audience. It would be naive to assume that under most conditions and with most issues the media impact audience salience immediately. Rather, media issue salience impacts audience issue salience over time. Media practitioners involved in public service and political campaigns and advertisers should weigh the value of investing further revenue into media based on whether audience salience is increasing and at what rate. Thus, the temporal process could be used to evaluate the cost-benefit analysis in applied media research.

Much of the past time-related research in agenda-setting has been confusing because frequently a wide array of issues was examined in a single study. As Eyal (1979b) and Winter, Eyal, and Rogers (1982) have observed,

different issues have different characteristics and, as a result, different lengths of time are needed to measure their impact on the aggregate audience. Thus, the wholesale use of different issues in a single time-related study may mask important results. The present study corrected for this problem by observing different aspects of the same broad issue over time. The issue of the environment was selected and divided into seven sub-issues.

This study found that the first indication of audience adoption of media salience occurred five to eight weeks after media coverage. The period of peak relationship (i.e., the maximal effect span) appeared eight to ten weeks after media coverage, after which the relationship between media coverage and audience salience declined. Concerning the shape of the relationship, audience issue salience increased, peaked, or leveled, and declined, as was hypothesized. The shape, however, was not normal, and the relationship between the media agenda and audience agenda was not linear. Apparently, learning of media salience was relatively rapid compared to forgetting, which involved slow decay. This finding would seem to contradict the expectations of Sprague (1982), who argued that audience members quickly forget about issues after media coverage is withdrawn. Sprague, however, was referring to issue coverage during the course of a political campaign. It should be emphasized once again that agenda-setting involves the learning of media issue salience, not detailed information. This suggests that the media may be powerful in transferring their issue priorities to the audience, and, apparently, audience members maintain those priorities for some duration after exposure to media. The audience's ability to remember major issues in the news after media coverage is withdrawn appears to be a primary effect of the mass media on the audience.

Research on the temporal process in agenda-setting has been intuitively troubling because there has been so little replication. Most agenda-setting

studies that examined the temporal process relied on a single sample. Given the volatility of a small sample of rank-ordered data, which is frequently the form of the data analysis in agenda-setting research, it is possible that occasionally high and even significant correlations may be obtained by chance due to the random movement of issues in the array. The replication of the findings in this study over three waves suggests that the temporal process and the shape of the relationship between the independent and dependent variables were not mere chance occurrences. Although the correlations may have changed among waves, the general trend of rising, peaking, and falling was replicated in each wave. Inferences concerning the temporal process and shape of the relationship relied primarily on trends and repeated observations over different waves.

While the maximal effect span in other studies may be somewhat shorter than the findings here, this may be explained by the variable nature of news media influence (Zucker, 1978). The issue examined in this study was not one that would usually be considered a dramatic issue, such as the assassination of a president (cf. Greenberg, 1964). This is not to say, however, that environmental issues cannot be dramatic. For instance, when seven chemical companies settled a $180 million out-of-court liability suit with 20,000 Vietnam veterans alleged to have been seriously harmed by a highly poisonous compound used by the U. S. military during the war (i.e., agent orange), the story received prominent front-page coverage in all the newspapers in this sample, including sidebars, political cartoons, and localized stories. The coverage persisted for several weeks. The outbreak of the agent orange stories in the press began during the first week in May 1984, about three weeks before the administration of the third wave of the survey. The heavy coverage of the agent orange issue may have at least partially accounted for the rapid rise of correlations during the third wave among all the respondents. The coverage of this issue may have been so

dramatic that even nondependent and nonregular respondents couldn't help but regard the issue as salient. One does not need to be exposed to media regularly, or rely on media heavily, to know when the media are giving saturation coverage to an issue. In addition, heavy media coverage of an issue is usually associated with a high level of interpersonal discussion about that issue. As a result, respondents who don't use or rely on media may be able to estimate media salience. If this were the case, it would suggest that dramatic media coverage may close the gap between those who are generally aware of media issue salience and those who are not.

Media Dependency

Agenda-setting, as a theoretical concept, has received considerable attention. During the years after McCombs and Shaw's (1972) seminal study, simple replication seemed to be a valuable contribution. By the late 1970s, researchers sought to locate those "contingent conditions" that might enhance or mediate the effect. Recently, some researchers have suggested that agenda-setting be used in tandem with other theoretical approaches to understand mass media effects on a grand scale. McCombs and Weaver (forthcoming) recently suggested that agenda-setting be linked to uses and gratifications research and Noelle-Neumann's (1984) spiral of silence approach. Blood (1981) incorporated agenda-setting with Bauer's (1964) transactional approach. Auh (1977) incorporated agenda-setting within an issue-conflict approach.

The present study has continued in this tradition by locating contingent conditions and merging agenda-setting with another theoretical approach in mass communication. By using DeFleur and Ball-Rokeach's (1982) dependency theory as a theoretical foundation, it was hypothesized that dependency on mass media for information about the social environment would enhance the agenda-setting

effect. General support for this hypothesis was found. The correlations between the mass media and the audience found that dependent and regular readers of the local newspaper generally displayed a stronger agenda-setting effect than nondependent and nonregular respondents.

At another level, however, no support for the hypothesis was found. The medium-specific measure, which compared the agenda of the regular readers of the local daily newspaper with the agenda of that specific newspaper, found correlations consistently hovering about zero. This finding held for both the dependent and regular respondents as well as the nondependent and nonregular respondents.

The fact that respondents, including regular readers of the State Journal, showed no relationship between their issue priorities and that of the State Journal suggests that even the regular readers of the local paper did not use the local paper as a guide in forming their cognitions about this nationally important issue. As the results showed, respondents found the environment to be a more serious problem nationally than locally. Perhaps the Lansing area residents in this sample recognized that in order to differentiate itself from the national and regional media, the State Journal had a local focus. Therefore, though readers may use the local newspaper to form their cognitions of issues and events relating to the local agenda, as other research has found (Weaver & Elliott, 1984), the national or regional media--such as the Detroit press--may be regarded as a better guide concerning environmental issues.

Regular readers of the State Journal showed a far better correlational relationship with all the media in this study than the nonregular readers. Since regular readers received considerably heavier exposure to the local daily than the nonregular readers, it is worth asking why their issue priorities fit better with the national media than the local medium. Considering the demographic

and psychographic data presented at the beginning of the results section, one might expect that the regular readers would be more locally oriented in their outlooks than the nonregular readers. They certainly showed all the demographic and psychographic characteristics that past newspaper readership studies have associated with "settlers" rather than "transients" (Stamm & Fortini-Campbell, 1983). But once again, it must be emphasized that agenda-setting concerns issue awareness and salience, not attitudes. It may be that the regular readers of the State Journal can't help but be aware of national media salience, given the ubiquitousness of mass media in modern American society. It may also be that since most of the regular readers of the State Journal read other newspapers in this sample, they are exposed to more media and, therefore, are more knowledgeable about media issue emphasis.

Audience Salience

From a social-scientific viewpoint, it is important to distinguish among different types of audience salience to understand how the audience uses and is affected by mass media. From an effects view, only media effects on the intrapersonal agenda can be regarded as a true media effect. The media have the power, according to the agenda-setting hypothesis, to prioritize audience members' perceptions of issue importance. The perceived-community and perceived-media salience measures reflect audience members' perceptions of others. Since these measures are not ostensibly measures of cognitions, they may or may not measure a cognitive effect. Audience members' perceptions of the media and their communities may indeed be a straightforward evaluation of the perceptions of others. On the other hand, the media and the community may function as Rorschach inkblots, whereby audience members project their issue

priorities on these systems. There is some evidence for such an assertion considering the strong intercorrelations among the three types of salience in this study.

The perceived-media agenda, which has not been adequately addressed in past research, is one of the main contributions of this study. The perceived-media measure purports to tap whether audience members are consciously aware of how the media function in emphasizing issue salience. It is important to study perceived-media salience to determine whether audience members actually understand the media salience cues that gatekeepers' use to attract attention to stories. The findings here suggest that audience members may indeed be aware of media issue salience to a considerable extent.

The three types of audience issue salience were used to elaborate on dependency theory and understand the interrelationships of the three systems variables outlined by DeFleur and Ball-Rokeach (1982): (a) the audience; (b) the mass media, measured as audience members' perceptions of the mass media; and (c) society, measured as audience members' perceptions of others in their communities. It was hypothesized that (a) dependence on mass media would lead to a stronger relationship between intrapersonal salience and perceived-media salience than intrapersonal salience and perceived-community salience and (b) nondependence on mass media would lead to a stronger relationship between intrapersonal salience and perceived-community salience than intrapersonal salience and perceived-media salience.

The findings showed mixed evidence for the hypotheses concerning the interrelationships among the three systems. The moderate to high correlations in all cases made interpretation of the results difficult. It appeared that all respondents, whether they were media-dependent or nondependent or regular or nonregular readers, displayed stronger relationships between their own issue

priorities and their perceptions of their communities' issue priorities than with their perceptions of the media's issue priorities. Why was this the case? Perhaps respondents displayed a fundamental trust with other people rather than with the media.

Conclusion

This study has built upon the previous research of others. Probably nowhere is this more evident than in the selection of the environment for intensive study. As a result of the research of Winter and Eyal (1981) and Winter, Eyal, and Rogers (1982), a single type of issue, rather than an array of different types of issues, was selected. Environmental matters were selected because it was believed that most audience members do not directly observe environmental issues and, hence, are dependent upon the mass media for information about the environment. The findings here have implications for theory-building in agenda-setting. Blalock (1969) and Zetterburg (1965) have written that useful theories should not be so broad in scope as to be unapplicable to different situations, nor so narrow as to not be generalizable to more than very specific situations. With that in mind, it should be noted that the findings here are not only applicable to environmental issues in agenda-setting, but to unobtrusive issues in general. Perhaps other unobtrusive issues have different lifespans and other characteristics worth elaborating on in future agenda-setting research. But future research should not whittle down issue characteristics to the point where the findings are only applicable to the situation at hand.

At this point it is worth discussing whether agenda-setting is as desirable an effect as is suggested in much of the literature. McCombs and his colleagues have described agenda-setting as serving a beneficial function in a democratic society at the macro-level by winnowing down the array of issues before the

public to a manageable agenda. But what does this ability to winnow the number of salient concerns before the public say for the frequently touted concepts of "diversity" and the "marketplace of ideas"? To continue the metaphor, there is only limited floorspace in the market. The media function to ensure that certain issues receive prominent display on the floor. But as a result, they also discourage customers from examining other goods. If this were a real marketplace, society would no doubt commend those wise consumers who carefully examine all the goods rather than purchase only those goods being pushed by the sellers. Therefore, it may be time to reassess the frequent bias praising agenda-setting in much of the literature.

Future Research

Future research should continue to elaborate on the temporal process in agenda-setting, especially in regard to how the temporal process differs for different issues. Such an elaboration would add greatly to understanding the agenda-setting process as well as provide researchers with valuable design-related information for future studies. Further time-related research may reveal issues where the media-to-audience effect is quite rapid, suggesting that there are few contingent conditions mediating the effect and, perhaps, conditions that are extant enhancing the effect. Future research should also continue to elaborate what these conditions are.

The present study found that media dependency may enhance agenda-setting. Future research should continue to elaborate on media-dependency. When does it occur? This study suggests that with certain issues such as health and the economy, where people may have direct experience with the issues, the media will be less able to transfer their issue priorities to the audience than with most other issues.

Future research should also examine agenda-setting's long-term consequences on attitudes and behaviors. Although the study of media effects on cognitions is useful, it should not be an end it itself but a means to an end. What few studies have included attitudes and behaviors in an agenda-setting context have generally included them only peripherally. The media not only report issues, they report them in a certain way and in a certain context. Are issues that are reported in a largely negative context regarded negatively by the audience?

Finally, future agenda-setting research should examine media effects in a broad sense by including the agenda-setting effect as one of several theoretical approaches. It was already pointed out that researchers have begun to take this path (Auh, 1977; Blood, 1981; McCombs & Weaver, forthcoming).

APPENDIX A

QUESTIONNAIRES

ENVIRONMENTAL ISSUES STUDY
WAVE I

INTRODUCTION: Hello, I'm _____ calling from the College of Communication at Michigan State University. We're interested in finding out people's opinions regarding matters concerning the environment. It will only take about 10 minutes.

1. In general, compared to the many issues and problems now facing this country, how important would you say that the issue of the environment is? Would you say . . .

VERY IMPORTANT (+2)	SOMEWHAT IMPORTANT (+1)	NOT VERY IMPORTANT (-1)	NOT AT ALL IMPORTANT (+2)	DK/ REFUSED (99)

2. Where do you get most of your information about the environment?

_____ TV (1)
_____ Newspapers (2)
_____ Radio (3)
_____ Magazines (4)
_____ Other people (5)
_____ OTHER (explain) (6) _____
_____ DK/REFUSED (9)

People pay attention to environmental matters in the news for various reasons. Here are a few reasons some people say they pay attention to environmental matters in the news. After each reason, please tell me on a scale of zero to 10 how much each applies to you. Zero means it does not apply to you at all. Ten means it applies to you a lot. Ready . . .

3. I pay attention to environmental matters in the news to guide me in matters that I think are important, such as voting.

0 1 2 3 4 5 6 7 8 9 10 DK/REF (99)

4. I pay attention to environmental matters in the news in order to find information that support my views.

0 1 2 3 4 5 6 7 8 9 10 DK/REF (99)

5. I pay attention to environmental matters in the news to know what is going on in the world.

0 1 2 3 4 5 6 7 8 9 10 DK/REF (99)

6. I pay attention to environmental matters in the news because the news regarding this issue is exciting.

0 1 2 3 4 5 6 7 8 9 10 DK/REF (99)

7. I pay attention to environmental matters in the news to supply me with information for conversations with other people.

0 1 2 3 4 5 6 7 8 9 10 DK/REF (99)

8. I pay attention to environmental matters in the news because such matters affect my life.

0 1 2 3 4 5 6 7 8 9 10 DK/REF (99)

9. I pay attention to environmental matters in the news to find out about dangers in society.

0 1 2 3 4 5 6 7 8 9 10 DK/REF (99)

10. I pay attention to environmental matters in the news to keep up with the main issues of the day.

0 1 2 3 4 5 6 7 8 9 10 DK/REF (99)

11. I pay attention to environmental matters in the news because many people are talking about these issues.

0 1 2 3 4 5 6 7 8 9 10 DK/REF (99)

Now I want to talk about some specific environmental matters that other people have told us are important to them. After each one, please tell me how personally important each matter is to you on a scale of zero to 10. Zero means the matter is of no importance to you, and 10 means that matter is very important to you.

12.	Disposal of wastes	0	1	2	3	4	5	6	7	8	9	10 DK/RF (99)
13.	Hazardous substances	0	1	2	3	4	5	6	7	8	9	10 DK/RF (99)
14.	Quality of air	0	1	2	3	4	5	6	7	8	9	10 DK/RF (99)
15.	Quality of water	0	1	2	3	4	5	6	7	8	9	10 DK/RF (99)
16.	Quality of land	0	1	2	3	4	5	6	7	8	9	10 DK/RF (99)
17.	Wildlife conservation	0	1	2	3	4	5	6	7	8	9	10 DK/RF (99)

Now I'm going to read over that short list on environmental matters again. This time, please tell me how important you think the news media regard these matters to be. Once again, base your answer on a scale of zero to ten (EXPLAIN SCALE AS NECESSARY).

18.	Disposal of wastes	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)
19.	Hazardous substances	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)
20.	Quality of air	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)
21.	Quality of water	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)
22.	Quality of land	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)
23.	Wildlife conservation	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)

Now please tell me how important you think other people in your community, such as family, friends, and coworkers, regard these matters to be. (EXPLAIN SCALE AS NECESSARY).

24.	Disposal of wastes	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)
25.	Hazardous substances	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)
26.	Quality of air	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)
27.	Quality of water	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)
28.	Quality of land	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)
29.	Wildlife conservation	0	1	2	3	4	5	6	7	8	9	10	DK/RF (99)

30. Do you read the Lansing State Journal?

YES (1) NO (0) (Go to #32)

IF YES: About how many days a week do you read the State Journal?

31. LESS THAN ONE (0) 1 2 3 4 5 6 7 DK/REF (9)

32. Do you read the Detroit Free Press?

YES (1) NO (0) (Go to #34)

IF YES: About how many days a week do you read the Free Press?

33. LESS THAN ONE (0) 1 2 3 4 5 6 7 DK/REF (9)

34. Do you read The Detroit News?

YES (1) NO (0) (Go to #36)

IF YES: About how many days a week do you read The News?

35. LESS THAN ONE (0) 1 2 3 4 5 6 7 DK/REF (9)

36. When you come across an environmental story in the newspaper, how much of the story would you say you usually read? Would you say . . .

Just the headline?	(1)
Only the first paragraph?	(2)
The first few paragraphs?	(3)
The entire story (almost entire story)?	(4)
DK/REF	(9)

37. Some people don't have time to read the entire newspaper. They normally read only certain parts of their paper, such as the sports, comics, the business section, and so on. How many days a week would you say you read the front section of your newspaper?

0 1 2 3 4 5 6 7 DK/REF (9)

38. How good a job would you say your newspaper does in covering the environment? Would you say it does a very good job, a somewhat good job, a not very good job, or a not at all good job?

VERY GOOD JOB (+2)	SOMEWHAT GOOD JOB (+1)	NOT VERY GOOD JOB (-1)	NOT GOOD AT ALL JOB (-2)	DK/REF (99)

39. How interested would you say you are in news concerning the Lansing area?

VERY INTERESTED (+2)	SOMEWHAT INTERESTED (+1)	NOT VERY INTERESTED (-1)	NOT AT ALL INTERESTED (-2)	DK/REF (99)

40. How interested would you say you are in news concerning the state of Michigan?

VERY INTERESTED (+2)	SOMEWHAT INTERESTED (+1)	NOT VERY INTERESTED (-1)	NOT AT ALL INTERESTED (-2)	DK/REF (99)

41. How interested would you say you are in national news?

VERY INTERESTED (+2)	SOMEWHAT INTERESTED (+1)	NOT VERY INTERESTED (-1)	NOT AT ALL INTERESTED (-2)	DK/REF (99)

42. How interested would you say you are in international news?

VERY INTERESTED (+2)	SOMEWHAT INTERESTED (+1)	NOT VERY INTERESTED (-1)	NOT AT ALL INTERESTED (-2)	DK/REF (99)

43. Generally speaking, do you think of yourself as a Democrat, Republican, or Independent?

DEMOCRAT	1
REPUBLICAN	2
INDEPENDENT	3
OTHER (Specify)	4 _____
DK/REFUSED	9

44. How would you describe your usual stand on political issues? Would you say that you are conservative, middle-of-the-road, or liberal?

CONSERVATIVE	1
MIDDLE-OF-THE-ROAD	2
LIBERAL	3
OTHER (Specify)	4 _____
DK/REFUSED	9

45. Do you live in a city or town, a suburban area, or do you live in a rural area?

CITY OR TOWN	1
SUBURBAN AREA	2
RURAL AREA	3
DK/REFUSED	9

46. Would you tell me the city or town in which you reside?

_____ DK/REF (99)

47. How long have you resided in the community in which you are living?

LESS THAN ONE YEAR	1
ONE TO TWO YEARS	2
THREE TO FIVE YEARS	3
SIX TO NINE YEARS	4
TEN OR MORE YEARS	5
DK/REFUSED	9

48. Do you own your own home, rent a home or apartment, live in a mobile home, or live with others?

OWN (1) RENT (2) MOBILE HOME (3)
LIVE WITH OTHERS (4) DK/REF (9)

49. Including yourself, how many people are there in your household?

_____ (please write in) DK/REF (99)

50. How many people are there in your household age 17 or under?

(IF ZERO, GO TO #52) _____ (please write in)

51. How many children in your household attend public or private schools in your residential area?

_____ (please fill in) DK/REF (99)

52. Are you or is anyone in your household a member of a union?

YES (1) NO (0) DK/REF (9)

53. Are you or is anyone in your household a member of an area church?

YES (1) NO (0) DK/REF (9)

54. Are you now married?

YES (1) NO (0) DK/REF (9)

55. Would you please tell me your age?

_____ (please fill in) DK/REF (99)

56. How much schooling have you completed?

LESS THAN 8TH	1
8TH THRU 12TH	2
HIGH SCHOOL GRADUATE	3
SOME COLLEGE	4
SOME GRADUATE WORK	5
GRADUATE DEGREE	6
DK/REFUSED	9

57. Are you presently employed, unemployed, retired, or a full-time homemaker?

EMPLOYED	1
UNEMPLOYED	2
RETIRED	3
FULL-TIME HOMEMAKER	4
STUDENT	5
DK/REFUSED	9

58. If EMPLOYED, what do you do for a living?

_____

(probe, if needed) _____

59. What is your race?

WHITE	1
BLACK	2
HISPANIC	3
OTHER	4
DK/REF	9

60. What was your total family income last year?

Less than $ 8,000 (1)	YES	NO	DK/REF
Less than $15,000 (2)	YES	NO	DK/REF
Less than $25,000 (3)	YES	NO	DK/REF
Less than $40,000 (4)	YES	NO	DK/REf
Less than $60,000 (5)	YES	NO	DK/REF

61. Record sex: MALE (1) FEMALE (0)

That will be all. Thanks very much for your assistance.

ENVIRONMENTAL STUDY
WAVE 2

INTERVIEWER: Hello, my name is _____ calling from the College of Communication Arts at Michigan State University. We're interested in finding out people's opinions on matters dealing with the environment. It should only take a few minutes (IF THEY ASK HOW LONG, SAY 7 OR 8 MINUTES).

1. Of the many issues and problems now facing this country, how serious a problem would you say that the issue of the environment is? Base your answer on a zero to seven scale, where zero means it is not serious at all and seven means it is very serious.

   (CIRCLE ONE) 0 1 2 3 4 5 6 7 DK/REF (9)

2. Now, of the many issues and problems facing the Lansing area, how serious a problem would you say that the issue of the environment is? (EXPLAIN SCALE AS NECESSARY).

   (CIRCLE ONE) 0 1 2 3 4 5 6 7 DK/REF (9)

3. Where do you get most of your information about the environment? (OPEN-ENDED. CHECK ALL THAT APPLY.)

_____ NEWSPAPERS	_____ TELEVISION
_____ MAGAZINES	_____ RADIO
_____ CLASSES	_____ OTHER PEOPLE
_____ ON THE JOB	_____ DK/REF (9)
_____ OTHER (explain) _____	

Now I'm going to read over a short list of statements concerning the environment. After each one, tell me whether you agree or disagree with the statement on a zero to seven scale, where zero means you strongly disagree and seven means you strongly agree.

4.	Environmental problems can be solved within the present system if enough people get involved.	0 1 2 3 4 5 7 DK/REF (9)
5.	I pay attention to environmental matters in the news to supply me with information for conversations with other people.	0 1 2 3 4 5 7 DK/REF (9)
6.	More should be done to clean up the environment, even if that means a decrease in our standard of living.	0 1 2 3 4 5 7 DK/REF (9)

7.	Technology created environmental problems and technology will solve them.	0	1	2	3	4	5	7	DK/REF (9)
8.	People who are active in the environmental movement represent the interests of most people in society.	0	1	2	3	4	5	7	DK/REF (9)
9.	The issue of the environment is one that involves little conflict. Everyone is for a clean environment.	0	1	2	3	4	5	7	DK/REF (9)
10.	I believe that the issue of the environment will be considered a more important issue in the coming years.	0	1	2	3	4	5	7	DK/REF (9)

Now I would like to talk about some specific environmental problems that other people have told us are important to them. After each one, please tell me how personally important each one is to you on a zero to seven scale. (EXPLAIN SCALE AS NECESSARY.)

11.	Disposal of wastes	0	1	2	3	4	5	6	7	DK/RF (99)
12.	Noise pollution	0	1	2	3	4	5	6	7	DK/RF (99)
13.	Hazardous substances	0	1	2	3	4	5	6	7	DK/RF (99)
14.	Quality of air	0	1	2	3	4	5	6	7	DK/RF (99)
15.	Quality of water	0	1	2	3	4	5	6	7	DK/RF (99)
16.	Quality of land	0	1	2	3	4	5	6	7	DK/RF (99)
17.	Wildlife conservation	0	1	2	3	4	5	6	7	DK/RF (99)

Now please tell me how important you think other people in your community, such as friends, family, and coworkers, regard these matters to be. (EXPLAIN SCALE AS NECESSARY.)

18.	Disposal of wastes	0	1	2	3	4	5	6	7	DK/RF (99)
19.	Noise pollution	0	1	2	3	4	5	6	7	DK/RF (99)
20.	Hazardous substances	0	1	2	3	4	5	6	7	DK/RF (99)
21.	Quality of air	0	1	2	3	4	5	6	7	DK/RF (99)
22	Quality of water	0	1	2	3	4	5	6	7	DK/RF (99)
23.	Quality of land	0	1	2	3	4	5	6	7	DK/RF (99)
24.	Wildlife conservation	0	1	2	3	4	5	6	7	DK/RF (99)

I'd like to go over that list one final time and then quickly finish up. This time, please tell me how important you think the news media regard these matters to be. (EXPLAIN SCALE AS NECESSARY.)

25.	Disposal of wastes	0	1	2	3	4	5	6	7	DK/RF (99)
26.	Noise pollution	0	1	2	3	4	5	6	7	DK/RF (99)
27.	Hazardous substances	0	1	2	3	4	5	6	7	DK/RF (99)
28.	Quality of air	0	1	2	3	4	5	6	7	DK/RF (99)
29.	Quality of water	0	1	2	3	4	5	6	7	DK/RF (99)
30.	Quality of land	0	1	2	3	4	5	6	7	DK/RF (99)
31.	Wildlife conservation	0	1	2	3	4	5	6	7	DK/RF (99)

32. If there were a public referendum calling for an increase in state taxes to solve environmental problems throughout Michigan that would cost the average family about $25-$35 a year, would you vote for that referendum?

YES	1
NO	0
NOT APPLY	2 (go to 34)
DK/REF	9 (go to 34)

33. (IF YES OR NO) If such a referendum were held and you met someone, say, in a lobby, who held a different opinion about the referendum than you held, would you be willing to engage in a discussion about the referendum with that person to express your point of view?

YES (1) NO (0) DK/REF (9)

34. Despite how you personally feel about such a referendum, do you think that a majority of the voters would vote for it?

YES (1) NO (0) DK/REF (9)

35. Do you read the Lansing State Journal?

YES (1) NO (0) (Go to #37)

IF YES: About how many days a week do you read the State Journal?

36. LESS THAN ONE (0) 1 2 3 4 5 6 7 DK/REF (9)

37. Do you read the Detroit Free Press?

YES (1) NO (0) (Go to #39)

IF YES: About how many days a week do you read the Free Press?

38. LESS THAN ONE (0) 1 2 3 4 5 6 7 DK/REF (9)

39. Do you read The Detroit News?

YES (1) NO (0) (Go to #41)

IF YES: About how many days a week do you read The News?

40. LESS THAN ONE (0) 1 2 3 4 5 6 7 DK/REF (9)

41. Generally speaking, do you think of yourself as a conservative, middle-of-the-road, or a liberal?

CONSERVATIVE	1
MIDDLE-OF-THE-ROAD	2
LIBERAL	3
OTHER (Specify)	4 _____
DK/REFUSED	9

42. For how many years have you been living in the community where you now reside?

_____ (fill in) DK/REF (99)

43. Would you please tell me your age?

_____ (fill in) DK/REF (99)

44. How much schooling have you completed?

LESS THAN 8TH	1
8TH THRU 12TH	2
HIGH SCHOOL GRADUATE	3
SOME COLLEGE	4
COLLEGE GRADUATE	5
SOME GRADUATE WORK	6
GRADUATE DEGREE	7
DK/REFUSED	9

45. What is your race?

WHITE	1
BLACK	2
HISPANIC	3
OTHER	4
DK/REF	9

46. What was your total family income last year?

Less than $ 8,000 (1)	YES	NO	DK/REF
Less than $15,000 (2)	YES	NO	DK/REF
Less than $30,000 (4)	YES	NO	DK/REf
Less than $50,000 (5)	YES	NO	DK/REF

47. Record sex (DO NOT ASK): MALE (1) FEMALE (0)

That will be all. Thanks very much for your assistance.

ANY COMMENTS: _____

_____

_____

ENVIRONMENTAL STUDY
WAVE 3

INTERVIEWER: Hello, my name is _____ calling from the College of Communication Arts at Michigan State University. We're interested in finding out people's opinions on matters dealing with the environment. It should only take a few minutes (IF THEY ASK HOW LONG, SAY 7 OR 8 MINUTES).

1. Of the many issues and problems now facing this country, how serious a problem would you say that the issue of the environment is? Base your answer on a zero to seven scale, where zero means it is not serious at all and seven means it is very serious.

   (CIRCLE ONE) 0 1 2 3 4 5 6 7 DK/REF (9)

2. Now, of the many issues and problems facing the Lansing area, how serious a problem would you say that the issue of the environment is? (EXPLAIN SCALE AS NECESSARY).

   (CIRCLE ONE) 0 1 2 3 4 5 6 7 DK/REF (9)

3. Where do you get most of your information about the environment? (OPEN-ENDED. CHECK ALL THAT APPLY.)

_____ NEWSPAPERS	_____ TELEVISION
_____ MAGAZINES	_____ RADIO
_____ CLASSES	_____ OTHER PEOPLE
_____ ON THE JOB	_____ DK/REF (9)
_____ OTHER (explain) _____	

Now I want to talk about some specific environmental matters that other people have told us are important to them. After each one, please tell me how personally important each matter is to you on a scale of zero to seven. Zero means the matter is of no importance to you, and seven means that matter is very important to you.

4.	Disposal of wastes	0	1	2	3	4	5	6	7	DK/RF (99)
5.	Hazardous substances	0	1	2	3	4	5	6	7	DK/RF (99)
6.	Noise Pollution	0	1	2	3	4	5	6	7	DK/RF (99)
7.	Quality of air	0	1	2	3	4	5	6	7	DK/RF (99)
8.	Quality of water	0	1	2	3	4	5	6	7	DK/RF (99)
9.	Quality of land	0	1	2	3	4	5	6	7	DK/RF (99)
10.	Wildlife conservation	0	1	2	3	4	5	6	7	DK/RF (99)

Now please tell me how important you think other people in your community, such as family, friends, and coworkers, regard these matters to be. (EXPLAIN SCALE AS NECESSARY).

11.	Disposal of wastes	0	1	2	3	4	5	6	7	DK/RF (99)
12.	Hazardous substances	0	1	2	3	4	5	6	7	DK/RF (99)
13.	Noise Pollution	0	1	2	3	4	5	6	7	DK/RF (99)
14.	Quality of air	0	1	2	3	4	5	6	7	DK/RF (99)
15.	Quality of water	0	1	2	3	4	5	6	7	DK/RF (99)
16.	Quality of land	0	1	2	3	4	5	6	7	DK/RF (99)
17.	Wildlife conservation	0	1	2	3	4	5	6	7	DK/RF (99)

Now I'm going to read over that short list on environmental matters again. This time, please tell me how important you think the news media regard these matters to be. Once again, base your answer on a scale of zero to ten (EXPLAIN SCALE AS NECESSARY).

18.	Disposal of wastes	0	1	2	3	4	5	6	7	DK/RF (99)
19.	Hazardous substances	0	1	2	3	4	5	6	7	DK/RF (99)
20.	Noise Pollution	0	1	2	3	4	5	6	7	DK/RF (99)
21.	Quality of air	0	1	2	3	4	5	6	7	DK/RF (99)
22.	Quality of water	0	1	2	3	4	5	6	7	DK/RF (99)
23.	Quality of land	0	1	2	3	4	5	6	7	DK/RF (99)
24.	Wildlife conservation	0	1	2	3	4	5	6	7	DK/RF (99)

25. Do you read the Lansing State Journal?

YES (1) NO (0) (Go to #27)

IF YES: About how many days a week do you read the Lansing State Journal?

26. LESS THAN ONE (0) 1 2 3 4 5 6 7 DK/REF (9)

27. Do you read the Detroit Free Press?

YES (1) NO (0) (Go to #29)

IF YES: About how many days a week do you read the Free Press?

28. LESS THAN ONE (0) 1 2 3 4 5 6 7 DK/REF (9)

29. Do you read The Detroit News?

YES (1) NO (0) (Go to #31)

IF YES: About how many days a week do you read The News?

30. LESS THAN ONE (0) 1 2 3 4 5 6 7 DK/REF (9)

31. Generally speaking, do you think of yourself as a conservative, middle-of-the-road, or a liberal?

CONSERVATIVE	1
MIDDLE-OF-THE-ROAD	2
LIBERAL	3
OTHER (Specify)	4 _____
DK/REFUSED	9

32. For how many years have you been living in the community where you now reside?

_____ (fill in) DK/REF (99)

33. Would you please tell me your age?

_____ (fill in) DK/REF (99)

34. How much schooling have you completed?

LESS THAN 8TH	1
8TH THRU 12TH	2
HIGH SCHOOL GRADUATE	3
SOME COLLEGE	4
COLLEGE GRADUATE	5
SOME GRADUATE WORK	6
GRADUATE DEGREE	7
DK/REFUSED	9

35. What is your race?

WHITE	1
BLACK	2
HISPANIC	3
OTHER	4
DK/REF	9

36. What was your total family income last year?

Less than $ 8,000 (1)	YES	NO	DK/REF
Less than $15,000 (2)	YES	NO	DK/REF
Less than $30,000 (3)	YES	NO	DK/REf
Less than $50,000 (4)	YES	NO	DK/REF

37. Record sex (DO NOT ASK): MALE (1) FEMALE (0)

That will be all. Thanks very much for your assistance.

APPENDIX B

NEWSPAPER CODING SHEET

NEWSPAPER CODING SHEET

_____ Coder ID # (1=Tony) (2=Mike) (3=Ron)

_____ Month _____ Day (date of issue)

_____ Paper (1=LSJ) (2=DFP) (3=DN)

_____ Page of first appearance _____ jump (1=yes) (2=no)

_____ Graphics (1=yes) (2=no)

_____ Column inches

_____ Pages in front section

_____ Story weight

_____ Category

01 = Hazardous substances
02 = Disposal of wastes
03 = Quality of water
04 = Quality of land
05 = Quality of air
06 = Recycling
07 = Wildlife conservation
08 = Noise pollution
09 = Other (explain) _____

_____

Headline _____

_____

NOTE

NOTE

[1]Daily newspaper circulation in Ingham County, Michigan, is slightly over 69,000 subscribers. The Lansing State Journal, Detroit Free Press, and The Detroit News account for about 97% of total daily circulation, 73.3%, 19.2%, and 4.6%, respectively.

Source: Circulation 80/81: The annual geographic penetration analysis of major print media. Malibu, CA: American Newspaper Markets, Inc., 1980.

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