

## The Individual Agenda-Designing Process

### *How Interpersonal Communication, Egocentric Networks, and Mass Media Shape the Perception of Political Issues by Individuals*

*The present study combines three data sets: (a) a representative survey among 900 German citizens; (b) a snowball survey among the interaction partners of these interviewees; and (c) a content analysis of newspaper, television, and radio coverage. The measurement of the independent variable was improved by an individual matching procedure of content analysis data and the media use patterns of each respondent. Whereas the aggregate-level analysis shows the usually high correspondence between media and societal agenda, the individual-level comparison of whole issue agendas indicates mutual dependencies, with the personal agenda leading the individual media agenda more frequently. Several path analysis models for single-issue relevance reveal that the importance of an issue in the actually received media coverage exerts only little influence on the assessment of issue importance of a respondent. Instead, personal factors, such as issue involvement, interpersonal communication, and the issue assessment of the network partners, exert a substantial impact.*

During the past 25 years, the agenda-setting approach has maintained a high level of popularity among communication science scholars. The notion that subtle but nevertheless powerful effects of mass media may lie in their selection and presentation of certain issues (and nonpresentation of the other issues) has kept researchers busy. More than 250 empirical tests of the hypothesis followed the seminal study of McCombs and Shaw (1972), who found a strong correlation between the rank order of the most prominent issues in the media coverage of the 1968 presidential campaign (media agenda) and the ranking of the most important political issues according to a



survey (public agenda). Comprehensive reviews of the subsequently performed studies and their differentiated (and sometimes conflicting) results can easily be found elsewhere (Dearing & Rogers, 1996; Protess & McCombs, 1991; Rogers & Dearing, 1988).

To set a framework for further empirical research, McCombs (1981, p. 124) proposed a distinction between different levels of data aggregation. He distinguished between the level of agenda measurement (individual or aggregate) and the range of issues under study (a single issue or a set of issues). The question of whether the supposed media effect is analyzed on an aggregate level (where overall media content and issue perception of a society are compared) or on an individual level (where individual media use and individual issue assessment are compared) has become a crucial point in agenda-setting research (see Eichhorn, 1996). Obviously, the meaning of the results varies according to the research strategy applied. To point out the tension between the different approaches to agenda setting, the present study distinguishes between aggregate-level and individual-level analysis carried out so far, resuming the latter to develop a perspective of individual agenda designing. A German survey is used to carry out a comparison of three different types of agenda-setting effects on different levels of analysis that are based on the same data set—in terms of McCombs, Danielian, and Wanta (1995), mass persuasion effects on the aggregate level, automaton effects for complete agendas on the individual level, and cognitive portrait effects for single issues on the individual level.

#### *Aggregate-Level Versus Individual-Level Perspectives of Agenda Setting*

In the first large-scale panel study of agenda setting, Shaw and McCombs (1977) point out that “the idea of an agenda-setting function of the press is a macro-notion of mass communication influence” (p. 152). As a consequence, the investigation of agenda-setting effects was mostly based on a comparison of the relationship between the share of a given population attributing importance to several issues (in percentage) and the amount of media space devoted to the same issues (in seconds, square inches, or just the number of news items). There is little doubt that an aggregate-level analysis should be an appropriate research strategy if the unit of analysis is in fact a group itself and not the individuals forming that group. There are good reasons to consider agenda setting to a great part as an effect on public opinion and the society as a whole: Issues presented in the mass media serve as a common framework for social interaction and political participation; they provide a background for meaningful communication—“As a general functional

requirement of society, agenda-setting is practically indispensable" (McCombs, 1981, p. 136).

On the other hand, agenda-setting effects are mostly explained by some modified learning theory according to which audiences "learn how much importance to attach to an issue or topic from the emphasis placed on it by the media" (Kraus & Davis, 1976, p. 213). Consequently, agenda setting takes place within the information processing of the single individual, and for validity reasons, the empirical test of the hypothesis should reflect the personalized nature of the supposed effect (Becker, 1982, p. 527). This perspective of an individual-centered agenda-setting approach was already pointed out in the seminal study: According to the authors, "subsequent research must move from a broad societal level to the psychological level, matching individual attitudes with individual use of the mass media" (McCombs & Shaw, 1972, p. 185). Later on, agenda setting was seen as a concept that could serve as a bridge between the different levels of media effects (Shaw & McCombs, 1977, p. 152).

A review of the literature reveals that up to this day, most agenda-setting research has perpetuated the original idea of comparing aggregate agendas, taking advantage of the easily accessible and almost inexhaustible routine data collections offered by polling organizations or the Vanderbilt Archive. This proceeding implies that two independent measures of media content and audience judgments are compared, but the supposed connection between them remains speculative because individual media use (which is supposed to carry the media agenda to the public) is not considered: "Scholars must examine the agenda-setting function of the media in terms of the specific aspects of news reporting to which the consumers were exposed, not in terms of the total coverage given to an issue collectively by various media outlets" (Kim, Shoar-Gaffari, & Gustainis, 1990, p. 9; see also Becker, 1982).

Hence, the use of two highly aggregated data sets has not remained undisputed because it involves the danger of an "ecological fallacy" for the comparison of agendas as well as for the longitudinal analysis of single issues (see Zhu, 1992, p. 836). The phenomenon observed in many sociological studies focuses on the fact that statistical associations calculated on the basis of group means are not suitable estimations for the associations within individuals. A classical case of the ecological fallacy phenomenon is the suicide investigation of Emile Durkheim, who took the suicide rate in different regions of France and drew a parallel to the share of people living in prosperity in these regions. But this comparison does not allow any conclusion (such as Durkheim's) about the individual association between personal wealth and suicidal tendencies (Selvin, 1958).

With regard to aggregate-level approaches in agenda-setting research, neither the most complete time series analysis nor the most sophisticated time series modeling (e.g., Brosius & Kepplinger, 1992; Gonzenbach & McGavin, 1997; Yan, Jiang, Watt, Zhu, & Snyder, 1992) can fill the methodological gap between individual and aggregate data levels to avoid the ecological fallacy problem. Some researchers recognized this trap and tried to meet the requirements of individual-level analysis by splitting the public into different subgroups according to several audience characteristics. With regard to reference groups in society, Shaw and Martin (1992) took a closer look at the agendas of men and women, non-Whites and Whites, young and old, higher- and lower-formally educated, and rich and poor. Their results indicate that issue agendas provided by mass media can serve to overcome traditional social gaps and thus enhance group consensus in society—a result that could be interpreted more pessimistic in terms of the suppression of minority issues and social problems by focusing the public agenda.

Other variables involved in aggregate subgroup analysis include the interpersonal communication of respondents (Wanta & Wu, 1992; Zhu, Watt, Snyder, Yan, & Jiang, 1993), their political involvement (Tardy, Gaughan, Hemphill, & Crockett, 1981; Williams & Semlak, 1978), opinion leadership (Weimann & Brosius, 1994), or need for orientation (McCombs & Weaver, 1985; Weaver, 1980). If the public is not treated as a homogeneous unit but divided into subgroups, then the risk of an ecological fallacy may be reduced.<sup>2</sup> But the crucial point is not completely eliminated because the level of comparison continues to be an aggregate one. The variance in the media content across the sample is suppressed, assuming that respondents perceive the media coverage completely or at least in a representative manner. And to maintain a sufficient sample size, only a restricted set of demographic or personal characteristics can be considered as exerting influence on the agenda-setting process at the same time.

### *Indicators for Individual Agenda-Setting Effects: An Overview*

Real individual-level tests of the agenda-setting approach have been sparse and yielded only little support for a powerful media effect. Apart from the traditional research design with survey and content analysis, Iyengar and Kinder (1987) carried out a series of laboratory experiments where they manipulated the importance of issues in a news program. Their comparison of pretest and posttest scores found strong support for short-term agenda-setting effects of television news on an individual level of analysis. But their

results could not overcome the well-known restrictions due to the limited external validity of the method: The experimental situation controlled possible intervening variables such as the reception patterns of the coverage, and the examinational character of the posttest interview may have favored the recall of media issues covered in the treatment material. All other nonexperimental studies proved a small influence of media importance on individual issue assessment.

In general, few researchers tested the automaton assumption of agenda setting, which says that the agenda of the individuals should exactly reflect their agenda of received media content—a very unlikely expectation (Ramparasad, 1983, p. 127; Weaver, 1984, p. 687) that is close to a hypodermic needle idea of media effects. According to the studies available, the agenda of an individual seems only loosely related to the importance that was attributed to different issues by the coverage of the media that he or she had received. The first research efforts following this most stringent notion of agenda setting were conducted during the 1972 presidential campaign in Madison, Wisconsin. McLeod, Becker, and Byrnes (1974) found not more than moderate support for the basic hypothesis, mostly due to the fact that (a) media and public concern with one issue (Vietnam war) overrode all other effects and that (b) one issue (honesty in government) was covered heavily by part of the media but evoked only little interest among the audience. Accordingly, the study of Weaver, Stehle, Auh, and Wilhoit (1975) showed only weak connections between the individual agendas, and their path analysis of possible intervening variables yielded only nonsignificant results. Another follow-up study by Stevenson and Ahern (1979) reflected the same assumption on media effects: “If agenda-setting is more than a manifestation of a general principle that, on the average, things rise and fall together, a transfer of media agendas to personal agendas should be detectable in those individuals who are exposed to the media” (p. 14). In their study, each respondent’s rank order of six issues was correlated with the agendas of seven different media. If media effects were present on an individual level, then the agenda of a used medium should be more closely related to the individual’s agenda compared to the agenda of a nonused medium. This held true only for two of the seven media under study, and the differences were nonsignificant in both cases. The second part of the article contains a reanalysis of the 1972 Charlotte Panel Study following the same design as described above. Again, the closeness of fit between the personal agenda and the media agenda was not higher for the user of the respective medium. In sum, “people who were exposed to specific media did not, on the whole, have personal agendas more in tune with those presented by the media than people who were not exposed to those media” (Stevenson & Ahern, 1979, p. 14).

Later, individual-level agenda-setting research concentrated on single issues rather than on issue agendas as a whole.<sup>3</sup> The pioneering study of Erbring, Goldenberg, and Miller (1980) was one of the first to succeed in matching the individual media use of respondents with their perception of important political problems. Media content analysis included the front-page articles of 94 daily newspapers for 10 days within a 3-week period. From a nationwide sample, individual information was available not only on the most important problem but also about the personal issue sensitivity, media use patterns, interpersonal communication activity, and other criteria. The results of the newspaper analysis were matched with the survey data according to the reported media use: Each respondent received the number of stories dealing with a certain issue as a quasi-individual coefficient. Multiple regression analyses revealed only slight relationships between frequency of issues in one's own newspaper and the received salience of the issue.<sup>4</sup> Other variables displaced the media influence, especially the amount of interpersonal communication on politics. Following these results, "media effects are contingent on issue-specific audience characteristics. . . . Thus, media effects are, essentially, audience effects" (Erbring et al., 1980, p. 46).

Pursuing the same research perspective, Huegel, Degenhardt, and Weiß (1989, 1992) conducted a secondary analysis of data gathered during the German elections in 1980. A path analysis model proposed direct effects of received media content, general media use patterns, interpersonal communication, social status, and issue sensitivity on issue salience.<sup>5</sup> Indirect effects should emanate from both the need for orientation and again from social status (via media use patterns and interpersonal communication, respectively). The required matching procedure was based on media contents of 1 week immediately before the survey started. The earlier results of Erbring et al. (1980) could be replicated; as for the issues of foreign policy and social security, only modest effects of media content on issue salience were found. Again, intrapersonal factors exerted a decisive influence—interpersonal communication and the nearness of the respective issue to one's own life produced the highest coefficients. The authors concluded that the agenda-setting effect of the mass media is very sensitive and often overcome by other factors.

Both of these studies share a certain skepticism when it comes to all-embracing and far-reaching statements about the agenda-setting power of mass media detected on the aggregate level (see, e.g., Dearing & Rogers, 1996; Iyengar, 1988). Their empirical results seem to confirm those critics who expressed their suspicion regarding the impressive correlation or regression coefficients shown in aggregate studies: "If the search for contingent conditions shows anything it is the failure of the traditional aggregate

approach" (Blood, 1989, p. 9).<sup>6</sup> At the same time, they referred to a whole set of unsolved methodological problems (e.g., Becker, 1982; Ehlers, 1983; Eyal, Winter, & DeGeorge, 1981; McLuskie, 1992).

*Agenda Designing: A Model of  
Individual-Level Agenda Setting*

As a consequence of the tension between the conflicting results concerning the agenda-setting effect on different levels of analysis, the present study proposes a clear distinction between individual agenda-designing and social agenda-setting processes. Although the latter are well-proved by dozens of studies and fit perfectly into a theory of social systems (e.g., Luhmann, 1996), the suggested model of individual agenda designing takes into account that the individual assessment of issue importance has to be seen as an outcome of an evaluation process where a whole set of different intrapersonal, interpersonal, and medial factors work together to determine the personal importance of an issue. Using the term "designing" instead of the traditional term "setting" refers to the observation that the importance that people assign to certain issues is not exclusively set by the mass media rather than individually designed by people based on various sources for their evaluation.

- Obviously, presentation of issues in the mass media content that people actually receive should be relevant for issue assessment as predicted by the agenda-setting hypothesis.
- As another source for issue information, interpersonal communication about a political issue with other people can enhance or diminish the individual importance of the issue. According to Shaw (1977), interpersonal communication represents a functional alternative to media use, but most agenda-setting studies have taken only little effort to collect the necessary information. Interpersonal communication is most often measured at a global level asking, for example, how often a person talks with others about politics. Usually, there is no disaggregation of the interpersonal communication about different issues (see Wanta & Wu, 1992). McLeod, Kosicki, and Pan (1991) pointed out that the mere frequency of interpersonal communication does not allow any conclusions whether the agenda-setting effect of mass media coverage is enhanced or inhibited. Instead, the impact of media on individual agendas will vary according to the content of political discussion.
- A second interpersonal factor may be conceptualized as the issue preferences of the people in one's communication network: The perception, which issues are important to the people we discuss the problems with most often, may exert an influence on our assessment of this issue. A common agenda of issues can serve as a coorientation factor protecting us from isolation in our immediate environment. Consequently, as



Ball-Rokeach (1985) put it, agenda-setting research should “bring in interpersonal networks into the agenda-setting hypothesis as a key intervening variable between the media system and the individual” (p. 502). This suggestion has not been followed so far, probably due to the enormous empirical efforts required: The analysis has to be conducted on an individual level centered around single persons and their networks. Existing data sets available for secondary analysis never include information about each respondent’s network partners. So even though ambitious path analysis models have exhausted themselves in the comment, future research should incorporate data on individuals’ egocentric social networks (Huegel et al., 1989, p. 206).

- As previous studies have shown, issue assessment is dependent on intrapersonal factors as well. In particular, the issue involvement of the individual should determine his or her perception of an issue being important or not important. Issue involvement may result from the impression that an issue touches one’s own course of life, no matter if this influence factually exists or is only perceived by a person. Thus, measurement of this variable can be realized by using indicators of issue sensitivity (Erbring et al., 1980)—for example, the membership in a trade union indicating sensitivity for the issue of a planned strike or by the researcher asking the respondent about the issue involvement that he or she personally feels.
- Finally, mutual dependencies between the specified constructs must be taken into account. The degree of correspondence with one’s communication network may as well be connected with the interpersonal communication about an issue and the assessed issue involvement, which itself may be influenced by the received media coverage and exert an influence on interpersonal communication. These possible interactions contribute to the empirical model of the agenda-designing process specified in Figure 2, as well as the basic assumptions about their relations with the dependent variable of issue importance.

To integrate these different factors, the concept of schematic information processing can be introduced as a frame of reference (e.g., Brosius, 1991; Eichhorn, 1996; Miller & Asp, 1985; Price & Tewksbury, 1995). Based on the work of early psychologists such as Frederick Bartlett, Taylor and Crocker (1981) provide a definition of a schema as

a cognitive structure that consists in part of the representation of some defined stimulus domain. The schema contains general knowledge about that domain, including a specification of the relationships among its attributes, as well as specific examples or instances of the stimulus domain. . . . Schemas lend structure to experience. (p. 91)

The representation of an issue in the received media coverage may be one element that contributes to the cognitive representation of the issue in one’s



mind; some other factors influencing the respective issue schema are mentioned in the agenda-designing model above. So schematic representation is not determined only by media coverage but merges it with other influences such as personal experiences and attitudes, interpersonal communication, or the perceptions of one's peer group (Fiske & Taylor, 1984; Wicks, 1992). In addition, new information on the importance of issue meets existing schemata and is interpreted in light of former issue importance. Respondents are by no means simple counting mechanisms that register information, store it unchanged in some kind of memory, and recall it upon a certain stimulus, assessing importance by a simple comparison of counts. To put it with Gestalt psychology: The whole may be more or less but in any case something completely different than the sum of its parts—parts that are addressed by the agenda-designing process with regard to the intrapersonal, interpersonal, and media factors mentioned above. And the results of this schematic information processing should differ between respondents because no two people have exactly identical issue representations in their minds.<sup>7</sup>

*Testing Agenda Setting on Different  
Levels of Aggregation: A German Study*

The present study was especially designed for the analysis of the agenda-setting function of mass media from three different perspectives, its connection with the importance of political issues in people's egocentric networks, and the influence of interpersonal communication about political issues. Data collection is basically oriented toward an individual-level approach and takes up the statistical procedure of calculating structural equation models for each issue under study (Type 4: cognitive portrait effects). Furthermore, including a whole set of issues in the survey allowed us to test the agenda-setting hypothesis from two other perspectives with the same data set (see Figure 1): the comparison of whole media and public agendas on an individual level (Type 2: automaton study) and the same on an aggregate level (Type 1: mass persuasion study).

The survey covered nine political issues that were formulated with regard to the factual political events rather than employing the usually broader categories of political domains. Issues covered different levels of obtrusiveness, actuality, and distance to Germany, and the study was performed in a nonelection context to describe agenda-setting effects in "normal" periods of political coverage. Unexpectedly, however, 2 months prior to fieldwork, the Berlin wall came down. Considering this extraordinary political situation, we came out with the following issues to be integrated into the survey:

| Measurement of the agenda |  |   |
|---------------------------|--|---|
| Focus of attention        | Aggregate data   | Individual data   |
| Set of issues             | Type 1<br><b>Mass persuasion studies</b><br>Cross-lagged correlations<br>for two panel waves | Type 2<br><b>Automaton studies</b><br>Individual-level comparison<br>of own issue agenda and received<br>media agenda   |
|                           | Type 3<br><b>Natural history studies</b><br>(not included in the present study)              | Type 4<br><b>Cognitive portrait studies</b><br>Individual-level explanation<br>of a single issue's importance<br>by its importance in the received<br>media and other factors |
| Single issue              |  |   |

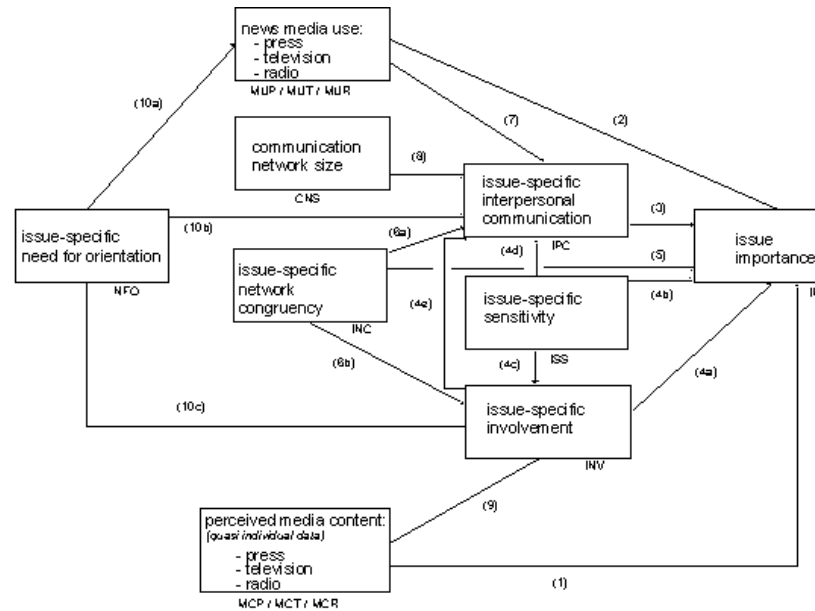
**Figure 1. Scope and Methods of the Present Study According to the Typology of McCombs, Danielian, and Wanta (1995, p. 285)**

- three issues dealing with the changing relationships between both German states: (a) the discussion around the German reunification, (b) the problem of German Democratic Republic (GDR) migrants coming to West Germany, and (c) the forthcoming free elections in the GDR;
- three issues dealing with international affairs: (d) the uprising in Romania and the killing of Ceaucescu, (e) the United States invasion in Panama, and (f) the civil war in Azerbaidshan; and
- three issues dealing with domestic politics: (g) the threat of a trade union strike, (h) the Schmaehling affair around the dismissal of an army general, and (i) the introduction of new traffic fines.

Due to space restrictions, only a selection of the variety of results can be presented here; for a complete documentation of findings, see Roessler (1997).

The aggregate-level analysis is based on a two-wave population survey and a content analysis of major news items in different media (as explained elsewhere). The resulting issue agendas were first compared for a cross-section sample in order to replicate the proceeding of McCombs and Shaw (1972). A second step of analysis moves to a dynamic view with the calculation of cross-lagged correlations between the two points in time.

For our automaton study, the idea of comparing sets of issues was applied at the individual level of analysis as proposed by the earlier work of Weaver et al. (1975) and Stevenson and Ahern (1979). Here, the personal issue agenda of every single individual in the survey was determined by a rank order of the nine issues under study. This agenda was compared with different agendas representing the importance of issues in those media actually received by the respective individual (for details of the matching procedure, see the section below).



**Figure 2. Theoretical Model (Structural Equation) for an Individual-Level Analysis of Agenda Designing**

The empirical model of agenda designing, which represents the main focus of interest here, is displayed in Figure 2. (1) According to the basic agenda-setting notion, there should be a direct effect of the media contents received by the individual on issue importance. (2) In addition, effects of general news media use (regardless of particular content) must be taken into account (Erbring et al., 1980), assuming that a higher amount of news consumption will lead to higher importance of all political issues.

Previous research on an individual level showed a strong influence of interpersonal communication on issue importance: The degree to which people had already spoken with others about the issue came out as a strong mediating factor for the assessment of issue importance (Huegel et al., 1989). In addition, issue involvement and issue sensitivity of the individual may exert an influence on whether the individual's perception of an issue is personally important (Erbring et al., 1980). According to the schematic processing theory, issue sensitivity, conceptualized in terms of more formal demographic characteristics, should provide a background for issue-specific involvement assessments and the interpersonal communication activity. The latter two should be mutually connected; with reference to earlier work

(Huegel et al., 1989), the present study assumes an influence of the issue involvement on the intensity of interpersonal communication rather than the other way around. Representing an additional influence on this perception, the congruency of the individual and his or her communication network with regard to the importance of an issue is added in this model for the first time, as proposed earlier (Ball-Rokeach, 1985, p. 502; Huegel et al., 1989, p. 206). People do not only rely on media for political information; the perception of peer group's agendas may modify an individual's agenda as well. As a consequence, network congruence also should be able to exert indirect effects via interpersonal communication—important issues will probably be a topic of discussions—and issue involvement—the relevance of an issue for people around us may stimulate the perception that this issue touches one's own life. Both assumptions are not yet supported by earlier studies because the communication network has not been introduced into agenda-setting research before. On the other hand, it was already shown that in Germany, media issues are heavily stimulating interpersonal conversations (e.g., Kepplinger & Martin, 1986); therefore, general use of the different news media may increase the amount of discussions about political issues. The same holds true for the size of the communication network: If people have a larger number of acquaintances, then their opportunities to talk about important issues should increase and thus the amount of interpersonal communication will increase. Earlier research on the effects of different types of media presentations indicated that media coverage (particularly in the case of the television) can evoke involvement within the audience (Eichhorn, 1996). Thus, issue involvement of the individual may partly be an outcome of the received media content. Originally, the idea of a need for orientation mediating agenda-setting effects followed a two-step conceptualization (Weaver, 1977). Accordingly, the model assumes that need for orientation will stimulate media use; furthermore, an influence on interpersonal communication (as a potentially alternative source for political information) and issue involvement (as a result of a perceived need for orientation) cannot be ruled out (Huegel et al., 1989).

Summing up, this agenda-designing model integrates the following:

- a varying number of exogenous media content variables as a result of a matching procedure with content analysis data and determined by a preliminary regression analysis (quasi-individual data);
- one exogenous network congruency variable as a result of matching the individual's issue assessment with a snowball sample survey (quasi-individual data);

- two more exogenous variables (size of communication network, need for orientation) as part of a respondent's questionnaire (individual data); and
- seven more endogenous variables (use of press, television, and radio; interpersonal communication; issue involvement; issue sensitivity; issue importance) also ascertained in the respondent's questionnaire (individual data).

*Data Collection and  
Operationalization of the Variables*

The fieldwork for the present investigation was conducted using a probability sample of 900 persons in three different communities in the state of Baden-Wuerttemberg (January and February 1990). The oral interviews of respondents were carried out by a professional sampling institute based on the data of local registration offices.<sup>8</sup> As part of the questionnaire, the social contacts were recorded by using the concept of ego-centered networks; the operationalization followed the name generators developed by Burt (1984) and Fischer (1982). The interviewees could name up to 10 persons whom they had as interaction partners in various contexts.<sup>9</sup> This procedure allows a more detailed description of ego-centered networks compared to general questions on the number of acquaintances. At the same time, respondents were asked to name the addresses of these interaction partners for a second survey. Altogether, 422 persons were willing to do so, which led to 976 valid addresses. The second survey was carried out by mail in March 1990 and split into two parts; first, the 900 interviewees who participated in our first survey were contacted again. Second, a more extensive questionnaire was sent to the 976 interaction partners. The completion rate after one reminder amounted to about 50% for the second survey wave and ended in (a) a panel population of 476 respondents and (b) a snowball population of 550 persons. Connecting the two samples, we could identify a core sample of 180 persons who took part in both surveys and for whom at least one interaction partner completed an interview.

Initial tests revealed no significant differences between the core sample and the basic sample for various sociodemographic features (e.g., age, sex, status, profession). Because relevance congruency<sup>10</sup> of an individual with his or her network is crucial for the argument outlined in this article, the results referring to the path analysis model (see Figure 2) are based on this core sample of 180 persons.

Previous studies found the optimal time span for agenda-setting effects to be about 1 month (e.g., Eaton, 1989; Gonzenbach, 1992; Wanta & Hu, 1994;

Winter & Eyal, 1991). Accordingly, a media content analysis was performed for a period of 6 weeks preceding the first survey until the end of fieldwork for the second survey. The analysis covered newspapers, television, and radio.<sup>11</sup> Altogether, 16,358 news items were coded with regard to date, layout features, and the main issue. For each news item, an attention index value was compiled that was based on the length of the article or duration of the report, its position in the copy or the program, headline size (print media only), and number and size of additional features such as pictures, news films, or commentaries.<sup>12</sup> These values were later allocated to respondents according to their media use. (For a description of the procedure, see below.)

The respondent's variables that entered the structural equation model or were used for aggregation procedures, respectively, were operationalized as follows:<sup>13</sup>

*Issue importance.* Each of the nine given issues was rated on a 5-point scale from *personally very important* to *personally not important at all*.<sup>14</sup> For the analysis of complete agendas, respondent's answers were combined to an individual ranking of issues.

*Interpersonal communication.* As a combination of two questions, the interpersonal communication about each issue could be classified as (a) respondent had no interpersonal communication about the issue at all, (b) respondent spoke at least once about the issue with other persons, or (c) respondent assessed interpersonal communication as being his or her most important information source for this issue.

*Issue sensitivity.* Issue sensitivity is the individual-level measure of real-world influence on issue perception (Erbring et al., 1980, p. 25). For the issue of "trade union strike," the index value includes union membership and labor profession. For the issue of "elections in the GDR," the index value includes being a GDR migrant, knowing GDR migrants, or knowing people living in the GDR.

*Issue involvement.* Issue involvement is the individual-level measure of issue obtrusiveness (Weaver, Graber, McCombs, & Eyal, 1981, p. 105), which is measured by a 5-point scale for the perceived influence of an issue on one's own life (see Lasorsa, 1991, p. 137).

*Communication network size.* Communication network size is measured as the total number of persons named as communication partners on four stimuli questions (0 to 10).<sup>15</sup>

*Network congruency.* Network congruency is measured as the degree of correspondence between the respondent's assessment of issue relevance and the issue relevance rated by his or her communication partners. Data from the snowball survey were matched by calculating individual divergence values for each respondent and each issue (respondent's assessment minus mean of his or her interaction partner's assessments).

*Need for orientation.* Need for orientation is an issue-specific measure of potentially active information seeking by the individual respondent (Weaver, 1977). The index includes general interest in politics and uncertainty in opinions related to the respective issue (both on a 5-point-scale, index values 2 to 10; variable correlations between .27 and .45, depending on the issue).

*Media use patterns.* Media use patterns includes various self-assessments of the duration of daily news viewing, listening, and reading of different media, as well as the general frequency of use of news contents in newspapers or broadcast media, put together in a factor analysis. Three factors could be identified and unequivocally be related to print, television, or radio use patterns. The three individual factor scores served as personal indicators in the following analysis.

*Received issue content from mass media.* In an extensive matching procedure, data gathered by the media content analysis were merged with the survey data (Erbring et al., 1980, p. 21) in four steps: (a) the prominence of each issue was calculated based on the content analysis data—the attention indices of all media items referring to this issue were added up separately for each media source and for three time spans (2, 4, 6 weeks) preceding each date of the interviewing period; (b) next, these content analysis data were transferred to the survey data set—each respondent was provided with all media content variables corresponding to his or her personal date of interviewing; (c) these indices were then individually weighted by the media use patterns of each respondent as displayed within the interview (e.g., for a non-reader of a newspaper, his or her index value for this newspaper was set to 0, for a reader, the index value was weighted according to the number of issues read during the last 2 weeks, etc.); and finally, (d) the different values for all media sources were added up to a personal overall index for print, television, and radio representation of a certain issue in the media that the single respondent used.

The process of matching content analysis and survey data on an individual level is a basic requirement for the intended test of the agenda-setting



hypothesis. At the same time, the present study was able to improve other empirical compromises made in the previous work by Erbring et al. (1980) and Huegel et al. (1989): The study is not based on a secondary data analysis in which problems in harmonizing different data sources are inevitable (e.g., Huegel et al., 1992, p. 149f) and restrict the validity of the results. The measurement of the dependent variable did not rely on the open-ended questions of the previous studies, in which only a simple dichotomous categorization in "issue named as being important" or "issue not named as being important" was possible. Instead, a standardized rating for all respondents and all issues provided a more differentiated assessment of individual issue importance. Whereas previous studies integrated only a small part of the media coverage (short time span, selection of media), the present analysis refers to a variety of different news media and a complete coding of media coverage for more than 3 months. In addition, media relevance of an issue is not assessed by the mere number of stories but takes different characteristics of presentation into account.<sup>16</sup> The merging process is refined by a weighting procedure based on the particular interviewing date of each respondent (Huegel et al., 1989) and the detailed media use patterns of each respondent. As proposed by earlier studies, the influence of variables other than media coverage is specified by the individual-level measurement of the issue relevance prevalent within the egocentric network of each person. Representing a complement of issue sensitivity inferred from indirect indicators (Erbring et al., 1980), personal involvement was questioned directly.

For the aggregate-level analysis of whole agendas, issue importance and received media content variables for each of the nine issues were transformed into a rank order of issues. Accordingly, the issue-specific interpersonal communication and need for orientation variables had to be aggregated to index variables. Although the compilation of overall agendas for the complete survey sample and the media coverage, respectively, was an easy task, compilation of individual agendas required some effort: For each of the 789 respondents in the first survey who provided assessments of issue importance for at least four of the nine issues,<sup>17</sup> the information was transformed into his or her personal agenda of important political issues. In addition, received media content variables also were processed to form 789 individual media agendas. In the next step, 789 rank-order correlations were calculated, which indicated how close the individual's agenda responded to the agenda presented in his or her received media coverage before the survey. This indicator was labeled "agenda agreement." Finally, this procedure was repeated for the media coverage following the survey in order to check for the emergence of reversed agenda-setting effects, with audience concern stimulating media coverage.

*Findings for a Set of Issues:**Mass Persuasion and Automaton Effects*

A first step of analysis following the traditional research design of McCombs and Shaw (1972) compares aggregate measures of media and public agendas. These comparisons use agendas of nine issues; as a consequence, the evaluation of correlation coefficients is based on  $N = 9$ . Overall rankings of the nine issues under study were differentiated by the three different media and two audience attributes (the general need for orientation and the amount of interpersonal communication on political issues as a whole). As a result, the issue of the German reunification topped all of the agendas, followed by the GDR migrants in the first panel wave and the elections in the GDR in the second wave. Other issues of a certain interest both in the media and for the public were the civil war in Azerbaidshan and the trade union strike in Germany. In a static design for Sample Point 1, the correlation (Spearman's Rho) between media and public agenda reaches .69, which is statistically significant for  $p < .05$ . Correlations are slightly stronger for the print agenda (.83) than for the radio (.57) and television agenda (.48). On the aggregate level, splitting the population into three groups with a high, medium, and low need for orientation has no impact on the magnitude of the correlations, whereas agenda-setting effects are slightly higher for persons with a high level of interpersonal communication (.76 vs. .71 and .66 for groups with a medium or low level).

Introducing the panel design,<sup>18</sup> a calculation of cross-lagged correlations<sup>19</sup> supports the aggregate agenda-setting effect in the case of television coverage, in which a coefficient of .88 exceeds the baseline coefficient of .59 following the formula of Rozelle and Campbell (1969, p. 78) and the coefficient for the reverse effect (.78). But for print coverage, a reverse effect of the public agenda in the first panel wave on the media agenda in the second wave can be found (.85, baseline of .59). A calculation of the path coefficients as suggested by Heise (1970, p. 7) leads to the same results—an agenda-setting effect for television news ( $P_f = .93$  vs.  $P_e = .25$ ) and a reverse effect for newspaper content ( $P_e = .75$  vs.  $P_f = .50$ ). Measures on aggregate level support the notion of a close relationship between the media's ranking of political issues and the population's assessment of important issues. Even if the direction of the influence seems to be vague, these results indicate a bonding mechanism (Schoenbach & Weaver, 1985) with regard to political problems on a broader societal level.

Moving to an individual-level analysis, the notion that it seems not very likely that any individual should be characterized by an exact match between the media and his or her own agenda without a sign of personal modification

(Ramparasad, 1983, p. 127; Weaver, 1984, p. 687) is supported by the data. Individual correlations on a high level in the assumed direction ( $p < .05$ )—the so-called automaton effects—are true for not more than 20% of the sample. For these respondents, the agenda of their received media content correlates with their personal agenda of issue importance.<sup>20</sup> On the other hand, the reversed effect is significant for about a third of the sample—here, the individual's agenda seems to lead the media agenda received in the future.

The prevalence of one of these contradictory effects was determined by individually assessing the difference of the correlation coefficients. Hence, about 11% of the people in the sample were best described by an agenda-setting effect alone, whereas 46% were best described by a prevailing reversed effect. For the remaining 43%, mutual dependencies between agenda-setting and reversed effects were detected. The efforts to explain the variance in the two agenda agreement variables by intrapersonal factors were not successful: As the only result, there is a slight tendency that an individual agenda-setting effect now coincided with newspaper use, whereas the reversed effect was influenced by a stronger use of television news (Roessler, 1997, p. 360).

*Findings for Single Issues on an Individual Level: The Agenda-Designing Process*

The principal agenda-setting notion assumes a positive connection between received media content and attributed issue importance. A preliminary analysis should demonstrate this relationship for at least some of the compiled media content variables. Multiple regression analyses of each issue importance rating on the nine estimations of received media content (print; TV; radio for 2, 4, or 6 weeks) were carried out entering all media variables into the equation at the same time for the total sample of respondents. For clearness of presentation, Table 1 displays only the significant beta values ( $p < .05$ ) identified in each of the nine equations.

The results are mixed and confirm earlier findings of moderate media effects. The overall explanatory power of the media variables reaches a maximum of 7% for the issue of elections in the GDR (multiple  $R = .26$ ). The weakest regression model had an explained variance of less than 1% (for the issue of trade union strike). Obviously, the prominence of an issue in the news media coverage received by the respondent has only very little influence on the importance assigned to the issue by the individuals. Altogether, only 12 of the 81 coefficients were in the predicted direction and reached level of significance. This failure cannot be traced back to the media content sample used because, for the specified time span, the full coverage of relevant news media

Table 1  
*Effects of Received Media Salience on Individual Issue Importance for Nine Issues*

| Media Sources<br>and<br>Time Span | Issues                   |                        |                            |                       |                                      |                               |                           |                               |                               |
|-----------------------------------|--------------------------|------------------------|----------------------------|-----------------------|--------------------------------------|-------------------------------|---------------------------|-------------------------------|-------------------------------|
|                                   | New<br>Traffic<br>Fines* | Elections<br>in<br>GDR | Killing<br>of<br>Ceaurescu | Schmaehling<br>Affair | Discussion<br>About<br>Reunification | Civil War<br>in<br>Azerbaijan | Trade<br>Union<br>Strike* | GDR<br>Migrants<br>to Germany | U.S.<br>Invasion<br>in Panama |
| Print                             |                          |                        |                            |                       |                                      |                               |                           |                               |                               |
| 2 weeks                           |                          | .38                    | -.16                       |                       |                                      |                               |                           |                               |                               |
| 4 weeks                           |                          | -.23                   |                            |                       |                                      | .14                           |                           |                               |                               |
| 6 weeks                           |                          |                        | .18                        |                       |                                      |                               |                           | .12                           | .18                           |
| Television                        |                          |                        |                            |                       |                                      |                               |                           |                               |                               |
| 2 weeks                           |                          | .07                    |                            | .30                   | .07                                  |                               | -.07                      |                               |                               |
| 4 weeks                           | .08                      |                        |                            |                       | .08                                  |                               |                           | .15                           | -.10                          |
| 6 weeks                           |                          |                        |                            |                       |                                      |                               |                           |                               |                               |
| Radio                             |                          |                        |                            |                       |                                      |                               |                           |                               |                               |
| 2 weeks                           |                          |                        |                            | -.16                  |                                      |                               |                           |                               |                               |
| 4 weeks                           |                          | .12                    |                            |                       |                                      |                               |                           |                               |                               |
| 6 weeks                           |                          |                        |                            |                       |                                      |                               |                           |                               |                               |
| Multiple <i>R</i>                 | .08                      | .26***                 | .16***                     | .23***                | .13**                                | .14***                        | .07                       | .20***                        | .16***                        |
| <i>N</i> of cases                 | 650                      | 872                    | 863                        | 406                   | 888                                  | 751                           | 608                       | 884                           | 613                           |

*Note.* Multiple regression analysis; only significant beta values displayed for  $p < .05$ . First survey wave: complete sample. GDR = German Democratic Republic.

\* $p < .10$ . \*\* $p < .05$ . \*\*\* $p < .001$ .

was analyzed. Plausible explanations based on the nature of the respective issue are not identifiable (e.g., for the civil war in Azerbaidshan, no significant television effects emerge, although the news showed impressive and emotional pictures of war action and people suffering). Due to the fact that media coverage was established for every respondent within similar time spans preceding his or her personal interview, a causal interpretation is possible: The study detects only limited direct effects of the media representation of an issue on the subsequent intrapersonal importance of this issue. Furthermore, 5 out of the 17 significant beta weights have a negative sign, which means that increasing prominence in media coverage decreased the personal importance of the issue—a phenomenon that was described before as agenda deflating (Schoenbach & Semetko, 1992).

With regard to the different media, radio coverage seems to exert the least influence because only two significant coefficients show up in all nine equations. For the received television news content, only in the case of the Schmaehling affair was a considerable short-term effect detected; all other betas, even if they reach level of significance, can be neglected. Newspaper beta weights turned out to be somewhat higher, but again there is only one strong connection for the issue of the elections in the GDR. Here, a rise in the received short-term print coverage contributed to a rise in individual issue importance as predicted by the agenda-setting hypothesis.

Further considerations will focus on the two issues with the maximum or minimum media influence, respectively: elections in the GDR or trade union strike. For both issues, a separate structural equation model was calculated that followed the path diagram in Figure 2 and included the media content variables that produced a significant influence in the preliminary regression model.<sup>21</sup> Variance explained of the dependent variable exceeds 30% in both cases. The coefficient of determination for elections in the GDR (trade union strike) reached .63 (.61), the goodness-of-fit index (GFI) reached .93 (.98), and the adjusted goodness-of-fit index (AGFI) reached .76 (.93).<sup>22</sup> The stability coefficient of .28 (.27) remained far below the critical level of 1.00, and root mean residuals did not rise above .10 (.09/.07). All variable relations are directed, because no feedback loops were intended, and both models were identified (Joereskog & Soerbom, 1989). To improve the readability of the diagrams, all nonsignificant paths are omitted. Paths with  $p < .001$  are printed in bold.<sup>23</sup> The path coefficients shown are gamma values for the relationship between exogenous and endogenous variables and beta values for the relationships among endogenous variables as specified above; they can be interpreted similarly to the beta values in regression analysis.<sup>24</sup>

Beginning with the issue of elections in the GDR, the original influence of the media content variables indicated in the regression analysis is

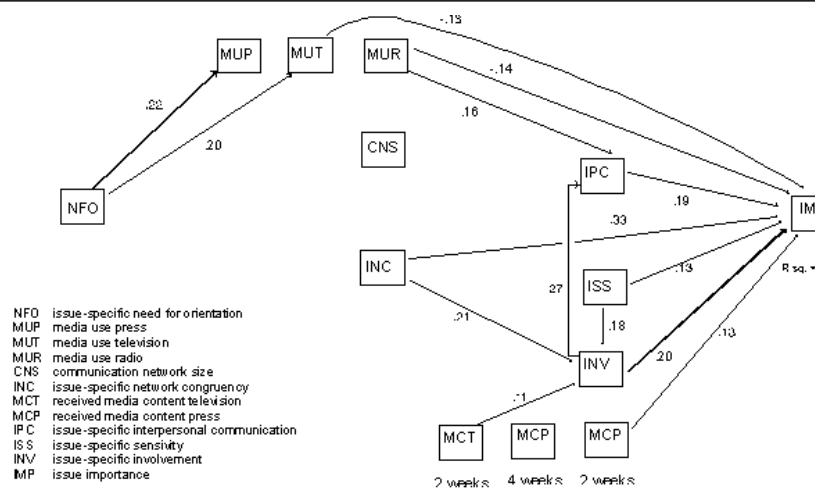


Figure 3. A LISREL Model for the Issue of Elections in the German Democratic Republic (core sample,  $n = 167$ )

dramatically reduced when other variables are taken into account (see Figure 3). Only the coverage of the newspapers read during the last 2 weeks is connected with the personal issue importance at a statistically significant level (.13).<sup>25</sup> Instead, the relevance congruency with the interpersonal network displays the highest path coefficient (.33). The homogeneity of the individual's assessment of importance and the assessment of his or her interaction partners is the strongest predictor for personal issue importance, and the relationship is positive: As far as the elections in the GDR are concerned, the issue is more important if the people in one's network attribute the same importance.

The impact of the network is even higher than the impact of the amount of interpersonal communication (.19). Nevertheless, the more an individual talks about the issue, the higher is the personal importance of the issue. An equally strong predictor is the issue involvement of the respondent (.20). The feeling that the issue has an impact on one's own life leads to higher individual importance. On the other hand, the path coefficient for the issue-specific sensitivity reaches only a moderate path coefficient of .13. As a more formal indicator for involvement, personal contacts to current or former GDR citizens display some influence on issue assessment; but in addition, there is a mediated influence of issue sensitivity via the issue involvement (.18). The same pattern can be found in connection with the network congruency of issue relevance because this variable coincides also with issue involvement (.21).<sup>26</sup>

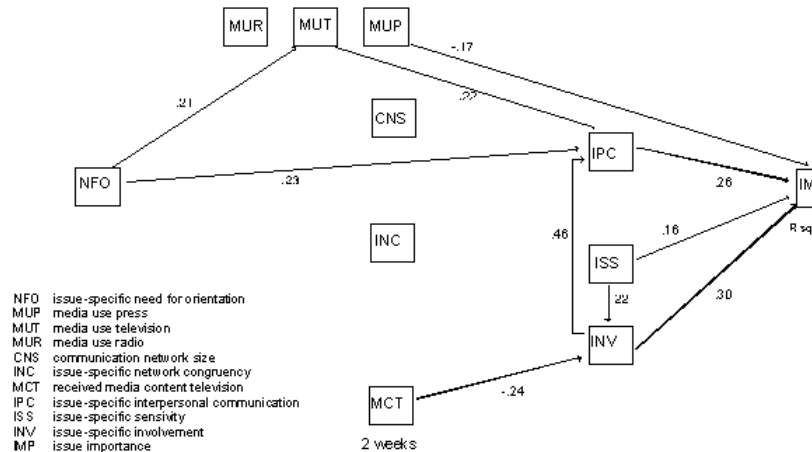


Figure 4. A LISREL Model for the Issue of Trade Union Strike (core sample,  $n = 120$ )

As predicted by the need for orientation hypothesis, political interest and uncertainty about the issue seem to stimulate the media use of the respondent, at least in the case of television and newspapers, but this is not reflected in a subsequently higher level of importance. Furthermore, the mere use of television news (and the use of radio news) does not enhance issue importance but diminishes it (negative path coefficients of  $-.13$  and  $-.14$ , respectively). With regard to the issue of elections in the GDR, it seems as if the issue-specific need for orientation has missed the second part of its two-step conceptualization. In addition, we find only limited support for the notion that news coverage may stimulate interpersonal communication because there is only one significant path indicating a positive connection between the use of radio news and personal conversations ( $.16$ ): Radio listeners talk more about the issue. On the other hand, the actual size of the communication network has no influence on interpersonal communication activity. Besides, the path diagram offers a second pattern for possible indirect effects of media content on issue importance. In the special case of the elections in the GDR, the television coverage in the 2 weeks preceding the interview contributed to issue involvement ( $.11$ ). It seems that rather than conveying an impression of importance, news items in television encouraged the perception that the issue affects one's own life.

One truism of agenda-setting research is that the effects depend fundamentally on the issue examined. So far, the present study is no exception, as can be seen in Figure 4, which displays the path diagram for the issue of the



trade union strike. The preliminary regression analysis detected only little evidence of a media content effect. The integration into the complete structural equation model leaves this path identified but not significant. Instead, the content of the individually received television news during the past 14 days serves as a negative predictor of issue involvement. This means that the more important an issue was presented in television coverage, the less individual issue involvement arose. However, the involvement perception turns out to be the driving force for issue importance both directly (.30) and indirectly (.46) via the interpersonal communication (.26) of the respondent.

The supposed impact of the strike issue on the subjective living conditions is positively related to the amount of discussion. And a higher amount of talking increases the issue importance. There is a comparatively small but substantial contribution of the issue-specific sensitivity of the respondent (.16), which referred mainly to his or her membership in a trade union. Far more striking is the complete absence of network impact. There is no significant path between the network congruency in issue relevance and the issue importance itself. Taking these aspects together, the role of the interaction partners for the identification of important issues can be mediated by strong involvement factors such as trade union affiliation and other individual ties in the perception of a possible subjective impact of the issue. The media use variables again to show only one negative correlation with issue importance, this time in the case of the daily newspapers (–.17). The need for orientation stimulates the use of television news and interpersonal communication (.21 / .23). Talking about the trade union strike was not only encouraged by personal involvement and need for orientation but also directly by television use (.22).

To check the interpretation of data, the following two possible ambiguities in the proposed causal model were clarified by additional data analysis:

1. It could be argued that the causal direction between issue-specific network congruency and issue importance is the other way around, with importance of an issue leading to discussions about that issue and in turn to a consensus among the acquaintances. Referring to an opinion leader perspective, issue assessment of the respondents could then be adapted by their communication network and in turn support their own assessment. As our panel data indicate, network congruency is not influenced by the previous issue importance of the individual because there is no significant relationship between his or her issue assessment in the first wave and the congruency with the network partner's assessments in the second wave. And only in one case (the trade union strike issue), the interpersonal communication about the issue exerts a time-lagged influence; however, this influence is not

directed toward one's assessment of issue importance but toward the issue involvement reported in the second wave.<sup>25</sup>

2. One possible explanation for the lack of impact of media coverage found in the models could be that it was suppressed by the strong influence of other variables, which are highly correlated with the dependent variable. In particular, issue involvement can eventually be traced back to the same theoretical construct as issue importance.<sup>26</sup> Neither replacing issue importance by issue involvement as the dependent variable in the models nor an integration of both factors into one index variable produced an appreciable higher media impact. This result is no surprise considering the earlier results displayed in Table 1 where even in bivariate analyses the influence of issue representation in the received media seemed to be rather limited.

*Individual Agenda Designing and Social  
Agenda Setting: Two Sides of the Same Coin?*

In his critical review of about 20 years of agenda-setting research, Kosicki (1993) developed four types of evidence that should be presented to conclusively demonstrate media effects:

First, researchers should present evidence about the media content that is the purported cause of the effect under consideration. Second, researchers should present evidence that the people alleged to be affected have, in fact, been exposed to the content. Third, researchers should control for other extraneous factors, to guarantee the internal validity of the media effect stimulus and to rule out competing explanations for the effects they find. Fourth, researchers should specify the processes or mechanisms involved in the effect. (p. 107)

Following these criteria, the present multilevel agenda-setting study not only (a) incorporated a careful analysis of media content but (b) connected these data with the media use patterns of the individual respondent. In addition, a whole set of personal variables was conceptualized and measured, including the issue assessment of the communication partners of each respondent. The concluding agenda-designing model integrated media content variables, issue importance, and the mediating personal variables to understand the emergence of political issues within the individual's mapping of "the world outside" (Lippmann, 1922).

The results of this individual-level analysis of the agenda-setting hypothesis could not reveal more than a modest and inconsistent media impact. They do not replicate the straightforward assumption of earlier research based on aggregate data sets: There is no direct influence of the

weight given to an issue in the media on the importance that the individual attributes to the same issue—a fact already observed by Huegel et al. (1989) in the context of German electoral debates. Also corresponding with earlier findings by Erbring et al. (1980), media content effects are limited but at least higher than the impact of overall media use patterns, which were negative in some cases. The weak associations between received media content and issue relevance, however, point in another direction: The present study gives some support to the perspective of a multistep approach to agenda setting (Weimann, 1994) because the issue assessment of the people in one's social network contributes heavily to the individual perception of issue importance, depending on the kind of issue. Consequently, media influence may be conceived as a second-order effect when issues are transferred from the media agendas to the agendas of respondents and at the same time modified in their individual importance. The probability of reaching a higher rank on the respondent's agenda is greater for issues presented prominently in the media. And although each individual processes issue information in its own way, the outcome of many small individual media effects across a whole society may lie in a central tendency of issue assessment, which subsequently leads to the coherent overall media and public agendas found once more in the present study. The individual perception of political issues should rather be following a transactional perspective (Frueh & Schoenbach, 1982; Schoenbach, 1982) with multiple feedback loops constantly fed by the ongoing media coverage and the interaction with communication partners in the egocentric network: A high interpersonal communication activity coincides with higher correlations of the media and the public agenda as shown by our aggregate-level analysis.

Obviously, the present data set reveals an intriguing discrepancy between small, if any, individual-level media effects and the overall correspondence of agendas at an aggregate level. This discrepancy can be traced back through the whole body of communication research, indicating that in fact media effects are multilevel processes (Pan & McLeod, 1991). Although the aggregate-level analysis cannot rule out the possibility of an ecological fallacy, individual-level analysis has to face the pitfalls of simple reductionism as a consequence of the attempt to explain and reconstruct social phenomena from individual-level data (Lemert, 1981). Analyzing agenda setting on both levels with the same data set, the present study indicates that there may be different processes at work on these levels that call for different frames of reference. But it should be noted that the results found are based on the examination of particular factual events rather than broader categories of political domains. Although the former seems to fit better the requirements of a scientific proceeding and category development, people—following a schematic

processing approach—seem to retain little from specific political news but review their broader perspectives in light of new, incoming information about specific events (Graber, 1984). The lack of media effects on the individual level of analysis may partly be due to the fact that the received issue information was processed on a different level of schema representation.

Early research expected agenda setting to be an all-embracing media effects approach (e.g., McCombs & Shaw, 1977, p. 152), but the distinction of individual agenda designing and social agenda setting as subordinate cases of two broader theoretical frameworks provides a more plausible explanation for the conflicting empirical evidence so far. The concept of agenda designing considers media coverage as only one source of information on current political issues. Pieces of information are retrieved from many other sources and permanently modified by discussions with other people or individual processing of the respondent. To escape the ecological fallacy trap, valid assertions about the roots of individual issue importance need verification by individual-level research.

Furthermore, assessment of issue importance—the dependent variable in agenda research—refers to only one dimension of issue representation. Other assumptions about a possible media impact, such as framing (Ghanem, 1997; Iyengar, 1991) or priming (Iyengar & Kinder, 1987; Wilnat, 1997), focus on political issues as well. But they go far beyond the aspect of importance because they indicate more complex consequences of the way that political information is distributed and evaluated. Ignoring the impact of individual issue processing would lead them on the same wrong track that agenda-setting research was close to falling down.

Although the concept of schematic information processing is able to explain most of the previous results obtained in individual-level studies, it seems very remote from the original and basic agenda-setting notion that proposed a direct media effect in the tradition of stimulus-response models. In fact, Plato's allegory of the cave, often cited within the context of agenda setting (e.g., McCombs et al., 1995, p. 281; Shaw & Martin, 1992, p. 917), is not entirely true: People are neither alone in the cave nor are they tied in front of the shadows. We talk with others about the things we see, we connect the shadows with each other and with our own life, and often we dare to turn away.

## Notes

1. The author wishes to thank Hans-Bernd Brosius and Robert L. Stevenson for their critical comments on the first draft of this article.

2. This proceeding implies that personal characteristics are not available as continuous variables for analysis (e.g., to test their interactions with media variables).

3. Another study dealing with a set of issues was conducted recently by Wanta and Hu (1994); they propose a chain effect leading from media credibility to respondents' media dependency, to their media use, and finally, to a similarity between the individual's agenda and the media agenda. But calculations are not based on individual media agendas, and the results do not provide any figures about the actual magnitude of the agenda-setting effect itself.

4. Agenda-setting research lacks a certain precision in its terminology with regard to the specification of the dependent variable (see Myers & Alpert, 1977). Following the definition of Eichhorn (1996, p. 18), this article uses the term "salience" if a measurement of the cognitive availability was applied (open-ended question on important issues) and the term "importance" if an affective evaluation of given issues was realized (e.g., rating on a 5- or 7-point scale).

5. In the original manuscript, the researchers describe their variable as "issue awareness," although their operationalization refers to the traditional open-ended "issue salience" question.

6. As usual in agenda-setting studies using aggregate data, the basis for the calculation of correlation coefficients is not the number of respondents but the smaller number of issues, which requires high coefficients even to reach statistical significance (see Eyal, Winter, & DeGeorge, 1981, p. 217).

7. An extensive examination of the use of schematic information processing for the explanation of the agenda-setting mechanism on individuals was carried out recently by Eichhorn (1996, pp. 64-110).

8. Fieldwork and execution of the present study were supported by a grant from the Deutsche Forschungsgemeinschaft (DFG), which is the central government-sponsored institution for research support in Germany.

9. The stimuli investigated those people with whom each respondent (a) discusses important matters, (b) talks about political affairs, (c) undertakes joint activities in his or her leisure time, or (d) believes that they know what is going on in the world.

10. The present article uses the term "relevance" as a synonym for "importance" only to distinguish between individual issue importance as measured directly and the issue relevance congruency with one's egocentric network (further referred to as "issue-specific network congruency").

11. Print media included the political sections of five daily newspapers and one tabloid, which represented all newspapers that were read by at least 5% of the sample; television media included the main evening news shows of the four most popular channels; and radio media included one morning and one evening news show of a public and a private broadcasting station.

12. All variables were standardized for the respective medium and subsequently summarized in an index value.

13. For a more detailed description of the data collection process, see Roessler (1997, pp. 233-284).

14. The analysis is based on a measurement of individual issue salience, which is the most common operationalization of issue importance in agenda-setting studies; other concepts, such as perceived issue salience or interpersonal issue salience (see, e.g., Becker, 1982), were included in the data collection but did not come out as useful indicators of individual issue importance (see Roessler, 1997, p. 248 ff).

15. Apart from network size, other characteristics, such as network density, homogeneity in age, or homogeneity in formal education, were determined. In a preliminary analysis, none of these variables showed any significant and consistent influence on the other variables and were omitted from the final model (see Roessler, 1997, pp. 301-304).

16. Compared to the mere count of frequencies of news items, using the more detailed attention index led to a rearrangement of the issue agenda with regard to three (newspapers), four (news magazines), two (television), and none (radio) of the nine positions. Because a slight change in the order of issues can result in large effects on the size of the correlations found (see Stevenson & Ahern, 1979, p. 5), a more differentiated determination of media relevance seems appropriate.

17. Because our selection of issues attempted to cover the full range of the political agenda and not only the top issues, it is not surprising that not all respondents were aware of all issues. Importance ratings were collected only if a person had previously heard about the issue.

18. Correlations of media agendas between both points in time were .29 for television and .76 for newspaper agendas.

19. For further explanations on the cross-lagged panel correlation technique and its application in agenda-setting research, see Tipton, Haney, and Baseheart (1975, p. 17) and Gonzenbach and McGavin (1997, p. 119 f). Results for radio were omitted from the presentation because no significant effects could be detected.

20. With regard to the fact that agenda correlations are based on the number of issues (see Note 5), Rho coefficients had to reach at least .60 to be significant for an individual agenda of all nine issues.

21. Due to the variables included, this analysis had to be restricted to the core sample ( $n = 180$ ) of the second panel wave. As far as the influence of media variables is concerned, the only substantial divergence between the two survey waves was a nonsignificant beta coefficient of radio content during the past 4 weeks for the issue of elections in the GDR. Consequently, this variable was not included in the subsequent path analysis. Apart from that, media content variables could be integrated according to the results displayed in Table 1.

22. In addition, the chi-square values for both equations were calculated: elections in the GDR ( $n = 167$ ,  $df = 64$ ),  $\chi^2 = 168.4$ ,  $p < .001$ ; trade union strike ( $n = 120$ ,  $df = 43$ ),  $\chi^2 = 121.1$ ,  $p < .001$ . Because chi-square is in fact a "badness-of-fit" test, these coefficients normally would indicate that there is a significant difference between estimated model and data. Authors have already pointed out that it is characteristic for this type of test that "even if the discrepancy between estimated model and data is very small, if the sample size is large enough, almost any model will be rejected because the discrepancy is not equal to zero" (Hu & Bentler, 1995, p. 81). Therefore, the use of chi-square as a test statistic is described as not valid in most applications (Joereskog & Soerbom, 1989, p. 43). High chi-square values and goodness-of-fit values of .90 and higher at the same time are very common in communication studies (e.g., Hull, Tedlie, & Lehn, 1995, p. 226; Stoolmiller, Duncan, & Patterson, 1995, p. 244); therefore, the results of

Table 2  
*Zero-Order Correlations Between the Variables  
 Included in the Structural Equation Models*

|                             | IMP  | INV  | IPC | INC  | CNS  | MUP  | MUT  | MUR |
|-----------------------------|------|------|-----|------|------|------|------|-----|
| <b>Elections in the GDR</b> |      |      |     |      |      |      |      |     |
| INV                         | .35  |      |     |      |      |      |      |     |
| IPC                         | .28  | .28  |     |      |      |      |      |     |
| INC                         | .42  | .21  | .19 |      |      |      |      |     |
| CNS                         | -.06 | .07  | .01 | -.11 |      |      |      |     |
| MUP                         | .05  | .03  | .09 | .07  | .06  |      |      |     |
| MUT                         | -.12 | .00  | .05 | -.04 | -.10 | .08  |      |     |
| MUR                         | -.13 | -.05 | .11 | -.03 | .13  | -.13 | -.08 |     |
| NFO                         | -.20 | .02  | .01 | -.10 | .38  | .22  | .20  | .15 |
| <b>Trade Union Strike</b>   |      |      |     |      |      |      |      |     |
| INV                         | .44  |      |     |      |      |      |      |     |
| IPC                         | .43  | .44  |     |      |      |      |      |     |
| INC                         | -.06 | .12  | .00 |      |      |      |      |     |
| CNS                         | .05  | .15  | .01 | -.19 |      |      |      |     |
| MUP                         | -.16 | -.04 | .07 | .13  | .07  |      |      |     |
| MUT                         | -.12 | -.24 | .21 | -.04 | -.05 | .02  |      |     |
| MUR                         | .01  | -.18 | .03 | .14  | .06  | -.10 | -.11 |     |
| NFO                         | -.19 | -.04 | .20 | -.17 | .32  | .17  | .21  | .06 |

*Note.* GDR = German Democratic Republic, IMP = issue importance, INV = issue-specific involvement, IPC = issue-specific interpersonal communication, INC = issue-specific network congruency, CNS = communication network size, MUP = media use press, MUT = media use television, MUR = media use radio, NFO = issue-specific need for orientation.

the study are presented instead of significant chi-square values (for an exhaustive discussion of this issue, also see Byrne, 1995, p. 148 f; Hoyle, 1995, p. 6 f).

23. The presentation of structural equation models follows the suggestions of Hoyle and Panter (1995).

24. Furthermore, path models combining the different media variables to one latent factor could not reveal a higher media impact (see Tables 2 and 3).

25. The results of the panel data analysis are displayed in Roessler (1997, pp. 328-335).

26. Additional analysis on the two variables showed that despite the correlation between the two, (a) the absolute ratings of the variables by each single respondent differ considerably (about .90 on a 5-point-scale, depending on the issue) and (b) *t* tests between the two variables indicate significant mean differences for the whole sample (for 8 of the 9 issues under study) (see Table 4).

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Table 3  
*Variable Means and Standard Deviations*

|                      | Mean | Standard Deviation |
|----------------------|------|--------------------|
| Elections in the GDR |      |                    |
| IMP                  | 3.98 | 1.09               |
| INV                  | 3.39 | 1.27               |
| IPC                  | 0.90 | 0.39               |
| INC                  | 1.46 | 0.58               |
| CNS                  | 3.90 | 2.24               |
| MUP                  | 0.32 | 1.01               |
| MUT                  | 0.04 | 0.94               |
| MUR                  | 0.09 | 0.97               |
| NFO                  | 4.58 | 1.32               |
| Trade Union Strike   |      |                    |
| IMP                  | 2.84 | 1.56               |
| IPC                  | 0.72 | 0.59               |
| INV                  | 2.31 | 1.36               |
| INC                  | 1.23 | 0.67               |
| CNS                  | 3.94 | 2.22               |
| MUP                  | 0.41 | 1.05               |
| MUT                  | 0.12 | 0.96               |
| MUR                  | 0.14 | 0.98               |
| NFO                  | 5.15 | 1.43               |

*Note.* GDR = German Democratic Republic, IMP = issue importance, INV = issue-specific involvement, IPC = issue-specific interpersonal communication, INC = issue-specific network congruency, CNS = communication network size, MUP = media use press, MUT = media use television, MUR = media use radio, NFO = issue-specific need for orientation.

Table 4  
*Direct and Indirect Effects of the Variables on Issue Importance in Both Models*

| Variable               | Elections in the GDR |          |       | Trade Union Strike |          |       |
|------------------------|----------------------|----------|-------|--------------------|----------|-------|
|                        | Direct               | Indirect | Total | Direct             | Indirect | Total |
| Need for orientation   | —                    | -.10     |       | —                  | -.16     |       |
| Issue sensitivity      | .20                  | .08      | .27   | .30                | .12      | .41   |
| Received media content |                      |          |       |                    |          |       |
| Television, 2 weeks    | -.01                 | .08      | .07   | .02                | -.06     | -.05  |
| Press, 2 weeks         | .13                  | .11      | .22   | NI                 | NI       | NI    |
| Press, 4 weeks         | .04                  | .05      | .08   | NI                 | NI       | NI    |
| Media use              |                      |          |       |                    |          |       |
| Television             | -.13                 | .02      | -.10  | -.07               | .03      | -.04  |
| Press                  | .09                  | .02      | .10   | -.17               | .01      | -.17  |
| Radio                  | -.14                 | .05      | -.09  | -.04               | .03      | -.01  |

*Note.* NI = variable not included. GDR = German Democratic Republic.

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