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The Role of News Factors in Media Use

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Abstract:

News value research has contributed a great deal to the understanding of the process of news selection. This study takes a fairly uncommon perspective by focusing on the news selection of recipients rather than journalists. It departs from the assumption that journalists and recipients select according to the same general human principles of information processing. Cognitive psychology, in particular the psychology of attention, suggests several explanations for the effectiveness of news factors as selection criteria: News factors indicate relevance and thus are plausible selection criteria that allow for an efficient reduction of world complexity. The impact of news factors on media use is investigated employing content analysis and media use data derived from audience diaries of a week's paper and magazine use. Bivariate analyses of the news factors in articles used and articles not used indicate that news factors influence media use. Respondents prefer articles of high news value to articles of low news value. Multivariate analyses qualified this result showing that not so much the news factors but rather the formal characteristics of an article determine selection. The discussion focuses on the question whether recipients might use formal characteristics as shortcuts for judging the relevance of an article.

Zusammenfassung:

Die Nachrichtenwertforschung hat einen beachtlichen Beitrag zum Verständnis der Nachrichtenselektion durch Journalisten geleistet. Diese Untersuchung betrachtet die Selektionsfrage aus einer ungewöhnlichen Perspektive, indem sie nach der Nachrichtenselektion der Rezipienten, nicht der Journalisten fragt. Wir gehen davon aus, daß Journalisten und Rezipienten Informationen nach den gleichen allgemeinhinlichen Kriterien verarbeiten. Die Kognitionspsychologie, vor allem die Aufmerksamkeitspsychologie, bietet verschiedene Erklärungen für die Wirksamkeit von Nachrichtenfaktoren als Selektionskriterien: Nachrichtenfaktoren zeigen Relevanz an und sind damit plausible Auswahlkriterien im Sinne einer effizienten Komplexitätsreduktion. Der Einfluß von Nachrichtenfaktoren auf die Beitragsauswahl durch Rezipienten wird anhand einer Inhaltsanalyse von Medienbeiträgen und Nutzungsdaten untersucht. Die Nutzungsdaten stammen aus einer Tagebuchuntersuchung, in der die Befragten ihre Printmediennutzung einer Woche notiert haben. Bivariate Analysen des Nachrichtenwertes von gelesenen und nicht gelesenen Artikeln zeigen, daß Nachrichtenfaktoren die Beitragsauswahl beeinflussen: Rezipienten ziehen Artikel mit hohem Nachrichtenwert Artikeln mit weniger hohem Nachrichtenwert vor. Multivariate Analysen modifizieren dieses Ergebnis. Es zeigt sich, daß nicht so sehr die Nachrichtenfaktoren, als vielmehr die formalen Beitragsmerkmale die Artikelauswahl bestimmen. Die Diskussion beschäftigt sich mit der Frage, ob Rezipienten formale Beitragsmerkmale benutzen, um die Relevanz eines Artikels einzuschätzen.

The Role of News Factors in Media Use

1. The concept of news factors

News selection has always been a central issue in communication research. While it seems to be beyond dispute that selection has to take place in order to reduce the complexity of the world surrounding us, the criteria for this process are subject of a continuing debate. The question asked is whether or not the media draw an appropriate (even though reduced) image of reality. One of the research traditions concerned with the problem of news selection is the news value research. Unlike the gatekeeping-approach news value research does not focus on the personal or institutional characteristics of the journalists but on the content characteristics of the mass media, taking the media coverage as a result of the selection process. It is assumed that events have certain characteristics that make them newsworthy. These event characteristics - as perceived by the journalists - correspond to respective selection criteria in the cognitive system of the journalists. The single characteristics are called news factors. News factors thus are perceived event characteristics that serve as selection criteria.

The concept of news factors can be traced back to 1922, when Lippmann discussed several event characteristics lending "news value" to an event and increasing its chances of being published by the media. He suggested five factors making events newsworthy: *sensationalism, proximity, relevance, unambiguity and facticity* (Lippmann 1990: 230ff). Since Lippmann first mentioned news values a large body of research has evolved in the United States and in Europe, with the largest share of research activity in the 60s and 70s (for a review on news value research see Staab 1990a, Eilders 1997). In Europe, researchers from the Oslo-Peace-Research-Institute have established the research tradition, starting with Östgaard (1965), who meta-analyzed several content analyses on the international news flow and found three factors determining selection: *simplification, identification and sensationalism*. Galtung and Rüge (1965) differentiated his concept into twelve factors: *frequency, threshold, unambiguity, meaningfulness, consonance, unexpectedness, continuity, composition, reference to elite nations and elite people, personification, and reference to something negative*. The last four factors are assumed to be culture-bound, meaning they influence the transition from events to news only in the "north-western corner of the world" (Galtung/Ruge 1965). Among others Sande (1971), Schulz (1976, 1982), Peterson (1979) and Staab (1990b) carried on this concept, mostly employing extensive content analyses to investigate the effects of news factors on selection.

Rosengren suggested a very clear classification of the possible selection activities of the media. He distinguishes between "selective, quantitative and qualitative gatekeeping" (Rosengren 1970: 148). Selective gatekeeping concerns the decision whether or not an event will make the news at all. Quantitative gatekeeping refers to the size of an article resp. a tv- or radio report, and qualitative gatekeeping concerns the prominence of presentation (placement in the paper and on a specific page, headline size, color, illustration). Journalists will be more likely to cover an event that they perceive as unexpected than an easily predictable event. They will also be more likely to give the article more room, a larger headline, and place it on page one. Thus, an article is presented the more prominently the more news value it has.

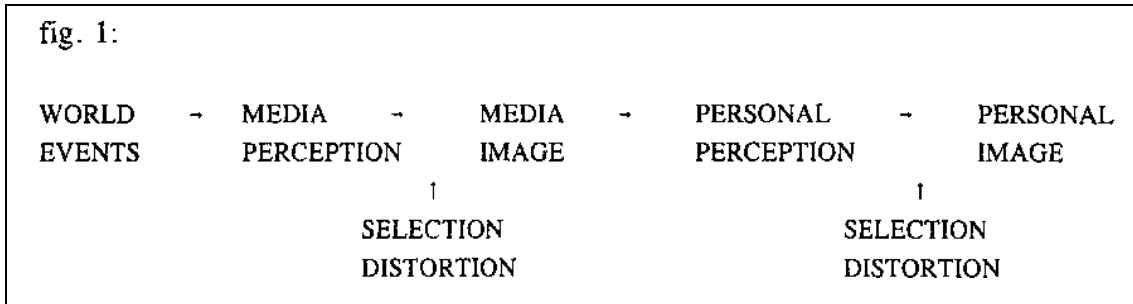
Since we have no direct access to reality, we cannot identify selection criteria by comparing reality and media content (for a discussion on the use of extra-media-data see Rosengren 1970, 1974; Schulz 1976). Thus, content analysis does not allow us to determine, what qualities make an event pass the first threshold of selection. The most common empirical test of the news value theory is relating the prominence of presentation of an article to the number and value of the news factors in the article: Analyzing media content and relating the inherent news factors to size and prominence of the news item, we can at least investigate the criteria for journalistic decisions following the publication decision. It may be assumed that the selection criteria remain constant in the various phases of the process, and therefore criteria that have proved effective for quantitative and qualitative selection can be seen as general journalistic selection criteria.

In the United States, research on news factors was mainly carried out by Buckalew. He conducted several experiments asking journalists to sort news items with certain combinations of news factors according to their chance of being published (Buckalew 1969, 1969/70, 1973/74; Clyde/Buckalew 1969). This research tradition concentrated on fewer news factors than the mostly European content analyses: *significance, normality (as opposed to conflict), prominence, timeliness and proximity*. In spite of the different methodology the results were similar to the results of the content analyses: All together, it could be shown that news selection is influenced by news factors, even though different news factors influence selection to varying degrees. *Relevance (resp. significance), conflict and reference to something negative, prominence, and continuity as well as proximity and reference to elite nations* (for international news) were found to be strong predictors of news selection.

As an explanation for the impact of the news factors Galtung and Ruge referred to the psychology of perception. They stressed the assumption that journalists and media users select information according to the same principles (for earlier discussions of similar assumptions see Lippmann 1990 and Östgaard 1965): "every link in the chain (of communication, auth.) reacts to what it receives fairly much according to the same principles. The journalist scans the phenomena (...) and selects and distorts, and so does the reader when he gets the finished product, the news pages, and so do all the middlemen" (Galtung/Ruge 1965: 71). News factors, from this perspective, are not exclusively journalistic work routines, but general human selection criteria, deductable from the psychology of perception. The concept of news factors originally developed as a description of journalistic selection thus can be applied to the process of reception: In order to reduce complexity recipients have to select the news items they want to learn about out of the enormous amount of information supplied. It is assumed that news factors in media content determine their use of particular news items.

The assumption of equivalent selection criteria of the media and its audience implies that news selection by the media represents an anticipation of the selection activities of the audience. If journalists and recipients select news according to the same criteria, the discussion on the appropriateness of the picture of reality transmitted by the media must be reconsidered. If the principles of news selection turn out to be general human behavior, there cannot be a "wrong" or "distorted" way of selection. If journalists apply criteria very different from the selection criteria of the audience, however, this has serious implications: The audience's information supply is restricted and distorted according to criteria that the audience itself would not have applied. In that case, the information offered by the media does not meet the audience's needs.

So far, news value research has almost entirely focused on news selection by journalists, although Galtung and Ruge had already pointed out that the media image is not the last link in the chain of communication. It runs from world events via the media image to the personal image (see fig. 1). Selection and distortion take place not only between world events and media image, but on each step of the chain. The more steps are involved in the communication process, the more the image of an event is modified.



There has been only very little research on the impact of news factors on the personal image. Except for several smaller studies from different research traditions dealing with few selected news factors or similar constructs (Bornholdt 1966, Lassahn 1967, Atwood 1970) only few studies explicitly examined news factors. Sande (1971) and Schulz (1982), examined the relation between news factors in media content and importance ratings of the public, Donsbach (1991), investigated the impact of news factors on article selection from a newspaper, and Merten (1985) and Ruhrmann (1989) assessed the role of selected news factors in news retention. The researchers correspondingly found an impact of news factors on the various aspects of reception. Again, results showed moderate variations between the different factors. *Prominence resp. reference to elite people* and *continuity* influenced importance ratings. In terms of selective media use *continuity, unexpectedness, conflict* and *reference to events* (facticity) proved to be the most influential news factors. Selective retention was affected most by *relevance, unexpectedness* and *conflict*.

3. News factors from the perspective of cognitive psychology

Galtung and Ruge do not specify their understanding of the psychological mechanisms they refer to. However, the examples they put forward in order to explain the news factors point to the principles of selective attention: They illustrate their theory using examples from listening to radio signals: "If the frequency of the signal is outside the dial it will not be recorded", "The more unexpected the signal, the more probable that it will be recorded as worth listening to" etc. (Galtung/Ruge 1965: 65). The mechanisms of acoustic perception are then applied to event perception. Of course, there is more to reception resp. information processing than selection. In our opinion, news factors do not only affect selection but also influence further processing. This paper, however, will address the role of news factors in news selection only. Our analysis is restricted to print media because for electronic media the conditions of selection are rather different: Recipients do not usually know the content of the news before they decide to watch them or listen to them. For print media, people realize what the article is about by quickly

scanning the headlines and leads of a newspaper or magazine. Thus, recipients have the chance to decide on the basis of the expected content characteristics.

The reference to the psychology of perception is the starting point of our discussion of news factors in reception. Following Galtung and Ruge, we assume that news factors determine the news selection of journalists and recipients in basically the same way. If that is the case, we have to go beyond a simple reference to the psychology of perception and discuss the reason for their effectiveness from the perspective of cognitive psychology. Cognitive psychology provides several points of contact for such an intention: We shall review the main approaches regarding the influence of stimulus and personal characteristics on selective attention.

The research on selective attention (see Norman 1973, Shiffrin/Schneider 1977, Johnston/Dark 1986, Anderson 1989) provides us with the basics of perception: Perception, as we know today, is an active, interpretative process that is conceptually-driven (top-down) and data-driven (bottom-up) at the same time. The simultaneousness of top-down and bottom-up processing leads to an almost paradox situation: "Quite often we must understand the meaning of a signal in order to analyze its parts properly, but how can we understand the meaning of a signal until its parts have been analyzed? It's like saying that to recognize something we must first recognize it" (Lindsay/Norman 1977: 257). Stimulus and recipient characteristics both determine the result of the perception process (this view - applied to the field of media reception and supplemented by the concept of transaction - is also held by the dynamic-transactional model by Früh/Schönbach 1982; see also Früh 1991, 1994). Considering these basic ideas of perception, it is obvious that attention is distributed according to how the stimulus is interpreted by the individual. In order to process information efficiently, attention is distributed very early in the process. Instead of thoroughly processing all the incoming information, it is only superficially decoded, just thoroughly enough to be able to decide whether the particular stimulus is worth further processing.

4. The concept of relevance

Considering the complexity of world events, there has to be a mechanism that directs attention to only part of the information input while excluding the rest of the input. This points to the existence of certain content characteristics working as a selective filter for incoming stimuli. The criteria put forward by researchers in the field of selective attention is the concept of relevance: The only efficient way to reduce complexity is to

direct attention to relevant information. Relevance is understood in a very broad sense of the word: it concerns all aspects of individual meaning for the recipient, no matter whether a stimulus is just interesting for someone or whether something is significant in terms of representing a possible threat to one's life. Research on attention does not name specific qualities of stimuli indicating relevance. The authors rather stress the point that all perception is active interpretation by the recipient. Relevance is not inherent in a stimulus but is assigned individually depending on personal experience and knowledge, personal expectations and goals.

If news factors are to be efficient selection criteria, they have to be related to the concept of relevance. The central questions on this point are: How is relevance assigned to stimuli? Are there specific content characteristics (such as news factors) indicating relevance to the recipient? Relevance assignment is part of the perception process and should therefore be dependent on qualities of the stimulus and on individual knowledge, expectations and goals of the recipient. That means relevance is not an objective stimulus characteristic, but the result of active interpretation and assessment. Relevance thus is a relational construct: Events or objects are not relevant as they are but only from a specific perspective (Schatz/Schulz 1992). Relevance can arise from former experience or knowledge or from a possible direct impact on someone's life. Whatever is relevant to one person is not necessarily relevant to others (Schütz 1982, Schütz/Luckmann 1984).

Since the effect of news factors can be shown on an aggregate level and since news factors relate to a general, inter-subjective phenomenon and indicate relevance to media users in general, there has to be a collective component to relevance assignment. Individuals do not assign relevance completely different from each other, but agree in terms of certain relevance criteria. We will first discuss the news factors regarding their function as relevance indicators and then present an empirical test to investigate their impact on news selection by recipients. Our discussion of news factors as relevance indicators will concentrate on the collective level of relevance. We are going to suggest three possible explanations for corresponding relevance assignment by the audience.

The first approach refers to evolutionary theory. According to Brown/Kulik (1982) and Doelker (1991) human beings have learned more or less automatic reactions to stimuli that might be threatening (e.g. the automatic reaction to movement). Schütz used the term "universals" for these kinds of general patterns of human reactions (Schütz 1982). This explanation is based on the idea that people assign relevance to things that mean a potential threat to someone's life or well-being. A different explanation refers to general psychological mechanisms human beings undergo: Familiar objects, persons or events will be recognized and attended to because there is a mental matrix to relate to already.

Prior knowledge makes it easier to integrate new information and also raises the level of interest because the objects have already acquired meaning for a subject. There might even be identification processes or para-social interaction taking place (see the review on para-social interaction as gratification by Wenner 1985). The final approach to explain collective relevance assignment refers to social relevance. Work on social cognition (Adoni/Mane 1984, Higgins/Bargh 1987; see also Van Dijk 1988) as well as the sociology of knowledge by Berger and Luckmann (1987) have suggested that there are certain overlaps in the individual relevance structures: These overlaps result from shared socialization and are as necessary for interaction and communication in society as they are desirable. Even if an event does not directly affect the recipient as an individual (as it is the case in the two explanations mentioned above), it might have consequences for his or her role in society or relate to social norms collectively held and affect the individual at a later time, transmitted by complex social processes. Thus, this kind of relevance can be assigned by members of society, if the society as a whole might be affected, even if the individual itself is not directly affected.

5. News factors as indicators of relevance

We will now relate the news factors to the concept of relevance. The discussion will be restricted to those news factors that have turned out to be the most commonly tested in news value research. They are mainly derived from the catalog Galtung & Ruge had used. This catalog has been substantially modified in the course of the research tradition omitting and adding factors according to the criteria of one-dimensionality and operationability (Schulz 1976, 1982, Staab 1990b). Since this paper focuses on the role of news factors in reception, we will only consider news factors that represent plausible selection criteria for recipients. Factors exclusively explaining journalistic selection are not considered.

Consequentiality, referring to the number of people affected by an event, is a very obvious indicator of relevance: This factor relates to the level of social relevance assignment. The quality of the consequences, as there are *damage* or *success* are equally obvious indicators at that level. All three of them describe possible effects on society. Of course, *damage* also relates to a evolutionary explanation: *Damage* can affect an individual directly and since we have learned to be better off attending to negative events we assign relevance to damage. *Elite people* and *elite nations* as well as *proximity* must also be considered as

indicators for social relevance: It is more likely that actions of elites affect our lives than actions of other segments of society. The same idea applies to *elite nations and proximity*: Events taking place in powerful countries or close to our own homes are more likely to have an effect than events taking place far away or in less influential countries. It is therefore highly plausible to assign relevance to events of that kind. *Conflict* can also be discussed referring to social relevance: *Conflict* either results in maintaining or modifying the status quo and thus represents potential consequences to society. This factor, just like *damage*, can also be explained by referring to an evolutionary advantage. Attending to conflict has always been functional in order to evaluate a possible threat to one's life.

The same is true for *unexpectedness*: Unexpected events will generate more attention than predictable events because there is a better chance for them to harm one's life. *Reference to events*, (rather than statements or journalistic explanations of backgrounds) can also be related to an evolutionary explanation: Events or actions are more likely to have a direct effect than statements. It should therefore be functional for survival to attend to actions rather than statements.

The news factors *consonance*, *continuity*, and *personification* can be related to general psychological processes: *Consonance* and *continuity* refer to expectations on the basis of existing knowledge. Relevance is assigned because something is already familiar. *Personification* can also be interpreted relating to the concept of familiarity. In this case, we assume additional identification processes and para-social interaction. *Personification* indicates relevance insofar as people can identify with their own species. Through projection and empathy recipients fulfill their need for positive or negative identification.

Frequency, *composition* and *unambiguity*, also factors frequently used in news value studies, in our opinion, do not affect news selection by recipients: *Frequency* concerns the idea that the media system can only process information that matches their own publication intervals. If an event lasts longer than a day (the usual publication interval of a paper) its chance to become news decreases. This idea only applies to journalistic selection. There is no reason for this principle to apply to human perception in general. *Composition* also exclusively applies to journalistic selection: It relates to the variety of different news items in a paper or program. We cannot see any reason for individuals to use this sort of balance as a perception criteria. *Unambiguity* does also not seem to be a necessary prerequisite for attention: People might pay attention to something just because it is unclear (see findings on arousal and curiosity, Berlyne 1960).

Summarizing the discussion, we suggest that news factors, except for *frequency*, *composition* and *unambiguity*, can be related to the concept of relevance at different levels. Whereas *consequentiality*, *damage*, *sucess*, *conflict*, *elite people*, *elite nations* and *proximity* indicate relevance at a social level and concern the more indirect (transmitted by several stages) effects on one's life. The factors *unexpectedness and reference to events* (and again *damage* and *conflict*) can represent possible threats that we have learned to attend to in order to survive. These factors could be explained with reference to the evolutionary theory. *Consonance*, *continuity and personification* indicate relevance as they refer to basic psychological processes concerning the perception of the familiar and related concepts of identification. Relating news factors to the concept of relevance showed that news factors represent plausible relevance indicators. By helping to reduce complexity they can serve as efficient selection criteria for both, media and audience.

6. Data

For our empirical analysis we used data from a larger research project by Früh on "The transmission of reality by mass media" (Früh 1994). This project examined "how media information becomes part of our knowledge of the world". The data used for our purposes is derived from interviews using standardized questionnaires and media-use diaries the respondents were asked to keep for a seven-days period. We collected and content-analyzed the news papers and magazines the recipients reported to have used during that time period. The quota sample is not strictly representative; it was a cluster sample in six regions spread over Germany, three of them in urban regions. For the purpose of this study we used a sample of 187 respondents, including females and males, all levels of education and all age groups.

It has already been mentioned that we focus on the selection from print media since for electronic media we cannot determine whether the content of programs has been known to the audience before reception. Due to economic restrictions this study deals with national news only. International news and therefore news factors that exclusively refer to international news, such as *proximity and elite nation* are not considered. We ended up with a catalog of eleven factors. Since not all of the factors could be operationalized with values between 0 and 3 without a considerable decrease in reliability we decided to rather put up with different value ranges for each factor:

Influence:	power and influence of a person, group or institution (range: 0-3).
Prominence:	degree of prominence of a person, independent from his or her influence (range: 0-3).
Personification:	reference to individuals rather than groups and institutions or abstract matters (range: 0-2).
Status of location:	status of the place of an event (range: 0-3). Reference to events: dominance of events or action vs. statements or more static descriptions (range: 0-3).
Continuity:	reference to issues or events already covered in the news (range: 0-2).
Controversy:	degree of controversy on verbal and physical levels (range: 0-3).
Unexpectedness:	degree of unexpectedness (range: 0-2).
Consequentially:	number of people directly affected by an event (range: 0-3).
Success:	degree of success or progress (range: 0-2).
Damage:	degree of damage or failure (range: 0-2).

News factors were coded taking into account the quick scanning of articles as a basis for the decision on reading or rejecting the articles: Only the headlines and leads were coded assuming a correspondence of this information with the information one can extract by superficially scanning the paper for interesting or relevant information.

The thesis of news factors corresponding to general selection criteria applied by audience and media can be paraphrased into our research question: "Do news factors affect the selection of media content by the audience?" The question can be investigated by relating the news factors in media content to the media use of the audience. We compared news supplied by the media and news used by the audience. Differences regarding the frequency and intensity of news factors between articles used and articles not used can be attributed to the selection decisions of the readers. Articles were only counted as "not used" if the particular copy had actually been looked at. Criterion was whether or not a political article has been used in the particular copy. In that case all the articles in that copy were considered as individual information supply. Our media sample consisted of 14814 articles representing the sum of the individual information supply, of which 3428 were different ones. The others resulted from duplicating the codes by the number of users of the particular copy. The media sample is no representative sample of the news coverage of the week we analyzed. It represents the print media used by the respondents during that week. There were 2859 different articles from newspapers with regional distribution, 334 different articles from national newspapers, 162 different articles from yellow press papers, and 73 different articles from political magazines in the sample.

On average, the reader had an individual information supply of 80 articles which he or she used about 20% of. The main issues that week were party politics (36% of the articles) and employment politics (26%). About 80% are news reports, 10% are commentaries and 8% are features. The article length shows enormous variations with an average of 131 cm² and the longest article covering 5832 cm². More than half of the articles are plain text, one third is graphically emphasized.

7. Empirical findings: The impact of news factors on news selection by the audience

The first step of our analysis of the effect of news factors on selection by recipients was a bivariate test of articles used and articles not used with regard to news factors. For this analysis we used the 14814 cases that had resulted from the duplication of content codes by the number of users of the particular copy. It turned out that recipients favor articles with high news values (see tab. 1). This proved true for the factors *continuity*, *controversy*, *consequentiality*, *status of location*, *reference to events*, *unexpectedness* and *damage*, whereas *for prominence* no significant difference was detected (considering a 1 %-level). *Personification*, *influence*, and *success* could be shown to have lower news value in articles used than in articles not used. This points to a negative effect of these news factors on the selection by recipients. Since the news factors have different value-ranges we cannot compare them in terms of the strength of their effects. In order to determine their relative influence a multivariate analysis has to be carried out.

A comparison of the articles used and articles not used regarding the formal characteristics of the articles also showed substantial differences. For a prominence index we computed an index of layout characteristics (graphic design, illustration and announcement of an article on the front page), importance indicated by the media (placement and headline size), and size of the article. Recipients clearly favored articles prominently presented in the paper. The two groups of variables, formal and content characteristics, have to be tested against each other in order to find out whether recipients select according to the media "pre-selection" (namely the different prominence given to the articles) or whether they select according to news factors.

Tab. 1: Differences of news factor means and prominence index between articles used and articles not used

	Articles not used N=11744	Articles used N=3070	Difference (articles used - articles not used)
News factors	mean	mean	mean
Influence	2.35	2.29	-.06**
Prominence	1.14	1.08	-.06*
Personification	.87	.78	-.08**
Status of location	1.97	2.22	.25**
Reference to events	2,15	2,27	.12**
Continuity	.93	1.37	.44**
Controversy	.74	1.06	.32**
Unexpectedness	.69	.76	.07**
Consequentiality	1.46	1.72	.26**
Success	.26	.19	-.07**
Damage	.33	.37	.03**
Prominence index	-.32	1.23	1.56**

This table presents T-Test results. "*" indicates significance on the 1%-level, "**" indicates significance on the 5%-level.

Multiple regressions were carried out including the different groups of variables, the use of an article representing the dependent variable. Most of the formal variables have already been introduced in the bivariate analysis. Apart from the components of the prominence index we expected two more variables to influence selection: The *unambiguity of the headline* (which refers to the question whether the reader gets a clear picture of the content of an article by just reading the headline) and the *journalistic genre* of the article.

Among the content characteristics we not only included news factors but also tested *issues* as additional and possibly alternative explanations of article selection. In order to match the recipients reported interest in specific issues we used the issue categories that were used in the recipient interviews (e.g. party politics, ecology, housing, etc.). In our opinion, *issues* are global variables that can be described by more specific content variables like news factors (for a discussion of the "issue-variable" see Früh 1994: 172, Berry 1980). By including the issue-variable in the regression, the share of variance not explained by news factors had a chance to be explained by the issue. News factors and issues were included in the analysis in separate blocks in order to determine the differential influence of both groups of variables.

Tab. 2: Determinants of article selection (the table contains only variables with a significant effect; $p < .01$); (N = 14814).

Independent variables	beta
Block 1 Explained variance	$R^2 = .015 (p = .000)$
Willingness to judge General political knowledge General political interest Habitual use of printmedia (vs. tv)	.03 .07 .10 .04
Block 2 Explained variance	$R^2 = .204 (p = .000)$
Article size Placement Headline size Illustration Graphical emphasis	.08 .33 .13 .02 .02
Block 3 Explained variance	$R^2 = .212 (p = .000)$
Continuity Controversy Success	.04 .02 .02
Block 4 Explained variance	$R^2 = .219 (p = .000)$
Party politics Employment politics Housing politics Defense politics Economics	.08 .10 .03 .02 .02
Block 5 Explained variance	$R^2 = .218 (p = .000)$
Education	-.04
	Mult. R SE F Sign, of F
	172 47 36 94 000

Since stimulus characteristics are not the only factors determining reception, but reception is rather influenced simultaneously by stimulus and recipient qualities, we also included personal variables into the analysis. The following personal variables were expected to influence media use: First, it is assumed that long-term cognitive styles, such as *ambiguity-intolerance*, *the willingness to make a quick judgement without possessing all the necessary information*, and *suggestibility* are involved in the reception decision. *Ambiguity-intolerance* describes the lacking ability to accept contradictory

or inconsistent information. Since it has formerly been shown to affect knowledge gain (Früh/Wirth 1992), we also assume an influence on media use. The *willingness to make a judgement without possessing all the necessary information* refers to the tendency to develop hypotheses about the content of a media message. Finally, *suggestibility* describes the tendency of a person to "read between the lines", that is believing things that have not been said but were suggested by someone else. This variable has also formerly shown an influence on reception (Früh/Wirth 1991).

Second, we took into account both inherent and acquired socialized skills in dealing with information such as *cognitive structure and general political knowledge*. Individuals with a more complex cognitive structure react to new information in a more flexible and differentiated way because their knowledge repertoire is interrelated more strongly. Therefore, they can draw conclusions more easily and relate different parts of information to each other. *General political knowledge* works very similar: Knowledge gain is facilitated for persons with higher political knowledge. They can comprehend even more complex issues and are not as likely to reject such content. *General political interest* has a very obvious effect on media use. People with a higher level of interest for political events are more likely to read political articles (Wirth 1994). Since the reception of information is influenced by habitualized media use, we also included *habitualized media preference* and *habitualized amount of media use* in the analysis. *Habitual media preference* refers to the dominant use of print media (vs. tv), whereas *habitual amount of media use* refers to the time spend with media use in general. The more global personal variables as there are sex, education and age were also included in the analysis to account for variance not explained by the more specific variables.

The different groups of variables (personal variables, news factors, issues and formal characteristics) represent competing explanations for article selection. They were entered blockwise, the order of the blocks following the chance of influencing article selection in chronological terms: We assumed that personal variables can develop an influence on media use before the stimulus characteristics enter the cognitive system of the recipients. Of course, the global personal variables were entered last, because they were only considered as possible explanations for variance that cannot be explained by the more specific variables. Within the stimulus variables, the formal characteristics (including the components of the prominence index as well as *unambiguity of the headline and journalistic genre*) were entered before the content qualities of the stimulus. This procedure is due to the expectation that formal characteristics are easier (and quicker) to decode than the content of an article and can therefore determine the decision on reading or not reading an article before news factors or issues are even recognized. News factors

and issues are entered as separate blocks, so the variance being exclusively explained by the news factors can be assessed.

All together, 21% of the variance was explained by the variables taken into account. The personal variables entered first and therefore having the best chance to explain considerable shares of the variance, only accounted for 1,5%, resp. 2,5% if one includes the global personal variables. The formal characteristics explained the largest amount of variance: 20% of the variance can be attributed to this block. News factors, accounting for only one percent of the variance, showed a surprisingly small effect, considering the results of the bivariate analyses. Multivariate analysis obviously modified the strong effect suggested in the bivariate tests. Controlling the formal variables left no variance to be explained by the news factors. Issues also explained a very small share of the variance (less than one percent). Obviously, there was not much variance to be explained exceeding the impact of the news factors. This points to the fact that news factors do indeed account for most of the differences between the issues being fairly accurate descriptions of the issue characteristics¹.

We will now take a closer look at the determinants of article use in our data. It has to be noted that due to the number of 14814 articles almost all results are statistically significant². The mostly very low beta-values show that the significant results do not necessarily indicate strong effects: Betas below .10 can hardly be interpreted. They can at the most be taken as hints pointing to a possible relevance of the particular variable. Among the personal variables *political interest* is the only variable showing an interpretable effect: Individuals characterized by high political interest are more likely to read an article from their individual information supply than individuals with low political interest. Due to the low beta *political knowledge* cannot be interpreted, although it points into the same direction. From various studies on media use we know that personal variables (especially *political interest*, *political knowledge and education*) have a strong effect on the amount of articles used. This study supports this result regarding the kind of variables proved effective but not regarding the strength of the effects.

- 1 In order to test whether the results were caused by the order of the blocks, another regression analysis was carried out. This time the news factors were entered first. Again, news factors explained less than one percent of the variance. All the other results also stayed about the same. The order of the blocks thus does not seem to have a considerable effect on the results.
- 2 This is a common problem with contact-level-data (one case representing one article-reader-contact). Sometimes researchers increase the significance level to account for the multiplication of cases (Donsbach 1991). We decided not to change the significance level because there is no theoretical legitimization as to the appropriate significance level. Instead, we will be very careful interpreting our findings and consider high beta-values only.

Interpreting our results and particularly comparing them to media use studies concerned with the effect of personal variables, we have to keep in mind that we are not examining the determinants of media use in general, but rather the determinants of the share of articles used in relation to the individual information supply. Obviously, people with high and low media use do not differ much once the media use is related to the individual information supply. They have a much lower information supply, but their proportional use of it is not that much different compared to people with high information supply.

Among the stimulus variables, the formal variables proved to be most influential regarding article selection. Especially *placement*, *headline size* and *article size* had strong effects on article use. Unambiguity and journalistic genre did not show significant effects. There were only three news factors with significant influence: *continuity* and *controversy* showing a very weak and hardly interpretable positive effect and *success* showing a weak negative effect on article selection. It has already been mentioned that this modifies the bivariate results presented above: The news factors do not affect selection beyond the influence of formal characteristics. Recipients decide whether or not to read an article almost exclusively on the basis of placement, headline and article size. One has to keep in mind, however, that - as a result from journalistic selection - the formal characteristics might strongly be correlated with the news value of an article. The parallel findings of news factors and prominence index both showing considerable differences between articles used and articles not used had already suggested a high correlation of news value and prominence index (see tab. 1).

Multiple regression analysis³ with the prominence index as dependent variable and news factors as independent variables shows that journalists do in fact select according to news factors, even though not all of the factors showed an effect in the expected direction. About ten percent of the variance was explained by the news factors. *Continuity*, *consequentiality*, *prominence* and *controversy* had a strong effect on presentation prominence, *elite people*, *status of location*, *damage* and *success* did not show a significant effect, and *unexpectedness* and *reference to events* showed a negative influence on presentation prominence (see tab. 3)⁴. The different issues accounted for

3 For this analysis only the *different* articles (N=3428) were considered. One article represents one case in the analysis. Again, the order of the different blocks followed the assumptions stated above.

4 The results concerning the news factors basically agree with former content analyses by Schulz (1976) and Staab (1990b), who also correspondingly found *prominence* and *controversy* to be good predictors of media prominence. *Continuity*, *consequentiality* and *unexpectedness* influenced selection in the Schulz-study only, whereas *prominence* and *success* only proved to be effective in the Staab-study.

additional three percent of the variance. *Party politics* and *employment politics* showed a positive influence on presentation prominence, whereas *ecology* had a negative effect on journalistic selection.

Tab. 3: Factors influencing the prominence of presentation: Beta-values and significance level (the table contains only variables with a significant effect; $p < .01$); (N = 3428)

Independent variables	beta
Prominence	.10 -
Reference to events	.05
Continuity	.13
Controversy	.09 -
Unexpectedness	.06
Consequentiality	.11
Variance explained by news factors	$R^2 = .099$ (p=.000)
Party politics	.16
Employment politics	.11 -
Ecology	.06
Variance explained by news factors and issues	$R^2 = .131$ (p=.000)
	Mult. R. SE
	1.92
	F Sign. of
	22.24
	F
	.000

8. Discussion

The above results raise the question whether recipients do or do not select articles according to news factors. Whereas bivariate results indicate a strong effect of news factors on selection the multivariate analysis qualified this interpretation. It was shown that formal characteristics rather than news factors determine media use. There are several possible interpretations for that: First, news factors do not represent selection criteria for the audience. Recipients simply do not apply specific content criteria but read whatever is prominently presented by the media. That means they have no content-oriented relevance criteria of their own, so they have to depend on the relevance assignment by the media. Second, recipients actually do have their own relevance criteria but do not apply them either because it is just easier to accept the relevance assignment of the journalists or because they trust the pre-selection of the journalists assigning them the status of politics-"experts". Only if respondents had no indication of

relevance (which would be the case in an experimental design with the presentation characteristics held constant) they would apply their own criteria. A third explanation for the recipients not applying their own criteria could be that they know the criteria journalists apply (namely news factors) and agree with the journalistic selection. In this case, the audience would perceive the information supply as an anticipation of their own selection.

In our opinion, the results do not necessarily lead to a rejection of the assumption that recipients select news according to news factors. It is very likely that due to their long media-experience recipients know the selection criteria of the media. That means they have learned that news considered to be relevant are more prominently presented than irrelevant news. If news factors indicate relevance, which we have reason to believe, and since relevance seems to be a plausible selection criterion for the reduction of complexity, news factors are likely to determine article use. However, it takes more cognitive effort to decode the content of an article than just paying attention to the prominence of presentation. Therefore, selection according to the formal characteristics of an article can be a pragmatic shortcut in order to decide whether or not an article contains relevant information. After all, it also has to be taken into account that recipients usually use the papers and magazines they agree with (in terms of selection criteria), so there is little reason to distrust the presentation as a relevance indicator. The behavior of recipients only choosing articles from their favorite papers also restricts the variance left to be explained. Considering that the variance gets even more restricted by the fact that articles with high news value are usually presented very prominently anyway, it is remarkable that news factors explain any variance at all. From this perspective a share of one percent of explained variance is not as little as it seems to be at first sight.

Strictly spoken, the question we asked in the beginning, whether media present a picture of reality that does not agree with the selection criteria of the audience and therefore systematically restrict the information supply of the recipients cannot be answered on the basis of our data. After all, we cannot determine whether recipients do or do not apply news factors as selection criteria. If they do, the application certainly takes place in a rather indirect way, transmitted by the formal characteristics of an article.

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