Media frames and political judgments : exploring the boundaries of framing effects in a two-wave panel study

Studies in Communication Sciences 8/2&3 (2008) 251–278

Jörg Matthes*

MEDIA FRAMES AND POLITICAL JUDGMENTS. EXPLORING THE BOUNDARIES OF FRAMING EFFECTS IN A TWO-WAVE PANEL STUDY

At the heart of this paper, it is argued that prior held political judgments are crucial when investigating framing effects. More specifically, framing effects depend on the type of prior judgments, i. e. whether prior judgments are held memory-based or on-line. In a real world study combining content analysis and panel data on an individual level, it is shown that respondents with memory-based judgments are indeed influenced by the media frames they were exposed to. In contrast, there are no framing effects for respondents with on-line judgments. Moreover, contrary to the hypothesis, recently encountered frames did not exert the strongest influence on individuals' judgments. The results are discussed in terms of the power and the boundaries of framing effects.

Keywords: framing effects, political judgments, news framing, media effects, public opinion, panel analysis.

* IPMZ – Institute of Mass Communication and Media Research University of Zurich, j.matthes@ipmz.uzh.ch; a previous version of this paper was presented at the 60th Annual Conference of the World Association for Public Opinion Research in September 2007, and was awarded with the Naomi C. Turner Prize for the best student paper.

1. Introduction

In recent years, political communication scholars have become increasingly interested in the concept of framing as a means to describe the complex relationship between political elites, journalists, and the public (Entman 1993; Entman, Matthes, & Pellicano 2008; Benford & Snow 2000; Iyengar 1991; McCombs & Ghanem 2001; Zoch & Molleda 2006). Although the lion's share of framing research is devoted to the description of media frames or journalistic frames (e.g., Esser & D'Angelo 2006; Igartua, Cheng & Muñiz 2005), there is also an increasing number of studies examining the effects of media frames on political judgments and attitudes (e.g., de Vreese 2004; de Vreese & Boomgaarden 2003; Cappella & Jamieson 1997; Ju 2005; Price, Tewksbury & Powers 1997; Shen 2004; Slothuus 2008). The basic idea of the framing effects perspective is that by selecting some information and highlighting it to the exclusion of other information, framing can shape the audience's interpretations of issues, candidates, and events. In fact, most research asserts that news framing makes some considerations more salient to audiences, and therefore, these considerations are more likely to be used in the formation of subsequent political judgments (e.g., Iyengar 1991; Price et al. 1997; Shen 2004).

Taken together, framing effects research encompasses a rich empirical literature, and it offers a theoretical model for our understanding of how the news influences political judgments. However, what all these lines of research share is the general proposition of a memory-based judgment formation process (Matthes 2007a; Cappella & Jamieson 1997; Druckman & Nelson 2003). More specifically, the idea of accessibility can be considered as the foundation of a memory-based model of information processing. That means, in expressing their opinions, individuals draw on the information that comes to their minds at the time a judgment is called for. In line with this argument, previous studies have observed quite powerful framing effects. However, most of those studies are based on experimental data and have worked with novel stimuli. Judgments that existed prior to the presentation of a news frame were not taken into account. It can be argued that framing effects can be impeded when individuals have prior accessible attitudes. Furthermore, we lack studies

that test the notion of framing effects outside the laboratory in real world contexts. In such contexts, individuals have prior attitudes that might decrease the power of media frames. Because previous research has not been sensitive to such limits of framing effects, the power of media frames has often been overrated.

At the heart of this paper, it is argued that prior attitudes are crucial when investigating framing effects. Of course, theorizing about media effects since its earliest days has been acknowledging the importance of prior attitudes. However, this paper expands previous theorizing by arguing that the *type of the prior attitude* is crucial to media (framing) effects, i.e. whether prior attitudes are held memory-based or on-line. Therefore, it is proposed that "both processes – memory-based and on-line – are needed to explain framing effects" (Cappella & Jamieson 1997: 71). In short, when accessible on-line judgments exist, framing effects become less likely. In contrast, when memory-based judgments exist, the media's framing can significantly shape public opinion. In order to lay the ground for this line of reasoning, previous research on framing effects will be discussed in the first step. After that, the notion of on-line and memory-based judgment formation will be introduced. Based on these theoretical insights, an extensive real-word study on the issue unemployment is presented. This study is the first of its kind testing framing effects with individual-level panel data combined with content analysis.

2. Framing Effects Research

Without doubt, it has been the original work by Iyengar (1991, 1996) that has fueled research on framing effects like never before. Iyengar (1991) examined the impact of news framing on the way individuals ascribe responsibility for several issues. At the heart of his research, he distinguishes between the episodic and thematic framing of issues. When news is framed episodically, social issues are constructed around specific instances and individuals. In contrast, thematic framing emphasizes broader trends or backgrounds about issues. In a series of experimental studies, Iyengar (1991, 1996) found some evidence that subjects shown episodic reports were less likely to consider society responsible, and subjects shown thematic reports were less likely to consider individuals

responsible. These effects are explained by the accessibility of considerations. Iyengar (1991) states that viewers' explanations of issues critically depend on the particular reference points furnished in media presentations. In other words, framing effects are resulting from an accessibility bias (Iyengar 1991). When forming a judgment, individuals do not draw on all possible information they ever encountered, in contrast, they rely on information made accessible by media coverage: "[T]he theory is that information that can be more easily retrieved from memory tends to dominate judgments, opinions, and decisions" (Iyengar 1991: 130–131).

This line of reasoning is supported by a plethora of studies that have examined the impact of news framing on individuals' thoughts and cognitive responses (Price et al. 1997; Shen 2004; Valkenburg, Semetko & de Vreese 1999). The most elaborate model of accessibility-based framing effects was proposed by Price & Tewksbury (1997). They also assume that media frames exert their influence on attitudes by shaping the accessibility of cognitions in the first place. In line with Price & Tewksbury's model, the results of a vast number of other studies give convincing support for these kinds of effects (to name only a few de Vreese 2004; de Vreese & Boomgaarden 2003; Shen 2004). Furthermore, the growing field of second-level agenda setting builds on an accessibility-based reasoning (McCombs & Ghanem 2001). However, Nelson, Clawson & Oxley (1997) provide evidence that accessibility-based framing effects may include more elaborate processes than previously assumed. The authors state that framing effects work through a psychological process in which individuals think about the importance of relevant considerations. Although Nelson and colleagues stress that their model goes beyond accessibility effects, it is, as Druckman & Nelson (2003: 732) state, "based largely on the memory-based model." On-line judgments are not taken into account. More recently, however, Slothuus (2008) has proposed a dual model of framing effects that expands the theorizing by Nelson and colleagues, and incorporates moderators and mediators.

3. Framing Effects and Judgment Formation

As should be apparent from the previous section, most theorizing about framing effects draws on a memory-based model (for the same conclusion

see Matthes 2007a; Cappella & Jamieson 1997; Druckman & Nelson 2003) – "with accessibility as the main theoretical explanation" (Gross & D'Ambrosio 2004: 3). Although sometimes implicitly, framing scholars seem to agree that individuals – more or less deliberately – draw on the information that comes to their minds at the time of judgment. As Callaghan & Schnell (2005) put it, "on most issues, the vast majority of citizens have no strong personal stake or cognitive ballast; thus media frames are a particularly potent way to orchestrate public opinion" (15).

Of course, accessibility is a vital term for media effects in general, and for framing effects in particular (Iyengar 1991). However, social psychological research informs us that some judgments are formed on-line without a memory search for judgment-relevant information (Hastie & Park 1986; Mackie & Asuncion 1990; Tormala & Petty 2001). Framing effects research so far has largely ignored the notion of on-line judgments. According to the on-line model, people form stable opinions at the time they initially process the information. If, then, a judgment is called for at a later time, people just retrieve a previously formed judgment without a thorough memory search for judgment-relevant information. That means, once an on-line judgment has been established, it can be easily retrieved later on. The information that is currently available in memory has no impact on the judgment. For instance, people make up their mind about an issue for the first time, and the resulting judgment will be easily accessible. So, although individuals might retrieve different facts and information from their memory, this has no impact on the once formed judgment whatsoever. It follows that once established on-line judgments are not influenced by subsequent media framing, because the information that comes to mind at the time of judgment is not needed. In other words, rather than computing a judgment based on the information that is accessible at the time of judgment, individuals with on-line judgments just quickly retrieve their established judgment.

Both judgment types have also been used in communication research (e. g., Huang 2000) and political psychology (e. g., Lavine 2002; McGraw et al. 2003; Sciarini & Kriesi 2003). According to McGraw (2000: 813), "the identification and empirical evaluation of these two models of opinion formation are among the most impressive contributions of the cognitive approach." A very prominent example is the memory-based model

of public opinion formation proposed by Zaller (1992). Zaller (1992) argues that people possess multiple, conflicting considerations relevant to a given issue. More precisely, they form their attitudes by averaging all considerations that are accessible at the time of judgment. As psychological research asserts (Higgins 1996), constructs are more accessible when they have been *recently* or *frequently* activated. An important implication of this model is that people are unlikely to have stable attitudes – the attitude depends on which considerations happen to come to the top of the head (Wilson & Hodges 1992). In contrast to the memory-based model, the on-line model holds that people form and maintain a running evaluation counter of political objects (e.g., issues, candidates). When the individual encounters new information this evaluation counter is brought into working memory, and the stored judgment will be retrieved. The consequence is, as Lodge et al. (1989: 401) put it, that "people can often tell you how much they like or dislike a book, movie, candidate, or policy but not be able to recount the specific whys and wherefores for their overall evaluation." From the perspective of framing effects research, the on-line model has an important implication: People need not to maintain large memory stores of knowledge when making judgments (Druckman & Lupia 2000).

Although some authors have pointed to the necessity of considering both judgment types for framing effects research (Cappella & Jamieson 1997; Druckman & Nelson 2003), the predominance of memory-based reasoning is striking. Put more bluntly, "the memory-based model reduces media effects to accessibility effects" (Cappella & Jamieson 1997: 72). Moreover, previous research has mainly applied a tabula rasa model of framing effects without the consideration of already existing on-line or memory-based judgments (Matthes 2007a). Nearly all studies have worked with a post-test experimental design where individuals are exposed to a news frame, and then they immediately report their opinions. In most instances, the information is only presented once, and a time component is rarely taken into account. That means, framing scholars often have been inattentive to on-line or memory-based judgments that exist *prior* to the presentation of a news frame.

Based on these insights, three premises for the study of attitudinal framing effects can be posited. The first premise is that both, on-line

and memory-based judgment formation processes, should be taken into account. Second, a model of framing effects has to include a time-component, that is, it has to predict which effects can occur in a long-term perspective (de Vreese 2004). Third and more importantly, different patterns of change can be expected for people with on-line compared to memory-based judgments.

4. Hypotheses

Because memory-based judgments depend on whatever comes to mind at the time of judgment, individuals are likely to draw on media frames when computing a judgment. This idea is completely in line with the frequently observed temporal instability of policy judgments (Lavine 2002; Sciarini & Kriesi 2003), and with previous research on framing effects: When other constructs are made accessible by the media's framing, other judgments will follow. Therefore, it can be assumed that strong framing effects should occur for individuals with memory-based judgments.

However, a framing effect is quite unlikely when individuals hold on-line judgments (Chong & Druckman 2007). The crux of the homeostatic nature of on-line judgments is that they protect themselves – any threat of counter attitudinal arguments will be nipped in the bud. Moreover, on-line judgments tend to be activated automatically by the mere presentation of the judgment object (Fazio 2000). We know since Klapper's (1960) seminal ideas that people prefer to expose themselves to information consonant with their own views, and thus, any new information will be biased in the direction of the initial on-line judgment (Klapper 1960). Or, as Roskos-Ewoldsen (1997: 196) puts it: "When individuals have highly accessible attitudes, they are likely to process information in a biased manner, which will make any attempts at persuasion difficult." This results in a quite stable judgment; media frames can probably exert no influence whatsoever. This line of reasoning is also supported in Slothuus' (2008) recent study that shows no framing effects for individuals with strong values (that roughly corresponds to an established on-line judgment). Thus, the following hypothesis can be derived:

H1: Media frames exert a stronger influence for individuals with memory-based judgments compared to individuals with on-line judgments.

To reiterate, memory-based judgments are formed on the basis of accessible information at the time of judgment. It is known from psychological research that constructs are more accessible when they have been *recently* activated (Higgins 1996). When a construct is activated, it has some residual excitation that can fade over time. Therefore, the shorter the time between a construct's last activation and judgment formation, the higher is the likelihood that a construct will be accessed later on (Price & Tewksbury 1997). It follows that people with memory-based judgments should be more influenced by recently encountered frames because these frames have the highest excitation in memory. Thus, recently encountered frames can be remembered better than frames encountered earlier in the communication process. This leads to the second hypothesis:

H2: For memory-based judgments, recently encountered frames have a stronger impact on individual's judgments than frames encountered during a longer effect span.

5. Method

5.1. Context of the Study

The two hypotheses were tested in a two-wave panel survey conducted in Berlin in June and August 2002. The panel data were combined with an extensive content analysis of TV and newspaper coverage. All studies dealt with the issue unemployment. The discussion of this issue was shaped by the German National Elections that took place in September 2002. Unemployment was the major issue in the German news media throughout these months. In order to lower the unemployment rate in Germany, the so called Hartz-Commission – named after its chair Peter Hartz – was appointed by the German government (i.e., the German *Social Democratic Party* and the coalition partner, the *Green Party).* The aim of the Hartz-Commission was to develop a comprehensive solution to Germany's persistent unemployment problem by recommending reforms of Germany's labor market policy. The commission was composed of 15 experts such as politicians, business men, and scientists. The core strategy of the Hartz-recommendations was a) to improve the labor exchange in Germany, and b) to establish tighter rules for the unemployed who do not want to work. While the government expressed its strong support for the

commission's recommendations, the political opposition – the *Christian Democratic Party,* the *Christian Social Union* and the *Liberals* – blamed the Hartz-recommendations for the exclusive focus on labor market policy. From May 2002 to the voting day in September, the Hartz-recommendations became one of the major issues in the news.

5.2. Content Analysis

The content analysis (n = 904) started two months before the first wave of the panel survey, and ended with the last CATI-interview of the second wave (04/29–08/31 2002). This makes an overall period of four months. For those four months, only those media outlets were sampled that the survey respondents named as relevant media sources. These were the major German television prime time news by *ARD, ZDF* and *RTL,* and the local newspapers *B.Z., Berliner Zeitung, Berliner Morgenpost* and *Berliner Tagesspiegel.* By this procedure, every respondent could be matched exactly with the news content he or she has used during that time period. All articles and news reports about the issue unemployment were sampled (full sampling). The coding was performed by four trained coders who had undergone an extensive training. The news programmes were recorded on video. In a first step, all tapes were watched and relevant news items were marked. In a second step, these news items were coded. The newspaper articles were collected with the help of search engines on the newspapers' homepages. Keywords were unemployment, unemployed, jobless, and job marked. All relevant hits were screened carefully. Overall, 904 items were selected and coded, 87 for the *B.Z.,* 306 for the *Berliner Morgenpost,* 93 for the *Berliner Zeitung,* 276 for the *Tagesspiegel,* 69 for *ARD* news, 35 for *ZDF* news, and 38 for *RTL* news.

5.3. Frame Identification

The media frames were identified with a method proposed by Matthes & Kohring (2008). Rather than directly coding the whole frame, this method suggests splitting up the frame into its separate elements (for a similar approach see Semetko & Valkenburg 2000). These elements can be quite easily coded in a content analysis. The frame elements are derived

from the widely accepted definition by Entman (1993). In this definition, several frame elements constitute a frame: a problem definition, a causal interpretation, a moral evaluation, and a treatment recommendation. If these elements are understood as variables, each of them can have several categories in a content analysis. After this, a cluster analysis of those frame elements reveals the frame. When some frame elements group together systematically in a specific way, they form a certain pattern that can be identified across several texts in a sample. These patterns are called frames.

For the issue unemployment, the problem definition consists of an actor speaking about an aspect of unemployment. Therefore, a total of 28 actors and 27 topics were coded in a content analysis. These codes were then summarized to main actors and main topics (see Matthes & Kohring 2008). This procedure is common in many content analytical studies because it is much easier to analyze main codes compared to 28 single codes. The main actors were the Hartz-Commision, the Government, the Opposition, employees, employers, labor exchange actors, journalists and others. The main issues were unemployment data, labor market policy, the Hartz-recommendations, the situation of the unemployed, and the election campaign. A causal interpretation is an attribution of failure or success regarding a specific outcome. In this case, it was coded who or what is deemed responsible for the unemployment in Germany. Three attributions occurred frequently: the government, the economic situation and bureaucracy. For the treatment recommendation, it was coded which actor can improve unemployment in Germany, and which actions should be taken. The relevant actors were the Government, the Opposition, and the Hartz-Commission. The main actions to reduce unemployment were the Hartz-recommendations. Finally, as the evaluation, it was coded whether the future development of unemployment in Germany is viewed as negative or positive. Intercoder reliability with four coders for all these variables yielded an average *Scotts Pi* = .68 and an *Holsti's R* = .81.

As stated above, a frame consists of several frame elements, and each frame element consists of several content analytical variables. Each frame is characterized by a specific pattern of variables. These patterns were identified by Latent Class Analysis which is a superior type of cluster analysis (Eid, Langeheine & Diener 2003; Magidson & Vermunt 2001). The full procedure of frame identification is beyond the scope of this

paper and is detailed elsewhere (Matthes 2007b: 241–257). The aim of this analysis is the grouping of articles to specific clusters with high differences between the clusters and low differences within a cluster. These clusters will then be interpreted as media frames. As a result of the Latent Class Analysis, two main frames could be identified for a media effects analysis, the *Hartz-Frame* and the *Opposition-Frame.* These two frames have a specific pattern of the variables entered, that means they have a specific problem definition, causal interpretation, evaluation, and treatment recommendation.

The *Hartz-Frame* comprises articles that deal with the recommendations by the Hartz-Commission. The relevant actors are the Hartz-Commission and the Government. Typically, government actors or members of the commission propose and explain the recommendations to fight unemployment. The main idea of the recommendations was to improve the labor agencies in Germany, i. e., to ensure that recruitment of unemployed persons for available jobs is improved. Furthermore, this frame gives reasons for why tighter rules for the recruitment of unemployed persons are necessary. The Hartz-recommendations are viewed in a positive light, and the Hartz-Commission is regarded as the only actor that can fight unemployment in Germany. Interestingly, these articles do not mention who is responsible for the high unemployment rates; there are no attributions of responsibility for unemployment in Germany. Overall, the development of unemployment in Germany is seen positively, as the frame suggests that the Hartz recommendations will definitely help to fight unemployment. Therefore, the Hartz-Frame views the issue unemployment from the perspective of the government – it is a government-friendly frame.

In contrast, the *Opposition-Frame* delivers a completely different view about the unemployment in Germany. The relevant actors are not the Government and the Hartz-Commission but the oppositional parties. Therefore, this frame can be considered as an anti-frame to the government frame, i.e., it is a reaction to the Hartz recommendations by the German government. In these articles, the government is blamed for the problem of unemployment in Germany. Thus, in contrast to the Hartz-Frame, there are clear attributions of responsibility at the heart of this frame. Consequently, the Hartz recommendations are discussed with the

conclusion that they will not help to fight unemployment. However, in contrast to the Hartz-Frame, this frame does not give any clear recommendations how to fight unemployment. It is generally proposed that only the opposition is capable of decreasing unemployment in Germany. A government change is, according to this reasoning, the only way to fight unemployment. Also in contrast to the Hartz-Frame, this frame draws a negative picture about the future development of unemployment. Literally, it is stated that unemployment will even get worse, the Hartz recommendations are worthless and the future of Germany will be at stake when the present government continues the established unemployment policy. Taken together, both frames draw a completely different picture about unemployment and the way unemployment should be reduced. All the frame elements, however, are present in both frames: a problem definition (the aspect of the issue unemployment that is talked about, i.e. the Hartz recommendations), a causal interpretation (i. e., who's to blame for unemployment), a moral evaluation (i. e., a positive or negative depiction of the future development of unemployment), and a treatment recommendation (i.e., to implement the Hartz recommendations or not). A more detailed description of both frames can be found in Matthes (2007b).

5.4. Panel Survey

The panel survey was part of a larger project dealing with trust in news media (Kohring & Matthes 2007). The surveys were conducted by the *Center for Socio-scientific Surveys,* University of Duisburg (Germany). The questionnaire was programmed for an application of CATI (Computer Assisted Telephone Interview). For the sampling procedure, a method was applied that would facilitate a simple random selection of households with telephone connections in consideration of non-listed numbers (Gabler & Haeder 2002). The first wave covered 777 interviews, end of June 2002. 54.2 % of the participants were female, the average age was 46.18 (SD = 18.19) years. An above-average number of participants in this group had attained high educational degrees. The second panel-wave took place two months later, end of August 2002. 484 persons participated again. The time lag of two months between both waves was based on previous agenda setting research that has shown optimal effects for a time lag of

six to ten weeks (Stone & McCombs 1981; Watt, Mazza & Snyder 1993). A shorter time lag was regarded as less optimal because the identification of media frames as described above demanded a certain amount of media coverage. In order to address missing values the data were analyzed with *Full Information Maximum Likelihood* (FIML). In contrast to classic procedures such as listwise deletion, this method produces more reliable estimated values (Enders & Bandalos 2001; Brown 1994).[1]

Media use was measured with several questions: First, interviewees were asked to name three media sources which they use the most for what is going on in the world. Second, for each of the three media sources, they were asked how many days in a week and how many hours a day they use it. These two variables were transformed into one variable that assesses how many hours they use the medium per week. All measures were applied in both waves in precisely the same manner. Moreover, standard control variables such as political orientation (left versus right), age, sex, and education were measured.

On-line and memory-based judgments were measured with a standard attitude strength item. Respondents were asked how certain they feel about their attitude toward unemployment (7-point scale, from "very uncertain" to very "certain"). As the studies by Bizer et al. (2006) and Matthes, Wirth & Schemer (2007) demonstrate, attitude strength is one of the best measures for on-line and memory-based judgments in surveys. Compared to individuals with memory-based judgments, individuals with on-line judgements usually report high attitude strength. Therefore, the sample was split into two parts: individuals with memory-based judgments (n = 211; categories 1 to 4 on the attitude strength measure) and individuals with on-line judgments (n = 277, categories 5 to 7).

For the dependent variables, the issue specific attitude toward the government was measured with the two items "To what extent is the government responsible for the unemployment in Germany?," and "To what extent is the replacement of the government a useful solution in order to fight unemployment" (both measured on a 7-point scale ranging

[1] As a further test, the results of the present study also hold true when FIML is not applied. However, following Monte Carlo studies in the methodological literature, FIML is superior to the ordinary treatments of missing values, and is therefore, the method of choice.

from "not at all" to "very much"). Again, both measures were applied in both waves in precisely the same manner. Measurement equivalence over time was checked and secured for these two items (loading on one latent factor) with structural equation modeling. This was a crucial step, because "[m]easurement equivalence, indicating that a measure of a psychological construct has equivalent measurement properties at different [...] times, is a necessary condition for treating differences [...] as reflecting quantitative differences in a given construct" (Hertzog & Nesselroade 2003: 642).[2]

5.5. Matching of Panel Data and Content Analysis

In an extensive individual level matching procedure, the measures for the Hartz-Frame and the Opposition-Frame gathered by the content analysis were merged with the panel data (see for a similar procedure e. g., de Vreese & Semetko 2004). The basic premise of this merging was that every respondent should be assigned an impact value for each frame. This value indicates how likely an individual has received a frame in a given time period. Therefore, the merging was based on the particular interviewing dates and detailed media use patterns of each respondent. Interview dates differ because it is almost impossible to interview 800 persons on one day. For the first wave, the field time of the CATI interviews lasted ten days. For the second wave, the field time was eleven days. In order to investigate the causal influence of the news content, two effect periods were defined. The first effect period (t_0–t_1) are the first two months of coverage from 04/29 2002 until the particular interview date (wave one) of every respondent. Because these interview dates differ, respondents do

[2] This was done by comparing two structural equation models: In the first model, all factor loadings load free on their factors. In the second model, it is specified that the factor loadings should be equal over time. Then, the fit of the model with free loadings is tested against the model with restricted loadings by nested model comparison. The logic is that when factor loadings are equal over time, the meaning of the construct does not change. For measurement equivalence to be established, both models should not differ significantly in their goodness of fit. As the nested model comparison shows, this is the case. The fit of the model with free loadings does not differ from a model with restricted factor loadings. Therefore, measurement equivalence can be assumed.

also differ in the length of their effect period. The second effect period (t_1–t_2) starts one day after the first interview, and ends with the day of the second interview. Because respondents differ in their interview dates at wave one and at wave two, matching every respondent with the media content that she or he was most likely to receive is quite complicated. For instance, a respondent interviewed on the first day of the field time at wave one and on the third day of the field time at wave two must be allocated a different media content than a person who was interviewed on day five (wave one) and on day 10 (wave two).

The values for data matching were computed by using data aggregation of the content analytical data with the media sources and all possible effect periods as key variables. These aggregated data were then matched with the survey data, again with the media use and all possible effect periods as key variables. As a result, every respondent was matched with those data he was most likely to have perceived given his media use and his specific combination of interview dates. Since there are two effect periods, these values were computed for the first and the second effect period.

5.6. Data Analysis

Data were analyzed using an autoregressive panel analysis with structural equation modeling. In contrast to classical crossed lagged correlation analysis, all variables are entered simultaneously in one structural equation model. This method enables a causal interpretation of the paths because all variables are controlled for at both time points. Most importantly, such models control the so called autoregressive effects of a former state of a variable on a subsequent state of that variable.

In order to interpret such a structural equation model, it is important to differentiate the type of the variables that are entered. The variables or questions of the panel survey refer to a fixed time point, i.e., people were asked on a specific day. This is called t_1 or t_2 respectively. In contrast to variables with a fixed time point, the frame variables that were transferred from content analysis to the survey data refer to a whole time period, t_0–t_1. They already include a time component (for a seminal application of these procedures see Erbring, Goldenberg & Miller 1980). For instance, the content analytical variable Hartz-Frame refers to the salience of the Hartz-

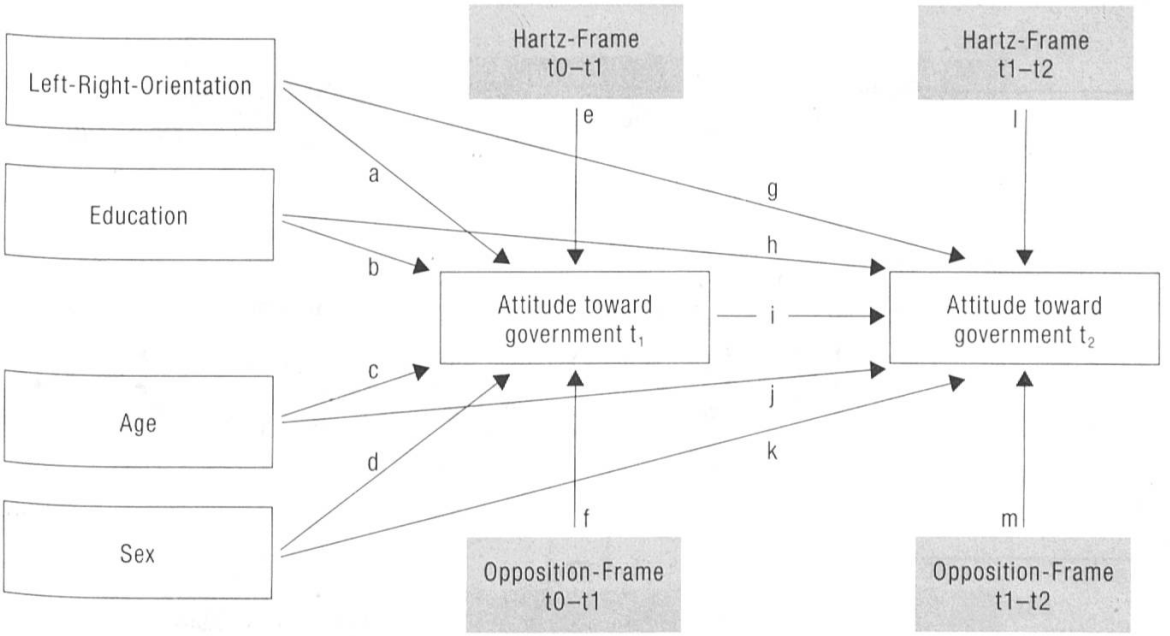
Frame throughout the last two months before the interview. Therefore, it is plausible to assume an influence of the Hartz-Frame at t_0–t_1 on the attitude toward the government at t_1, and an influence of the Hartz-Frame at t_1–t_2 on the attitude toward the government at t_2. However, it is not plausible to assume a cross-lagged effect from the Hartz-Frame at t_0–t_1 on the attitude toward the government at t_2. This would mean that the coverage a person has perceived a long time ago actually has an influence at a later point in time, but not immediately. Therefore, no cross-lagged effects of media content on public attitudes will be considered in the model.

6. Results

Figure 1 depicts our theoretical assumptions transferred to the logic of an autoregressive panel model. First of all, the sociodemographic variables left-right-orientation, education, age, and sex are entered into the model. It can be assumed that they exert an influence on the issue-specific attitude toward the government at the first time point (paths *a, b, c, d)* and at the second time point (paths *g, h, j, k).*[3] Because two frames were identified, the Hartz-Frame and the Opposition-Frame, and both frames exert an influence at both time points of the panel, we have four effect paths *(e, f, l, m).* These effect paths can be interpreted as framing effects. The major premises for a causal interpretation of a framing effect are the temporal order of the variables and the control of other influencing variables. Because the autoregressive effect *i* is controlled simultaneously, and there is a clear temporal order, the effects *l* and *m* can be interpreted as causal effects. However, the paths *e* and *f* can only be interpreted as (cross-sectional) relationships but not as causal effects, because no former states are controlled. As stated above, the path from the media frames at t_0–t_1 to the attitude at t_2 would make no sense, because there are no theoretical grounds for such time lags. Taken together, the paths *l, m, e,* and *f* are interpreted as effects of media frames on individual's attitudes.

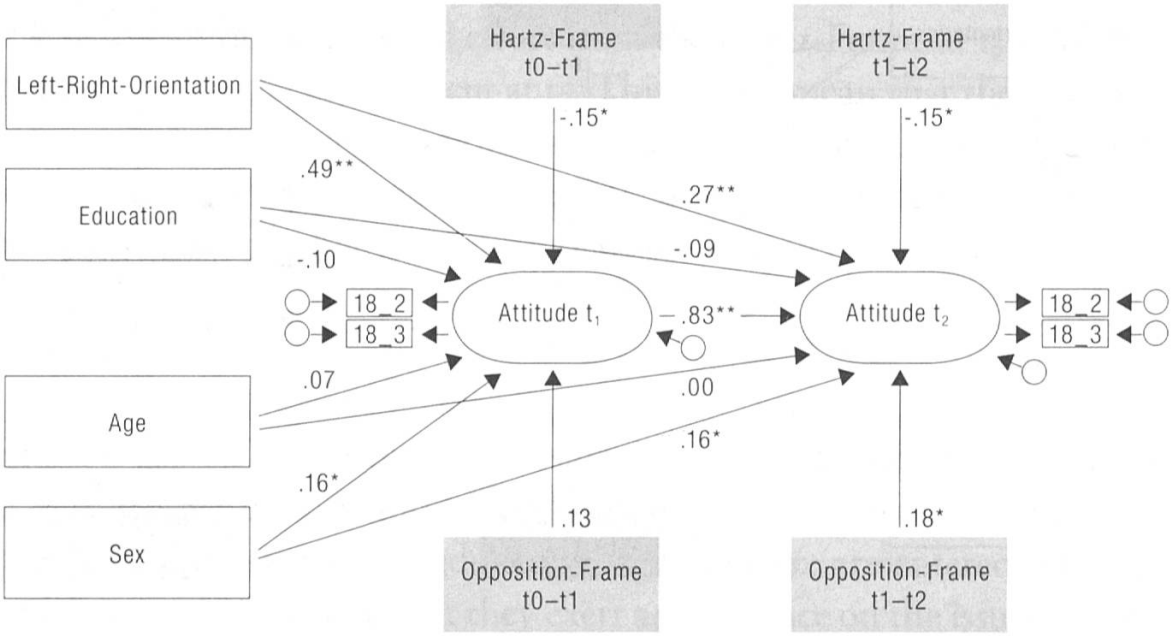
[3] Usually, it is sufficient to model these variables at wave one only. The reason for modeling these variables at both time points was that the main dependent variable should have a comparative amount of independent variables at both waves. This was considered to be a more conservative test.

Figure 1: Technical Model (Autoregressive Panel Analysis)



The structural equation model depicted in figure 1 is calculated both for the sub-sample with memory-based judgments and for the sub-sample with on-line judgments. To reiterate, it was hypothesized that there should be stronger framing effects for individuals with memory-based judgments compared to individuals with on-line judgments. Therefore, the path-coefficients *l, m, e,* and *f* should be bigger for the memory-based group compared to the on-line group. Figure 2 shows the results for individuals with memory-based judgments. The fit of the structural equation model is good (χ^2/df=1.25; *CFI*= .98; *RMSEA*= .03; *PCLOSE*= .72). Of the four framing effects that are possible, three reach significant levels. Individuals who were exposed to the Hartz-Frame, do not think that the government is responsible for the unemployment in Germany, and they do not think that the replacement of the government will help to reduce unemployment (for both waves: γ = -.15; p = .05). The opposite effect occurs for the Opposition-Frame: Exposure to this frame leads to the attitude that the government is responsible, and that it should be replaced. The effect of the Opposition-Frame on the attitude toward the government is significant for wave two (γ = .18; p = .05), but there is only a tendency for wave one (γ = .13; p = .12).

Figure 2: Structural Equation Model (Autoregressive Panel Analysis) for Individuals with Memory-based Judgments

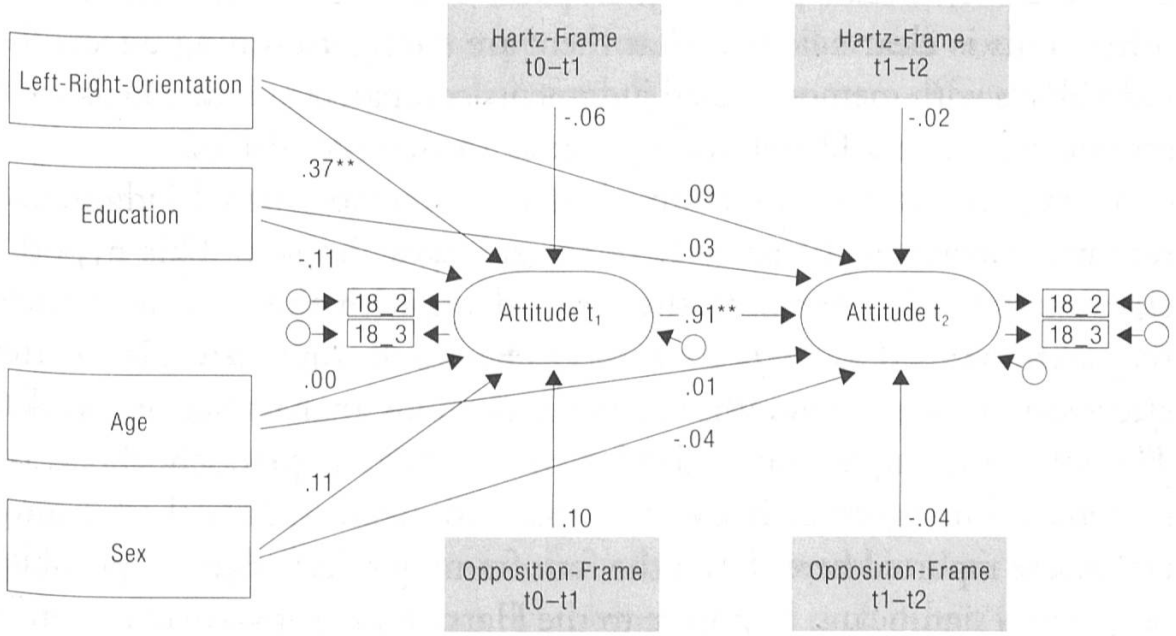


Note: *p < .05; **p < .001. The autocorrelations of the measurement errors of the items and the correlations of all exogenous variables are not shown for reasons of clarity.

As could also be expected, there is a significant influence of the political orientation on the attitude toward the government regarding the issue unemployment. The more an individual belongs to the political right-wing, the more she or he advances the view that the government (i. e., the moderate-left Social Democrats and the Green Party) is responsible for the unemployment in Germany, and that the replacement of the government will help fighting unemployment. This effect can be found both for the first wave ($\gamma = .49$; $p = .001$) and for the second wave ($\gamma = .27$; $p = .001$). While education and age have no influence on the attitude toward the government, men seem to have a more negative issue-specific attitude toward the government than women (for both waves: $\gamma = .16$; $p = .05$). The explained variance (squared multiple correlations of the latent factors) is 36 % for the attitude toward the government at wave one and even 96% at wave two.

The previous analysis has shown significant framing effects for individuals with memory-based judgments. The results for the sub-sample with

Figure 3: Structural Equation Model (Autoregressive Panel Analysis) for Individuals with On-line Judgments



Note: *p < .05; **p < .001. The autocorrelations of the measurement errors of the items and the correlations of all exogenous variables are not shown for reasons of clarity.

on-line judgments are depicted in figure 3. The fit of this structural equation model is good ($\chi^2/df = 1.06$; $CFI = .99$; $RMSEA = .02$; $PCLOSE = .93$). As can be seen, there are no significant framing effects anymore. Neither does the exposure to the Hartz-Frame influence the issue-specific attitude toward the government, nor does the Opposition-Frame. Obviously, individuals with on-line judgments are not influenced by the mass media's framing of an issue. The effects of the political orientation and the socio-demographic controls are similar to the sub-sample with memory-based judgments. There is an influence of right-wing political orientation on the attitude toward the government for wave one ($\gamma = .37$; $p = .001$), however, this effect is not significant for wave two. There are also no significant effects of sex on the attitude toward the government. The explained variance (squared multiple correlations of the latent factors) is 7 % for the attitude toward the government at wave one and 90 % at wave two.

The visual inspection of the path coefficients reveals that there are stronger framing effects for individuals with memory-based judgments

compared to individuals with on-line judgments. This is also confirmed by a multiple group comparison. With this analysis, it is tested if the path coefficients differ significantly between the two samples (Marsh, Wen & Hau 2004). Beside the path *f*, all paths differ significantly from each other. This is clear evidence that there are stronger framing effects for individuals with memory-based judgments compared to individuals with on-line judgments. Therefore, hypothesis 1 can be confirmed.

In hypothesis 2 it was assumed that, for memory-based judgments, recently encountered frames have the strongest impact. This hypothesis was tested by matching the respondents with those media frames they were exposed to the last two weeks before the interview. Hence, the effect span is not two months like in the previous analysis but two weeks. The structural equation model for this analysis is precisely the same as depicted in figure 2. Because of space constraints, only the framing effects are reported here: From the four framing effects that are possible, only one is significant. Exposure to the Hartz-Frame at wave one significantly influences the attitude toward the government ($\gamma = -.21$; $p = .01$). However, there is no effect of the Hartz-Frame at wave two ($\gamma = -.08$; n.s.), and there is no effect of the Opposition-Frame at wave one ($\gamma = .08$; n.s.) and at wave two ($\gamma = -.03$; n.s.). Therefore, the hypothesis cannot be confirmed: There are no stronger framing effects for recently encountered frames. This result does not change if the effect span of two weeks is reduced to one week, or if it is enhanced to three or four weeks.[4] Obviously, the longest effect span (i. e., of two months) can exert the strongest framing effects.

7. Discussion

The main argument of this paper was that theorizing about framing effects should embrace both, memory-based and on-line mechanisms. To support this argument, a real world study combining content analysis and panel data demonstrated that individuals with memory-based judgments are indeed influenced by the media frames they were exposed to. In con-

[4] When the same analysis is done for the group with on-line judgments, there are also no substantial framing effects (similar to the analysis with the two month effect span).

trast, there are no framing effects for respondents with on-line judgments. Contrary to expectations, however, recently encountered frames were not the most powerful in shaping individuals' judgments. For the short effect span of two weeks, only one out of four effect paths turned out to be significant. This result gives support for the idea that real world-framing effects have to be understood as cumulative, long-term-effects. Interestingly, a recent study by Son & Weaver (2006) comes exactly to the same conclusion. Although short-term effects can be demonstrated in the laboratory, it is the dominant framing of an issue over a period of time that can exert an influence on public opinion. This makes perfect sense considering the fact that in real world contexts, frames are contested in the media over a long period of time: "Thus, no theme emerges without a *countertheme*" (Callaghan & Schnell 2005: 6; see also Benford & Snow 2000; Chong & Druckman 2007; Entman, Matthes & Pellicano 2008). For a short timespan, there might be several news frames that compete in their impact on public opinion, and consequently, they neutralize each other. Only those frames that can dominate media coverage for a certain amount of time can shape public opinion in the long run. Therefore, one could conclude with the common saying, *"Constant dripping wears away the stone."*

The results of this study are quite important for framing research. Most framing effects studies report experiments with only one effect measurement. In such experiments, the autoregressive effects of prior attitudes are not taken into account. By doing so, framing scholars implicitly assume a concept of powerful mass media. However, while media frames can exert an influence on what individuals think about a political issue, this influence is limited. Individuals with strongly held beliefs – i. e., with on-line judgments – cannot be influenced by the mass media (see also Chong & Druckman 2007; Slothuus 2008). That means, it is not the prior attitude per se that is crucial to framing effects. In real world contexts, individuals will have prior judgments on most issues. It is the *type of the prior judgment formation process* that determines subsequent media influence. The crucial question is, therefore, if these judgments were formed on-line or memory-based. Based on the results of this study, it can be concluded that on-line judgments mark the boundaries of framing effects. This should hold true for all kinds of political issues, although people might be more likely to hold on-line judgments for some issues (e.g., obtrusive issues)

compared to others. However, this does not mean that on-line judgments are formed entirely independent from the news media. In contrast, strong on-line judgments can be built upon the frames that had an impact in the past (Entman, Matthes & Pellicano 2008; Matthes 2007).

One could object that even for individuals with memory-based judgments, the magnitude of the effects is moderate. However, it has to be taken into account that the autoregressive effect of the prior attitude is controlled for. Likewise, the political orientation of an individual as well as sociodemographic variables were also controlled. In other words, although these powerful predictors were controlled, a framing effect was nevertheless observed. It is also important to note that the individual level matching procedure applied in this study impedes an ecological fallacy, because inferences about the nature of individuals are based on individual level data, and not on aggregate data. This is a major prerequisite for establishing causality in the non-experimental study of media effects.

7.1. The Prediction of Judgment Formation

Considering the results of this study, the key question is, when do individuals form on-line and when do they form memory-based judgments? There are two basic answers to this question (Matthes 2007a; Matthes et al. 2007). First of all, there are grounds to believe that people may differ in their general tendency to perform on-line or memory-based judgments. As Druckman & Nelson (2003) argue, the personality construct need to evaluate may play a crucial role in this context (Tormala & Petty 2001). In fact, the need to evaluate correlates with the formation of on-line judgments (Matthes et al. 2007). Second, there are hints in the research literature that on-line reasoning is more likely to occur under conditions of *high motivation* (Lavine 2002; Mackie & Asuncion 1990). In other words, the on-line model emphasizes the idea of a more goal-directed information processor. To give an example, it is plausible that individuals do not always form a judgment about any new issue in the news. This would be too time-consuming and demanding. Especially for low-involvement issues, people rather passively monitor the news. This will most likely result in memory-based judgments. In contrast, when individuals are highly interested in an issue, they will make up their mind at

an early point in time, and future framing attempts will have no effect on the once established judgment.

7.2. Limitations

Despite these insights, there are a number of limitations to this study that are worthy of careful consideration. First, although the matching of content analysis and panel data was done with the highest precision that is possible, the exposure of an individual to a specific article or news item can only be implied. It is, of course, not possible to control that every item in the content analysis was relevant to the respondents.

Second, the study relied on an attitude strength measure to separate individuals with on-line judgments from individuals with memory-based judgments. Although this measure was one of the best available at the time of data collection, Matthes et al. (2007) have recently developed a more reliable multi-item measure which should be used in future research. Third and related to this, the attitude strength measure was only a single item. This is a major shortcoming. Nevertheless, the item that was applied is a standard measure for attitude strength (see Bizer et al. 2006). It also significantly correlates with more direct measures of on-line/memory-processing such as response latencies, attitude extremity, and self report measures of judgment formation (for detailed results see Matthes et al. 2007). The major problem, however, is the categorization of the on-line and memory-based group based on that item. This classification is arbitrary to some extent. If the middle category is added to another group, results could differ substantially. In this study, the middle category of the scale was counted to the memory-based group. If this category was added to the on-line group, the memory-based group would be too small in size to run substantial structural equation models. Therefore, a different categorization could not be tested. This problem demonstrates that the recently developed scale by Matthes et al. (2007) can be helpful for these research purposes.

Fourth, the dependent variables in this study were measured with only two items. In order to provide a more comprehensive analysis of framing effects, more items should be used in the future. However, it is to be stressed that these two items were selected because they measure

the construct reliably over time (i. e., measurement equivalence). The test of measurement equivalence that has been performed is quite important because changes in the reliability of a measure must be separated from the stability of a construct. Incorporating more items may even lead to biased effects when these items do not measure the construct reliably over time.

7.3. Future Research

For the future of framing effects research, a fruitful cross-fertilization would result from the joint accomplishment of real-world studies and laboratory experiments. Experimental studies should try to incorporate real world conditions such as longer effect spans and prior attitudes. For instance, one could think of a long-term experiment that manipulates the judgment type in the first step and then tests how these once established on-line or memory-based judgments are influenced by the mass media's framing. Real world studies investigating framing effects should try to work with a panel logic and individualized data in order to enable a causal interpretation of the effects. On the one hand, such studies would allow more comprehensive conclusions about the power of framing effects. On the other hand, we could learn more about the limits of framing effects due to individual, societal, and context-specific factors.

References

BENFORD, R.D. & SNOW, D.A. (2000). Framing Processes and Social Movements: An Overview and Assessment. *Annual Review of Sociology* 26: 611–639.

BIZER, G.Y. et al. (2006). Memory-based versus On-line Processing: Implications for Attitude Strength. *Journal of Experimental Social Psychology* 42: 646–653.

BROWN, R.L. (1994). Efficacy of the Indirect Approach for Estimating Structural Equation Models with Missing Data: A Comparison of Five Methods. *Structural Equation Modeling* 1: 287–316.

CALLAGHAN, K. & SCHNELL, F. (2005). Introduction: Framing Political Issues in American Politics. In: K. CALLAGHAN & F. SCHNELL (eds.). Framing American Politics. Pittsburgh, PA: University of Pittsburgh Press: 1–17.

CAPPELLA, J. N. & JAMIESON, K. H. (1997). Spiral of Cynicism. The Press and the Public Good. New York, Oxford: Oxford University Press.

CHONG, D. & DRUCKMAN, J.N. (2007). Framing Theory. *Annual Review of Political Science* 10: 103–126.

DRUCKMAN, J.N. & LUPIA, A. (2000). Preference Formation. *Annual Review of Political Science* 3: 1–24.

DRUCKMAN, J.N. & NELSON, K.R. (2003). Framing and Deliberation: How Citizens' Conversations Limit Elite Influence. *American Journal of Political Science* 47: 729–745.

EID, M.; LANGEHEINE, R. & DIENER, E. (2003). Comparing Typological Structures across Cultures by Latent Class Analysis: A Primer. *Journal of Cross-Cultural Psychology* 34: 195–210.

ENDERS, C.K. & BANDALOS, D.L. (2001). The Relative Performance of Full Information Maximum Likelihood Estimation for Missing Data in Structural Equation Models. *Structural Equation Modeling* 8: 430–457.

ENTMAN, R.M. (1993). Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication* 43/4: 51–58.

ENTMAN, R.M.; MATTHES, J. & PELLICANO, L. (2008). Nature, Sources and Effects of News Framing. In: K. WAHL-JORGENSEN & T. HANITZSCH (eds.): Handbook of Journalism Studies. Mahwah, NJ: Erlbaum: in press.

ERBRING, L.; GOLDENBERG, E.N. & MILLER, A.H. (1980). Front-page News and Real-world Cues: A New Look at Agenda-setting by the Media. *American Journal of Political Science* 24: 16–49.

ESSER, F. & D'ANGELO, P. (2006). Framing the Press and Publicity Process in German, British and U.S. General Election Campaigns: A Comparative Study of Metacoverage. *Harvard International Journal of Press/Politics* 11: 44–66.

FAZIO, R.H. (2000). Accessible Attitudes as Tools for Object Appraisal: Their Costs and Benefits. In: G. MAIO & J. OLSON (eds.), Why We Evaluate: Functions of Attitudes. Mahwah, NJ: Erlbaum: 1–36.

GABLER, S. & HAEDER, S. (2002). Idiosyncrasies in Telephone Sampling – The Case of Germany. *International Journal of Public Opinion Research* 14: 339–345.

GROSS, K. & D'AMBROSIO, L. (2004). Framing Emotional Response. *Political Psychology* 25: 1–29.

HASTIE, R. & PARK, B. (1986). The Relationship between Memory and Judgment Depends on whether the Judgment Task is Memory-based or On-line. *Psychological Review* 93: 258–268.

HERTZOG, C. & NESSELROADE, J.R. (2003). Assessing Psychological Change in Adulthood: An Overview of Methodological Issues. *Psychology and Aging* 18: 639–657.

HIGGINS, E.T. (1996). Knowledge Activation: Accessibility, Applicability, and Salience. In: E.T. HIGGINS, & A.W. KRUGLANSKI (eds.). Social Psychology: Handbook of Basic Principles. New York: Guilford: 133–168.

HUANG, L. (2000). Examining Candidate Information Search Processes: The Impact of Processing Goals and Sophistication. *Journal of Communication* 50(1): 93–114.

IGARTUA, J.J.; CHENG, L. & MUÑIZ, C. (2005). Framing Latin America in the Spanish Press. A Cooled Down Friendship between Two Fraternal Lands. *Communications: The European Journal of Communication Research* 30: 359–372.

IYENGAR, S. (1991). Is Anyone Responsible? How Television Frames Political Issues. Chicago: University of California Press.

IYENGAR, S. (1996). Framing Responsibility for Political Issues. *The Annals of the American Academy of Political and Social Science* 546: 59–70.

JU, Y. (2005). Policy or Politics? A Study of the Priming of Media Frames of the South Korean President in the Public Mind. *International Journal of Public Opinion Research* 18: 49–66.

KOHRING, M. & MATTHES, J. (2007). Trust in News Media. Development and Validation of a Multidimensional Scale. *Communication Research* 34: 231–252.

KLAPPER, J.T. (1960). The Effects of Mass Communication. Glenco, Illinois: The Free Press.

LAVINE, H. (2002). On-Line versus Memory-based Process Models of Political Evaluation. In: K.R. MONROE (ed.). Political Psychology. Mahwah, NJ: Erlbaum: 225–274.

LODGE, M.; MCGRAW, K.M. & STROH, P. (1989). An Impression-driven Model of Candidate Evaluation. *The American Political Science Review* 83: 399–419.

MACKIE, D.M. & ASUNCION, A.G. (1990). On-line and Memory-based Modification of Attitudes: Determinants of Message Recall-attitude Change Correspondence. *Journal of Personality and Social Psychology* 59: 5–16.

MAGIDSON, J. & VERMUNT, J.K. (2001). Latent Class Factor and Cluster Models, Biplots, and Related Graphical Displays. *Sociological Methodology* 31: 223–264.

MARSH, H.W.; WEN, Z. & HAU, K.T. (2004). Structural Equation Models of Latent Interactions: Evaluation of Alternative Estimation Strategies and Indicator Construction. *Psychological Methods* 9: 275–300.

MATTHES, J. (2007a). Beyond Accessibility? Toward an On-line and Memory-based Model of Framing Effects. *Communications: The European Journal of Communication Research* 32: 51–78.

MATTHES, J. (2007b). Framing-Effekte. Zum Einfluss der Politikberichterstattung auf die Einstellungen der Rezipienten (engl.: Framing Effects. How the Media Influence Citizens' Political Attitudes). Munich: Fischer.

MATTHES, J. & KOHRING, M. (2008). The Content Analysis of Media Frames: Toward Improving Reliability and Validity. *Journal of Communication* 58: 258–279.

MATTHES, J.; WIRTH, W. & SCHEMER, C. (2007). Measuring the Unmeasurable? Toward Operationalizing On-line and Memory-based Political Judgments in Surveys. *International Journal of Public Opinion Research* 19: 247–257.

MCCOMBS, M.E. & GHANEM, S.I. (2001). The Convergence of Agenda Setting and Framing. In: S.D. REESE, O.H. GANDY & A.E GRANT (eds.). Framing Public Life: Perspectives of Media and our Understanding of the Social World. Mahwah, NJ: Erlbaum: 67–81.

MCGRAW, K. (2000). Contributions of the Cognitive Approach to Political Psychology. *Political Psychology* 21: 805–832.

MCGRAW, K.M., HASECKE, E. & CONGER, K. (2003). Ambivalence, Uncertainty, and Processes of Candidate Evaluation. *Political Psychology* 24: 421–448.

NELSON, T.E., CLAWSON, A. & OXLEY, Z.M. (1997). Toward a Psychology of Framing Effects. *Political Behavior* 19: 221–246.

PRICE, V. & TEWKSBURY, D. (1997). News Values and Public Opinion: A Theoretical Account of Media Priming and Framing. In: G. BARNETT & F.J. BOSTER (eds.). Progresses in the Communication Sciences. Greenwich, CT: Ablex: 173–212.

PRICE, V.; TEWKSBURY, D. & POWERS, E. (1997). Switching Trains of Thought: The Impact of News Frames on Reader's Cognitive Responses. *Communication Research* 24: 481–506.

ROSKOS-EWOLDSEN, D.R. (1997). Attitude Accessibility and Persuasion: Review and a Transactive Model. In: B.R. BURLESON & A.W. KUNKEL (eds.). Communication Yearbook. Thousand Oaks: Sage: 185–225.

SCIARINI, P. & KRIESI, H. (2003). Opinion Stability and Change During an Electoral Campaign: Results from the 1999 Swiss Election Panel Study. *International Journal of Public Opinion Research* 15: 431–453.

SEMETKO, H.A. & VALKENBURG, P.M. (2000). Framing European Politics: A Content Analysis of Press and Television News. *Journal of Communication* 50(2): 93–109.

SHEN, F. (2004). Chronic Accessibility and Individual Cognitions: Examining the Effects of Message Frames in Political Advertisements. *Journal of Communication* 54(1): 123–137.

SON, Y.J. &. WEAVER, D.H (2006). Another Look at what Moves Public Opinion: Media Agenda Setting and Polls in the 2000 U.S. Election. *International Journal of Public Opinion Research* 18: 174–197.

STONE, G. & MCCOMBS, M.E. (1981). Tracing the Time Lag in Agenda-setting. *Journalism Quarterly* 58: 51–55.

TORMALA, Z.L. & PETTY, R.E. (2001). On-line versus Memory-based Processing: The Role of "Need to Evaluate" in Person Perception. *Personality and Social Psychology Bulletin* 27: 1599–1622.

VALKENBURG, P.M.; SEMETKO, H.A. & DE VREESE, C.H. (1999). The Effects of News Frames on Readers' Thoughts and Recall. *Communication Research* 26: 550–569.

VREESE, C.H. DE (2004). The Effects of Strategic News on Political Cynicism, Issue Evaluations, and Policy Support: a Two-wave Experiment. *Mass Communication & Society* 7: 191–214.

VREESE, C.H. DE & BOOMGAARDEN, H. (2003). Valenced News Frames and Public Support for the EU. *Communications: The European Journal of Communication Research* 28: 361–381.

VREESE, C.H. DE & SEMETKO, H. A. (2004). News Matters: Influences on the Vote in a Referendum Campaign. *European Journal of Political Research* 43: 699–722.

WATT, J.H.; MAZZA, M. & SNYDER, L.B. (1993). Agenda-setting Effects of Television News Coverage and the Effects Decay Curve. *Communication Research* 20: 408–435.

WILSON, T.D. & HODGES, S.D. (1992). Attitudes as Temporary Constructions. In: L.L. MARTIN & A. TESSER (eds.). The construction of social judgment. Hillsdale, NJ: Erlbaum: 37–65.

ZALLER, J.R. (1992). The Nature and Origins of Mass Opinion. Cambridge: Cambridge University Press.

Zoch, L.M. & Molleda, J.-C. (2006). Building a Theoretical Model of Media Relations Using Framing, Information Subsidies, and Agenda-building. In: C.H. Botan & V. Hazleton (eds.). Public Relations Theory II. Mahwah, NJ: Erlbaum: 279–309.