

Mapping Boundaries of the Hostile Media Effect

By Albert C. Gunther and Kathleen Schmitt

The hostile media perception, the tendency for partisans to judge mass media coverage as unfavorable to their own point of view, has been vividly demonstrated but not well explained. This contrast bias is intriguing because it appears to contradict a robust literature on assimilation biases—the tendency to find information more supportive, rather than more opposed, to one’s own position. We set out to explore a theoretical basis for the hostile media perception that would reconcile it with assimilation biases. To do so, we exposed partisans from opposing camps on the genetically modified foods issue to identical information presented in either a mass media or a student essay context. Consistent with the hypotheses, partisans saw the information as disagreeably biased in a news story format. In student-essay format, however, the hostile media perception disappeared, and there was some evidence of biased assimilation. In addition, content evaluations based on perceived influence on oneself vs. influence on a broader audience suggested that the hostile media perception may be explained by perceived reach of the information source.

To newspaper editors it is a common, and not unwelcome, criticism. Two readers from opposing partisan groups write letters to the editor, each complaining that news coverage is biased in favor of the other side. Editors welcome such responses (and usually print them side by side) for together they suggest it is readers, not news stories, who are biased. Psychologists refer to this phenomenon—when an individual perceives information to be more disagreeable with his or her own point of view—as a contrast effect. This particular instance of the contrast effect, a familiar experience for editors and reporters, has been called the hostile media perception.

The hostile media perception was first described and documented more than 15 years ago (Vallone, Ross, & Lepper, 1985). Over the next decade, two other experimental studies (Giner-Sorolla & Chaiken, 1994; Perloff, 1989) replicated the effect using the same controversial issue—conflict in the Middle East. Interest in

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this phenomenon has revived in recent years with a series of experimental studies repeating the finding with other controversies: the 1997 UPS strike (Christen, Kannaovakun, & Gunther, 2002) and the use of primates in laboratory research (Gunther, Christen, Liebhart, & Chia, 2001). Studies based on survey data have demonstrated support for the hostile media perception in a presidential election (Dalton, Beck, & Huckfeldt, 1998) and for issues such as physician-assisted suicide (Gunther & Christen, 2002).

Interest in and research activity on this perceptual bias has been growing in part because it dramatically illustrates the critical role of audience variables in the mass communication process. Divergent perceptions of the same message also fit squarely into a research paradigm that for decades has explored alternatives to the simplistic view of powerful and homogenizing effects of mass media. In addition, among the diverse sources of information in contemporary society the hostile media perception hints at a distinctive role for mass media. In this article we will attempt to clarify that role by examining causes and conditions underlying the hostile media perception.

However, the hostile media perception appears to contradict a robust finding in the social psychology literature, biased assimilation, which argues that people are more likely to interpret information as supporting their own view than opposing it. In spite of these apparently contradictory predictions, however, no research has examined the fundamental question they raise—whether the hostile media perception is distinctive to mass media. Existing studies have tested the hostile media perception only in the mass media context. No research has asked respondents to evaluate the same information in both mediated and nonmediated channels.

Asking these questions about the locus of the hostile media phenomenon in turn raises the fundamental theoretical question: Why should partisans see mediated and nonmediated information differently, if indeed they do? The answer to this question may be more important than it appears at first glance, for if people do subject information to different cognitive or perceptual processing when it appears in mass media, understanding this processing may provide us with important clues to the singular role of mass media as an information source in society.

The Hostile Media Perception

As noted above, the earliest studies of this perceptual bias all demonstrated the effect using broadcast news stories about Mideast conflict as the controversial issue. To select highly involved, partisan participants, two of those studies recruited participants from groups of Israeli and Arab students (Perloff, 1989; Vallone et al., 1985). One additional study used two issues, abortion and Mideast conflict, and drew its participants from an ordinary class of university students. In this third study the abortion issue produced no support for a hostile media perception; for Mideast conflict the results were clearer but somewhat mixed, an outcome the authors attributed to the lack of a highly involved sample (Giner-Sorolla & Chaiken, 1994).

More recent studies have generalized the effect to other issues and to print as well as broadcast media (Christen et al., 2002; Dalton et al., 1998). Two of these

studies (Gunther et al., 2001; Gunther & Christen, 2002) have also expanded the concept to what is termed the “relative hostile media perception,” showing that partisan’s perceptions, even of genuinely slanted media coverage, will be significantly different in a relatively disagreeable direction. That is, both sides may see news as slanted the same way, but each side will see the slant as relatively more disagreeable to its own position. In addition, research has explored the influence of hostile media perceptions on subsequent perceptions of public opinion (Gunther et al., 2001), an effect only inferred in earlier studies. However, we were interested in a more fundamental question about the locus of the hostile media perception itself. To examine the question of whether the contrast bias is exclusively a media-related bias, we must examine the evidence that seems to argue against it—evidence from the literature on assimilation.

The Assimilation Bias

There is diverse and plentiful evidence that people interpret information so that it appears to conform to their preexisting attitudes. For example, Chapman and Chapman (1967) found in six experiments that participants report erroneous correlations in line with what they expect to see. In a study of reported research results, Lord, Ross, and Lepper (1979) asked participants who supported or opposed capital punishment to consider mixed results from academic papers about the deterrent effect of the death penalty. They found that participants on both sides interpreted the evidence as supporting their own view: “Thus, there is considerable evidence that people tend to interpret subsequent evidence so as to maintain their initial beliefs” (Lord et al., 1979, p. 2099).

In their 1985 study, Vallone, Ross, and Lepper drew particular attention to this body of research and pointed out the apparent contradiction between the hostile media perception and biased assimilation. However, even though they coined the term “hostile media perception,” they did not explore the possible differences in perceptual bias that different information sources might evoke.

The earlier study (Lord et al., 1979) bears closer attention, for the study design and measures give some hint about what might explain these biased-assimilation and biased-contrast differences. In the biased-assimilation study, participants received descriptions of results, and some excerpts, from academic studies. The influence questions prompted them to think about influence on themselves. They were asked, for example, to assess changes in their own attitudes and beliefs about capital punishment. They were also asked how well or how poorly the presented evidence supported their own position. Two key factors vary between the biased-assimilation and hostile media perception studies—a source variable and an audience variable. In the biased-assimilation study, the source is research reports, with presumably low levels of exposure or reach, and the audience is the participants themselves. In the hostile media perception study, the source is national network news broadcasts, a high-reach source. Although the audience is not specified, partisans are not asked about influence on themselves and one item does ask them to consider influence on “neutral viewers.” Both factors, source and audience, point to the same difference between the two research designs: One study presents a low-reach condition, the other a high-reach condition.

Taken together, the biased-assimilation and hostile media perception studies suggest that the curious contradiction between the two depends on what target audience participants have in mind when evaluating the influence of information. A low-reach (or no-reach) condition, such as when thinking only about influence on one's own opinion, would generate an assimilation response whereas the high-reach condition, thinking about influence on a broad audience, would result in a contrast effect.

Readers familiar with the third-person effect hypothesis may recognize a seemingly similar phenomenon here. The third-person effect proposes that people will perceive more influence of an undesirable communication on others than on themselves (Davison, 1983) and that perceived influence will increase as the locus of others becomes broader or more distant from the self (Cohen, Mutz, Price & Gunther, 1989). Perloff, who conducted a close replication (1989) of the original hostile media perception study, saw the intuitive connection between the hostile media perception and the third-person effect, pointing out partisans' particular tendency to perceive influence on neutral others.

However, the theoretical rationale for the hostile media perception that emerges from our consideration of the literature summarized above goes beyond the third-person effect framework. That framework proposes that when people (not necessarily partisans) observe negative or undesirable information in media, they perceive a substantial influence on others. Here, however, the process seems reversed: When partisans observe a communication that reaches a broad audience of others, they perceive more undesirable or disagreeable information. For partisans, information in a mass media context appears to engage a different perceptual gear, one that drives perceptions of unfavorable media bias. At the heart of this idea is logic similar to that behind the third-person effect—that partisans perceive others as vulnerable to undesirable influence. Thus, a highly involved individual might think: "Information I see as neutral or even supportive others could mistakenly interpret as persuasive in an unfavorable or disagreeable way."

That idea underlies the theoretical logic we will apply here. If partisans consider information only in terms of their own opinions, they will see it as neutral or favorable, but if partisans are prompted to consider influence on others, they will see the same information as biased in a hostile direction.

Study Context

Industry, government, and many academic researchers have promoted the potential benefits of genetically modified (GM) foods for agriculture, the environment, and human health. Such benefits, they claim, include feeding an exploding world population and preventing diseases in children of poorer countries. Opponents of GM foods, including consumer groups, environmental activists, and some scientists, fear potential unforeseen health, environmental, and socioeconomic consequences. Opposition to the technology has been fierce in Europe, with eco-vandals destroying crops and protestors picketing supermarkets. In the United States, an initial acceptance of GM foods seems to have been replaced by a growing skepticism.

In early May 2001, North Farm Cooperative, a natural foods distributor opposed to GM foods, held its annual general membership meeting in Madison, Wisconsin.¹ The event included an anti-GM foods keynote speaker who roused co-op members to applause and shouts of approval several times. A week later, the National Agricultural Biotechnology Council (NABC), a not-for-profit consortium of more than 30 leading research and teaching universities working in biotechnology fields, hosted its annual conference in Chicago. One of NABC's stated goals is to promote increased understanding of the issues associated with agricultural biotechnology. The conference was titled, "Consumer Concerns About Biotechnology in Our Food System," and explored ways to improve consumer confidence in biotechnology.

The contrast between group perspectives was nicely illustrated by the food served at each event. North Farm Cooperative members sampled organic crackers and soy peanut butter accompanied by signs assuring them of no genetically modified ingredients. The cookies served to NABC attendees, on the other hand, were prominently labeled according to what variety of genetically modified corn or wheat they contained. We assumed that members of these two groups would qualify as highly involved individuals in two adversarial camps.

Making use of the partisan involvement of these groups in the GM foods controversy and the theoretical literature reviewed above, we tested a number of hypotheses. First, we posed a hypothesis that has not been definitively tested before, that information presented in a mass media context will arouse the hostile media perception while the same information in a nonmedia source will produce the opposite effect. To carry out this test we created an informational stimulus on GM foods but prepared it in two formats, either a newspaper story or a college student's essay. Hence, the first hypothesis proposed a source effect—a contrast bias when information appears in a mass media source and an assimilation bias when it appears in a nonmediated source.

H1a: Partisans on opposing sides of the GM foods issue reading a newspaper article on GM foods will perceive the content to be relatively unfavorable to their own point of view.

H1b: Partisans reading the same content in a college student's essay on GM foods will perceive the content to be relatively favorable to their own point of view.

These conjectures about source differences leave one fundamental, underlying question unanswered, however. If H1a and H1b are supported, then why does the hostile media perception occur for mass media only? If mass media are a necessary component of this effect, one possible explanation is the concept of perceived reach, that is, whether or not the information channel appears to reach a large audience. Partisans may believe that information in a mass medium will

¹North Farm Co-op, once a thriving concern, went out of business in 2002.

reach a large audience of neutral, and perhaps more vulnerable, readers—readers who could be convinced by unbalanced or misleading information to support the “wrong” side. If this reasoning is valid, then partisans should be more likely to perceive or evaluate information content in a different way, that is, to see it as relatively more persuasive against their own views, when they are prompted to consider its effect on neutral readers as opposed to its effect on only their own opinions. Hence, Hypothesis 2 proposed an audience effect.

H2: When considering the influence of the stimulus on their own opinions, participants will perceive the information to be relatively more persuasive in support of their own point of view than when considering the influence of the stimulus on a neutral reader’s opinions.

Although the traditional hostile media perception suggests that each partisan group will see media content as unfavorable, these hypotheses propose relative differences between groups or conditions that would nevertheless be consistent with the theoretical framework of the hostile media perception (Gunther et al., 2001). For example, questions about a favorable portion of the information should produce significant differences between the two groups in the predicted direction even though both sides may see that portion as favorable.

Method

We tested these hypotheses with a 2 (anti-GMF partisans, pro-GMF partisans) by 2 (news article vs. essay) by 2 (perceived influence on self vs. others) by 2 (self–other order) experimental design. Article vs. essay was a between-subjects, randomly assigned condition; self vs. others was a within-subjects condition; and self–other order was randomly assigned between participants. Partisan group was a field manipulation, which is to say participants were recruited from existing partisan organizations (a group of neutral participants was also selected as a subset of members of other local groups that had no connection to the GM foods issue). The three experimentally manipulated factors were fully counterbalanced. Although the first factor in the design, partisan group, necessarily lacks random assignment, it has distinct advantages over traditional laboratory experiments. For one, participants come from real-life groups, removing some of the artificial quality of traditional laboratory experiments. Second, because study participants are members of actual partisan groups, we expect them to have high levels of partisan involvement, a condition difficult to create through manipulations.

Participants

As noted earlier, anti-GM foods participants were recruited from people attending a North Farm Cooperative general meeting in May 2001. One week later, GM food supporters were recruited from a group of academic and industry researchers who attended a National Agricultural Biotechnology Council conference. As an incentive (adapted from Gunther et al., 2001), we donated \$5 for each completed

questionnaire to participants' respective organizations, and we advertised this fact to potential participants.

To insure that our two groups were composed of only highly partisan participants, we used a filter item in the questionnaire asking to what extent they "support or oppose the development of genetically modified foods," followed by an 11-point scale ranging from -5 , *strongly oppose*, to $+5$, *strongly support*. For pro- and anti-GM foods partisans we selected a subset who chose more extreme positions ($+3$, $+4$, or $+5$, or -3 , -4 , or -5 , respectively) on the scale. This procedure resulted in 64 anti-GM foods participants and 87 pro-GM foods participants.

Potentially neutral participants were recruited from several upper level university classes and a local service group. We identified a subset of genuinely neutral participants ($n = 86$) from this pool by selecting those whose responses fell within one point on either side of the neutral midpoint (-1 , 0 , or $+1$) on the same GM foods attitude scale. The only compensation neutral subject groups received was a guest lecture delivered by the investigators.

Procedure

Participants first read and signed a consent form that described the study as a series of questions evaluating a sample of information about a national issue concerning science and technology. Participants then received a copy, previously randomized, of the experimental packet. Each packet contained three sections: the GM foods attitude scale, photocopies of either a newspaper story or a student essay, and several pages of additional questions.

Each participant was randomly assigned to a packet that contained either a newspaper story or student essay. Participants receiving the newspaper story were told that it was carried nationwide by the Associated Press wire service, and that it was clipped from the December 8, 2000, issue of *USA Today*. Those receiving the student essay were told that it was written by a senior at a large midwestern U.S. university for a composition class. The title of both pieces was "Biotechnology Ready to Grow, But Critics Growing Leery."

Although the apparent sources were different, the text of each stimulus was identical. The stimulus was assembled from several recent news articles on GM foods published in national media sources. The story consisted of an introductory section that presented both sides of the issue, including the touted benefits of GM foods (better tasting, more nutritious, and less expensive food) as well as the possible problems (genetic crossover). Next came a predominantly pro-GM food section under the subtitle, "Life-Saving Rice," which described the potential health benefits of golden rice, followed by a predominantly anti-GM food section subtitled "Growing Salmon in Kansas" that described Atlantic salmon that are modified to grow faster, but which could escape into the wild and wipe out the natural salmon population.

In an effort to produce a balanced and "neutral" article, we took care to make the "pro" and "con" sections of the story equal in length and similar in style. In addition, we pretested the original draft with nine judges who professed to be disinterested and nonpartisan on the GM foods issue and revised it until they agreed it was balanced. Further validation of the essentially neutral posture of the

information came from the 86 nonpartisan participants. On the central bias measure, these control participants perceived both the article ($M = -.21$) and essay ($M = 0$) as virtually neutral.

The newspaper version of the story was created using Adobe Pagemaker (with appropriate fonts and layout style) and repeatedly photocopied until the image quality made it appear like an actual story clipped from a newspaper. The student essay contained the same text, but was formatted in Microsoft Word in a double-spaced paragraph format with a header on the first page that appeared to have the student's name covered up, under which appeared a class title and the same date as the newspaper story. Although the student essay text was identical to the newspaper version, three slight mistakes—minor typos that would not be caught by a student running a computer spell check—were added to the essay to accentuate the informality of the source. These minor manipulations were all done to call the readers' attention to the fact that they were reading a student's essay, not a professional article.

Attempts to create a believable news article and student essay appeared to be successful. Several participants in the article condition asked if they could have a copy to use in a class or other project. Some commented that they had read a similar article or had seen a television broadcast that discussed similar information. At the same time, several participants in the student-essay condition circled the spelling mistakes as if they were proofreading a student's work.

Measurement

After an introductory page containing instructions and a general explanation of the study, participants answered the filter item described in the participants section above. The second section in the experimental packet contained the essay/article stimulus. The next section began with one of two randomly ordered blocks of nearly identical items, each block preceded by a different instruction. One instruction asked participants to think about the "influence of the article/essay on your own opinions," and the first item to follow read, "Overall, do you think the arguments presented in this article/essay are stronger on one side of the issue than the other?" In the other block, participants were asked to think about "influence on a neutral reader's opinions" and the first following item read, "Overall, do you think a neutral reader would perceive the arguments presented in this article/essay to be stronger on one side of the issue than the other?" These questions were followed by the 11-point scale, with -5 as *stronger arguments against GM foods* and $+5$ as *stronger arguments in favor of GM foods*. Four similar items followed in each block, asking about the persuasiveness and the weight of evidence in favor of one side or the other. All items were followed by the same -5 to $+5$ response scale. These two blocks of items, intended to tap participants' perceptions of the extent and direction of persuasiveness of the content, were summed and divided by 5 to create two indices. Both exhibited good reliability: $\alpha = .87$ for perceived persuasiveness regarding the subject's own opinion, $\alpha = .85$ for persuasiveness with regard to a neutral reader's opinion.

The next section contained six questions focusing on the concept of perceived bias or slant in the articles. These were selected or adapted from previous re-

search on hostile media perceptions, primarily Vallone et al. (1985), Perloff (1989), and Gunther et al. (2002). Conceptually, bias may have several dimensions, including accuracy of information, content balance, and trustworthiness of sources, and we selected items to reflect these factors. The first question read, "Would you say that the portrayal of genetically modified foods in this (article/essay) was strictly neutral, or was it biased in favor of one side or the other?" Then, two questions were asked about portrayal of supporters, and opponents, of GM foods. These three items were each followed by an 11-point scale anchored by -5 , *strongly biased against*, and $+5$, *strongly biased in favor*; and 0 as the neutral midpoint. Two additional questions asked the participants to estimate what percentage of the story was favorable and unfavorable, respectively, to the issue of genetically modified foods, followed by a list of percentages in increments of 10. A final question in this section asked about the author, "Would you say that the (reporter/student) responsible for this (article/essay) was strictly neutral, or was he or she biased in favor of or against genetically modified foods?" followed by the 11-point scale with -5 , *strongly biased against*, and $+5$, *strongly biased in favor*, as anchor points. After appropriate recoding, we summed these items and divided by six to create a bias index that also demonstrated good reliability ($\alpha = .86$).

One additional question asked participants to rate the knowledgeability of the reporter/student about the facts and issues concerning GM foods, followed by a 10-point scale ranging from 1, *not at all knowledgeable*, to 10, *extremely knowledgeable*. Standard demographic measures—age, education, gender, and income—were also taken.

Following the North Farm Co-op meeting and the NABC conference, participants were informed of the study's purpose, as well as the fictitious nature of the manipulations. Members of the control groups were debriefed immediately after returning their completed surveys.

Analysis

Hypothesis 1, which proposed differences between the two groups of partisans, was examined via independent-samples *t*-tests and analyses of variance incorporating controls. We first examined Hypothesis 2, which proposed differences in the within-subjects measures, separately for the two source conditions using paired-samples *t*-tests. Then, to insure that any audience effect was not altered by source manipulations, we conducted a general-linear-model analysis of variance on the dependent variables related to Hypothesis 2 to test the main effects of source and audience and any potential interaction of the two.

Results

Hypothesis 1a predicted that partisans on opposing sides of the GM foods issue would perceive a neutral newspaper article on GM foods to be relatively biased against their own point of view. An independent-samples *t*-test of the bias index produced robust support for this hostile media perception in the news article condition. GM foods supporters saw the article as somewhat unfavorable ($M = -.32$),

Table 1. Mean Bias Estimates as a Function of Source and Partisan Group

	News article			Student essay		
	Pro-GMF subjects	Anti-GMF subjects	<i>t</i>	Pro-GMF subjects	Anti-GMF subjects	<i>t</i>
Portrayal of GM foods	-.40 (1.5)	.97 (1.9)	-3.40**	.35 (1.3)	.57 (2.3)	-.55
Portrayal of GM foods opponents	.63 (1.3)	-.73 (1.6)	4.01**	-.06 (1.2)	-.26 (2.0)	.55
Portrayal of GM foods supporters	.11 (1.3)	1.0 (1.7)	-2.56**	.73 (1.2)	.79 (2.4)	-.13
% content unfavorable	49.5 (16.4)	41.4 (19.7)	1.90*	40.8 (15.9)	50.7 (24.0)	-2.18*
% content favorable	45.8 (15.7)	57.3 (18.9)	-2.83**	54.5 (16.3)	45.9 (24.7)	1.89*
Author bias	-.32 (1.4)	.86 (1.8)	-3.14**	.49 (1.3)	-.39 (1.8)	2.53**

Note. Positive values indicate pro-GM foods bias; negative values indicate anti-GM foods bias. Standard deviations are in parentheses.

* $p < .05$. ** $p < .01$.

whereas opponents read it as substantially favorable ($M = 1.03$) toward GM foods, $t(71) = 3.74$, $p < .001$.

Columns under the news article heading in Table 1, reporting means and *t*-tests for the six bias-related items, give a more detailed view of this analysis, showing variations in the direction of perceived bias. For the first (overall bias) and second (biased portrayal of opponents) items, partisans produced significantly different answers in opposite directions. The third item exemplified the relative hostile media perception: Both sides saw the article's portrayal of supporters as biased in the same direction, but anti-GM foods participants saw the article as significantly more biased in favor of GM foods than did the pro-GM foods participants. The fourth item (percentage of unfavorable content) also resulted in a relative hostile media perception. Responses to items five (percentage of favorable content) and six (author bias) again showed strong support for the absolute hostile media perception.²

Hypothesis 1b predicted that when the same content was presented as a student essay, partisans would find it to be relatively favorable, rather than opposed, to their own point of view. Aggregate data in the essay condition did not appear to support Hypothesis 1b. Both pro- and anti-GM foods participants saw the essay as somewhat favorable toward GM foods ($M = .60$ and $.23$ respectively) with no significant difference between them, $t(74) = 1.01$, *ns*. Although the index analysis revealed no evidence of a hostile media perception,³ neither was there support for biased assimilation.

²The wording for the six central hostile media perception items was adapted from earlier research, all of which focused on tests of Hypothesis 1a. It is possible that the "bias" wording, particularly in the first three measures, may have worked against Hypothesis 1b.

³An ANOVA testing source and partisan group effects revealed a significant interaction, $F(1, 142) = 11.7$, $p < .01$, verifying the presence of the hostile media perception in the article but not the essay condition.

However, analysis of individual items, listed under the student essay heading in Table 1, produced evidence of biased assimilation in some cases. None of the first three items showed significant differences between the two partisan groups. Even though they read exactly the same content, when they read it in the form of a student composition, both pro- and anti-GM foods participants saw little or no bias, and they judged it to be at approximately the same levels. For the last three items in the essay condition, however, estimates were significantly different but opposite in direction to the hostile media perception. For these three questions (percentage of unfavorable content, percentage of favorable content, and author bias), partisans perceived the essay condition to be supporting, rather than opposing, their own point of view.

However, this field experiment design unavoidably lacks random assignment to partisan condition, and analysis of demographic factors revealed that pro-GM foods participants were higher in education and income, were older, and included a larger percentage of males than anti-GM foods participants. Hence we reanalyzed the relationships described above using analysis of covariance to incorporate the effects of these control variables. In the news article condition, adding controls reinforced support for a hostile media perception, $F(1, 67) = 11.39, p < .01$. None of the controls emerged as a significant factor in analyses of the index or the individual items. Analysis of the bias index in the essay condition was also unchanged in the ANCOVA test, $F(1, 64) = .19, ns$, but gender was a significant factor: Men read the student essay as more favorable to GM foods than did women. In addition, in the presence of demographic controls, the significant differences between partisan groups in the last three individual measures were no longer evident: In those items women saw a larger percentage of unfavorable content, men and higher income respondents saw a larger percentage of favorable content, and lower income participants were more likely to perceive an author bias unfavorable to GM foods. Thus, although initial results suggested that in the essay condition biased assimilation might result from partisan stance for some measures, several demographic variables were confounded with partisan group and also correlated with the outcome measures. These confounds make it impossible to be certain about the source of the assimilation bias.

Hypothesis 2, the audience effect hypothesis, sought to test the perceived persuasiveness of the stimulus content depending on the locus of influence. The hypothesis proposed that when participants were asked about the influence of the stimulus on their own opinions, they would perceive the information to be relatively more persuasive in support of their own point of view. When considering the influence of the stimulus on a neutral reader's opinions, however, participants would perceive the information as relatively more persuasive in support of the opposing point of view.

Because we asked participants about their impressions of influence on themselves and others in two separate question blocks, we were concerned that participants' responses to the first set might affect their answers to the second. As noted earlier, we randomly ordered the sequence of the two question blocks to test for this effect, and for some items we did find significant order effects. How-

ever, in all cases those differences would work against rather than in favor of Hypothesis 2, creating, in effect, more conservative tests.

To analyze Hypothesis 2, the locus-of-influence question, we first recomputed the perceived persuasiveness measures so that, for both partisan groups, a positive value indicated persuasive content in favor of one's own position and a negative value indicated content that was persuasive in favor of the opposing position. This procedure allowed us to examine pro- and anti-GM foods participants together. Analysis of within-subjects differences in the persuasiveness indices produced robust support for H2 in both article and essay conditions. In the news article, persuasiveness was seen as virtually neutral for one's own opinion ($M = .03$), but disagreeable for the opinions of neutral others ($M = -.37$), $t(71) = 2.99$, $p < .001$. By contrast, the same information in the essay was seen as agreeably persuasive—substantially so for own opinion ($M = .74$), but less so for neutral others ($M = .33$), $t(75) = 4.02$, $p < .001$.

To further examine Hypothesis 2 we combined indices, collapsing across source, and conducted a multivariate ANOVA to test the simultaneous influences of source and audience. This test confirmed the main effect of the audience factor (persuasiveness for own opinion vs. neutral others), $F(1, 144) = 23.41$, $p < .001$. Interestingly, but not surprisingly, the mean persuasiveness values in each source condition were asymmetric. Instead of centering around zero they were primarily negative in the article condition ($M = -.17$) and largely positive in the essay condition ($M = .21$). This pattern suggested an underlying influence of the article vs. essay manipulation on the persuasiveness measures and analysis verified the effect of this between-subjects factor, $F(1, 144) = 6.88$, $p < .01$. Both of these main effects are illustrated in Figure 1, which plots persuasiveness estimates as a function of source and audience. The source-by-audience test was not significant, indicating no interaction between these factors, a fact also visually evident in the virtually parallel slopes in Figure 1.

Discussion

The data in this field experiment contribute two important ideas to our knowledge about perceptions of mass media, especially the perceptions of highly involved people on controversial issues. One, partisans do systematically perceive information in the mass media as hostile to their own opinions, and perhaps more importantly, the data suggest this effect may be unique to mass media. Two, the results suggest a reason for this mass media effect: The sense of broad reach and thus of potential influence on others invoked by mass media may generate perceptions of hostile content.⁴

⁴ The viability of this explanation will depend on further research. Our article vs. essay manipulation significantly influenced perceptions of bias and of persuasiveness. Not surprisingly, bias estimates were strongly related to perceived persuasive influence on self, $r = .71$, $p < .001$, and others $r = .70$, $p < .001$. These correlations may reflect a close conceptual relationship, but the bias and persuasiveness elements may also be causally related, an intriguing and potentially important theoretical question.

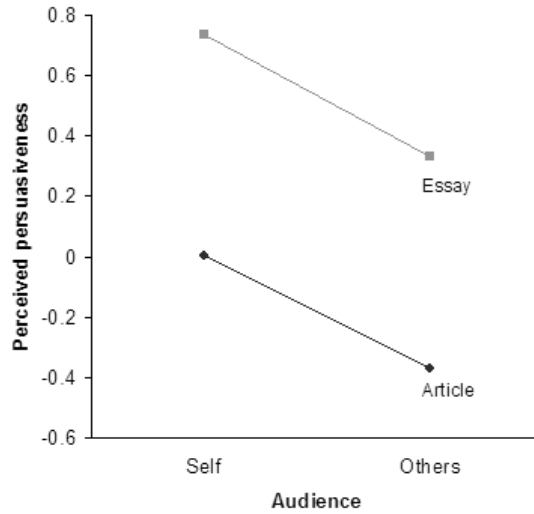


Figure 1. Perceived persuasiveness as a function of source and audience. Negative values indicate persuasiveness in an unfavorable direction relative to respondent's own position.

Results of the article versus essay manipulation illustrate the first idea dramatically, although quite predictably. The data show evidence of partisans' divergent perceptions of relatively hostile content in a newspaper article, but no such differences, and even a possibility of the opposite effect, when identical information is presented in a student composition. Whether the nonmedia condition may generate biased assimilation is an intriguing issue that requires further research. Because of other differences between the two partisan groups,⁵ the evidence available here cannot settle the question. Overall, however, differences between the article and essay represent a crucial test that has not been applied to the hostile media perception hypothesis before.

Results of the within-subjects measure of perceived influence on one's own opinion vs. the opinions of neutral readers suggest that at least one explanation for the critical role of media in the hostile media perception is the perceived locus of the audience. In the influence-on-neutral-readers condition, participants' estimates of stimulus effects were markedly more "unfavorable," in a relative sense, than when they were considering influence on their own opinions. No previous research has attempted to explain why mass media might produce a contrast bias while other forms of communication do not. Explanations based on perceived reach may help to map the boundaries of the hostile media perception.

⁵ Our opportunistic recruiting at group meetings provided us with a convenient supply of highly involved participants. However, as with all field experiments where random assignment is not an option, these groups can vary on dimensions other than partisan involvement.

Also notable is the underlying source effect on persuasiveness estimates illustrated in Figure 1. These patterns underscore the different way in which the two sources generate perceptions of influence and, in an important sense, this result gives us another test of Hypothesis 1. In the news article condition, participants generally found the content persuasive in an unfavorable direction, just as the hostile media perception would predict. In the essay condition, however, participants judged the persuasiveness as almost uniformly favorable to their own point of view, a result quite consistent with biased assimilation.⁶

Discussion of the study design must include a few caveats. Our article vs. essay manipulation was intended to create media vs. nonmedia conditions, with the attendant implications for reach. This manipulation, however, necessarily suggested two different types of authors—one a college student, the other a trained journalist. Anticipating that this difference in authors might be a confound in our manipulation, we included a question on author knowledgeability. Participants, however, registered no significant difference in their perceptions of author expertise between article and essay conditions. Although other author characteristics may have influenced participants' responses, the most likely one, author expertise, did not appear to play a role here. In addition, other elements about the mediated versus nonmediated manipulation may be confounded with reach, and further research will be needed to clarify this effect.

It is also important to point out that, although this design makes a persuasive case for the importance of media as a necessary condition for the hostile media perception, we examined the question in only two text-based settings. This perceptual bias might well appear in other information channels, an important question for further research. Testing the hostile media perception in other communication contexts will also be a productive way to verify or revise the theoretical framework we have proposed.

As noted in the description of method, the second and third sections of the stimulus text covered predominantly pro- and anti-GM foods topics, in that order. It is possible the sequence of these segments might have influenced participant's judgments of bias, such as a recency effect of the GM salmon segment. An order effect of this nature would not bias the comparison results if it influenced both groups in the same way, but would be a problem if it interacted with group differences. Future manipulations might be designed to randomly order segments as a way to test for such effects.

Yet another caution arises from the study context. Both groups of partisans were participating in meetings of largely like-minded fellows; this in-group context may have sensitized them to the issue and possibly accentuated perceptions of bias (Shamir & Shikali, 2002). Although the results in these data are consistent

⁶It is noteworthy that standard hostile media perception questions ask participants about content bias whereas these items focus on the persuasiveness and weight of evidence in the content. The question wording in these blocks and the accompanying evidence for biased assimilation also support the argument that partisans evaluate the content in their favor when it is not presented in a mass media context.

with studies of the hostile media perception set in more common-place circumstances, it is possible that the experimental setting may have enhanced the effect.

Caveats aside, this study advances our understanding of information processing and mass communication in significant respects. There is the strong indication, for example, that partisans processing media information see that information as relatively hostile. Therefore, this contrast bias may be dysfunctional for public discourse if it causes highly involved individuals to reject even-handed information, to see the tide of public opinion turning against them, to withdraw from public debate, or even to resort to desperate actions. The results also suggest, however, a remedy, for the data indicate that if the same information is presented in a different context, such as informational essays or a low-circulation report, it will not meet with the same hostile reception.

These findings should also assure journalists and others in the mass media profession that criticism from partisans should be expected and should be weighed in a balance where the systematic likelihood of such responses is also measured. Taking this perspective might avert the “squeaky wheel” response, the tendency to overcompensate in the face of partisan criticism.

Can we conclude, finally, that media are implicated in the hostile media perception? One answer is no. Although few would argue that mass media content is always fair, this perceptual bias can be clearly attributed to preexisting attitudes in the partisan audience rather than to the media content itself. In another sense, the answer is yes. What we are seeing in these data is clearly a media effect. However inadvertently, mass media cause partisans to look at the same information in a very different way, and the data suggest this is because media direct attention outward, to the mass media audience and the undesirable influence that audience may experience. The perception of increasingly disagreeable influence when participants consider an audience of others vs. themselves appears to reinforce this perceived-reach explanation. Perceived reach may not be the only factor underlying the hostile media perception, but it finds both theoretical and empirical support in this study.

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