

The Role of Source Confusion in Cultivation Effects May Depend on Processing Strategy A Comment on Mares (1996)

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Mares (1996) presented evidence that source confusions play a role in the cultivation effect. In doing so, she suggested that these findings are at odds with assertions made by Shrum and O'Guinn (1993) concerning the lack of attention that people pay to source characteristics when constructing their social reality judgments. The purpose of this comment is to clarify some of the findings of Mares (1996) that have implications for the heuristic model of cultivation effects (Shrum, 1995) and to show that Mares's findings are, in fact, fully compatible with, and can be integrated into, the heuristic processing model. Implications of Mares's findings for refining and extending this model are also discussed.

Mares (1996) presents findings on the role of source confusions (e.g., mistaking fiction for fact) in social reality judgments. These findings have important implications for understanding the cognitive processes that underlie cultivation effects. As Mares and others have suggested, the articulation of a process model of cultivation effects is important not only for providing a more thorough understanding of the effect and its parameters but also providing convergent validity for cultivation theory (Hawkins & Pingree, 1990; Shrum, 1995).

My purpose for this comment is to clarify the implications of Mares's (1996) findings for a model of cultivation effects that I have previously proposed and tested (Shrum, 1995, 1996, in press; Shrum & O'Guinn, 1993). Although Mares (1996) suggests that her findings "run counter" (p. 294) to assertions made by Shrum and O'Guinn (1993), I will show that not only can her findings be fully integrated into the model of cultivation effects I have proposed but also have important implications for further extending and refining that model. In particular, I will show that issues of

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Human Communication Research, Vol. 24 No. 2, December 1997 349-358
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source discounting and source confusion are likely to be a function of the types of processing strategies people adopt in constructing their social reality judgments and that these issues have direct bearing on the interpretation of Mares's findings.

THE HEURISTIC PROCESSING MODEL OF CULTIVATION EFFECTS

The general premise of the heuristic model of cultivation effects is that the cultivation effect results from the use of heuristic processing strategies (Chaiken, Liberman, & Eagly, 1989). In particular, the model suggests that the cultivation effect can be explained as an instance of the application of the availability heuristic (Tversky & Kahneman, 1973), which posits that people infer the prevalence of a construct (e.g., crime, violence, occupations) from the ease with which relevant examples can be recalled from memory. A number of studies have supported this notion by showing that relevant information is more accessible for heavy viewers than for light viewers and that this accessibility bias mediates the cultivation effect. This effect has been replicated by using a variety of dependent variables, different operationalizations of television viewing, and multiple control variables (cf. O'Guinn & Shrum, 1997; Shrum, 1996; Shrum & O'Guinn, 1993; Shrum, O'Guinn, Semenik, & Faber, 1991).

An additional component of the heuristic processing model is the assumption that the accessible television information that is recalled in an effort to construct a cultivation-type judgment will be considered relevant and thus used (rather than discounted) in judgment construction. This is assumed to be a by-product of heuristic processing in which people do not take the time or make the effort to ascertain the source of the information recalled and thus do not source discount. Support for this aspect of the model was obtained by Shrum, Wyer, and O'Guinn (in press) in two experiments in which they primed television as a source characteristic (i.e., made television salient) prior to asking participants to make estimates of the prevalence of crime and particular occupations. The source-priming manipulation was expected to induce source discounting and thus eliminate the effect of television on the prevalence estimates. The results supported this interpretation.

Finally, the model implicitly assumes that if heuristic processing leads to the use of television information in the construction of prevalence estimates, and hence produces a cultivation effect, then inducing people to avoid the use of a heuristic processing strategy should eliminate the cultivation effect. Support for this proposition was provided by Shrum (1997) in an experiment that manipulated the processing strategies (heuristic vs. systematic) that people used in constructing their prevalence

estimates. As expected, the control (no processing manipulation) and heuristic conditions both exhibited cultivation effects of similar magnitude, whereas the systematic condition evidenced no cultivation effect.

Interpreting and Integrating the Findings of Mares (1996)

The findings of Mares (1996) and the heuristic processing model diverge on at least one important point. The heuristic processing model is clear in its assumption that under heuristic processing conditions, people rarely consider the sources of information they use when constructing their social reality judgments. Such lack of attention to source characteristics, and thus lack of source discounting, leads to the use of television information in judgment construction, even though television information is likely to be considered nonveridical. On the other hand, Mares (1996) suggests that people do, in fact, pay attention to source and attempt to source discount, but are not necessarily good at it. She suggests that people may make mistakes in the process of source determination and confuse whether information comes from veridical (fact) or nonveridical (fiction) sources. She further suggests that such source confusions may explain the relation between television viewing and social reality judgments (the cultivation effect).

The results presented by Mares (1996) appear to support her reasoning. However, there are a number of aspects of the study that may affect the interpretation of these conclusions. These are not in any way flaws of the study but are simply attributes that affect the interpretation of the results and, hence, have implications for the heuristic processing model.

Heuristic vs. systematic processing. One aspect of the Mares (1996) study concerns the type of processing in which her participants engaged. In particular, a number of attributes of Mares's study may have increased the likelihood that the participants processed systematically rather than heuristically. The first pertains to the manner in which the data were collected. Mares (1996) notes that "all subjects were tested individually" and the researcher "read out the questions and wrote down subjects' responses" (p. 285). It seems very likely that such a procedure may have increased the participants' level of task involvement. Testing each participant individually and asking for an oral response removes any possible anonymity with regard to the answers that participants provided. This is in contrast to the typical survey procedures (telephone surveys, mass testing using subject pools, etc.), which Shrum (1995) suggests contribute to low task involvement, and thus heuristic processing. Instead, it is likely that this procedure may have caused participants to feel accountable for their answers. In fact, this procedure is very similar to the one that Shrum

(1997) used to induce systematic processing (i.e., testing in very small groups with instructions that the researcher will "grade" participants' answers, go over each answer with the participants, and ask them to justify their particular answers).

Another aspect of the study that may have resulted in increased task involvement, and therefore the likelihood of systematic processing, relates to the composition of the study sample, which consisted of high school seniors and senior citizens. Compared to student samples (which comprise the majority of my samples) and even general population samples, the task of providing social reality estimates to a university researcher may have been particularly involving for the senior citizens (novelty, excitement) and high school seniors (novelty, self-esteem in giving correct answers). More specifically, the participants may have been concerned with giving inaccurate answers and thus took more time and effort to construct a "good" answer.¹ It should be noted that this observation in no way suggests that one sample is better or more valid than another, only that the ways in which people construct their judgments may be a function of both the sample characteristics and the testing situation.

Salience of source characteristics. Characteristics of a judgment situation other than processing strategy may contribute to the likelihood that people are aware of source characteristics. In particular, if source is made salient prior to the judgment, people may be more likely to attend to source characteristics and thus source discount. Shrum et al. (in press) provided evidence of this in their source-priming studies.

In the Mares (1996) study, the order of data collection (television viewing data, then social reality data) was identical to one of the source-prime conditions used in Shrum et al. (in press). Thus, it is possible that the data collection procedure used by Mares (1996) made source characteristics salient and contributed to the propensity of participants to source discount.

Implications of Mares's (1996) Findings

Although it seems likely that characteristics of Mares's study may have increased the likelihood that source awareness and discounting would occur, these characteristics do not at all diminish the contribution of Mares's study. Rather, consideration of these characteristics provides additional information with which to interpret the source confusion data and integrate them into the heuristic processing model. In addition, the findings of Mares (1996) have implications that suggest an extension and refinement of the heuristic processing model of cultivation effects.

Qualifying heuristic processing and lack of source discounting. As Mares (1996) notes, Shrum and O'Guinn (1993) suggested that people typically process heuristically when constructing social reality judgments, base their judgments on the degree of accessibility of exemplars, and "source information is seldom consulted, even if it is available" (p. 461; see also Shrum, 1995). This, in fact, may be too simplistic a statement in light of Mares's findings. A better statement would be that when people process heuristically, they rarely consider the source characteristics of the exemplars they retrieve; and when people construct social reality judgments, they seldom deviate from heuristic processing.

However, when people *do* deviate from heuristic processing (or have the source made salient prior to judgment), source characteristics of the information retrieved may be considered. In such a case, the results of Mares's (1996) study suggest that the cultivation effect may be explained in terms of source confusion. Those who tend to make particular types of source confusions (e.g., mistaking fiction for fact) exhibit a cultivation effect, whereas those who tend not to make such confusions exhibit no cultivation effect. This can be seen in Table 3 of Mares (1996). Although not indicated, the zero-order correlations are significant for those in the high fiction-to-news confusion group but not for those in the low fiction-to-news confusion group (M. L. Mares, personal conversation, fall 1996). The differences between the correlations are presumably significant, given the significant interaction (although the interaction appears to have been computed by using source confusion as a continuous variable).

The findings of Mares (1996) make an important contribution to understanding how television influences perceptions of social reality. The heuristic processing model suggests that television information is used in social reality judgments because people do not consider source characteristics, but deviation from a heuristic processing strategy tends to reduce this effect significantly. Mares (1996) suggests, however, that even when the effect is significantly reduced or eliminated for an entire sample (through either systematic processing or source priming), a cultivation effect can still be observed within subgroups. Thus, just as Gerbner, Gross, Morgan, and Signorielli (1980) noted in their introduction of the concept of mainstreaming, lack of an overall cultivation effect does not mean that the television message does not influence social reality perceptions for some people.

Thus, the findings of Mares (1996) provide additional input into explaining the cognitive processes underlying cultivation effects and the role of source discounting. The findings suggest that the cultivation effect can be explained in terms of an inability *and* lack of motivation to source discount. My work has focused almost entirely on lack of motivation; Mares's work shows that even if motivation to process information is

high, inability to accurately source discount can also produce a cultivation effect. However, although Mares suggests that "it may be possible to retain [the heuristic processing] approach without completely banishing source information" (p. 280), it is unlikely that both processes occur at the same time within the same person. It is true that within a particular sample, some people may process heuristically without considering the source, whereas others attempt to source discount but fail to do so. But assuming that fact-to-fiction confusions would result in longer latencies than fiction-to-fact confusions (i.e., it would take longer to find a useful example), a source confusion mechanism cannot account for the latency data (e.g., Shrum, 1996; Shrum & O'Guinn, 1993) that show faster responses for heavier viewers, unless there is an asymmetry in source confusions such that heavy viewers make more fiction-to-fact confusions and fewer fact-to-fiction confusions than light viewers. Mares's (1996) data suggest that this is not the case and even lean toward the opposite pattern: The relation between level of television viewing and news-to-fiction confusions was positive and approached significance ($r = .13, p = .08$), but television viewing was essentially unrelated to fiction-to-news confusions ($r = .07, p = .35$; p. 296, Note 5). Thus, the latency results are not consistent with a source confusion mechanism but suggest heuristic processing without source discounting.

Implications for search processes. Other aspects of Mares's (1996) findings also provide insight into psychological processing and social reality judgments. For example, the data show an asymmetry with respect to the effects of the type of source confusions people made. Table 3 of Mares (1996) indicates that source confusion qualified the cultivation effect only for those who tended to make fiction-to-news confusions. Those making a higher number of such confusions exhibited a stronger cultivation effect than those making a lower number of confusions (the interaction was significant). On the other hand, the number of news-to-fiction errors had no differential effect on the relation between viewing level and magnitude of the social reality judgments (although the differences in the effects are in the same direction, the correlations are very similar and the interaction is far from significant).

These results suggest that misattributing a fictional memory as fact enhances the cultivation effect because people will inadvertently use fictional television information as a basis for judgment. On the other hand, misattributing a factual memory as fiction should have essentially no influence on the cultivation effect because people will simply ignore those memories and use other criteria as a basis for judgment. This process is similar to a feature-positive effect (Fazio, Sherman, & Herr, 1982; for its

implications for cultivation effects, see Shrum, 1995), in which people search only for positive instances of a construct or proposition.

Effects of sample characteristics. Another contribution of Mares's study concerns the issue of whether systematic processing or source priming truly eliminates the cultivation effect. As noted earlier, Shrum et al. (in press, Experiments 1 and 2) found that source priming reduced the cultivation effect to nonsignificance, and Shrum (1997) found a similar effect for systematic processing. However, even though the data collection procedures used by Mares (1996) in effect employed a source prime (collected television viewing information prior to the social reality estimates) and participants may have processed systematically, a small cultivation effect was still noted for most of the dependent variables (see Tables 1 and 2 of Mares, 1996).

One explanation for the discrepancies between the Mares and Shrum studies relates to differences in sample composition between the studies and the propensity of the sample members to make source confusion errors. Note that the Mares study did not address whether errors in source discounting occurred when participants constructed their social reality judgments. Rather, she conceptualized source confusion as an individual difference variable by measuring the tendency of people to confuse source on a task unrelated to the social reality judgments; she then inferred that if people were likely to make source confusions in one setting (the experimental stimuli), they would also be likely to do the same in their judgments of social reality.

One possible explanation for the detection of a cultivation effect in Mares (1996) but not by Shrum et al. (in press) or Shrum (1997) is that the people in the Mares sample (senior citizens and high school seniors) may have made more source confusion errors than those in the Shrum samples (mostly college sophomores and juniors). Research has shown that older adults have problems with remembering contextual information (Burke & Light, 1981) and thus tend to make a high number of external source confusions (Hashtroudi, Johnson, & Chrosniak, 1989). The argument that high school seniors also may have made more errors than college students is more difficult to make. It may be that college students are better at source discounting because of more intelligence (assuming education correlates with intelligence) or more practice. More likely, differences in confusing television information with other more veridical information may be attributed to differences in the amount of television each group views. College students for the most part watch less television than both senior citizens and high school students, and this was the case for the Mares sample ($M = 3.1$ hours daily) relative to the Shrum samples (Shrum, 1997, $M = 2.3$ hours; Shrum et al., in press, $M = 2.5$ hours and 2.7 hours for

Experiments 1 and 2, respectively). Consequently, college students may make fewer source-discounting errors because they have fewer instances to discount compared to the high school students and senior citizens. Note that this argument has nothing to do with ability per se but is based solely on probability: Those who watch more television will have more examples to discount and therefore a higher probability of making a source-discounting error.

IMPLICATIONS FOR CULTIVATION THEORY AND RESEARCH

The findings just discussed have a number of important implications for cultivation theory and research. The findings pertaining to heuristic processing suggest a plausible cognitive mechanism that can account for the cultivation effect. The findings also suggest that the cultivation effect can be reduced or eliminated under particular conditions such as source priming and systematic processing. The findings pertaining to source confusion errors add another piece to the puzzle. Mares's (1996) results suggest that despite these conditions, cultivation effects may be noted if members of the particular sample attempt to source discount but are prone to make source-confusion errors.

These conditions, taken together, may help explain why an overall cultivation effect can be elusive. Aspects of a situation (salience of source, involvement) and aspects of a sample (propensity to make source-confusion errors) may affect whether a cultivation effect is detected. Something as simple as the order in which data are collected (television information first vs. social reality judgments first) may affect source salience, and the manner in which the data are collected (anonymous, mass testing vs. one-on-one interviews) may affect level of processing. However, as noted earlier, these observations do not suggest that certain samples or data collection procedures are better than others, only that such characteristics may influence cultivation effects in predictable ways.

Some may conclude that the identification of conditions in which the cultivation effect does not hold diminishes the impact and importance of cultivation theory or even calls into question the existence of the effect. I think this conclusion is problematic. For one thing, the primary condition under which cultivation effects do obtain is common: People make heuristic judgments all the time. In fact, systematic or effortful processing tends to be the exception rather than the rule (Smith, 1994; Wyer & Srull, 1989). Moreover, providing an effective source prime in a naturally occurring situation that is sufficient to eliminate the cultivation effect may be difficult. A second reason why such a conclusion is problematic is that it extols main effects while ignoring interaction effects. In fact, such an

argument is similar to those that questioned the necessity of the attitude concept (Abelson, 1972) and called for an end to attitude research because attitudes were so poor at predicting behavior (Wicker, 1971). Yet, some of the most important advances in understanding attitude-behavior consistency have come from understanding what variables moderate this relation (e.g., Fazio, 1995; Snyder, 1979). There is no reason why cultivation research should be any different in this regard.

NOTE

1. I have experienced this phenomenon directly in some of my studies. In my early efforts to test issues of accessibility by employing a reaction time methodology, when the samples were drawn from the general population, I found that the data were often unusable because of inordinately long latencies (e.g., several people took longer than 1 minute to provide prevalence estimates). Debriefing revealed that many participants were very intimidated by the prospect of providing the prevalence estimates to a university researcher. They found the questions very difficult and worried that they would give extremely inaccurate answers and thus appear unintelligent. On the other hand, students were generally not concerned with such matters.

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