

Re-Inquiries

Television's Cultivation of Material Values

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Prior research has shown that television viewing cultivates perceptions of the prevalence of societal affluence through a memory-based process that relies on the application of judgmental heuristics. This article extends this research by examining (1) whether cultivation effects generalize to consumer values such as materialism and (2) whether these values judgments are also processed in a heuristic manner. Data from both a survey and an experiment suggest that television cultivates materialism through an online process in which television's influence is enhanced by active (rather than heuristic) processing during viewing. This finding stands in contrast to the cultivation of prevalence judgments, which are attenuated by active processing during judgment elicitation.

Television is a powerful medium, and recent research has highlighted its role in the consumer socialization process (O'Guinn and Shrum 1997; Shrum, Wyer, and O'Guinn 1998). This research showed that consumers often use information from television to construct perceptions of social reality including the prevalence of affluence. Heavier viewers tend to believe luxury products and services to be more commonplace than they actually are. The research went on to provide a psychological process explanation for this effect: frequent viewing increases the accessibility of relevant exemplars in memory (e.g., luxury products, high-income occupations), and this accessibility influences judgments through the application of cognitive heuristics. However, this model is predicated on an important assumption: the judgments are memory based. Because individuals have very little motivation to make prevalence estimates during

viewing (e.g., spontaneously estimate the percent of the population who are millionaires) these judgments are only made when required (e.g., such as when queried by a researcher), as it is at this point the stored information becomes relevant, useful, and therefore recalled (Hastie and Park 1986).

One key limitation of this research is that it only addresses the effect of viewing on prevalence perceptions and has little to say about television's influence on more centrally held judgments such as personal values. Values judgments differ from prevalence judgments in fundamental ways. As noted, for most people prevalence judgments are of limited relevance and thus are seldom if ever spontaneously generated. Instead, they are constructed only when required. By contrast, values judgments are made frequently in the course of guiding daily behavior, and so relevant information tends to be assimilated (or rejected) as it is encountered. Thus, it is unclear how well cultivation's extant cognitive process model generalizes to values judgments. Our research seeks to address this limitation via both a survey and experimental inquiry of the cognitive processes underlying the cultivation of material values.

EXTENDING CONSUMER CULTIVATION

The research of O'Guinn and Shrum (1997) and Shrum et al. (1998) is grounded in cultivation theory (Gerbner et al. 2002). This theory consists of two core premises: that

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the world of television differs significantly from reality (e.g., greater affluence, higher crime) and that this distortion influences the beliefs of viewers (e.g., they think wealth and crime are common). In support of this, O'Guinn and Shrum (1997) found amount of viewing to be positively related to perceptions of the prevalence of high-status products and services. Thus, heavy viewing appears to cultivate perceptions of an affluent society.

Cultivation theory would also assert that television will influence personal values as well as societal perceptions, as dominant program content becomes assimilated into personal value structures over time. Because content analyses have shown that materialism is commonly and favorably portrayed in television programming (O'Guinn and Shrum 1997), we expect that

H1: Amount of television viewing will be positively related to level of materialism.

Shrum and colleagues also provided a cognitive process model to explain the effect of television viewing on prevalence judgments. This model proposes that viewing makes relevant exemplars (e.g., affluence, occupations) more accessible in memory for those who watch more television and that this accessibility influences prevalence judgments through the application of the availability heuristic (Tversky and Kahneman 1973). However, recall that this model is predicated on the assumption that these judgments are memory-based. That is, the judgments are formed through the recall of information at the time the judgment is required, rather than being formed spontaneously (online) as information is encoded. Because viewers would have little if any motivation to form these types of prevalence judgments (e.g., percentage of Americans who own a swimming pool) during viewing, it is only later, when such a judgment is required, that this stored information is retrieved and used (Hastie and Park 1986).

The memory-based nature of prevalence judgments, along with the application of judgmental heuristics, has implications for the processes that may underlie these effects. Specifically, it suggests that factors that inhibit the use of heuristics in the judgment process should decrease the magnitude of the cultivation effect for prevalence perceptions and that these factors should be ones that operate at the time the judgment is elicited. Consistent with this reasoning, studies have shown that higher motivation to process information during judgment elicitation significantly reduces the cultivation effect for prevalence judgments (Shrum 2001).

However, not all judgments are memory based. People often make judgments spontaneously as information is encountered (e.g., impression formation, stereotyping; Hastie and Park 1986), and research has shown that judgments related to traits and values are typically constructed through online processes (McConnell, Rydell, and Leibold 2002).

If in fact values such as materialism are formed principally through online processes, this has implications for how television information may exert its influence. If television viewing increases materialism, it should do so at the time

of encoding (viewing). Thus, factors that have been found to inhibit or facilitate message encoding should also inhibit or facilitate the cultivation of values. In the current study, we focused on two motivation-related variables that are known to facilitate message encoding: attention and elaboration. Attention should facilitate the cultivation effect by increasing the amount of message-related information integrated into memory; elaboration should enhance the effect through deeper encoding. Thus, we expected that

H2: The effect of television viewing on materialism will be greater for those who pay more attention while viewing than for those who pay less attention.

H3: The effect of television viewing on materialism will be greater for those who elaborate more while viewing than for those who elaborate less.

Finally, we were interested in determining whether motivation while viewing similarly influences the prevalence judgments investigated in prior research. One possibility is that higher motivation while viewing results in stronger encoding, increasing the likelihood that source characteristics are attended to during recall. If so, this process should result in source discounting and thus decrease the cultivation effect for prevalence judgments (Shrum et al. 1998). However, stronger source encoding may not overcome the lack of attention to source characteristics that results from heuristic processing during viewing. If so, then no effect of motivation should occur for prevalence judgments.

We tested our hypotheses using a national survey of adults and assessed the possible effects of viewing motivation on prevalence judgments through a reanalysis of prior studies.

STUDY 1: NATIONAL SURVEY

Method

Participants and Procedure. Surveys were mailed to 1,500 randomly selected individuals across the United States. Standard procedures for increasing response rates were followed. Sixty-nine surveys were returned as undeliverable, yielding an effective sampling frame of 1,431 potential respondents. Of this, 321 surveys were returned (22% response rate). Seven surveys were eliminated due to missing data, leaving a final sample size of 314. The resulting sample roughly mirrored the U.S. population on all variables except age and household income, which were slightly higher than the national averages.

Measures. Materialism was measured using a 15-item version of the material values scale (MVS; Richins 2004). Amount of television viewing was measured using a new six-item Likert scale. Attention was measured using Rubin, Perse, and Taylor's (1988) five-item viewing attention scale. Elaboration was measured with a five-item short form of Cacioppo and Petty's (1982) need for cognition scale (Ep-

stein et al. 1996). Need for cognition (NFC) reflects an individual's general propensity to elaborate (Cacioppo and Petty 1982). We also measured age, gender, education, income, use of other media (radio, newspapers, magazines, Internet), and socially desirable responding (SDR; Ballard 1992) as control variables.

We validated the measures via a single measurement model using confirmatory factor analysis (see appendix for additional measurement data). The fit for this model was good ($\chi^2(428) = 1,107.2$, CFI = .96, TLI = .96, RMSEA = .074). We tested the discriminant validity of the measures by employing Fornell and Larcker's (1981) test of shared variance between each pair of latent constructs. Squared correlations between paired constructs did not exceed the average variance extracted for any single latent construct ($p < .001$). In addition, attention was relatively uncorrelated with amount of viewing ($r = .10$, $p < .10$) and showed a small but negative correlation with NFC ($r = -.16$, $p < .01$), further suggesting that these constructs are distinct.

Results and Discussion

We expected that materialism would be positively associated with level of television viewing but that this effect would be stronger for those who pay more attention while viewing and for those higher in NFC. To test the first hypothesis, we regressed materialism on television viewing, with the demographic variables, SDR, and the four media usage variables included as controls. All variables were standardized prior to analysis. As expected, television viewing was positively related to materialism ($\beta = .37$, $p < .001$). Age ($\beta = -.23$, $p < .001$) and SDR ($\beta = -.25$, $p < .001$) were negatively related to materialism.

To test the hypothesis that attention and elaboration (NFC) would moderate the cultivation effect, we again regressed materialism on television viewing but also included the interaction terms between television viewing and each of the two expected moderators. The two control variables significantly related to materialism in the previous analysis (age and SDR) were also retained. Both interaction terms were significant ($p < .05$). Simple slope analyses indicated that the relation between viewing and materialism was stronger for those who pay more attention while viewing ($\beta = .51$, $p < .001$) than for those who pay less attention ($\beta = .24$, $p < .001$), and stronger for those higher in NFC ($\beta = .38$, $p < .001$) than for those lower in NFC ($\beta = .25$, $p < .001$).

We were also interested in determining whether these same variables, attention and NFC, would show a different pattern of effects for prevalence judgments as compared to values judgments. If so, this would suggest that the two types of judgments are influenced by television in different ways. To test this possibility, we reanalyzed data from O'Guinn and Shrum (1997), Shrum (2001), and Shrum et al. (1998), all of which focused exclusively on prevalence judgments. Attention, NFC, and television viewing were treated as continuous variables. The results revealed that neither attention nor NFC moderated the effect of television

viewing on prevalence judgments in any of these studies ($p > .30$).

The results of study 1 suggest that consumer cultivation can indeed be extended to material values. They also suggest that the process by which television influences personal values such as materialism is different from the process by which it influences perceptions of societal affluence. The finding that factors that operate during viewing (i.e., attention, elaboration) moderate the cultivation effect for material values bolsters our argument that television exerts this effect at the time of viewing. This finding stands in contrast to the effect of television viewing on memory-based judgments such as prevalence perceptions, which has been shown to occur at the time the judgment is elicited (Shrum 2001; Shrum et al. 1998).

Although the findings from study 1 are consistent with our theoretical reasoning, there are some limitations. For one, the correlational nature of the study makes it difficult to infer causality. Second, the survey format did not allow for a direct assessment of processing in an actual viewing setting, requiring us to rely on individual difference variables, particularly NFC. Thus, we conducted a second study to address these concerns. We were especially interested in validating the use of NFC as an indicant of elaboration. In study 1, we assumed that individuals higher in NFC elaborate more during viewing, and because this elaboration is generally positive, it enhances persuasion. However, there is evidence that individuals high in NFC tend to scrutinize arguments more carefully and counterargue weak messages more than those low in NFC (Haugtvedt, Petty, and Cacioppo 1992). Because television is often considered a nonveridical source of information (Shrum 2001), television messages may be viewed as weak arguments and thus counterargued rather than endorsed by those high in NFC. Moreover, research has found that NFC tends to be negatively correlated with television viewing (Henning and Vorderer 2001), and study 1 found a similar relation ($r = -.15$, $p < .02$). Consequently, it is not completely clear what types of elaborations those who are high in NFC might actually exhibit.

We addressed these possibilities in a second study that manipulated the level of materialistic content of a television program that participants viewed and then assessed the level and type of elaboration in which they engaged as a function of their level of NFC. We expected that

H4: Those higher in NFC will elaborate more than those lower in NFC, and the nature of this elaboration will be positive rather than negative.

The negative relation between NFC and television viewing raises an additional possibility regarding the types of elaborations that viewers may have. It suggests that many high-NFC individuals avoid television, possibly because they view it as a passive cognitive activity. However, the small effect size ($r = -.15$) also suggests that there is a substantial portion of high-NFC individuals who do watch a lot of television. Consistent with this perspective, viewers have been shown to be quite active and cognitively engaged

during viewing (Rubin et al. 1988). Thus, the quantity and type of elaboration may vary not only as a function of NFC but also of viewing habits. More specifically, high-NFC individuals who are heavy viewers (and thus presumably enjoy watching television) may provide more favorable thoughts than high-NFC individuals who are light viewers (and thus presumably like television less).

H5: Among high-NFC individuals, heavier viewers will elaborate more positively than lighter viewers.

Finally, the correlational nature of study 1 makes the issue of causality ambiguous. One possibility (and our argument) is that people choose to watch television because they find it enjoyable and entertaining. Therefore, they may suspend disbelief (i.e., reduce counterarguing) in order to enjoy the program and are persuaded by the values embodied in the television message. As a result, television's persuasive effect should be enhanced for those who elaborate more during viewing. An alternative possibility is that those higher in materialism are drawn to television because of its materialistic images (Kasser 2002) and materialistic individuals high in NFC are more likely to elaborate on value-consistent information.

These competing possibilities have implications for the pattern of results that would be expected as a function of the level of materialistic program content. If heavier viewers (and particularly those higher in NFC) watch more television than lighter viewers because they are drawn to its materialistic content, heavy viewers should have more favorable thoughts in response to a high-materialism program than to a low-materialism program. However, if heavier viewers simply enjoy watching television more than lighter viewers and are persuaded by the television content, heavier viewers should have more positive than negative thoughts regardless of the level of materialistic content in the program. Study 2 also addressed these possibilities.

STUDY 2: EXPERIMENT

Method

Participants and Procedure. Undergraduate students ($n = 101$) participated for course credit in an experiment ostensibly about the relation between television program content and the ads in the programs. Participants were told that the program was a movie edited for television and were randomly assigned to view either a segment of *Wall Street* (high materialism) or *Gorillas in the Mist* (low materialism). Pretests indicated that *Wall Street* was rated as more materialistic than *Gorillas in the Mist* ($M = 5.11$ vs. 1.62 , $t(61) = 12.45$, $p < .001$), but the programs did not significantly differ on interest, excitement, intelligence, or persuasiveness. Each program was 19 min. long, followed by 2 min. of ads. Immediately after viewing, participants listed the thoughts they had during viewing. They then completed scales that measured how much television they generally watch and their level of NFC. They also completed a scale

measuring the extent to which they were absorbed in the program. Participants were then debriefed.

Measures. Cognitive elaboration was assessed by having participants write down each of their thoughts in rectangular boxes. Following this task, participants were asked to go back and rate each thought on a scale from -2 (very unfavorable) to $+2$ (very favorable). These ratings were used to classify the thoughts as favorable, unfavorable, or neutral and were summed within these categories. We computed the total number of thoughts by summing across categories. Need for cognition was measured with an 18-item version of the NFC scale (Cacioppo, Petty, and Kao 1984), and television viewing was measured using the same scale as in study 1. Participants then completed a 12-item, adapted version of Green and Brock's (2000) transportation scale, which measures the extent to which people become absorbed while processing narratives.

Results and Discussion

Television viewing and NFC were treated as continuous variables and multiple regression was used to assess their effects on the dependent variables. Our first analysis addressed whether the quantity and favorability of participants' thoughts differed as a function of the level of materialism of the program viewed. Results showed that the number of favorable, unfavorable, or neutral thoughts was unrelated to the type of program viewed ($F < 1$), and there were no significant interactions between program viewed and NFC for any type of thought ($F < 1$). More important, within the heavy television viewing group (who might be drawn to TV because of its materialistic content), type of program was unrelated to the number of support, counter, or neutral thoughts ($F < 1$). Thus, the extent to which participants elaborated and the favorability of their elaborations does not appear to be a function of the level of materialism in the program they viewed. Therefore, all subsequent analyses were collapsed across both viewing conditions.

We expected that participants higher in NFC would list more thoughts than those lower in NFC and that the nature of this elaboration would be more positive than negative. Overall, NFC was positively related to the total number of thoughts ($\beta = .20$, $p < .03$). When total thoughts were broken out by favorability, NFC was positively related to favorable thoughts ($\beta = .19$, $p < .04$) but unrelated to unfavorable ($\beta = .03$, $t < 1$) or neutral thoughts ($\beta = .12$, $p > .25$).

We were also interested in whether amount and favorability of elaboration would differ as a function of both NFC and television viewing. Among the high-NFC participants, if heavier viewers watch more because they enjoy television, and lighter viewers watch less because they do not, then the nature of the elaboration of heavier and lighter viewers should differ in valence. Specifically, heavier viewers should list more favorable thoughts than lighter viewers. We found support for this pattern of effects. Amount of television viewing was positively related to number of favorable

thoughts ($\beta = .39, p < .005$) among high-NFC participants (based on a median split), but unrelated to number of favorable thoughts among low-NFC participants ($\beta = -.07, p > .70$).

Finally, to lend additional support for the proposition that high-NFC participants who are heavy viewers enjoy watching television and, rather than counterarguing, suspend disbelief and become engrossed in the programming, we looked at the relation between NFC, level of television viewing, and extent to which viewers are “transported” while they viewed the program segments (Green and Brock 2000). As expected, for high-NFC participants, television viewing was positively related to degree of transportation ($\beta = .32, p < .05$).

GENERAL DISCUSSION

Prior research has shown that television viewing has an important influence on how consumers construct social reality, especially in terms of their perceptions of societal affluence (O’Guinn and Shrum 1997; Shrum et al. 1998). The results reported here extend this research in two ways. First, they provide evidence that the effects of viewing televised portrayals of affluence extend beyond merely perceiving that others are rich, to also having an effect on viewers’ own material values. Second, these findings suggest that the way in which television exerts its effects on these two types of judgments is quite different. Results from O’Guinn and Shrum (1997) and Shrum et al. (1998) converge on the notion that the effect of viewing on prevalence judgments results from a lack of motivation to process information at the time the judgment is elicited. The results from the current research suggest that values judgments may in fact be influenced by television viewing during the encoding process. We found that the effect of television viewing on material values was greater for those who reported that they tend to pay more attention while viewing and who tend to elaborate more while viewing, but a reanalysis of previous data showed that these same variables have no such effect on prevalence judgments. We argue that these differences likely occur because prevalence perceptions and consumer values are fundamentally different types of judgments that are made via different processes.

Public Policy Implications

A substantial body of research indicates that materialism is a value harmful to both the individual and society (Kasser 2002). Likewise, researchers have acknowledged the harmful effects of television viewing and have tried to minimize these dangers by examining ways to increase viewers’ media literacy via educational programs for both K–12 and higher education (Kubey 1997). A key objective of media literacy programs is to teach viewers how to “read the media” by making them aware of how television, both purposefully (e.g., through ads) and inadvertently (e.g., through programs), portrays a distorted picture of reality.

Our research suggests that the notion of media literacy

should be taken at least one step further than teaching viewers to simply read the media: it is also essential to teach them to “read the judgment.” In other words, educational curricula need to teach viewers what types of judgments might be affected by media portrayals and how these processes work. To minimize television’s influence on prevalence judgments, simply being aware of media distortions is not helpful if the judgment process is relatively automatic and the individual is thus unaware of media’s influence. Viewers must be aware that the influence occurs postviewing when the judgment is elicited. In contrast, for value judgments that are made online during viewing, developing awareness of television’s distortions should minimize the cultivation that results from viewing news reports, documentaries, and advertisements. These types of programming are typically watched for their information function and are often processed with a certain degree of skepticism. However, for narrative programming such as dramas and comedies, which are watched for entertainment, counterarguing perceived distortions in the narrative would likely reduce viewing enjoyment. Thus, educating viewers about the processes by which this type of programming may influence their values should emphasize self-reflection on the role that their viewing habits (e.g., positively elaborating on television messages) plays in shaping their values. Such self-reflections may help reduce the harmful effects that television appears to have upon how viewers perceive themselves and the world around them.

Limitations and Alternative Explanations

Alternative explanations can be raised regarding the interpretation of our findings. For example, it is possible that materialistic people are drawn to television’s highly vivid, entertaining, and generally positive portrayals of materialism, perhaps due to insecurity, as a way of reinforcing the appropriateness of their values (Kasser 2002). However, the results of study 2 indicate that heavy viewers generated just as many positive thoughts (and just as few negative thoughts) when viewing the low materialism program as when viewing the high materialism program. We suggest that this pattern of data supports the view that people choose to view television for its general entertainment value and the influence of materialistic content is largely a by-product of this choice. Of course, it is also possible that both processes are at work. Some people may be drawn to television for confirmation of their material values, at which point viewing may increase materialism through either its portrayals or the insecurities it creates.

An additional limitation is our reliance on null findings at certain points to corroborate our arguments. In study 2, we found no interaction between NFC and program type for number of positive thoughts. In study 1, we reanalyzed data from previous studies and found no moderating effects of NFC or attention on prevalence judgments, and we concluded that prevalence and values judgments are likely formed in different ways. Although this pattern of effects (in combination with our other results) fits our theory, there

are usually multiple possible explanations for null effects, including weak manipulations or unreliable measures.

Our research also makes some process assumptions. We started with the assumption that certain types of judgments are typically constructed through an online process and that television messages influence these judgments during viewing. To test this reasoning, we chose a dependent variable (material values) that prior research has shown tends to be constructed in an online manner. However, we do not claim that values judgments are always made via online processes. Clearly, some values judgments may be memory based. In such cases, television information is less likely to have an effect on those judgments during viewing, as was shown in the reanalysis of studies that investigated memory-based

judgments. We also made the assumption in study 1 that the propensity of high-NFC participants to elaborate more than low-NFC participants translated into actual elaboration. Although this was confirmed in study 2, we have no way of demonstrating actual elaboration in study 1.

Finally, we do not wish to overstate our case regarding the effects of attention and elaboration. Although the differences in the cultivation effect for high versus low attention and high versus low NFC were substantial, both the high and low groups showed some cultivation effect. Thus, even though we find that the effects of cultivation upon material values tend to be greater when viewing is more active, passive viewers are clearly not immune to the effects that heavy television viewing plays in shaping their values.

APPENDIX

TABLE A1

KEY MEASURE STATISTICS, SAMPLE ITEMS, AND VALIDITY ASSESSMENT

	CR (study 1)	AL (study 1)	CR (study 2)	AL (study 2)
Level of television viewing (new scale): ^a	.87	.72	.78	.69
1. I often watch television on weekends.				
2. I spend time watching television almost every day.				
3. I hardly ever watch television. ^b				
Material values (Richins 2004): ^c	.92	.46	NA	NA
1. I admire people who own expensive cars, homes, and clothes.				
2. I like to keep my life simple as far as possessions are concerned. ^b				
3. I'd be happier if I could afford to buy more things.				
Attention while viewing (Rubin et al. 1988): ^d	.85	.72	NA	NA
1. I pay close attention to the program when I watch television.				
2. I listen carefully when I watch television.				
3. My mind often wanders when I watch television. ^b				
Need for cognition (Cacioppo et al. 1984; Epstein et al. 1996): ^e	.70	.56	.97	.59
1. I prefer my life to be filled with puzzles that I must solve.				
2. Thinking is not my idea of fun. ^b				
3. The notion of thinking abstractly is appealing to me.				
Transportation (Green and Brock 2000): ^f	NA	NA	.86	.57
1. While watching the program, I found myself imagining what I would do if I were the main character in the story.				
2. While watching the program, I tried to imagine what it would be like to really be in this situation.				
3. While watching the program, I pictured myself in the middle of the scene of events taking place.				

NOTE.—CR = composite reliability; AL = average loading.

^aStudy 1: Mean = 3.75, SD = 1.57; study 2: Mean = 3.96, SD = 1.27.

^bReverse-worded item.

^cStudy 1: Mean = 3.20, SD = .89.

^dStudy 1: Mean = 3.98, SD = 1.42.

^eStudy 1: Mean = 4.46, SD = 1.04; study 2: Mean = 4.59, SD = .87.

^fStudy 2: Mean = 4.31, SD = 1.20.

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