The Relationship of Television Viewing with Attitude Strength and Extremity: Implications for the Cultivation Effect

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The relationship of television viewing level with attitude strength and attitude extremity was investigated. Attitude accessibility was used as an indicator of attitude strength and was operationalized as the response latencies associated with the attitude judgments. Fifty-one students who were either very heavy soap opera viewers (> 4 hrs. per week) or very light soap opera viewers (< 1 hr. per week) provided attitude judgments pertaining to marital problems, owning expensive products, and distrust of people. Regression analyses indicated that heavy viewers showed significantly more distrust and a greater likelihood that they would experience marital problems than did light viewers, consistent with a cultivation effect (Gerbner & Gross, 1976). Over and above the effects of attitude extremity, heavy viewers also exhibited stronger attitudes than light viewers, as evidenced by significantly shorter latencies for all three attitude measures. Both the effects of attitude strength and extremity held in the presence of multiple statistical controls. These results suggest that television may serve to bolster and reinforce attitudes consistent with the television message.

Does the viewing of television content affect the attitudes and beliefs of viewers? This question has been debated by researchers almost since the advent of television. Some researchers clearly believe that it does. For example, Gerbner and his colleagues have articulated a theory of television effects that they term

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cultivation (Gerbner & Gross, 1976; Gerbner, Gross, Morgan, & Signorielli, 1994; Morgan & Shanahan, 1996). They suggest that frequent viewing of television portrayals leads viewers to "cultivate" television information by integrating it into their real-world perceptions and judgments, and that this cultivation of the television point of view occurs relatively more for those who watch more television.

Gerbner and colleagues have typically claimed support for cultivation theory by showing that heavy viewers tend to have real-world perceptions and beliefs that are more congruent with the world as portrayed on television than do light viewers (termed a cultivation effect). In support of this notion, research has shown that television viewing frequency correlates positively with perceptions of things portrayed heavily on television, including the prevalence of crime and violence (Gerbner, Gross, Morgan, & Signorielli, 1980; Hawkins, Pingree, & Alder, 1987; Shrum, 1996), anxiety and fearfulness (Bryant, Carveth, & Brown, 1981), faith in doctors (Volgy & Schwartz, 1980), interpersonal mistrust (Gerbner et al., 1980), prevalence of divorce (Carveth & Alexander, 1985; Shrum, 1996), prevalence of prostitution and drug addiction (Shrum & O'Guinn, 1993), and level of societal affluence (O'Guinn & Shrum, 1997; Shrum, Wyer, & O'Guinn, 1998).

However, other researchers have questioned the validity of the cultivation effect. Some have suggested that the noted relations between television viewing frequency and judgments pertaining to heavily portrayed constructs are spurious and result from the correlation of some third variable (e.g., direct experience, education, personality, available time to view, etc.) with both viewing level and real-world beliefs (e.g., Doob & Macdonald, 1979; Hirsch, 1980; Hughes, 1980). Other researchers have suggested that the causal relation is reversed (Zillmann, 1980). Still other researchers have suggested that the validity of the cultivation effect may be a function of the type of judgments that people make. In their review of the cultivation literature, Hawkins and Pingree (1982) concluded that, on the one hand, the cultivation effect seemed to be small but reliable for "demographic" or "first-order" measures. These types of measures ask respondents to make quantitative estimates (e.g., %) and typically involve judgments of set-size, frequency, or probability (Potter, 1991; Shrum, 1995). On the other hand, Hawkins and Pingree (1982) suggested that the cultivation effect has received only limited support when "value system" or "second-order" measures are employed. These types of measures usually assess attitudes using scales such as Likert and semantic differential. However, several studies since Hawkins and Pingree's (1982) review have shown differences between the attitudes of heavy and light viewers on a variety of measures (e.g., Carlson, 1983;
Gerbner, Gross, Morgan, & Signorielli, 1982; Pfau, Mullen, & Garrow, 1995; Sparks & Ogles, 1990).

The study to be presented here attempts to extend this discussion by investigating the validity of the cultivation effect for second-order measures. Recent research on the cultivation effect has attempted to explain the effect in terms of memory and judgment (Shrum, 1995). This research has provided a cognitive processing model that can account for the relation between television viewing and real-world judgments (for a review, see Shrum, in press; Shrum et al., 1998). However, this cognitive processing model pertains only to first-order cultivation judgments. The purpose of this study is to apply the same social cognition perspective to the question of whether television viewing affects second-order cultivation measures such as attitude judgments. In particular, issues of how attitudes are represented in memory, what factors influence this representation, and the role television viewing may play in this process are explored.

TELEVISION AND THE CULTIVATION OF ATTITUDES

Gerbner and colleagues' conceptualization of cultivation effects theorizes that television is a “storyteller” (Gerbner & Gross, 1976) and that people learn from continued exposure to these stories. Moreover, the stories that television tells serve an institutional purpose, which is to act as the “central cultural arm of American society” (Gerbner & Gross, 1976, p. 175). In doing so, television does not so much function as an agent of belief change, but one whose primary function is to “maintain, stabilize, and reinforce—not subvert—conventional values, beliefs, and behaviors” (Gerbner, Gross, Signorielli, Morgan, & Jackson-Beeck, 1979, p. 180). In fact, Gerbner and colleagues noted often in their writings that their “cultivation perspective” is a departure from traditional media effects (see Gerbner & Gross, 1976; Gerbner et al., 1994; Gerbner et al., 1979; Morgan & Shanahan, 1996). Specifically, they suggested that their notion that television is a reinforcer rather than a changer of attitudes argues against the traditional media effects focus on attitude change. By focusing on the reinforcing and stabilizing functions of television content, Gerbner and colleagues have argued that the process is multidirectional and that the notion of causality is thus irrelevant (Gerbner et al., 1994).

Unfortunately, this message has been obscured, if not lost. Part of the reason for this lack of understanding, however, may reside in the methods of data collection and analyses used by Gerbner and colleagues to demonstrate empirical support for cultivation theory. Specifically, support for their theory has often
taken the form of evidence showing mean differences between heavy viewers and light viewers in their responses to various measures (e.g., Gerbner & Gross, 1976; Gerbner, Gross, Eleeey, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1977; Gerbner et al., 1980; Gerbner et al., 1979) or correlations between television viewing frequency and the magnitude of responses to cultivation measures (Gerbner, Gross, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1978; Gerbner, Gross, Morgan, & Signorielli, 1984; Morgan, 1982, 1983). Both analyses of group differences and analyses of correlations are typically associated with traditional media effects research and are often used to demonstrate attitude or belief change. In addition, in several reports, Gerbner and colleagues specifically focused on the differences between the attitudes of heavy and light viewers (e.g., Gerbner et al., 1978; Gerbner et al., 1979). Again, these types of analyses are typically associated with studies of attitude change.

Of course, researchers are constrained by both the analytical tools available and the current conventional methods of measurement. Just as important, researchers are constrained by the sophistication of extant theory with regard to the constructs they are measuring. It is this latter constraint that is of particular relevance to this study. Recent developments in the conceptualization, definition, and measurement of attitudes suggest that the very attitudinal qualities in which Gerbner and colleagues were interested—reinforcement, stability, and maintenance—are not only measurable but constitute important aspects of attitudes. In particular, the concept of attitude strength is relevant to these attitudinal aspects.

**ATTITUDE STRENGTH**

Krosnick and Petty (1995) defined *attitude strength* as the extent to which attitudes exhibit the qualities of durability and impactfulness. They go on to note that each of these qualities can be broken down into two manifestations. Durability of an attitude is manifested by its persistence over time (often termed *stability*) and its resistance to change. The impactfulness of an attitude is exhibited by the extent to which it influences information processing and the extent to which it influences behavior. Krosnick and Petty (1995) also stressed that their definition of attitude strength treats persistence, resistance, influence on information processing, and influence on behavior as causal indicators rather than effect indicators (see Bollen & Lennox, 1991, for a discussion of the difference between the two types of indicators). As such, an attitude is considered to be strong to the extent that it possesses any or all of these attitudinal qualities, and the more of these qualities it possesses, the stronger it is.
Research into the concept of attitude strength resulted from the often conflicting findings on the influence of attitudes. Some research indicated that certain attitudes could be quite stable and have profound impact on behavior (e.g., Hovland, 1959; Schuman & Johnson, 1976). Other research, however, indicated that some attitudes were very transient, could be easily changed, and had little influence on behavior (for reviews, see Eagly & Chaiken, 1993; Wicker, 1969). Researchers thus came to the conclusion that an attitude, measured simply as a point or number along an evaluative continuum (e.g., Likert and semantic differential scales), told only part of the story. For example, some people who indicate agreement with an attitude may be very certain and confident of their attitude, consider the attitude very important to their value system, and use that attitude to make judgments. Other people, even though they indicate the same level of agreement, may have given little thought to that attitude object, consider it relatively unimportant, and thus are relatively unlikely to retain their attitude across situations and unlikely to base important judgments on that attitude.

The concept of attitude strength has important implications for Gerbner and colleagues' notion of cultivation. As noted previously, most of the studies dealing with the relation between television viewing and attitudes have focused predominantly on only one aspect of an attitude: attitude extremity (i.e., magnitude or degree of favorability). Yet, Gerbner and colleagues' notion that frequent television viewing contributes to the reinforcement, maintenance, and stability of attitudes suggests that television may create stronger attitudes for those who watch relatively more television by affecting aspects of attitude strength other than just attitude extremity. This possibility has the potential to provide an explanation compatible with both Gerbner and colleagues' position that television viewing has an influence on attitudes (but perhaps aspects other than extremity) and Hawkins and Pingree's (1982) speculation that television viewing has a minimal relation to attitudes (measured only by extremity). Put differently, television viewing may not affect attitude extremity, but may affect aspects of attitude strength.

Measuring Attitude Strength

A commonly accepted indicator of attitude strength is attitude accessibility. Fazio (1995) has conceptualized an attitude in associative network terms as the "association in memory between a given object and a given summary evaluation of the object" (p. 247). Fazio noted that for an attitude to have any influence on an individual's judgment, it must be activated from memory. Attitude
accessibility refers to the likelihood of such activation when an individual encounters the attitude object. Moreover, attitude accessibility is related to the strength of the association in memory between the attitude object and its evaluation: The greater the association, the greater the accessibility. (For this reason, some have suggested that the strength of the association is a direct measure of attitude strength; [Eagly & Chaiken, 1993, p. 196].) Thus, if an attitude (e.g., toward gun control) is highly accessible, it is very likely that the attitude will be recalled when the attitude object is made salient (e.g., when gun control comes up in a conversation, when an individual's attitude toward gun control is requested by a researcher, etc.).

Attitude accessibility is considered an indicator of attitude strength because it relates to all the qualities of attitude strength (i.e., persistence, resistance, influence on information processing, and influence on behavior). That is, greater attitude accessibility has been shown to lead to more stable and persistent attitudes (Fazio & Williams, 1986), a greater likelihood that the attitude object will be noticed (Roskos-Ewoldsen & Fazio, 1992b), attitudes that are more resistant to counterarguments (Bassili & Fletcher, 1991), a greater tendency for the attitude (e.g., attitude toward message source) to influence persuasion (Roskos-Ewoldsen & Fazio, 1992a), and a greater likelihood that the attitude will influence behavior (Fazio, Powell, & Williams, 1989).

Response latency. The most common method for operationalizing attitude accessibility has been through the measurement of response latencies to attitudinal inquiries. The logic is that the greater the strength of association in memory between the attitude object and its evaluation (i.e., the greater the attitude accessibility), the easier it should be to report that attitude. Thus, speed of response is considered to be an indicator of accessibility, with faster responses (shorter latencies) associated with greater accessibility (Fazio, 1990, 1995).

Attitude Accessibility and Television

As noted earlier, the concepts of attitude strength and accessibility have implications for the cultivation effect. Specifically, frequent television viewing may increase the accessibility of particular attitudes. One way this may be accomplished is through attitude rehearsal. Research has shown that attitude rehearsal influences attitude accessibility (Fazio, 1995). That is, the more often an attitude is noted or updated, the stronger and more accessible it becomes. It seems likely that level of television viewing may relate to the frequency of rehearsal. As viewers watch television, and encounter particular messages, they
may note and update attitudes that are influenced by these messages.° Because content analyses indicate that television portrays particular attitude objects (e.g., crime, violence, marital discord, affluence) very frequently and consistently (Gerbner et al., 1994; Lichter, Lichter, & Rothman, 1994), it follows that attitudes consistent with these portrayals should be stronger for heavier viewers than for lighter viewers.

Another way in which television might increase attitude accessibility is to increase its perceived functionality. As Fazio (1989, 1995; see also Roskos-Ewoldsen, 1996) noted, highly accessible attitudes are very functional in that they aid in all aspects of decision-making. Repeated exposure to a highly formulaic and very consistent message may lead viewers to conclude that the message reflects attitudes prevalent in society and may thus be useful for later decisions.

Note that the relation between attitude accessibility and frequency of television viewing may hold even if attitude extremity does not differ between heavy and light viewers. One of the reasons that Gerbner has given for the small or negligible differences in attitudes (i.e., extremity) between heavy and light viewers is that even light viewing may influence attitudes (Gerbner et al., 1994). Thus, viewing the same message, whether infrequently or frequently, may produce the same general evaluation of the attitude object. However, according to the Fazio model, the frequency with which the evaluation is made should affect attitude accessibility. Such an effect would be consistent with Gerbner's view of television as a reinforcer of attitudes and beliefs (Gerbner & Gross, 1976).

To test this notion, a study was conducted that measured both the extremity of attitudes that people held about objects and behaviors that are often portrayed on television and the accessibility of those attitudes. If television viewing has an effect on attitude extremity in the manner suggested by cultivation theory, heavy viewers should produce attitude scores that differ from those of light viewers, with the attitudes of heavy viewers being more consistent with the television message. Independent of the extremity of the attitude judgment, however, the attitudes of heavy and light viewers may differ in terms of their accessibility. Specifically, more frequent television viewing should result in more accessible attitudes regarding objects, behaviors, or situations often seen on television.

In testing these hypotheses, only heavy viewers and light viewers of a particular type of program participated in the study. The restriction on type of television program allowed for a more focused assessment (i.e., through content analyses) of the television message, because the messages conveyed by different types of programs may be contradictory (e.g., situation comedies may portray
happy families and interpersonal interactions, but soap operas may highlight family conflict and interpersonal mistrust). Although this approach is at odds with Gerbner and colleagues’ conceptualization of cultivation (they assume that people are habitual and nonselective viewers), other research has shown that when viewers are selective, a focus on viewing of program categories can reveal effects that might otherwise be obscured if only total television viewing is treated as the independent variable (Hawkins & Pingree, 1981). The restriction of using only very heavy or very light viewers was expected to increase the effect of television viewing in what is traditionally a light viewing sample (i.e., students).

METHOD

Sample

Students from an introductory class at a large state university were administered a screening questionnaire at the beginning of the semester to assess their level of viewing of different types of programs. The results indicated that daytime soap operas were the most frequently viewed television program category. Based on these data, students who were either heavy soap opera viewers (greater than 4 hours per week) or light soap opera viewers (less than 1 hour per week) were recruited for the study. However, they were not aware of the selection criteria but were told that their selection was random. A total of 51 students participated in the study.

Attitude Measures

In order to develop the attitude measures for the study, a content analysis was conducted using videotaped episodes of three soap operas (“All My Children,” “The Young and the Restless,” and “Days of Our Lives”) collected over a 2-week period. These three soap operas accounted for more than 90% of the soap opera viewing hours indicated in the screening questionnaire.

Rather than using a typical quantitative content analysis that counts discrete events, the content analysis used a qualitative framework aimed at capturing both literal and symbolic content. This content analysis differs from the type of analysis that focuses on head counts of people, objects, or actions. Instead, the analysis focused on the centrality and prominence of themes, characters, objects, and behaviors. This approach has been recommended by others (e.g., Greenberg, 1988; Lichter et al., 1994), who argued that a focus on centrality and critical portrayals may be more fruitful than simple tallies. This type of content analysis
has also been used in previous research (e.g., O’Guinn & Shrum, 1997; Shrum, 1996; Shrum & O’Guinn, 1993).

A qualitative and interpretive analysis of program content was considered particularly useful given the objectives of investigating the extremity and accessibility of attitudes. Recall that simple exposure to an attitude object is not sufficient to increase accessibility; rather, the attitude must be activated. It seems unlikely that the presence or actions of background characters would have strong effects in terms of attitude activation. Instead, it is the presence and actions of prominent characters, vivid portrayals, and clear messages that are most likely to elicit attitude activation. Hence, our focus was on centrality and prominence.

Three graduate research assistants were trained as coders using videotapes of soap operas not included in the sample from the 2-week period. The coders were instructed to focus on prominent characters, actions, and objects. Cues to prominence included but were not limited to vividness, intensity of portrayals, and centrality to the plot and/or character. The coders viewed each of the episodes independently and took copious notes regarding the messages they perceived to be portrayed in the programs. All coders then met with the author to reach consensus regarding the most prevalent themes.

The three themes that all coders agreed on were the desire for material goods (in particular, markers of affluence), marital discord, and distrust. Distrust pertained to distrust of people in general and distrust of lawyers in particular. To provide convergent validation for these findings, newspaper synopses of the soap operas were also consulted.

From this analysis, ten attitude items were developed, four pertaining to wealth (I want to be wealthy; having a private swimming pool is important to me; I would like to own a Rolex watch; I would like to own a convertible), two pertaining to marital discord (if I ever get married, it is likely I will get a divorce at some point; if I ever get married, it is likely my spouse will cheat on me), and four pertaining to distrust, two of which concerned distrust of people in general (I believe people are basically dishonest; people will cheat you if you give them half a chance), and two of which concerned distrust of lawyers (most lawyers are honest [reverse scored]; most lawyers are unethical). Factor analyses (unweighted least squares with oblique rotation) indicated that a three-factor solution fit the data best, with the two items pertaining to distrust of people and the two items pertaining to distrust of lawyers all loading on one factor (distrust, \( \alpha = .66 \)). The four items pertaining to wealth (\( \alpha = .71 \)) and two items pertaining to marital discord \( (r = .67) \) loaded as expected. The correlation between the variables was negligible for wealth and marital discord \( (r = .12) \) and wealth and distrust \( (r = .06) \), and moderate for marital discord and distrust \( (r = .28) \).
Finally, two "experts" (self-described habitual viewers of soap operas) were consulted to first validate the general themes and then to validate the individual attitude items. The experts were asked to check off a list of themes that they thought were portrayed on their favorite soap operas (the list contained both frequently and infrequently portrayed themes). Both experts selected the three themes pinpointed by the coders. It is worth noting that these themes are consistent with previous reports on the content of soap operas (e.g., Cassata & Skill, 1983; Greenberg, Neuendorf, Buerkel-Rothfuss, & Henderson, 1982; Hirschman, 1988; Katzman, 1972; McEwen, 1997).

Procedure

Participants performed the exercise on a microcomputer. They were told that the purpose of the study was to assess the attitudes of college students via a data collection procedure recently developed using computers. After completing practice trials to facilitate learning the procedure, participants reported their attitudes by pressing a number from 1 to 5 on the keyboard, where 1 indicated strongly disagree and 5 indicated strongly agree. An internal clock recorded the time between when the space bar was pressed (causing the item to appear) and when the response was entered.

Attitude accessibility was operationalized as the response latencies associated with answering each of the attitude items. In addition, baseline latency measures were included to account for individual differences in response time (Fazio, 1990). These measures were unrelated to the focus of the study.

Supplementary data. After completing the reaction time exercise, participants then received a pencil-and-paper questionnaire that measured their television viewing habits and a number of variables that would serve as potential statistical controls. Five variables—gender, grade point average (GPA), family income, total television viewing, and materialism—served as controls in the analysis of attitude extremity. Gender, family income, and materialism were selected because of their likely relation to the attitude items; GPA was selected because previous studies have shown this variable to be related to television viewing level (Shrum, O’Guinn, & Faber, 1990), and total television viewing was selected because of its likely relation to level of soap opera viewing. Materialism (α = .73) was measured using Belk's (1985) scale. Total television viewing was computed by taking the average of two measures: the sum of participants’ reports of the number of hours of television they watch per week within seven program categories and the sum of participants’ reports of the
number of hours of television they watch per week within six different time periods \((r = .81; \alpha = .87)\).

Six variables were also considered as potential controls in the analysis of the latencies: GPA, impulsivity, need for cognition, individuals' own baseline latencies, total television viewing, and attitude extremity. Impulsivity, need for cognition, and GPA were selected for their possible relation to speed of response. The baseline latencies were included as corrections for individual differences in response time (Fazio, 1990). Attitude extremity was selected because past research has shown it to be related to attitude accessibility (Fazio et al., 1989; Fazio & Williams, 1986; Powell & Fazio, 1984), and total television was selected to separate its possible effect from that of soap opera viewing level. Impulsivity \((\alpha = .44)\) was measured using the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1968), and need for cognition \((\alpha = .90)\) was measured using Cacioppo and Petty's (1982) scale. Because of the extremely low Cronbach's alpha of the impulsivity scale, as well as its general lack of correlation with relevant variables, impulsivity was dropped from the analysis.

After the study was completed, all participants were debriefed.

RESULTS

Preliminary Analyses

Before performing analyses to test for effects of soap opera viewing, preliminary analyses were conducted to assess the quality of the data. First, following suggestions by Fazio (1990), the data were assessed for skewness. As expected, the data were positively skewed (i.e., skewed to the right, with a longer tail of slower responses). To correct for this skewness, all analyses were performed on the reciprocal transformation of the raw latencies \((1/X)\). Second, as noted earlier, previous research has shown that attitude extremity and attitude accessibility are typically moderately to highly correlated. Pearson product-moment correlations were computed to determine if this relation held in this study. The results indicated a moderate correlation between attitude extremity and accessibility for wealth \((r = .19)\), marital discord \((r = .20)\), and distrust \((r = .14)\). Attitude extremity was thus entered as a control variable in the analyses of the response latencies.

Effects of Soap Opera Viewing

To assess the effect of soap opera viewing on both the attitude extremity judgments and attitude accessibility, hierarchical regression analyses were
performed. In the first entry step, the control variables were entered as a block. In the next step, soap opera viewing (dummy coded: 0 = light viewer; 1 = for the heavy viewer) was entered (the selection of only very heavy or very light soap opera viewers precluded treating soap opera viewing as a continuous variable). A significant beta coefficient for soap opera viewing in the second step would indicate that soap opera viewing accounted for a significant portion of the variance in the dependent variable over and above the effects of the control variables entered in the first block.

**Attitude extremity.** If soap opera viewing influences attitude extremity consistent with a cultivation effect, then heavy soap opera viewers should show more agreement with the attitude items than light soap opera viewers, which would be indicated by a significant, positive beta coefficient for soap opera viewing. Information bearing on this possibility can be found in Table 1. As the table indicates, a cultivation effect was observed for attitudes toward marital discord and distrust, but not for wealth. That is, after controlling for all of the effects of the potential confounding variables, level of soap opera viewing was a significant predictor of attitudes regarding marital discord and distrust. Although the relation between soap opera viewing and the wealth construct was not significant, the effect size (5% of the variance explained) was substantial compared to typical cultivation effect sizes.

**TABLE 1**

Hierarchical Multiple Regression of Soap Opera Viewing on Attitude Extremity Scores

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Wealth $(M = 3.3)$</th>
<th>Marital Discord $(M = 2.0)$</th>
<th>Distrust $(M = 2.9)$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$\beta$</td>
<td>$\Delta R^2$</td>
<td>$F$</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family income</td>
<td></td>
<td>.05</td>
<td>-.09</td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td></td>
<td>.13</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td>.28*</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td>Materialism</td>
<td></td>
<td>.37**</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td>Total TV viewing</td>
<td></td>
<td>-.18</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>Controls as a block</td>
<td></td>
<td>.25*</td>
<td>2.28</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soap opera viewing</td>
<td></td>
<td>.35</td>
<td>.05</td>
<td>2.18</td>
</tr>
</tbody>
</table>

*Note.** $p < .05$, *$p < .10$, two-tailed.*
Examination of the effects of the control variables in the regression analyses indicates that the effects across the three dependent variables were quite varied. For the wealth attitude, the variance accounted for by the block of control variables approached conventional levels of significance. As expected, materialism was significantly related to the wealth attitude. The relation between gender and attitudes toward wealth approached significance (dummy coded: male = 0; female = 1), with women showing more agreement with the wealth items than men. Total television viewing had little relation to the dependent variable and in fact was slightly negative. For the distrust attitude, materialism was again a significant positive predictor. In addition, the relation between family income and the distrust construct approached significance, with men and those with less income indicating more distrust. Total television viewing showed no relation to distrust. Finally, none of the control variables, taken either singly or as a block, showed a significant relation with attitudes regarding marital discord.

**Attitude strength.** Apart from the effects of soap opera viewing on attitude extremity, soap opera viewing was expected to be related to attitude strength (operationalized as response latencies to the attitude items). To assess these possible effects, hierarchical regression analyses were again performed, this time with the response latencies of the attitude items as the dependent variable. If soap opera viewing increases the accessibility of attitudes consistent with soap opera portrayals, then heavy soap opera viewers should respond faster to the attitude items than light soap opera viewers. This would be indicated by a significant, positive beta coefficient for soap opera viewing. (Note that the relation between soap opera viewing and speed of response is positive, owing to the use of the reciprocal of the raw latencies as the dependent variable to correct for skewness.)

Information bearing on this possibility can be found in Table 2. As the table indicates, soap opera viewing was a significant predictor of the speed of response for all three of the attitude variables (wealth, marital discord, and distrust). Most important, this effect held over and above the effects of the control variables, including attitude extremity. In other words, apart from the traditional cultivation effect (an effect of the viewing variable on attitude extremity), television viewing (soap opera viewing in this case) appears to cultivate stronger, more accessible attitudes.
TABLE 2
Hierarchical Multiple Regression of Soap Opera Viewing on Response Latencies

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Wealth (M = 2624 ms)</th>
<th>Marital Discord (M = 3991 ms)</th>
<th>Distrust (M = 3248 ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>ΔR²</td>
<td>F</td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline latency</td>
<td>-.43**</td>
<td>-.29*</td>
<td>-1.5</td>
</tr>
<tr>
<td>Attitude extremity</td>
<td>.06</td>
<td>.20</td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td>-.09</td>
<td>.02</td>
<td>.11</td>
</tr>
<tr>
<td>Need for cognition</td>
<td>-.05</td>
<td>-.15</td>
<td></td>
</tr>
<tr>
<td>Total TV viewing</td>
<td>.09</td>
<td>.20</td>
<td>-.06</td>
</tr>
<tr>
<td>Controls as a Block</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soap opera viewing</td>
<td>.42***</td>
<td>.16</td>
<td>8.19</td>
</tr>
</tbody>
</table>

Note. ***p < .01, **p < .05, *p < .10, two-tailed.

Examination of the effects of the control variables indicates that they had little impact on the dependent variables. In no case was there a significant effect of the control variables when they were entered as a block. The only control variables that showed a reasonably consistent relation with the response latencies were the individual baseline latencies and attitude extremity, consistent with Fazio’s (1990) conclusions. Further, as with the analyses of attitude extremity, total television viewing had little effect on the response latencies. This finding is not surprising given the relatively low correlation between soap opera viewing and total television viewing (r = .23, ns). This result bolsters the argument that the participants in this study were relatively selective in their viewing habits.

DISCUSSION

The results of this study are consistent with the notion that soap opera viewing has an effect on both attitude extremity and attitude accessibility. With respect to attitude extremity, heavy soap opera viewers indicated more distrustful attitudes
toward people and a greater belief that they would experience marital problems than did light viewers. These results are consistent with a cultivation effect.

The most significant contribution of this study, however, is the finding that these attitudes were more accessible for heavy soap opera viewers than for light soap opera viewers, over and above the effects of attitude extremity. The finding that viewing is related to the accessibility of attitudes is consistent with Gerbner’s contention that television may act as a reinforcer of attitudes. Although viewers may watch many different programs, Gerbner and colleagues suggested that the viewers are nevertheless presented with a very consistent, homogeneous set of messages. Frequent viewing may serve to activate particular attitudes and provide the viewers with the opportunity to update their attitudes, supply confirming evidence for their feelings, and generally provide the opportunity for repeated expression of their attitudes. As Fazio (1995) noted, “The more often individuals note and rehearse the object-evaluation association, the stronger it becomes” (p. 252). In fact, attitude rehearsal, or the repeated expression of attitudes, is a common manipulation of attitude accessibility (for a review, see Fazio, 1995). Thus, it seems likely that frequent television would increase attitude strength.

If, as the results of this study imply, television viewing cultivates stronger attitudes through its effect on attitude accessibility, there are a number of implications for cultivation theory and research. At the very least, the results suggest that measures other than the traditional assessment of attitude extremity may prove useful. For example, even if heavy and light viewers do not differ in their attitude extremity toward particular objects, the accessibility of those attitudes may differ (in fact, this was the case with the wealth attitude). Thus, null findings for a cultivation effect in terms of attitude extremity might still yield cultivation effects on attitude accessibility.

The accessibility findings have implications for other possible effects of television viewing. For example, Fazio (1995) noted that attitude accessibility moderates the attitude–behavior relation: More accessible (stronger) attitudes predict behavior better than less accessible (weaker) ones. Thus, even in the absence of attitude extremity differences noted in some previous studies, soap opera viewing may affect behavior. Considering the results of this study, heavier viewers may be more likely to get a divorce or act in distrustful ways toward people.

Fazio and colleagues (Fazio, 1989, 1995; Roskos-Ewoldsen, 1996) also noted that attitude accessibility has consequences for all kinds of judgments, not just behavioral ones. In particular, attitude accessibility has been shown to influence information processing by influencing judgments of information related to the
attitude object (Fazio & Williams, 1986), affecting the impact of source likability on the persuasiveness of a message (Roskos-Ewoldsen & Fazio, 1992a), and increasing the resistance of attitudes to counterinformation (Houston & Fazio, 1989). Accessible attitudes also have a functional value: They help to increase both the ease and quality of decision making (Fazio, Blascovich, & Driscoll, 1992) and provide an orienting value by focusing attention on particular attitude objects (Roskos-Ewoldsen & Fazio, 1992b).

These effects of attitude accessibility also have implications for cultivation theory and research. They suggest that the increased accessibility of attitudes provided by frequent television viewing may induce heavier viewers to focus an inordinate amount of attention on the attitude objects that are the primary focus of television programs (e.g., crime, distrust, marital discord, affluence, etc.). Thus, heavy viewers may be more likely to notice confirming evidence of attitudes cultivated by television viewing (how people react to crime situations, marital conflict, ethical decisions) and more likely to make judgments consistent with the television-cultivated attitudes.

The findings with regard to attitude extremity do not support Hawkins and Pingree’s (1982) speculation that the cultivation effect may not be robust for second-order cultivation measures. Other studies published since Hawkins and Pingree’s (1982) report have also found cultivation effects for second-order measures (e.g., Carlson, 1983; Gerbner et al., 1982; Pfau et al., 1995; Sparks & Ogles, 1990). However, several important caveats should be noted. For one, Hawkins and Pingree’s (1982) conclusions were of course based on the accumulated evidence to date, which spanned roughly only 6 years. This limited period not only affects the total number of studies that can be analyzed, but also has implications for the types of measures (i.e., dependent and independent variables) that were used in the research that was reviewed. For example, many of the second-order measures noted by Hawkins and Pingree that tended not to remain significant when multiple variables were controlled simultaneously were related to fear of victimization (e.g., whether respondents are afraid to walk alone at night), but measures used in subsequent studies that show a cultivation effect for second-order measures often measured constructs other than fear of crime (e.g., political attitudes, attitudes toward doctors, etc.).

It may very well be that television does not influence this type of judgment. Instead, as Tyler (1980, 1984) suggested, people may rely on their own direct experience with crime to make judgments of fear or risk to themselves. That is, in making a judgment of risk regarding walking alone at night in one’s own neighborhood, direct knowledge of neighborhood crime would likely be the basis for judgment of personal risk rather than indirect sources such as the mass media.
Conversely, estimations of societal risk or societal malaise would likely not be based on neighborhood crime rates (particularly if neighborhood crime rates are low), but may be based on indirect experience gained through television (see Shrum & Darmanin, 1998, for recent evidence of this contingency). In fact, one of the second-order measures that Hawkins and Pingree (1982) suggested was robust pertains to the "mean-world syndrome," which is measured by items such as "the world is a mean and violent place," "people are just out for themselves," and so forth, which most resembles a societal measure.

Another difference in the studies reviewed by Hawkins and Pingree (1982) and subsequent successful cultivation studies using second-order measures is that the subsequent studies often used the viewing of specific programs (e.g., crime programs, medical programs, soap operas, etc.) rather than total television viewing as the predictor variable. This was the case for the study reported here.

**Alternative Explanations**

In this particular study, the alternative explanation that the causal path is reversed cannot be dismissed; that is, that viewers with particular attitudes or preoccupations are drawn to certain types of programming. The important issue in this study, however, is the notion that regardless of the initial attitudes of heavy versus light viewers, heavy viewers tended to have more accessible attitudes than light viewers. In fact, it seems likely that as heavy viewing increases attitude accessibility, the elevated accessibility may increase the likelihood that frequently portrayed attitude objects are noticed—in real life, but also on other programs. In other words, there may be a reciprocal relationship whereby heavy viewing increases attitude accessibility, which in turn increases television viewing.

Although the generalizability of the results presented here may be compromised by the nature of the sample (e.g., small sample size, student participants) and the restricted nature of the viewers (e.g., selective viewers, only heavy and light soap opera viewers), the study provides a first step in conceptualizing television's effect on viewer attitudes beyond traditional measures of attitude extremity. Moreover, the expansion of thinking about the ways in which television may influence viewers holds promise in extending and refining cultivation theory and methodology. In particular, it may be useful to go beyond the simple relation between television viewing and judgment and investigate television's possible influence on the processes involved in the judgments.
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NOTES

1 In viewing the attitudinal qualities (i.e., durability, impactfulness, etc.) as causal indicators, attitude strength is not considered a latent variable but is defined by the extent to which it possesses the attitudinal qualities. If the attitudinal qualities were viewed as effect indicators, attitude strength would be considered a latent variable such that the attitudinal qualities result from (or are "caused" by) attitude strength.

2 Note, however, that simple exposure is not necessarily sufficient for attitude rehearsal. The exposure must result in an activation of the attitude, which is then presumably updated. However, it seems likely that frequency of exposure will be correlated with the probability of activation. Berger and Mitchell (1989) varied frequency of exposure to an advertisement by showing participants either one, three, or four exposures to an ad, after which all respondents expressed their attitude toward the product advertised. Their results show that the attitudes of those who received four exposures were significantly more accessible than the attitudes of those who received only one exposure.

3 For this analysis, attitude extremity was operationalized as the deviation from the neutral point (i.e., midpoint) of the scale.

4 For this analysis, attitude extremity was operationalized as the deviation from the neutral point (i.e., midpoint) of the scale.

5 Another way of viewing the interrelations of attitude extremity, attitude accessibility, and soap opera viewing is to consider the effects of soap opera viewing on the response latencies at each level of attitude extremity. That is, if soap opera viewing cultivates more accessible attitudes over and above attitude extremity, then for all respondents who indicate, for example, "4" for the wealth measure, heavy soap opera viewers should respond faster than light soap opera viewers. Although the small sample size precludes a formal analysis to test this hypothesis, a cursory look indicates that indeed in virtually all cases, the responses of the heavy soap opera viewers were faster than those of the lighter soap opera viewers (sometimes as much as 1 1/2 seconds), at each level of the response scale.
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