Contents

Preface ............................................................................................................................................ ix
About the Authors ......................................................................................................................... xi

Chapter 1  What's So Special About Entertainment Media and Why Do We Need a Psychology for It? An Introduction to the Psychology of Entertainment Media .................................................................................................................. 1
L. J. Shrum

SECTION I  Embedding Promotions Within Entertainment Media: Product Placement Effects and How They Work

Chapter 2  Product Integration: Current Practices and New Directions ........................................ 11
John A. McCarty and Tina M. Lowrey

Chapter 3  As a Backdrop, Part of the Plot, or a Goal in a Game: The Ubiquitous Product Placement ........................................................................................................................................ 37
Elizabeth Cowley

Chapter 4  Children's Processing of Embedded Brand Messages: Product Placement and the Role of Conceptual Fluency ........................................................................................................................................ 65
Laura Owen, Haiming Hang, Charlie Lewis, and Susan Auty

Chapter 5  Psychological Processing of In-Game Advertising and Advergaming: Branded Entertainment or Entertaining Persuasion? ......................................................................................................................... 93
Michelle R. Nelson and Martin K. J. Waiguny
SECTION II  The Programs Between the Ads: 
The Persuasive Power of Entertainment Media

Chapter 6  The Stories TV Tells: How Fictional TV Narratives 
Shape Normative Perceptions and Personal Values..... 147
L. J. Shrum and Jaehoon Lee

Chapter 7  Flying With Icarus: Narrative Transportation and 
the Persuasiveness of Entertainment.......................... 169
Jordan M. Carpenter and Melanie C. Green

Chapter 8  Seeing Is Believing: Toward a Theory of Media 
Imagery and Social Learning (MISL) ......................... 195
Karen E. Dill and Melinda C. R. Burgess

Chapter 9  Alcohol Messages in Television Series: Content 
and Effects .......................................................... 227
Cristel Antonia Russell and Dale W. Russell

Chapter 10 Selling Beauty: The Hidden Cost to Women's 
Self-Worth, Relationships, and Behavior ...............249
Erin J. Strahan, Vanessa M. Boute, and Anne E. Wilson

Chapter 11 Learning Aggression Through the 
Media: Comparing Psychological and 
Communication Approaches................................. 271
Julia A. Maier and Douglas A. Gentile

Chapter 12 Paths From Television Violence to Aggression: 
Reinterpreting the Evidence.................................. 305
George Comstock and Jack Powers
The Stories TV Tells: How Fictional TV Narratives Shape Normative Perceptions and Personal Values

L. J. Shrum
University of Texas at San Antonio

Jaehoon Lee
University of Houston–Clear Lake

Narrative entertainment television is all about the stories. These stories can be gripping, arousing, heartrending, amusing—they run the entire gamut of emotions. We often become spellbound by the stories, even transported into them (Carpenter & Green, this volume). But they are just stories. They are quite often fictional, sometimes fantastical, and thus surely have little effect on us past the momentary thoughts and emotions that are elicited while we view. Or at least that’s what most people seem to think (Shrum, Burroughs, & Rindfleisch, 2005; see Comstock & Powers, this volume). However, there is actually considerable evidence to the contrary (Morgan, Shanahan, & Signorielli, 2012). In this chapter, we put forth the argument that the programs we watch on television, even the fictional ones, do have enduring effects on us. Every piece of information we process gets stored in memory for potential use later. Moreover, whether and how that information is used in the judgment process depends on a variety of factors, including the type of judgment that is required, television viewing frequency, and characteristics of the viewing experience.

In the following sections, we review a program of research spanning the last 20 years that has focused on not only documenting the particular effects of television viewing, but also specifying the cognitive processes that account for how the effect occurs in the head. We discuss two separate
but complementary models that reflect two different types of underlying psychological processes. The separate models reflect the fact that the way in which television influences judgments depends on the type of judgment (Shrum, 2004). Thus, we specify a model for how television influences normative perceptions (e.g., what others have and do) and a model for how television influences attitudes, values, and beliefs. As we demonstrate, not only are these distinct models, but the manner in which television influences the two types of judgments is in many ways opposite of each other.

CULTIVATION THEORY

Our research on the psychological processes underlying television viewing effects takes its starting point from cultivation theory. Cultivation theory is a broad theory that relates media content with particular outcomes. The theory has two components. The first is that the content of television programs—whether they be “fiction” such as soap operas or “fact” such as news—present a systematic distortion of reality. That is, the world as it is portrayed on television differs in important and sometimes dramatic ways from how the real world is constituted. For example, the world of television tends to be more affluent (O’Guinn & Shrum, 1997), more violent (Gerbner, Gross, Morgan, & Signorielli, 1980), more maritally unfaithful (Lichter, Lichter, & Rothman, 1994), and more populated with doctors, lawyers, and police officers (DeFleur, 1964; Head, 1954; Lichter et al., 1994; Smythe, 1954) than the real world.

The second component is that frequent exposure to these distorted images results in their internalization: The more people watch television, the more they develop values, attitudes, beliefs, and perceptions that are consistent with the world as it is portrayed on television. The internalization of the television message may result in the learning of television “facts”: TV viewing has been shown to be positively correlated with estimates of the number of doctors, lawyers, and police officers in the real world (Shrum, 1996, 2001), the prevalence of violence (Gerbner et al., 1980; Shrum, Wyer, & O’Guinn, 1998), and the prevalence of ownership of expensive products (O’Guinn & Shrum, 1997; Shrum, 2001). In addition, internalization can take the form of learning the lessons of television: Heavy television viewing has been shown to be associated with greater anxiety...
The Stories TV Tells

• 149

and fearfulness (Bryant, Carveth, & Brown, 1981), greater faith in doctors
(Volgy & Schwarz, 1980), greater pessimism about marriage (Shrum, 1999),
and greater interpersonal mistrust (Gerbner et al., 1980; Shrum, 1999).

Research on aspects of the cultivation effect has been a contentious area.
Although studies supporting cultivation theory are not in short supply,
there have been a number of critiques of cultivation, including critiques
of theory, method, analysis, and interpretation (cf. Hirsch, 1980; Hughes,
1980; Newcomb, 1978). These critiques, while having some validity, have
been dealt with at length elsewhere (Gerbner, Gross, Morgan, & Signorielli,
1994; Morgan & Shanahan, 1997; Shanahan & Morgan, 1999). Suffice it to
say that the critiques revolve around trade-offs in the measurement of the
independent variable, television viewing, and consequent issues of causal
direction. Gerbner and colleagues take the position that measurement
of television viewing best captures their concept of cultivation (Gerbner
et al., 2002). More specifically, it better approximates a pattern of viewing
over years, because television, in their view, tends to be a habitual process,
and thus measurement of viewing provides more validity than does a brief
exposure to a particular stimulus (e.g., a program segment, an entire pro-
gram, or even a series of programs) under experimental conditions. Others
point out that the resulting correlational data leave causality ambiguous.
Indeed, most of the critiques of cultivation revolve around third variable
or reverse causality explanations (Hirsch, 1980; Hughes, 1980; Zillmann,
1980). Experiments have been used to address these causal issues (for a
review, see Ogles, 1987). However, experiments can be criticized because
they may provide only a short exposure to particular television or film
content, which may not fully capture the long-term nature of cultivation.
Nevertheless, as we discuss presently, experiments can be useful in testing
some of the processes underlying cultivation effects.

Three important (and somewhat interrelated) reasons for the contentious
debate regarding the reliability and validity of the cultivation effect are that
the effects are for the most part small ones (Morgan & Shanahan, 1997),
the effects are not always consistently obtained (Hawkins & Pingree, 1982),
and when they are obtained, implementation of certain statistical controls
(e.g., demographics, activities outside the home, population size) has been
shown to reduce the cultivation effect to nonsignificance (cf. Hirsch, 1980;
Hughes, 1980). Indeed, meta-analyses of studies investigating the cultiva-
tion effect find an overall correlation coefficient of about .09, and this relation
tends to vary slightly, but not significantly, across various demographic
and situational variables (Morgan & Shanahan, 1997). The issues of small effect size and lack of reliability make cultivation effects particularly vulnerable to claims that the noted effects are spurious. That is, some other unmeasured variable may easily account for the entire relation between television viewing and judgments when the effect's size is small.

The issue of small effect sizes has been addressed through a variety of arguments. First, small effect sizes, if real, are not trivial. As Gerbner et al. (2002) note, there are many instances in which a very small shift on some variable (e.g., global warming, voting behavior) has important consequences. Variables such as violence and aggression likely fall into this category as well (Bushman & Anderson, 2001). Second, and more pertinent to the focus of this chapter, small main effects may simply be masking larger effects within certain groups. This notion formed the basis of Gerbner et al.'s (1980) refinements to cultivation theory that introduced the concepts of mainstreaming and resonance, which postulated that direct experience variables may moderate the cultivation effect (see also Shrum & Bischak, 2001). The notion also forms the basis of our focus on psychological processes: Variables that affect the judgment process may also moderate the cultivation effect.

**First-Order and Second-Order Cultivation Effects**

Early cultivation research used a number of ways to measure possible effects of television viewing. One general type measured people's perceptions of the frequency with which certain things occur in the real world (e.g., percentage of people who have been victims of violence, percentage of the work force made up of lawyers or doctors) or the risk of something occurring (e.g., probability of being involved in a crime). A second general type assessed people's personal beliefs and values, such as their level of trust of the average person or their own level of anomie (for reviews, see Shanahan & Morgan, 1999). Although Gerbner and colleagues treated these measures as indicators of a common underlying concept, Hawkins and Pingree (1982) noted that the two types of measures seemed to represent different psychological concepts. The frequency and probability measures, which they termed first-order measures, represented estimates that often had actual answers, and thus these estimates could be objectively determined for actual occurrence in both society and the world of television (e.g., frequency of violent crime). In contrast, the belief measures,
which they termed second-order measures, were subjective judgments that assessed personal attitudes, values, and beliefs, and thus had no direct counterpart in the television world, but could only be inferred.

Hawkins and Pingree (1982; see also Hawkins & Pingree, 1990) went on to make two other observations about these two measures. The first was that cultivation effects based on the two measures seemed to differ in both size and reliability: First-order measures tended to be larger and more reliable than second-order ones. The second observation was that the two measures were relatively uncorrelated. Based on these two observed patterns, Hawkins and Pingree thus speculated that the processes underlying the two types of cultivation effects might be different.

As it turns out, they were right, and this distinction in underlying processes for first- and second-order measures is embodied in the two models we present next. The distinction between the two types of measures is captured by the concept of online versus memory-based processes (Hastie & Park, 1986). First-order judgments are generally memory-based; they are formed by recalling information currently stored in memory. Second-order judgments are generally constructed through an online process; information that is being processed in real time (reading the newspaper, watching a TV program) is used to update current judgments or construct new ones. Given this, it follows that the ways in which online and memory-based judgments differ should mirror differences in processing between first- and second-order cultivation measures. This has two important implications: Television may influence each of the two types of judgments in different ways, and different factors may mediate or moderate the relation between television viewing and the two types of judgments. In the following sections, we build on this reasoning by describing independent models for first-order (memory-based) and second-order (online) cultivation judgments.

THE ACCESSIBILITY MODEL FOR FIRST-ORDER CULTIVATION EFFECTS

Model Assumptions

The accessibility model begins with two general propositions. The first is that viewing increases the accessibility of information in memory that pertains to typical cultivation judgments (e.g., violence, occupations,
affluence). Accessibility refers to the ease of recalling information from memory; the more accessible information is in memory, the easier it is to recall. The second general proposition is that first-order, memory-based judgments are constructed through heuristic processing. When people process heuristically, they do not carefully consider all information in memory before constructing their judgments; instead, they take a cognitive shortcut and consider only a small subset of available information. More specifically, the model assumes that people apply the availability heuristic (Tversky & Kahneman, 1973), and base their judgments on the ease with which relevant information can be recalled, or apply the simulation heuristic (Kahneman & Tversky, 1982), and base their judgments on the ease with which a particular thing or event can be imagined.

In using the availability heuristic, people base their judgments of things such as frequency or probability on how easily a relevant example comes to mind: The easier it is to recall, the higher the estimate. Thus, people tend to estimate that words in the English language that start with the letter K occur more often than words that have K as the third letter (Tversky & Kahneman, 1973, study 3), even though the opposite is in fact the case. This result is presumably because words tend to be organized in memory according to their first letter, and thus words that start with K are more easily recalled. Similarly, 80% of people tend to estimate that accidents account for more deaths than strokes, even though strokes account for about 85% more deaths than accidents (Lichtenstein, Slovic, Fischhoff, Layman, & Combs, 1978). Again, this is presumably because accidents are easier to recall or imagine than strokes.

When judging frequency or probability, a relevant example may not be available in memory (i.e., present in memory) or if available, not particularly accessible (i.e., not easily retrieved). Thus, the availability heuristic cannot be applied. In these instances, people may resort to basing their estimates on the ease with which a relevant exemplar can be imagined. This is an example of the simulation heuristic. Supporting this notion, research has shown that when people are induced to imagine a particular event such as winning a contest (Gregory, Cialdini, & Carpenter, 1982) or contracting a disease (Sherman, Cialdini, Schwartzman, & Reynolds, 1985), they provide higher estimates of the probability that they will experience these events compared to people who are not induced to imagine such events. These relations are mediated by ease of imagining (Sherman et al., 1985).
Relation to media consumption. The studies just noted, along with numerous others, clearly document that accessibility of relevant examples or ease of construction of a scenario influences estimates of frequency and probability. Those with more accessible examples or greater ease of construction provide higher estimates. This is shown to occur in both experimental studies and field studies—but what influences this accessibility? Clearly, in the experimental studies, accessibility is manipulated. And what of the field studies of Lichtenstein et al. (1978)? Why did people tend to greatly overestimate the number of deaths caused by accidents, but greatly underestimate deaths caused by strokes? Lichtenstein et al. speculate that accessibility is influenced by media coverage, suggesting that media publicity of such dramatic events as accidents and homicides increase accessibility of these examples relative to less dramatic and publicized causes of death such as strokes. This speculation was supported by a content analysis of newspaper articles showing just such differences in coverage (Combs & Slovic, 1979).

These studies suggest that media consumption may influence the accessibility of constructs that are commonly portrayed in television programs. It follows, then, that differences in media consumption (all other things being equal) may influence levels of accessibility of relevant constructs. If so, then for memory-based judgments, if the availability or simulation heuristic is used, then heavier media consumers should provide higher estimates of frequency or probability than lighter media consumers should. In fact, this is exactly what cultivation theory predicts.

Model Propositions

Based on the general propositions related to accessibility and heuristic processing, five specific propositions can be formulated that comprise the accessibility model: (1) television viewing influences accessibility, (2) accessibility mediates the cultivation effect, (3) television exemplars are not source-discounted, (4) motivation to process information moderates the cultivation effect, and (5) ability to process information moderates the cultivation effect.

Proposition 1: Viewing increases accessibility. Proposition 1 posits that television viewing increases the accessibility of constructs that are frequently portrayed in television programs. Examples include crime, violence, affluence, marital strife, and occupations such as doctors, lawyers,
Proposition 1 was first tested in a study that operationalized accessibility as the speed with which judgments could be generated (Shrum & O'Guinn, 1993; Shrum, O'Guinn, Semenik, & Faber, 1991). In the first part of the study, participants were asked to generate a number of different estimates, such as the percentage of Americans who are victims of a crime in an average year or percentage of Americans that have maids or servants. Later, we measured participants' frequency of television viewing. The results showed that heavy viewers not only gave higher estimates than light viewers (cultivation effect), they also made the judgments faster (accessibility effect).

Other studies replicated those findings using multiple operationalizations of viewing frequency, accessibility, dependent measures, and control variables (Busselle & Shrum, 2003; O'Guinn & Shrum, 1997; Shrum, 1996).

Proposition 2: Accessibility mediates the cultivation effect. Proposition 2 is based on the assumption regarding the application of the availability heuristic, and combines the effects of television viewing frequency on magnitude of estimates and degree of accessibility into one test:

<table>
<thead>
<tr>
<th>TV Viewing Frequency</th>
<th>Accessibility</th>
<th>Judgments</th>
</tr>
</thead>
</table>

Proposition 2 received a partial test by Shrum & O'Guinn (1993). In that study, when speed of response was used as a statistical control variable, the cultivation effect was eliminated, which provides limited support for mediation. In a later study, Shrum (1996) provided more direct evidence of mediation, showing that viewing frequency was related to both speed of response and magnitude of estimates, that speed of response was related to the magnitude of the estimates, and that controlling for speed of response significantly reduced the cultivation effect (see Figure 6.1). This pattern of results is consistent with partial mediation (Baron & Kenny, 1986).

Proposition 2 also received support in a study by Busselle (2001). That study directly manipulated accessibility. This was accomplished by having some participants provide their cultivation judgments in the usual manner (provide judgments, followed by television viewing frequency), but had others first recall an example of the construct being estimated (e.g., percentage of people who cheat on their spouses). The latter procedure eliminated the
FIGURE 6.1
Path model showing mediating role of accessibility in the cultivation effect. Coefficients represent average of results across dependent variables (see Shrum, 1996).

cultivation effect. Presumably, having both heavy and light viewers recall an example made those examples equally accessible in memory, thus eliminating the accessibility advantage of heavier viewers, and in turn eliminating the accessibility bias in judgments of heavier viewers.

Proposition 3: Television exemplars are not source-discounted. The third proposition is that the television-related exemplars that are recalled from memory in the process of constructing a judgment are not source-discounted. For example, propositions 1 and 2 state that when forming a first-order cultivation judgment (e.g., what percentage of Americans are millionaires), people will attempt to recall an example of one, and base their frequency judgment on how easy it is to generate an example (or imagine one). Television viewing increases the accessibility of these exemplars, and thus heavy viewers find them easier to recall, and thus make higher estimates. However, most people would not knowingly base real-world estimates on the recall of fictional television information. Thus, in order for the television exemplars to still have an effect, people must not generally attend to source information when constructing the judgment, and thus do not source-discount. This process is consistent with one that is relatively automatic and made without much effort or scrutiny.

We tested proposition 3 in two experiments (Shrum et al., 1998). To do so, we created conditions in which we induced people to source-discount prior to their judgments. If source-discounting occurs spontaneously (i.e., people normally source-discount), the source-discounting conditions should have no effect on judgments. However, if people normally do not source-discount, then inducing them to do so should eliminate the cultivation effect. This was what we found. When we induced participants to source-discount by reminding them of their television viewing habits prior
to their judgments (source priming) or reminding them of their viewing habits as well as their possible relation to the judgments (relation priming), the cultivation effect was eliminated. However, under normal (no-prime) conditions in which participants were not primed with source information, the usual robust cultivation effect was observed. These findings were observed for estimates of both crime and occupational prevalence.

The general pattern of results can be seen in Figure 6.2. One additional point regarding the pattern of results is worth noting. As hypothesized, the slope of the line was significant (indicating a cultivation effect) only in the no-prime (control) condition. Moreover, as the figure shows, this effect occurred because only heavier viewers were affected by the source- and relation-priming conditions. This pattern is also consistent with our general model. Because light viewers should have relatively little television information stored in memory, inducing them to source-discount television should have little effect. And that too is what we found.

Tests of propositions 1–3 have focused on showing aspects of heuristic processing and demonstrating its influence on the cultivation effect. Propositions 4 and 5 focus on manipulating heuristic processing. Because heuristics are judgment simplification processes, they are usually made

![FIGURE 6.2](image-url)

Prevalence estimates as a function of priming condition and level of TV viewing. Represents pattern of results across dependent variables (see Shrum et al., 1998).
automatically, without conscious awareness (Kahneman & Frederick, 2002). Moreover, simplifying judgments is generally desirable when either the motivation or ability to process information is low (Petty & Cacioppo, 1986). Propositions 4 and 5 pertain to these types of situations.

Proposition 4: Motivation to process information moderates the cultivation effect. Heuristic processing tends to be accentuated when motivation to process information is low, and conversely, reduced when motivation to process information is high (Sherman & Corty, 1984). If so, and the cultivation effect occurs because people process heuristically, then inducing them to reduce their reliance on heuristics should reduce or eliminate the cultivation effect. This position was tested by manipulating motivation to process, and specifically, by inducing some participants to be motivated to provide accurate judgments (Shrum, 2001). We expected this manipulation to reduce heuristic processing, and thus reduce the cultivation effect. In contrast, we also gave some participants instructions to process heuristically (answer with the first impression that comes to mind), and a third (control) group was given no instructions other than to simply provide the estimates.

We expected that the heuristic group and the control group would exhibit cultivation effects, and of roughly the same magnitude. In other words, if people generally process heuristically when forming their judgments, as we have proposed, then giving them instructions to do what they would otherwise do anyway should have no effect. In contrast, motivating them to be accurate in their judgments should cause them to consider information other than that which is most accessible, and thus decrease reliance on television information. Moreover, this decrease in reliance should occur only for heavy viewers, because they were the only ones using television information in the first place. The results supported our hypotheses, and the general pattern can be seen in Figure 6.3. Across three different dependent variables (estimates of crime, occupation, and affluence), cultivation effects were observed in the heuristic and control condition, but were eliminated in the systematic condition. Moreover, just as with the source-discounting results described earlier, the motivation manipulation only affected heavy viewers.

Proposition 5: Ability to process information moderates the cultivation effect. The final proposition tests the second condition under which heuristic processing tends to be accentuated versus attenuated. Along with motivation to process information, the ability to process also affects heuristic processing. When ability to process information is low, such as when
someone is distracted, under time pressure, or the material is difficult to read or understand, people again turn to cognitive shortcuts to simplify the judgment process.

To test this proposition, we constructed a field experiment that manipulated these variables naturally (Shrum, 2007). We did this by manipulating whether respondents completed our study through a mail survey or a telephone survey. Because people tend to feel under more time pressure in telephone surveys than mail surveys (but express the same level of involvement), we expected the telephone survey participants to engage in more heuristic processing than those in the mail survey, and thus exhibit larger cultivation effects. The results were consistent with our theoretical reasoning. Across five different dependent variables, the cultivation effect was substantially stronger in telephone survey conditions (average $\beta = .26$) than in mail survey conditions (average $\beta = .10$).

**Model Integration**

Taken together, the five propositions can be integrated to provide a model that describes when and how cultivation effects occur for first-order
cultivation judgments. This model integration can be seen in Figure 6.4. Starting from when a cultivation-related judgment is required (top of diagram), the flow diagram traces the steps (and conditions) that dictate whether a cultivation effect is obtained. Note that there are in fact a number of barriers that can inhibit cultivation effects (ability to process, 

**FIGURE 6.4**
Flow diagram of the heuristic processing model of television effects. Circles represent mental processes. The thicker arrow from Heavy TV to Memory Search indicates a greater contribution to the search process.
motivation to process, source discounting), which may explain why cultivation effects that are often observed in research tend to be small. However, when conditions that accentuate the propensity to process heuristically are present, cultivation effects tend to be very robust.

As noted earlier, the accessibility model pertains only to first-order cultivation effects. Next, we turn to understanding second-order cultivation effects. Because first-order and second-order judgments are made through fundamentally different processes, as we argue and demonstrate next, the models that explain first- and second-order cultivation processes are also fundamentally different.

THE ONLINE PROCESS MODEL FOR SECOND-ORDER CULTIVATION EFFECTS

The accessibility model just reviewed pertains to judgments that are memory-based. However, these judgments are actually made relatively infrequently (Hastie & Park, 1986). In contrast, online judgments are made all the time. They occur spontaneously and with little effort. Examples include forming an impression of someone as he or she passes by, forming or updating an attitude about a person or situation while watching a television program or reading an advertisement, or deciding whom to vote for based on watching a debate. All (or at least much of) the information used to make the judgments comes from information that is received and processed in real time, rather than through the recall of information from memory.

For the online process model we have proposed for second-order cultivation judgments, we have adopted a persuasion model. In this model, television portrayals operate like a persuasive communication. The consistent messages that are woven throughout television portrayals (e.g., freedom, self-reliance, just world, dangerous world, money indicates success) have an influence on viewers' attitudes, values, and beliefs, and the influence is proportionate to the amount of viewing. Hence, the more people watch television, the more their attitudes, values, and beliefs resemble those that are espoused in television narratives.

If the persuasion model analogy is valid, there are a number of implications that flow from it for the processes that underlie second-order
The Stories TV Tells

• 161

cultivation effects. First, frequent viewing of the same messages should result in attitude shifts toward the dominant messages of television narratives. This is precisely what cultivation posits (Gerbner & Gross, 1976). The persuasion model also has implications for how different processing factors may influence the cultivation effect. For example, the Elaboration Likelihood Model (Petty & Cacioppo, 1986) posits that motivation to process information increases persuasion (at least when the message arguments are strong ones). Under high motivation conditions, people follow the central route to persuasion. They consider arguments more carefully and engage in greater depth of processing. Thus, in applying these concepts to the cultivation effect, higher motivation to process information should increase cultivation effects. Similarly, ability to process information also increases persuasion. That is, when conditions allow people to pay close attention to a message, persuasion increases. Applied to the cultivation effect, a higher ability to process information should result in a larger cultivation effect. Note that these two predictions are actually the opposite of the effects of motivation and ability described in the accessibility model for first-order cultivation effects (cf. Shrum, 2001, 2007).

Tests of the Model

Motivation and ability. Although testing of the online processing model has not been as extensive as testing of the accessibility model, two sets of studies have tested different aspects of the online processing model. The first tested the proposition that both motivation and ability to process information during the television viewing process moderate second-order cultivation effects (Shrum, Burroughs, & Rindfleisch, 2005). To do so, the studies examined the cultivation of materialism. Whereas research on the relation between television viewing and perceptions of societal affluence (first-order judgment) have been frequent, cultivation research on materialism has been relatively scarce. However, television portrays very clear and consistent messages that possessions increase happiness and signal success (O'Guinn & Shrum, 1997). Thus, we expected that frequency of viewing frequency should be positively correlated with levels of materialism.

However, the persuasion model (specifically, the Elaboration Likelihood Model) suggests that motivation and ability will moderate this effect. Greater motivation and ability should each be associated with stronger
cultivation effects. To test these propositions, we used need for cognition as a surrogate measure of motivation to process information (Cacioppo & Petty, 1982). Need for cognition refers to the extent to which people enjoy processing information and being cognitively engaged. For ability to process, we used a measure of chronic attention to programming during viewing (Rubin, Perse, & Taylor, 1988). The results supported our predictions. As can be seen in Figure 6.5, cultivation effects were stronger for those higher in need for cognition and for those who generally pay more attention during viewing (although cultivation effects were obtained for everyone). A follow-up experiment provided additional support, showing that viewers who are high in need for cognition tend to elaborate more during viewing, have more positive cognitions, and tend to become more transported into the narrative than low-need-for-cognition viewers.

Narrative transportation. Although the research just described is consistent with the online processing model, there were several study limitations. First, the studies were primarily correlational, and thus limit claims of causality. Second, the retrospective nature of survey methods hampered the understanding of what is actually going on during the viewing process. To address these limitations, we conducted an experiment that manipulated exposure to narratives related to materialism (Shrum, Lee,
Under the guise of investigating the relations between ads and television content, we had some participants view a 20-min clip from the movie *Wall Street* (high materialism condition) and other participants view a 20-min excerpt from the movie *Gorillas in the Mist* (low materialism condition). We also had participants indicate the extent to which they were transported into the narrative while they viewed the clips (Busselle & Bilandzic, 2008; Green & Brock, 2000).

Narrative transportation is an individual difference variable that measures the extent to which audience members (readers, listeners, viewers) are absorbed into the world of the narrative. Transported viewers become engrossed in the story, are highly involved and cognitively engaged, think vivid thoughts, and react emotionally to the narrative (Green & Brock, 2000; see Carpenter and Green, this volume). When viewers are highly transported into the narrative, they may suspend disbelief, actively avoid counterarguing, and ignore facts that may contradict the narrative's message (Green, Garst, & Brock, 2004).

Based on these findings, we expected that those viewing the high materialistic narrative (*Wall Street*) would indicate more support for material values (Richins & Dawson, 1992) than those viewing the low materialistic narrative. However, we also expected that narrative transportation would moderate this effect, such that viewers who reported being more transported into the narrative would be the most persuaded. The results confirmed these hypotheses (see Figure 6.6). In fact, only those who were highly transported into the narrative showed a cultivation effect.

Taken together, the two sets of studies test aspects of the online processing model, and these tests provide considerable support for the theoretical framework. For second-order (online) cultivation judgments such as attitudes, values, and beliefs, television information influences judgments during viewing, as information is processed. These judgments are spontaneous, internally generated, and affected by viewer involvement, attention, and transportation into the narrative. In contrast, for first-order (memory-based) cultivation judgments, which are externally generated through some elicitation, television information influences judgments at the time the judgment is elicited, and does so through the recall of relevant information from memory. Moreover, the judgments are influenced by the people's motivation and ability to search memory for relevant information. Thus, the processes by which television viewing influences first- and second-order cultivation judgments are very different.
CONCLUSION

In this review of research on the processes underlying the effects of television viewing, we have described two different models for how television influences viewers. The premise of the two models is that the ways in which television information exerts its effects depend on the types of judgments that are addressed. As we have detailed, certain types of processes (e.g., motivation and ability to process) may actually have very different, and even opposite, effects on first- versus second-order cultivation judgments. Understanding this helps to explain why cultivation research that has investigated these processes (motivation, ability) seems to produce very inconsistent results. In some instances, if first- and second-order judgments are conflated, it may cancel out the effects of motivation and ability. In other instances, motivation and ability may influence some cultivation effects but not others. Although seemingly inconsistent, as we have detailed, not only are such patterns expected, they can be predicted. Thus, providing these more complex theoretical explanations provides more confidence in the validity of the cultivation effect.
REFERENCES


Hastie, R., & Park, B. (1986). The relationship between memory and judgment depends on whether the judgment task is memory-based or online. *Psychological Review, 93*, 258–268.


Shrum, L. J. (2004). The cognitive processes underlying cultivation effects are a function of whether the judgments are on-line or memory-based. *Communications, 29*, 327–344.


ENDNOTE

1. We put *fact* and *fiction* in quotes to signify that, like the topic of the book, the lines between what is fact and fiction are quite blurry. On the one hand, soap operas are clearly fictional in the technical sense, but they also hold a grain of truth, or at least "ring true" to some degree. On the other hand, news programs presumably present factual information, and yet content analyses consistently show that news presentations can be significantly distorted, for example, emphasizing dramatic crimes such as murder and other violence and tending to show African-Americans and Latinos as criminals more often than base-rates would suggest is representative (Dixon & Linz, 2000). In the middle is "reality TV," which shows heavily edited but nevertheless actual footage of such events as crime and police response. But just as with the editing process for news, selective editing tends to portray certain classes of people (e.g., black and Hispanic characters) as perpetrators more often but as police officers less often than white characters (Oliver, 1994).