

Cultivation Theory: Effects and Underlying Processes

L. J. SHRUM

HEC Paris, France

Cultivation is a sociocultural theory regarding the role of television in shaping viewers' perceptions, beliefs, attitudes, and values (Gerbner & Gross, 1976). In its original conceptualization, it was part of a more general *cultural indicators project* that addressed the broader question of the role of media in shaping a culture, primarily through the media's storytelling function. Although a number of studies have since examined cultivation effects in non-US contexts, the original theory pertained to the overwhelming influence of US media in shaping US culture (Shanahan & Morgan, 1999). The cultural indicators project consisted of three components: an institutional process analysis that focused on how media messages are produced and disseminated, a message system analysis that focused on what actual messages were conveyed by the media, and a cultivation analysis that focused on how exposure to media messages influences recipients' conceptions of the real world. Moreover, because at the time of the development of cultivation theory television was the dominant storytelling medium, most of the theory's development and testing has focused on the influence and effects of television on viewers' perceptions of social reality.

As cultivation is a sociocultural theory, the three components—media institutions, message production, and message effects on viewers—are inextricably intertwined. However, the third component, cultivation analysis, has been the primary focus of most media research. In its simplest form, a cultivation effect is the relationship between the amount of time people spend watching television and the beliefs those viewers hold about the world. The primary hypothesis is that the more people watch television, the more their views of the world reflect the dominant narrative messages transmitted by television. More specifically, cultivation theory holds that the storytelling function of television is extremely powerful. Although the messages conveyed by television may at first seem incredibly diverse (many different themes, many different types of programs that convey these themes, and many different types of people that convey them), systematic analyses of these messages indicates a remarkable consistency in general value systems. It is the consistency of the TV message coupled with the high frequency with which these messages are viewed that give television the power to shape both individual and societal values, and in Gerbner's view make it the dominant socializing force in American society.

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Patrick Rössler (Editor-in-Chief), Cynthia A. Hoffner, and Liesbet van Zoonen (Associate Editors).

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Initial and general tests of cultivation theory

As mentioned, the primary hypothesis of cultivation theory is that the more people watch television, the more they will come to adopt its underlying messages. That is, the more they watch television, the more likely they are to hold beliefs that are consistent with the world as it is portrayed on television. Of course, if the world of television did in fact provide an accurate portrayal of the real world, then television would have little independent effect on perceptions. However, content analyses of TV programming clearly suggest that the world of television is quite different from the real world, in very systematic ways. For example, the world of television is more violent in general than the real world, violence is disproportionately enacted on certain groups (children, elderly, minorities), and the prevalence of certain occupations is portrayed as disproportionately high for certain groups (e.g., lawyers, doctors, police officers) but disproportionately low for others (e.g., blue-collar workers).

Other important differences exist between TV portrayals and actual facts. For example, television consistently portrays a picture of material abundance. Representations of wealth and affluence, and general levels of materialism, tend to be overrepresented on television (O'Guinn & Shrum, 1997). This general message of affluence and material striving is consistent with the American narrative of abundance, moving up the social ladder, and the centrality of material goods in American life.

Tests of cultivation follow directly from the aforementioned content analyses. If TV viewing cultivates perceptions of social reality that are consistent with the world portrayed on television, then the more people watch television, the more they should perceive that the real world resembles the TV world. Accordingly, amount of TV viewing should be positively correlated with estimates of societal crime and violence, perceptions of the world as a mean and violent place, estimates of the prevalence of certain occupations, and other types of estimates that follow directly from content analyses showing overrepresentation of certain people, activities, beliefs, and values.

An impressive volume of research supports these hypotheses (see Shanahan & Morgan, 1999). Television viewing is positively correlated with estimates of societal violence, anomie, fear of walking alone at night, and perceived danger. Studies have also documented the relationship between frequency of TV viewing and social reality perceptions not directly related to violence. For example, TV viewing is positively correlated with negative beliefs about the elderly; more conservative attitudes toward criminal justice; more sexist attitudes; greater faith in doctors; higher estimates of the prevalence of doctors, lawyers, and police officers; and greater interpersonal mistrust. Numerous studies also attest to the relationship between TV viewing and both perceptions of societal affluence and individual levels of materialism. Frequency of TV viewing is positively correlated with perceptions of societal affluence and with level of materialism (Shrum & Lee, 2012).

Meta-analyses of cultivation findings

Overall, the volume of supportive findings is sizable and impressive. Nevertheless, the studies often have flaws that arise from tradeoffs in research design. These tradeoffs include sample size, sample composition, operationalization of independent (predictor) and dependent (criterion) variables, and statistical and methodological controls to address alternative explanations for the findings. Consequently, each study may be individually critiqued in isolation, which often can reduce confidence in the validity of the findings and therefore the theory to which they pertain.

One way of addressing a body of research (a set of studies) that tests a particular theory in distinct but similar ways is through *meta-analysis*. Shanahan and Morgan (1999) provided such a meta-analysis of 20 years of cultivation research findings. Their findings from an analysis of 58 independent samples confirmed a significant relationship between frequency of viewing and beliefs about the world, although the overall weighted effect was small ($r = .085$). These findings held across multiple beliefs about the world (e.g., violence, politics), for both large and small sample sizes, and when multiple statistical controls were applied simultaneously. These findings provide compelling support for cultivation theory and minimize many of the criticisms leveled in a piecemeal fashion at individual studies.

Criticisms of cultivation theory and research

Despite the substantial accumulated evidence supporting cultivation theory, the initial publications of cultivation theory and research generated a number of critiques. These critiques varied across a wide spectrum, including operationalization of variables, assumptions of cultivation theory, and issues of statistical controls that address alternative explanations for the findings. Although the meta-analyses just noted address some of these issues, the criticisms received considerable attention and thus are worth noting.

Contested assumptions of cultivation theory

One critical assumption of cultivation theory is that viewers are relatively nonselective in terms of their viewing habits. That is, Gerbner and colleagues assert that “television provides a relatively restricted set of choices for a virtually unrestricted variety of interests and publics. Most of its programs are by commercial necessity designed to be watched by nearly everyone in a relatively nonselective fashion” (Gerbner et al., 1986, p. 19). A related assumption is that the content of TV programming is remarkably consistent in terms of its message; thus, even if viewers are selective, the message for the most part does not vary. Both of these assumptions have been questioned. For example, whereas these assumptions may have held in the early years of cultivation work, they may no longer be valid. With the advent of cable television, additional networks, and superstations, TV programming is no longer solely in the hands of the three major networks. Programming has become more targeted, designed to appeal to a segmented

market. Further, technology has made the remote control device ubiquitous, making program selection all the more easier. All of these developments and innovations may contribute to increased selectivity in viewing.

Although these challenges seem to have face value, the actual evidence of selective viewing and program-specific effects is far from consistent. For example, Hawkins and Pingree (1981) conducted a study of Australian viewers designed to address the problems inherent in Gerbner's assumptions regarding habitual viewing. They reasoned that, if viewing behavior is selective, the relevant material is not the sum of what is presented but rather the sum of what is actually viewed. Using a combination of in-depth questionnaires and viewing diaries, they found that some types of programming were viewed more or less habitually. Moreover, they found that the content of the programs selected was more strongly related to cultivation than simple measures of overall viewing. They concluded that, although Gerbner's assumptions may be flawed, discarding them actually strengthened support for the cultivation hypothesis rather than weakened it.

Other studies have attempted to tailor the criterion variables (types of violence, affluence, materialism, morality, etc.) to specific genres. These studies showed that viewing of specific genres is related to social reality estimates over and above the general effects of total TV viewing. Nevertheless, a substantial majority of cultivation studies have shown that total TV viewing is a consistent predictor of social reality beliefs regardless of whether viewing of specific programs is considered (Shanahan & Morgan, 1999).

Statistical criticisms of hypothesis testing

A second widely cited criticism of the early cultivation research publications centered on the statistical techniques used to test the hypothesis. A number of scholars have contended that the early cultivation research did not properly account for spuriousness, which is the notion that observed correlations between variables (e.g., frequency of viewing and estimates of societal violence) may in fact be the result of other-variable influences on both the predictor and criterion variables. Specifically, a number of the published studies supporting cultivation effects failed to control for these variables (e.g., gender, education, income, and direct experience) simultaneously. Instead, the early studies tended to apply statistical controls one variable at a time. However, when the relevant control variables were applied simultaneously, the cultivation effect was often reduced to nonsignificance (Hirsch, 1980).

Although these criticisms were sound and the original theorists acknowledged that failure to apply simultaneous controls was problematic, subsequent research on cultivation effects effectively rendered these problems moot. The preponderance of evidence, particularly considering meta-analytic findings, demonstrates that the cultivation effect holds in the presence of almost all control variables.

Domain specificity for judgments of crime risk

Another criticism, or at least a qualification, of cultivation theory was provided by Tyler and colleagues (Tyler, 1980; Tyler & Cook, 1984) in what they termed the *impersonal*

impact hypothesis. Tyler and colleagues suggested that not all crime risk judgments are the same: Some pertain to judgments of societal risk (e.g., frequency of societal crime) and some pertain to judgments of personal risk (e.g., estimates of one's own risk of crime victimization). Tyler and colleagues argued that these two types of judgments are independent and that a particular experience modality (e.g., one's own experience with crime) may not affect the other (e.g., estimates of societal crime frequency). More important, the researchers contended that TV viewing may affect the two judgments differently. They suggested that TV viewing (and the information or general messages gained from it) should impact judgments of societal crime risk but that one's own direct experience should override the influence of TV information for judgments of personal risk. In a series of studies, Tyler and colleagues provided evidence to support this hypothesis. In subsequent research, Shrum & Bischak (2001) provided a qualification to the impersonal impact hypothesis by showing that TV viewing was associated with judgments of personal crime risk when judging risk outside one's own neighborhood (and thus outside one's primary direct experience) but, consistent with Tyler and colleagues, found no relation between TV viewing and judgments of personal crime risk in one's own neighborhood.

Introduction of new concepts to cultivation theory

Although the issue of proper application of statistical controls was effectively dealt with by Gerbner and colleagues and the research findings of other scholars, it raised an important issue that spurred the development of two new concepts, what Gerbner and colleagues (1980) call *mainstreaming* and *resonance*. Mainstreaming refers to a sharing or convergence of views of the world among heavy viewers in otherwise disparate groups. In other words, people in certain demographic groups, such as those defined by education, income, or political orientation, tend to have different views of the world, all else being equal. Gerbner and colleagues posited that heavy TV viewing should cause the outlooks of disparate groups (high vs. low income, highly educated vs. poorly educated) to move closer to one another (hence the term *mainstreaming*).

Resonance posits that viewers whose life experiences are congruent with TV portrayals will be most affected by TV viewing. For example, viewing portrayals of a mean and violent world should especially "resonate" for those who have had direct experience with crime and violence, effectively providing a "double dose of the TV message and significantly boost[ing] cultivation" (Gerbner et al., 1980, p. 15). Gerbner et al. (1980) presented data consistent with this hypothesis. Later research by Shrum and Bischak (2001) provided additional evidence of resonance effects for judgments of crime risk, regardless of domain (e.g., societal crime risk, crime risk in one's own neighborhood, crime risk outside one's own neighborhood).

Although the criticisms of cultivation theory and research were spirited, diverse, and often appropriate, generally the theory has stood the test of time in that subsequent research conducted using more rigorous methods that accounted for earlier criticisms has provided consistent support for cultivation theory. For the most part, general

tests of cultivation theory have focused on broad relations between general measures of TV viewing and a variety of criterion variables, with some focus on moderating relationships. The next section looks more closely at the possible underlying mechanisms of cultivation effects and discusses research that attempts to explain the psychological processes that can account for why and how TV information influences judgments.

Psychological process explanations for cultivation effects

As noted earlier, cultivation theory is a sociocultural theory concerning the influence of a highly sociocultural phenomenon (television). The original cultivation theorists made it clear that their theory of the general influence of the socially and culturally shared experience of the TV message was not an “effects” theory (Shanahan & Morgan, 1999). Effects theory generally refers to the state of communication research at that time (mid-1970s), which had focused on individual reactions (effects) to the content of TV programming (causes). Nevertheless, a persistent criticism of cultivation research was that it lacked any focus on explanatory mechanisms. Early cultivation research had been primarily concerned with relations between input variables (e.g., media information and its characteristics) and output variables (e.g., attitudes, beliefs, behavior), with little consideration of the cognitive processes that might mediate these relations (Hawkins & Pingree, 1990).

Initial research on underlying processes

In an attempt to address these criticisms, a number of researchers undertook programs of research aimed at explicating these underlying psychological processes. Such an explication was deemed important, particularly in light of the scholarly criticisms that questioned the validity of cultivation effects. The development of psychological process models has the potential to increase internal validity, which is the extent to which we are confident that we are observing a true causal effect and not one that is spurious—another common criticism of many media effects studies (McGuire, 1986). A process model should provide clear links between the stimulus (e.g., media consumption) and the response (e.g., beliefs, behavior), and each link in the model should represent a testable proposition to be empirically verified. If these links stand on solid theoretical foundations and are empirically verified, threats to internal validity such as spuriousness and reverse causality are rendered less plausible, as the threats would presumably have to occur at each stage (Shrum, 2009). Another advantage is that process models may potentially address conflicting findings in previous research. A process model should provide boundary conditions for the effect—that is, a specification of the conditions under which the effect does *not* hold. To the extent that these boundary conditions are related to aspects of inconsistencies in previous research, disparate findings may be reconciled.

One of the first programs of research on the psychological processes underlying cultivation effects was conducted by Hawkins and Pingree (1982). They developed

hypotheses, primarily based on learning theory, that focused on the underlying processes of cognitive processing abilities, perceptions of TV reality, and inference-making abilities. Unfortunately, as is often the case with groundbreaking research, the initial studies were largely unsuccessful in terms of explicating a coherent underlying process. In most cases, the research produced null findings with respect to the process-oriented hypotheses.

Following these initial attempts to investigate process issues for cultivation effects, additional studies were conducted by Hawkins and Pingree and others that attempted to more precisely specify the component processes. As in the earlier studies, the hypotheses concerning these processes were derived from learning theory (Hawkins, Pingree, & Adler, 1987; Potter, 1991). Three sequential processes were proposed: that viewers learn television facts from television (learning), that viewers construct real-world beliefs from these facts (construction), and that viewers generalize from these real-world beliefs related to television facts (termed *first-order beliefs*, examples of which are estimates of the prevalence of societal crime) to construct more generalized beliefs about the world (termed *second-order beliefs*, an example of which is fear of crime); the process is termed *generalization*. However, little support was found for the learning model.

Regarding the lack of the initial support for a learning model to explain cultivation processes, one conclusion is that a lack of evidence for certain of these processes, particularly the construction process in which beliefs about the TV world are used to form judgments about the real world, suggests that cultivation effects are artifactual and not the result of a causal influence of viewing on beliefs (Potter, 1991). However, this logic is predicated on the notion that the learning model is the *only* one through which cultivation can work. The next section addresses this issue.

The weighing and balancing model of cultivation effects

Soon after the initial surge of research investigating psychological processes underlying cultivation effects, a number of researchers focused on the interrelation between cognitive processes (e.g., recall of information from memory) and social judgments. One of the first studies was by Shapiro and colleagues (Shapiro & Lang, 1991), who proposed that cultivation effects may be explained by memory errors. For example, when people watch a TV program, they encode information (in the form of event memories) into episodic memory. These event memories contain information about the event itself (e.g., a shooting) as well as a variety of contextual information about the event, such as the source of the event memory (television in general, specific programs) and emotional reactions to the stimuli.

The next step occurs when a judgment is to be made. For example, consider a typical cultivation judgment that asks respondents to estimate the percentage of US citizens who are involved in a violent crime at some point in their lives. To construct such a judgment, potentially relevant information bearing on the judgment is retrieved from memory and each individual piece of information is assessed (weighed and balanced) for its degree of relevance. Contextual information, such as the source of the memory, may be considered, and information deemed to be from an unreliable source may be

discarded and the judgment constructed based on the remaining information. However, people often misattribute the source of their memories (Johnson, Hashtroudi, & Lindsay, 1993) or may not be motivated to pay attention to the source of the memories (Shrum, 1997).

The general notion of source monitoring of recalled information provides an explanation as to why TV information may influence real-world judgments. This is an important issue, because it is counterintuitive: Why would people use information from a fictional source such as TV programs to make real-world judgments? Failure in source monitoring provides an explanatory mechanism for this process.

The accessibility model of cultivation effects

Although the weighing and balancing model provided an explanation for a specific cognitive process that may be able to explain aspects of cultivation effects, it did not provide a comprehensive process model. To address this issue, Shrum and colleagues developed a model that addressed the entire process, from encoding of TV information to the construction of cultivation judgments. Initial formulations of the accessibility model for cultivation effects were provided by Shrum (1995), with more comprehensive treatments of the model appearing later (Shrum, 2009).

The accessibility model, like the weighing and balancing model, focuses on memory-based judgments. Memory-based judgments are ones that are constructed through the recall of information from long-term memory, as opposed to online judgments, which are formed as information is encountered (Hastie & Park, 1986). The accessibility model of cultivation effects is based on two general propositions. The first is that TV viewing increases the accessibility (ease of recall) of constructs and exemplars that are often portrayed on television. The second is that social reality judgments, because they are typically perceived to be difficult to answer accurately and are seldom of importance to study participants, are made through heuristic processing. That is, rather than searching memory for all available information relevant to the judgment (systematic processing), people retrieve only a subset of relevant information, and the likelihood of retrieval of that subset is determined by its accessibility. A corollary of this second proposition is that, for memory-based judgments such as prevalence, probability, or proportion (such as the percentage estimates often used in cultivation research), the judgments are constructed through the application of judgmental heuristics such as availability, simulation, and representativeness (see Kahneman, Slovic, & Tversky, 1982).

These propositions and their implications have been tested across a number of studies. Support for the first proposition (TV viewing increases the accessibility of exemplars often portrayed on television) was provided in a series of studies by Shrum and colleagues (Shrum, 2009). Moreover, the studies not only showed that accessibility was positively correlated with TV viewing frequency but also that this accessibility mediated the cultivation effect. Subsequent studies provided convergent support for the proposition that the cultivation effect of memory-based measures results from the application of cognitive heuristics. For example, Shrum (2001) showed that heuristic processing is the default mode for the construction of memory-based cultivation judgments, but inducing people to process the information in a more careful and systematic way

eliminates the cultivation effect. Shrum, Wyer, and O'Guinn (1998) also demonstrated that lack of source discounting of recalled information is the default mode for constructing this same type of cultivation judgments, but inducing people to think more carefully about the source of the information they recall eliminates the cultivation effect. These studies establish boundary conditions for the cultivation effect and in doing so provide the basis for explanatory process models of cultivation effects.

The online processing model of cultivation effects

The accessibility model of cultivation effects provides a comprehensive account of the processes underlying certain types of cultivation judgments. These pertain to memory-based judgments such as estimates of frequency or probability of occurrence (e.g., the percentage of people involved in a violent crime in an average day; the percentage of the workforce who are doctors, lawyers, or police officers; the percentage of US citizens who are millionaires). However, the accessibility model is clearly limited because it explicitly does not account for cultivation effects for evaluative judgments such as attitudes and values (e.g., beliefs that the world is a mean and violent place, judgments of interpersonal mistrust, and materialistic attitudes and values). Research on online processing of TV information has addressed this issue.

Online processing refers to information that is processed in real time (e.g., watching a TV program or reading a newspaper) as it is encountered. Online judgments are made when the information being processed in real time is used to spontaneously construct new judgments (e.g., form a new attitude) or update existing ones (e.g., change an attitude). This general process is consistent with the process of cultivation: As people watch television and encounter specific information as well as the overall "message" of the program content, they may construct or update their beliefs, attitudes, and values in ways that reflect the TV message. As such, this resembles a typical persuasion process: The persuasive communication (TV message) effectively changes attitudes.

Shrum and colleagues used this premise to develop a psychological process model to explain second-order cultivation effects. Applying research on the *elaboration likelihood model* of persuasion (Petty & Cacioppo, 1986), they proposed that TV viewing influences second-order judgments through an online process in which TV information encountered during the viewing process is used to spontaneously construct or update attitudes and other evaluative beliefs. Support for this model was provided in several studies. For example, Shrum, Burroughs, and Rindfleisch (2005) showed that frequency of TV viewing is positively correlated with materialistic values. More important, they showed that these effects are stronger for those who have greater motivation and ability to process information during viewing, consistent with the elaboration likelihood model of persuasion. Later research replicated these effects experimentally, showing that watching materialistic programming (vs. nonmaterialistic programming) increased participants' levels of materialism but that this effect was stronger for those who were more immersed in the programs (Shrum et al., 2011).

A substantial literature has developed that has investigated the psychological processes underlying cultivation effects. Over the years, the research has slowly worked toward a consensus regarding this process. The development of process models

to explain cultivation effects is important. First, such explanatory models provide convergent validity for cultivation theory. Second, explanatory models also provide guidance about not only how the process works but also what factors may reduce or eliminate the effect. To the extent that the development of social reality beliefs based on biased and distorted messages such as those frequently encountered on television (violence, power, materialism, etc.) are to be avoided, the process models provide a blueprint for interrupting the process.

Conclusion

Cultivation research began with the theorizing of George Gerbner in the early 1970s. It is one of the most frequently covered topics in communication education and is one of only a few mass communication theories that is mentioned in the textbooks in other social science disciplines such as sociology, social psychology, and marketing (Morgan, 2009). The theory persists despite the early criticisms, and its longevity and ubiquity are arguably strong testaments to its validity. Tests of the theory have been approached from various theoretical perspectives (cultural, social, psychological) and the convergent findings suggest that cultivation rests on strong theoretical ground.

Research on the psychological processes underlying cultivation effects also provides convergent evidence for the general effect. Nevertheless, opportunities for new theoretical contributions exist. In particular, understanding the boundary conditions of the general effect as well as the underlying process mechanisms will shed further light on how television influences viewer beliefs. In addition, although the demise of TV viewing has been predicted for decades, and these predictions were clearly premature, new media also provide content not that discernably different from standard TV fare. These new media vehicles provide both new content and new viewing experiences that may contribute to refinement of cultivation theory and its underlying processes.

SEE ALSO: Content Effects: Entertainment; Cultivation Theory: Idea, Topical Fields, and Methodology; Dual Process Models of Persuasion; Narrative Persuasion Theories; Perception of Reality; Social Learning Theory and Social Cognitive Theory

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L. J. Shrum holds a PhD from the University of Illinois, USA, and is professor of marketing at HEC Paris, France. He has written extensively on how media information influences the construction of values, attitudes, and beliefs. His research focuses on the multiple roles of the self in consumer judgment. He has published in leading journals in marketing, psychology, and communication, including *Human Communication Research*, the *Journal of Consumer Psychology*, the *Journal of Consumer Research*, and the *Journal of Personality and Social Psychology*. He edited *The Psychology of Entertainment Media: Blurring the Lines Between Entertainment and Persuasion* (2nd ed., 2012).