
Routledge Communication Series
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A Cognitive Psychology of Mass Communication

Sixth Edition

Richard Jackson Harris and
Fred W. Sanborn

Research and Theory in Mass Communication

How Are Media Studied Scientifically?

- Q:** What is the gender breakdown of TV and movie characters that children see?
- A:** According to a 2008 study of almost 20,000 children's TV programs worldwide, only 32% of the main human characters were female, and only 13% of the nonhuman characters, like animals, monsters, and robots, were female. Of speaking characters in G-rated movies from 1990 to 2005, less than one-third were female (Fine, 2010).
- Q:** What percentage of felony defendants does the American public believe uses the insanity plea and how many actually do?
- A:** The public believes that 37% of defendants plead insanity, while in reality less than 1% do, most of whom are not successful ("Numbers," 1998).
- Q:** Why did several people receive hundreds of phone calls during the summer of 2003 from callers asking to speak with God?
- A:** In the movie *Bruce Almighty*, Bruce Nolan (played by Jim Carrey) was contacted by "God" on his cell phone. A particular phone number was shown, without area code. Hundreds of people around the United States called the number locally and asked to speak with God. The filmmaker had not followed the usual practice of using 555-prefix numbers (which are not real phone numbers), although this was added before the DVD release of the film. The poor fellow who had that 800 number received a phone bill for several thousand dollars!

In some sense everyone is a media critic. Few, however, have real answers to the questions and concerns that are so easy to raise. For example, it is easy to raise concerns about violence in the media but more difficult to precisely measure the effects of viewing that violence. It is easy to bemoan the lack of positive values on TV but more difficult to identify exactly what values television does communicate. The most reliable and useful answers come from scientific research. The results from such research are cited throughout this book, but in this chapter we look at what it means to do research on media and examine the theoretical frameworks that guide this research. In terms of the

sheer amount of social science research on media, there is far more study of television than of radio, print, or computer-mediated communication. Many of the psychological questions discussed in this book apply equally to all media, although many have been examined primarily in regard to television. We begin by looking at some general approaches to studying media scientifically and examine the types of answers we can find. Then we move on to examine specific theories about media, drawn primarily from the disciplines of psychology and communication.

Media Research Frameworks

As well as being of great concern to the general public, the media are also of considerable interest to the worlds of commerce and science, both of which engage in research, studying media using various perspectives (see the chapters in Bryant & Oliver, 2009, for reviews). Much research has been done by or for TV networks, publishers, corporations, or ad agencies for commercial purposes; this is known as *administrative research*. For example, the Nielsen ratings of the television audience (see Close-Up 2.1) or marketing research studying the public's taste in colas is done for the purpose of increasing the profits of a corporation. Since most administrative research is not published in peer-reviewed journals, it is typically not even available to scientists or the public. The second general type of scientific study is usually performed by independent scientists, most often professors at colleges and universities, with the goal of understanding and explaining the effects of media and studying their role in society and in people's lives; this is called *critical research*. For example, studies of the effects of media violence or content analyses of sexist content in ads are generally done with no commercial motivation. It is this noncommercial critical research that is primarily cited in this book.

When we study media, we can examine the content itself, our exposure to this content, or the effects of that exposure. We begin by examining these three general ways of looking at media and then move on to specific theories.

Looking at Content

One very straightforward way to study media is to study its content. This is often an important precursor to research on exposure or effects. For instance, some studies count the number of characters of different racial, ethnic, or gender groups in TV shows. If we want to argue, for example, that television ads or shows are sexist, we must carefully define what we mean by "sexist" and then study the ads or shows to see if they fit those criteria. Studies of the effects of sex or violence make use of content-analysis studies to provide data on the prevalence of such themes and changing trends over time. In such research, *operational definitions* of important constructs are crucial. For example, if I am interested in studying how much violence there is on television, I must

Close-Up 2.1: Those All-Important Ratings

The Nielsen ratings are the all-important measures used to track audience size for television programming in the United States. It is on these ratings that programs, careers, and even broad social trends rise and fall. The A. C. Nielsen Company selects thousands of American homes as a sample. In many of these homes "people meter" machines are hooked up to their TVs, DVRs, cable boxes, or satellite dishes to measure when the set is on, who is watching, and what is being viewed. The Nielsen ratings provide two types of information. The rating itself is the percentage of the potential audience that is viewing a program (e.g., a rating of 30 means that 30% of the homes with TVs have that program on). The share compares that program's performance with the competition on at the same time. Network advertising charges are usually based primarily on the Nielsen ratings and shares measured during the four 4-week "sweeps" periods in February, May, July, and November. Advertising charges are based primarily on the number of homes reached by an ad, adjusted for demographics. For example, a higher proportion of 18- to 49-year-olds in the audience can translate into higher ad charges. The cost for a 30-second spot on the Super Bowl rose from \$125,000 in 1975 to around \$3 million by 2012. The even more lucrative 15-second spot typically sells for 55 to 60% of the 30-second price. Charges per minute are typically much lower for the non-prime-time slots and cable channels with smaller audiences.

carefully define what I mean by a "violent act." Without that, I do not know which acts to count. Without knowing other scientists' operational definitions, I am not able to interpret their research. That is why it is so important to include such definitions in published reports of research. We may not always agree with others' operational definitions, but knowing what they are allows us to interpret their results.

There are several important methodological issues involved in content analysis research, one of the major ones being interrater reliability and agreement (Lombard, Snyder-Duch, & Bracken, 2002; Tinsley & Weiss, 2000; for extensive discussions of content analysis as a methodology, see Neuendorf, 2002; Riffe & Freitag, 1997; Riffe, Lacy, & Fico, 1998).

Looking at Exposure

A second general way to study media is to study the amount of exposure people have to them. Who reads which newspapers or watches how much TV and when? How much do people use Facebook? Demographic information about

different groups of people watching different shows comes from this type of study. This type of information does not always adequately assess real exposure, however. Just because the radio or television is on or someone is surfing the Internet is no assurance that he or she is devoting much attention to it, nor can we conclude that, merely because people are not paying full conscious attention to the source, they are unaffected by it. Often people are simultaneously doing something else besides listening to the radio or checking Facebook. Sometimes they leave the room altogether for some period of time, especially during TV commercials or while waiting for a friend to come online. To understand the cognitive processes involved in experiencing media, it is crucial to take seriously the amount and nature of attention devoted to the medium; we return to this issue in Chapter 3.

Looking at Effects

Probably the most common general perspective in studying media is to study the effects of exposure to mass communication. To the general public, most major concerns about the media probably center on their effects. The nature of these effects can take different forms. For example, these effects can be direct, conditional, or cumulative (Perse, 2001; Perse & Lambe, 2013).

With the *direct effects model*, effects appear quickly and are relatively similar across all audience members. The crudest version of a direct effects model is the theory of uniform effects. This model argues that most individuals in a mass society perceive messages from media in the same fashion and react to them strongly and very similarly. Media messages are thus "magic bullets" piercing the mind of the populace. Such a view had some influence in studies of propaganda popular in the so-called "hypodermic needle" model of the 1920s, whereby media were thought to "inject us with their venom." See Close-Up 2.2 for an interesting example from this period.

The assumption that media producers are evil thought controllers who manipulate everyone in a passive and helpless population in a uniform way has not been a serious theoretical position among communications researchers for many decades but is still implicitly assumed by some strident popular media-bashing critics, who blame the media for most social ills (e.g., Key, 1976, 1981, 1989; Winn, 2002). Indeed, a direct effects model is often implicitly held by members of the public critiquing media. An example of this is the belief of many regarding "subliminal" messages in advertising or music, which is discussed in Chapter 5.

With the *conditional effects model*, the media can still have substantial effects, but only under certain conditions or for certain audience members, often in less dramatic form than suggested by the most vocal critics. This is a model of selective effects based on individual differences (Oliver & Krakowiak, 2009). Different people perceive the same message differently and respond to it in different ways. For example, a violent TV program will probably not

Close-Up 2.2: *Reefer Madness: A Hypodermic Needle?*

An interesting study in the direct effects model is the 1936 film *Reefer Madness*. Originally released under the title *Tell Your Children*, the movie depicted frightening (if unrealistic) consequences of marijuana use. The story line has several clean-cut youths falling in with shady characters who persuade them to use marijuana. As the film progresses, characters resort to prostitution, rape, suicide, and murder as a result of their marijuana use. One character is even locked away in a mental asylum for the rest of his life, apparently the result of a mental break after using too much reefer.

Despite this over-the-top portrayal, *Reefer Madness* was not unique in its style. Similar films of the era included *Narcotic*, *Cocaine Fiends*, and *Sex Madness*. This movie genre has sometimes been labeled "cautionary film," the notion being that the producers' main goal was to warn viewers of the dangers of drugs, venereal disease, and the like. Such thinking reflects the direct effects/hypodermic model in the belief that audience members would be uniformly "immunized" by viewing the effects of others' sins. However, some see this view as naïve, calling movies like *Reefer Madness* "exploitation films," meaning that filmmakers intentionally played upon moviegoers' curiosity about lurid and taboo topics for profit. Summing up this notion, Feaster and Wood say: "Just as the exploiter's primary concern was not liberating his customers from the catcombs of ignorance, moviegoers also turned to exploitation for something beyond moral betterment. The explorations of vice promised vivid displays of human shame and debauchery, and it was for this dramatization that tickets were purchased" (1999, p. 18).

Reefer Madness has lived well beyond the 1930s. In the 70s, the movie became a cult favorite among many, with at least one pro-marijuana advocacy group screening it as a campy protest to governmental restrictions of the drug (Feaster & Wood, 1999). That cult popularity eventually led to a satirical *Reefer Madness* musical in the 1990s, and later a cable TV movie version of the musical. Whatever its original motivation, *Reefer Madness* has been fascinating audiences for decades.

incite all of its viewers to go out and commit mayhem, but it may reinforce the already existing violent tendencies of a small sample of the viewers and slightly dull the sensitivities of many others. Similarly, certain positive or negative aspects of media may affect exceptional children more than average children (Abelman, Atkin, & Lin, 2007; Grimes, Anderson, & Bergen, 2008; Sprafkin, Gadow, & Abelman, 1992).

A major effort of this type of research has been to discover other interactive variables that mediate or moderate the effects of consuming media. These may be demographic variables classifying the individual (e.g., gender, ethnicity, age), properties of the message (e.g., who commits the violence and whether it is reinforced), or the context of its reception (e.g., children watching television with their parents or alone). Taken together, these interactive variables may be considered *risk factors*; the effects will be stronger the greater the number of risk factors present in a particular person (Kirsh, 2006). The fact that the effects are not uniform does not reduce their importance. For example, even if a given effect occurs in only 0.01% of the viewers of a certain TV program, that still has an impact on 4,000 people out of an audience of 40 million!

The third model, *cumulative effects*, emphasizes the importance of repeated exposure to media stimuli and suggests that effects are due not so much to a single exposure as to the additive effects of many instances of exposure. For example, a single exposure to a *Seventeen* supermodel is unlikely to trigger an eating disorder, but repeated exposures to ultrathin, large-breasted women may cumulatively encourage a young woman to push her body in that direction, especially if she likes and identifies with the media models (Harrison, 1997). In looking for any effects of media, we must always keep in mind the importance of cumulative exposure. Most media messages or images are encountered dozens, if not hundreds or thousands, of times. Although such massive exposure is difficult to fully simulate in a laboratory setting and difficult to control in a field study, there are ways it can be studied. For a conceptual paper on defining what an "effect" of media is, see Potter (2011).

Behavioral Effects

There are four general classes of measurable effects of media. Probably the type most people think of first are behavioral effects, in which somebody performs some behavior after seeing a media model do it; for example, acting violently, buying a product, voting for a candidate, or laughing or crying. This is the particular emphasis among proponents of social cognitive theory (Bandura, 2009), which is discussed later in this chapter.

Although behavior may be conceptually the most obvious type of effect, it is often very difficult to measure and even harder to definitively attribute a causal role to the media. For example, we can know whether somebody sees a certain toothpaste commercial and we can check to see if that person buys that brand, but knowing for sure that he or she bought that product *because* of seeing the particular ad and not for other unrelated reasons is very difficult to demonstrate. Even in tragic cases like a school shooting by a teen who had recently seen a similar scene in a movie, it is very difficult, in either a legal or scientific sense, to demonstrate a cause-and-effect relationship between the teen seeing the movie and pulling the trigger himself.

Attitudinal Effects

Attitudinal effects make up a second general class of media effects. For example, an ad might make you think more highly of some product or candidate; whether this attitude would be followed up in actual buying or voting behavior is another question. For example, U.S. and Japanese moviegoers viewing the anti-General Motors documentary *Roger and Me* showed a more negative attitude toward GM in particular and toward U.S. business in general (Baerman, Sakano, & Fujita, 1992), but effects on car-buying behavior were less clear.

Although attitudes consist of an intellectual (belief) component (e.g., reasons that you favor one political candidate's position over another's), much of the psychological dynamic in attitudes is emotional (e.g., liking one candidate more than another). Sometimes the intellectual and emotional components may be inconsistent with each other, as when most U.S. voters in 1984 disagreed with President Ronald Reagan's positions on issues, but reelected him in a landslide because they liked him and trusted him. Holding such inconsistent attitudes simultaneously is labeled by social psychologists as *cognitive dissonance* (Festinger, 1957).

Positive feelings about products or candidates may be taught through the process of classical conditioning, whereby a conditioned stimulus (a product) is associated with an unconditioned stimulus that naturally elicits some positive response. For example, an attractive model paired with some product may engender positive attitudes, especially positive feelings, through the association of the product with the sexy model, who naturally elicits that positive response. The precise processes by which classical conditioning occurs in advertising are discussed in more detail in Chapter 5.

Media may induce many sorts of attitudes on a given subject. For example, a dramatic TV movie or documentary on human trafficking may sensitize people to this problem and make them more sympathetic to its victims. Stereotyped portrayals of social groups may contribute to prejudice in viewers. Seeing horror movies in which women appear sexually aroused by being raped or assaulted may teach viewers that women derive some secret pleasure out of being victims of sexual violence. Attitudes are much easier to measure than behaviors and are often of great importance, for they influence behaviors that may follow and the way we cognitively process information in future.

Attitudes may have influence beyond one's opinion about a particular subject. Sets of attitudes may form a sort of mindset through which we view the world. These attitudes color our selection of what we perceive in the world and how we interpret it. The interaction of this knowledge gained from media with our experience in the world can lead to what is called *cultivation* (Gerbner, Gross, Morgan, Signorielli, & Shanahan, 2002; Morgan, Shanahan, & Signorielli, 2009). For example, if we accept the cop-show image of large cities being very dangerous places, that knowledge colors our attitudes about

cities, and can also affect cognitions and behaviors indirectly in ways that can be measured experimentally.

Cognitive Effects

The third class of media effects is cognitive effects, which alter what we know or think. When we are watching TV, using the Internet, or reading a magazine, we are continually processing, comprehending, and remembering the information we are exposed to (Harris, Cadz, & Tran, 2006). The most straightforward type of example would be learning new information from media (e.g., facts about chimpanzees from a *National Geographic* article). There are also more subtle kinds of cognitive effects. Simply by choosing what news stories to cover, for example, media *set an agenda*. By covering American presidential primary campaigns much more thoroughly than complex but abstract economic issues like the world debt crisis or the shift from domestic to export agriculture, the media are telling us that the political details of all those primaries are very important, whereas the other issues are relatively less so.

Different media may stimulate different types of cognitive processing. In some early studies comparing cognitive effects of radio versus television in telling stories, children produced more original endings for incomplete stories heard on the radio than they did for stories seen and heard on television. This offers some research support for the intuitive claim that radio stimulates the imagination more than TV does. Children remembered verbal information better from radio but visual, action, and overall information better from television (Greenfield & Beagles-Roos, 1988; Greenfield, Farrar, & Beagles-Roos, 1986).

In some ways radio and newspapers may have more in common cognitively with each other than either does with TV. Both radio and print are largely verbal media, whereas television is disproportionately more pictorial. There is much similarity in the way that a story is comprehended from a book and from the radio, but less similarity between a story read and one seen on television (Pezdek & Hartman, 1983; Pezdek, Lehrer, & Simon, 1984; Pezdek & Stevens, 1984). This suggests that skills used for extracting information from television are different from those used to extract information from the words of radio or print.

Taking a field study approach to comparing information transmission through different media, Spencer, Seydlitz, Laska, and Triche (1992) compared the public's responses to newspaper and television reports of an actual natural hazard, in this case the saltwater intrusion from the Gulf of Mexico into the lower Mississippi River in 1988. Results indicated that newspapers were better at presenting complex and potentially ambiguous information about possible consequences of the hazard, whereas television was better at communicating material that was relatively simple and at making direct behavior-related appeals (e.g., buying bottled water). Similar effects of medium were shown in memory for news from the 2000 U.S. political campaign

(Eveland, Seo, & Marton, 2002). People gained more political knowledge when they accessed media information from various media modalities (e.g., print news combined with electronic news) than from one modality alone (Shen & Eveland, 2010).

Although cognitive effects are most often measured by testing the information acquired, other types of methods are also useful. For example, attention to TV may be studied by measuring the time the eyes are focused on the screen (Anderson & Kerkorian, 2006). The amount of cognitive effort required may be assessed indirectly by measuring the reaction time for remembering information and responding (Cameron & Frieske, 1994) or for doing some secondary task (Basil, 1994).

Physiological Effects

The fourth class of media effects involves the physical changes in our bodies resulting from exposure to the media. For example, increases in breathing and heart rate result from watching a scary movie or an exciting ball game. Sexual arousal from viewing pornography may be measured by sensors on the penis or vagina (Lohr, Adams, & Davis, 1997). Even such mundane material as television or radio commercials can induce changes in the heart rate and orienting reflex (Lang, 1990, 1994), electrodermal responses (Hopkins & Fletcher, 1994), facial electromyography (Bolls, Lang, & Potter, 2001; Hazlett & Hazlett, 1999), and changes in alpha waves given off by the brain (Reeves et al., 1985; Simons, Detenber, Cuthbert, Schwartz, & Reiss, 2003; M. E. Smith & Gevins, 2004). See Lang, Potter, and Bolls (2009) for a review of physiological measures of media effects and Ravaia (2004) for a review of research using the measures of heart rate, facial electromyography, and electrodermal activity to study attention and emotional responses to media.

One of the newest and most exciting physiological measures of media effects comes from functional magnetic resonance imaging (fMRI) scans of the brain. For example, Anderson, Fire, Petrovich, and Hirsch (2006) found complex patterns of activity in multiple brain areas were characteristically activated by watching video action sequences. When the action contains violence, other consistent areas are activated (Murray et al., 2006). Playing violent video games activates similar areas to those activated during actual violent behavior (Weber, Ritterfeld, & Mathiak, 2006) and may change, at least temporarily, the neural structure of the prefrontal cortex (Wang et al., 2009). As studies using fMRI techniques become more common, there will no doubt be additional findings regarding how media consumption affects the brain.

Caveat: The Third-Person Effect

One very general principle from social psychology, the *third-person effect*, is very important to consider when looking at media effects. As applied to media,

this principle states that (1) people believe that other people are more vulnerable than themselves to persuasive messages and other media influences; and (2) such perceptions can influence behavior. This principle, soundly supported by research, suggests that people think other people are more influenced by ads, more distressed about their own bodies relative to supermodels, more corrupted by negative media values, or more likely to emulate violent media models than they themselves are. This effect has been shown for a wide variety of materials, including environmental news (Jensen & Hurley, 2005), political attack ads (Wei & Lo, 2007), Internet use (Li, 2008), video game playing and influence (Cruea & Park, 2012), perceived antisocial influences on young adults (Lambe & McLeod, 2005), responding to the "Y2K millennium bug" (Tewksbury, Moy, & Weis, 2004), tabloid newspapers and TV sitcoms (Reid & Hogg, 2005), and Internet pornography (Lee & Tamborini, 2005). There is even evidence that the third-person effect is particularly large when dealing with seriously antisocial behaviors, such as violence (Hoffner & Buchanan, 2002; Hoffner, Plotkin et al., 2001). A variety of explanations for this robust finding have been offered, as well as delineations of conditions affecting it (see Perloff, 2009, for a review; for meta-analyses see Paul, Salwen, & Dupagne, 2007; Sun, Pan, & Shen, 2008). Being one of several self-serving biases used to maintain a positive self-image (Tal-Or & Tsfati, 2007), the third-person effect leads people consistently to underestimate the media's influence on their own lives, even as they loudly decry its corrupting manipulation of others' lives.

A more general model derived from the third-person effect is the *influence of presumed influence* model (Gunther & Storey, 2003). This model postulates that people perceive that some particular media message will have an effect on others and that they then react to that perception. These perceived effects may be positive as well as negative. For example, Gunther and Storey (2003) evaluated the effect of a radio health campaign in Nepal targeted at health clinic workers. The broader population expected the campaign to affect health care workers, and this, in turn, raised their expectations about their own interactions with those workers, with the result that they held more positive attitudes toward those professionals and the quality of their interaction improved. Thus, the message directly affected the perceptions of people other than its target audience, and those perceptions in turn affected the behavior of the target persons.

The Strength of Effects

Although computing the precise strength of media effects is a very difficult task, there have been some attempts to do so, using statistical techniques like meta-analysis and computation of effect sizes (Perse, 2007; Perse & Lambe, 2013). For example, such strength measures have been developed for effects of media violence (Christensen & Wood, 2007), gender-role perceptions

(Herrett-Skjellum & Allen, 1996), ads targeted at children (Desmond & Carveh, 2007), and pornography (Allen, Emmers, Gebhardt, & Gtery, 1995). Perhaps it will be surprising to you, but such studies generally show small to modest (though statistically significant) effect sizes. As would be expected, these effect sizes are almost always larger in laboratory studies than in field studies or surveys, due to the greater degree of experimental control reducing random error.

Why aren't the effects of media greater than they are? The major reason is that there are simply so many other influences, including some that most everyone would expect to be stronger. For example, parents' behavior and the level of community violence have greater effects on children's level of violent behavior than violent media do. Personal experience with a particular product has more effect on purchasing behavior than advertising does. Whether one's peers and parents smoke is a better predictor of whether a teen will start smoking than is exposure to cigarette advertising. None of this is surprising, however. Personal long-term influence has long been known to be highly influential on all sorts of behavior. A good way to look at this is through the idea of risk and protective factors (Kish, 2006). A child who will behave in extremely violent ways probably will not do so solely in response to watching a violent movie, being a product of parental neglect, living in a violent community, or getting involved with drugs or gangs, but the more of these risk factors he has, the greater the likelihood of violent behavior. In this sense exposure to violent media is one of numerous risk factors. Similarly, the more protective factors a child has (e.g., a safe community, supportive parents, good friends, a high level of empathy, a low level of sensation seeking), the less likely he or she will be to engage in violent behavior after watching violent media or playing first-person-shooter video games.

Just because media are not the strongest influence, however, does not mean their effects are trivial. In fact, there is good reason to believe that scientific studies may underestimate media effects, especially for very dramatic types of media. For example, studies of sex and violence, especially with children, do not show extremely graphic violence or pornography for ethical reasons. Would you give permission for your five-year-old to see *Pulp Fiction*, *Kill Bill*, or child pornography? Although we do not know for sure, it is quite possible that effects of highly graphic stimuli are greater than those already documented in the research with milder stimuli.

Also, effects may not always be linear though such linearity is often implicitly assumed by researchers and the public. It is probably not the case, for example, that advertising effects gradually increase the more times one sees a particular ad. There is evidence that this is true up to a point, but after that point people seem to grow tired of and even annoyed with the ad and its impact actually starts to decrease. Sometimes a particular media stimulus contains two different influences which have an opposite impact and thus cancel each other out. For example, watching violence may cause viewers to believe

the world is a more violent place, but this belief may also cause them to stay inside more and thus avoid situations where they may be likely to behave violently.

Another issue is the direction of causal influence (Tal-Or, Cohen, Tsifti, & Gunther, 2010). For example, does watching pornography have a causative effect on one's attitude toward censorship, or are they merely correlated? Does seeing and remembering ads for a certain political candidate cause one to vote for that candidate? It is a challenging task for researchers to test and establish such causative relationships, especially in an environment in which many antecedents may have causal impact on a complex behavior.

Finally, because media affect different people so differently, it may be the case that a disproportionate amount of media effects occur with the relatively small number of audience members who experience a very large effect, while most others experience little effect. Thus group analyses may show overall small effects, but that may not be the whole story. For thorough discussions of these issues in more detail, see Perse (2001, 2007) and Perse and Lambie (2013).

Theories of Mass Communication

Now that we have looked at different media research frameworks and types of effects measured, let us turn to some specific theories that have guided mass communication research over the years. In their current versions, most contemporary theories are heavily cognitive in nature. By this we mean that they view perception and information processing of media messages as constructive; that is, people do not literally encode and retrieve information that they read or hear in the media (or anywhere else). Rather, as they perceive and comprehend media, they *interpret* in accordance with their prior knowledge and beliefs and the context in which the message is received. Comprehension of a TV program, for example, emerges through a continual interaction between the content of the program and the knowledge already in our minds. The mind is continually and actively thinking about what we see or hear and those thoughts become an important part of the constructive process of comprehension. See Bryant and Miron (2004) for a historical overview of uses of mass communication theory in research from 1956 to 2000.

Social Cognitive Theory (Social Learning, Observational Learning, Modeling)

The social cognitive approach originally grew out of stimulus-response (S-R or behaviorist) psychology as "social learning theory," first developed by social psychologist Albert Bandura and his associates in the 1960s (Bandura, 1977; Bandura, Ross, & Ross, 1961, 1963; Bandura & Walters, 1963). The basic premise of this theory is a simple one: We learn behaviors by observing others

performing those behaviors and subsequently imitating them ourselves. The relevance to media occurs when a media actor becomes the source of observational learning. Over its years of development the social cognitive model has increasingly stressed cognitive processes and personal agency or choice.

There are four subfunctions of observational learning from media, according to Bandura (2001, 2002, 2009). The first is obvious. For modeling to occur, a person must be exposed to the media example and pay attention to it. Second, he or she must be capable of symbolically encoding and remembering the observed events, including both constructing the representation and cognitively rehearsing it when the media example is no longer present. Third, the person must be able to translate the symbolic conceptions into appropriate action. For example, a girl may see a character behaving violently in a movie when frustrated; when frustrated herself, the girl may mimic the violent behavior in her own life. Finally, motivations must somehow develop through internal or external reinforcement (reward) in order to energize the performance of the behavior. For instance, a movie character's violent behavior would be reinforced if that behavior elicited praise from others in the film or if the character enjoyed performing the behavior or received a monetary gain or beautiful companion as a result.

Social cognitive theory was initially applied to media in the context of studying the effects of violent media models on behavior (see Chapter 9). Although that is still the most-studied application, the model has many other applications as well, as in the modeling of sexual, prosocial, or purchasing behavior. For example, children randomly assigned to view high-risk behaviors on TV were more likely to later self-report their own tendency to engage in risk-taking behaviors (Potts, Doppler, & Hernandez, 1994). Such reported risk-taking was reduced by viewing a safety educational videotape showing high-risk behavior and its negative consequences (Potts & Swisher, 1998). The amount of social aggression (e.g., spreading rumors, social ostracism) that girls aged 5–10 watched predicted increased socially aggressive behavior at school (Martins & Wilson, 2012). Young women exposed to media portrayals of promiscuous sexual behavior (one-night stands) were more likely than those not seeing the media models to anticipate engaging in such behaviors themselves if they did not already have such life experience, regardless of whether the consequences were portrayed as positive or negative in the media depiction (Nabi & Clark, 2008). See Bandura (2009) for a recent and detailed formulation of the social cognitive model as applied to mass communication.

Cultivation Theory

This approach draws on a cumulative effects model to look at the way that extensive, repeated exposure to media over time gradually shapes our view of the world and our social reality. The more media we are exposed to, the more our views of the world will come to resemble the media worldview. According to

this theory, media shape, nurture, indeed *cultivate* our worldview. Cultivation theory was initially developed by George Gerbner and his colleagues in the Cultural Indicators research project studying television at the University of Pennsylvania. See Gerbner, Gross, Morgan, Signorielli, and Shanahan (2002) and Morgan, Shanahan, and Signorielli (2009) for overviews of the theory, and Blandizic (2006) for a recent integrated theoretical perspective.

One of the major constructs of cultivation theory is *mainstreaming*, the gradual homogenization of people's divergent perceptions of social reality into a convergent mainstream. This apparently happens through a process of construction, whereby viewers learn about the real world from observing the world of media. Memory traces from media experiences are stored relatively automatically (Shapiro, 1991). We then use this stored information to formulate beliefs about the real world (Hawkins & Pingree, 1990; Hawkins, Pingree, & Adler, 1987; Potter, 1989, 1991a, 1991b; Shrum & Bischak, 2001). When this constructed world and the real world of one's experience have a high degree of consistency, *resonance* occurs and the cultivation effect is even stronger. For example, a woman who has never been to New York City may hold a perception that it is a high-crime area due to portrayals in police dramas or news coverage (mainstreaming?). If, upon visiting New York, she frequently sees police cars with lights flashing, her media-spawned idea of a crime-ridden city may be reinforced.

In terms of methodology, cultivation research usually compares frequent ("heavy") and infrequent ("light") viewers of television, researchers' usual medium of study, through correlational methods. A typical study finds that the worldview of heavy viewers is more like the world on television. For example, people who watch a lot of violent TV believe the world to be a more violent place than it really is, the so-called "mean world syndrome" (Signorielli, 1990). There is also a greater variance of views among light viewers, suggesting that one effect of watching a lot of TV is to inculcate a sort of middle-of-the-road view. For example, people who watch a lot of TV are less likely to be either extremely liberal or extremely conservative politically, whereas the political views of light viewers run the entire ideological spectrum. Mainstreaming pulls deviants from both directions back toward the middle.

The domains of social reality cultivated through mainstreaming take many forms, including gender roles (Morgan, 1982; Morgan & Shanahan, 1995; Preston, 1990); political attitudes (Gerbner, Gross, Morgan, & Signorielli, 1982, 1984; Morgan, 1989); estimations of crime risk (Shrum, 2001; Shrum & Bischak, 2001); views of science and scientists (Dudo, Brossard, Shanahan, Scheufele, Morgan, & Signorielli, 2011; Potts & Martinez, 1994); health beliefs and practices (Gerbner, Gross, Morgan, & Signorielli, 1981; Lee & Niederdeppe, 2011); degrees of materialism and life satisfaction (Shrum, Lee, Burroughs, & Rindfleisch, 2011); attitudes toward the environment (Shanahan & McComas, 1999; Shanahan, Morgan, & Stenbjørre, 1997); adolescent career choices (Morgan & Shanahan, 1995); effects of prolonged viewing of

Close-Up 2.3: Reality Shows as Feeding Delusion

Psychiatry professors and brothers Joel Gold and Ian Gold (2012) report several patients whose delusional beliefs took the form of believing they were characters in a reality television show, much like the 1998 movie *The Truman Show*, in which Jim Carrey plays a man whose whole life, unbeknownst to him, is a contrived reality show for the entertainment of others and where all his associates, even his wife, are hired actors playing parts. For example, one of Gold's patients began his first session with his psychiatrist by demanding to speak with the "director" of the reality show he was starring in. Another believed that his life was being continually taped for broadcast as part of a TV show. The Golds do not argue that reality TV has caused these delusions, but rather that existing illnesses such as schizophrenia, in which delusions are a common symptom, interact with major cultural events such as reality shows to give specific content to the delusions. They argue that cultural and media studies are an important component of understanding the cognitive aspects of delusions.

talk shows (Rossler & Brosius, 2001); and attitudes about the elderly (Hetsroni & Tukachinsky, 2006) and minorities (Gross, 1984; Volgy & Schwarz, 1980). Cultivation theory has also been applied cross-culturally (e.g., Appel, 2008; Morgan, 1990; Morgan & Shanahan, 1991, 1992, 1995). For an example of how reality shows may cultivate a belief that one is living in such a show, see Close-Up 2.3.

Meyrowitz (1985) and Postman (1982, 1985) argued that children are socialized into the role of adults far earlier since the onset of television than had been the case for the previous several hundred years. Television is the window through which children learn about the world of adults, which is no longer kept secret from them. The effect of television is thus a homogenization of developmental stages: children become more like adults, and adults become more like children. This has numerous social implications beyond the world of media. Children and adults dress more alike, talk more alike, and go to more of the same places than in the past. It is no longer the case that only children wear T-shirts or use slang and only adults wear designer clothes and swear. Similar blurring of the dichotomies of masculinity–femininity and politician–citizen are also posited and attributed to electronic media, increasing androgynous (gender-nonspecific) behavior and holding political candidates to personal standards. Whether such changes are positive or negative socially is probably a matter of personal opinion.

Although cultivation theory generally focuses on the cumulative effect of many repeated images, some images may be far more influential than others.

Greenberg's (1988) drench hypothesis says that a highly respected and popular TV character can have far more impact than a dozen other characters seen and identified with by far fewer viewers. Following this argument, Will and Jack, from the sitcom *Will and Grace*, or gay dads Mitchell and Cameron from *Modern Family*, may help improve people's attitudes toward gay men far more than numerous characters on less-often-seen shows (Bonds-Raacke, Cady, Schlegel, Harris, & Firebaugh, 2007).

In spite of being very influential, cultivation theory is not without its critics. Potter (1991b) argued that the cultivation effect really involves several components, some of which operate independently. Shapiro (1991) looked at the process of the formation of memory traces from television and their later effects on the construction of one's worldview. Several studies show that careful controls of certain other sociodemographic and personality variables tend to reduce or eliminate cultivation effects (Doob & Macdonald, 1979; Hawkins & Pingree, 1981; Potter, 1986; Wober, 1986). Cultivation studies have also been criticized on conceptual and methodological grounds, including concerns about response biases and problems with the measuring instruments (Hirsch, 1980; Perse, 1986; Potter, 1986, 1993; J. A. Schneider, 1987). There have also been criticisms of some of the assumptions underlying cultivation theory. For example, it seems to assume that the messages of TV are essentially uniform (Hawkins & Pingree, 1981) and that viewers accept what they see as perceived reality (D. Slater & Elliott, 1982). Tamborini and Choi (1990) pointed out the frequent failure of non-U.S. data to strongly support cultivation theory and suggested some reasons for this. See Rubin, Perse, and Taylor (1988) for a review of the methodological critiques of cultivation theory and Potter (1993) for a review of conceptual critiques.

Another adaptation of cultivation theory has been to add more cognitive variables, especially the encoding and storage of media messages in memory, in an attempt to increase its rigor and predictability (Shrum, 2002, 2009; Tapper, 1995). Some have reinterpreted cultivation theory in line with a uses and gratifications approach (see the next subsection), stressing the active mental engagement of the viewer while watching TV (Levy & Windahl, 1984; Weaver & Wakshlag, 1986). Cultivation then grows out of the viewer's active processing of information and construction of reality. Finally, taking into account cultural differences in media and societal factors and the degree of congruity between the two can help to predict why cultivation occurs in some areas but not in others (e.g., Morgan & Shanahan, 1995). See Close-Up 2.4 for an interesting effect of cultural differences in apologizing for sending someone e-mail spam.

Uses and Gratifications Theory

The uses and gratifications perspective places much emphasis on the active role of the audience in making choices and being goal-directed in its

Close-Up 2.4: Apologies in Spam: Do They Help Sell?

Apologies can be used for numerous reasons. Perhaps the major one is to acknowledge one's mistake and accept responsibility. Another is to establish empathy, a function that women express more often than men (Tannen, 1990, 2001). Apologies can also be used to elicit more positive feelings toward the sender ("saving face"), a device of potential use to the advertiser. One interesting area in which to examine the use of apology is via a particularly annoying and intrusive type of advertising, namely, spam (generally unwanted e-mail advertising). In a very clever cross-cultural content analysis study, Park, Lee, and Song (2005) found that far more (42%) of Korean e-mail spam contained apologies than was the case for American spam (3%). However, on a variety of effectiveness measures the spam messages with apologies were no more effective than those without apologies. Koreans did consider the spam with apologies more credible and "normal" than the spam messages without the apologies. They were also more likely than Americans to include an apology in their response to a spam containing an apology.

media-use behavior (Oliver & Bartsch, 2010; Palmgreen, 1984; Rosengren, Wenner, & Palmgreen, 1985; A. M. Rubin, 2009). The experience and effects of media depend, in part, on the uses one is putting those media to and the gratifications one is receiving from them. For example, the experience of watching a horror film will be very different for someone who is experiencing a good deal of empathy with the victim than for someone who is being only superficially entertained by the suspense of the plot. Watching CNN News or surfing Internet news sites may be a very different experience for someone trying to be entertained than for someone trying to be seriously informed on the details of a political candidate's positions.

Even the idea of entertainment is more complex than it first appears. Although much of the research and the public assumes that the wish to be entertained is hedonic, or pleasure-seeking, often it may be seen as nonhedonic, or eudaimonic, involving personal expressiveness, competence, autonomy, and self-development. In fact there is evidence that both hedonic and nonhedonic factors are important components of entertainment (Tianborini, et al., 2011). Thus, for example, we may enjoy playing a video game in part because of the sense of mastery or competence achieved, and we may be entertained by a sad film, which gives us some understanding of the human condition, though watching it may not exactly be a pleasurable experience (Oliver & Raney, 2011). What we find the most entertaining may also change over the life span. Bartsch (2012) found that young adults aged 18–25 were

more interested than adults over 50 in emotionally intense entertainment, such as thrills from horror or adventure films and rear-jerking sadness from dramas. Older adults, on the other hand, preferred more contemplative entertainment experiences. This goes a long way to explaining why young people like horror and action films and their parents prefer quieter, more thoughtful dramas.

We may use media for many reasons besides basic entertainment or information-seeking. Perhaps it is to avoid studying or some other activity. Perhaps it is to escape into a fantasy world or be turned on by a particular sexy star. Maybe it is to find out what everybody's talking about in regard to some popular show or to be more like our friends. Sometimes we watch a program we strongly dislike simply to make ourselves feel less alone or to be emotionally stimulated. For many solo drivers, the radio or recorded music is a constant traveling companion. What draws different people to consume different types of media may be a critical issue; for example, it is very helpful to know the factors that cause some people to seek out and watch violent pornography. See A. M. Rubin (2002) and Conway and Rubin (1991) for discussions of psychological motives in uses and gratifications research.

A. M. Rubin (2009) identified several current research directions for uses and gratifications research. One is to develop taxonomies of communication motives. Others have compared motives across media, a particularly important area of research in regard to newer computer-mediated technologies, particularly social media (Quan-Hase & Young, 2010). A third approach has looked at different social and psychological circumstances of media use, including coveiwiers, personality, lifestyle, or religiosity (Harris & Cook, 2011). A fourth direction has looked at how motives for using media are satisfied or not satisfied. A fifth direction has examined the role of individual differences in experiences, motives, and exposure for the media experience. One interesting behavior genetics study comparing identical and fraternal twins concluded that up to one-third of the differences in media use habits and behaviors across people may be due to genetic influences (Kirzinger, Weber, & Johnson, 2012). Finally, some researchers have studied measurement issues like the reliability and validity of instruments measuring motivation.

One interesting problem to come out of the uses and gratifications perspective concerns the relationships we have with media figures we have never met in person, i.e., *parasocial relationships* or *interactions* (Klimmt, Hartmann, & Schramm, 2006; A. M. Rubin, Perse, & Powell, 1985; R. B. Rubin & McHugh, 1987; Tay & Bodine, 2012). We may think of morning show hosts more as our breakfast companions than as news spokespersons. Evening news anchors are regular dinner guests, not merely people who read the news. This feeling of connectedness with public figures is occasionally dramatically illustrated, for example in the intense worldwide outpouring of grief following the sudden death of Britain's young Princess Diana in a car crash in 1997 (Brown, Basil, & Bocarnea, 2003). Her loss was a genuinely personal one to millions

who knew her only through media. There were similar large-scale displays of public affection and mourning when Michael Jackson died in 2009.

Parasocial interactions and relationships are not limited to real people. For instance, actors who portray villains in ongoing television series have been known to receive hate mail from viewers. When decades-old soap operas have finally been canceled, faithful viewers feel a genuine sense of loss at the demise of beloved characters. One study that examined viewers' experiences with the last episode of *Friends* in 2004 found that there can be similarities between the distress of a "parasocial breakup" with a media "friend" when a long-running show ends and ending a relationship with a real person (Eyal & Cohen, 2006). Similar results were discovered in a study of Israeli television viewers and the potential loss of their favorite TV characters or personalities (Cohen, 2004). One can even develop parasocial relationships with video game characters (Coulson, Barnett, Ferguson, & Gould, 2012). Interestingly, however, there are no social conventions or social support for parasocial grieving, which in fact is often met by others with outright ridicule.

Parasocial interactions have many of the same characteristics as real interpersonal interactions (Perse & Rubin, 1989) and are strong predictors of television viewing motivation and behavior (Conway & Rubin, 1991; see Schiappa, Allen, & Gregg, 2007 for a meta-analysis of effects of parasocial interactions). People who form parasocial relationships tend to be higher in the Big 5 personality dimensions of agreeableness and neuroticism, though there is no relation to extraversion (Tsay & Bodine, 2012). These one-sided relationships can even lead to romantic feelings for celebrities whom fans have never met. McCutcheon, Ashe, Houran, and Maltby (2003) draw parallels between this kind of celebrity worship and erotomania, a psychological disorder in which a person has delusions of a romantic relationship with another. This level of parasocial interaction can be carried to extremes, for example when John Hinckley, Jr. attempted to assassinate President Ronald Reagan in 1981. Hinckley's delusional motivation was a belief that killing the President would win the heart of actress Jodie Foster, with whom he had become obsessed after watching her over and over again in the film *Taxi Driver*. In another instance, a teenager attempted suicide after a favorite musician became engaged to someone else (Haynes & Rich, 2002).

Nevertheless, parasocial media relationships may have a somewhat beneficial "social surrogacy" mental health effect. Derrick, Gabriel, and Hugenberg (2009) found that watching favorite TV shows provides a sense of belonging, particularly for those who are lonely. They even discovered that merely thinking about favorite TV shows while recalling a fight with a close other can help protect against drops in self-esteem. Interestingly, however, these sorts of effects only seemed to be present with *favorable* TV shows, leading the authors to conclude that the effects were not due to mindless escapism through watching just any show. The intensity of a parasocial relationship can be affected by many factors. For example, attractive personalities engender more intense

parasocial interactions, as do characters who directly address the audiences. Individuals higher in the individual difference factor of perspective-taking ability are more likely to develop more intense parasocial relationships. More intense parasocial interaction is also associated with greater enjoyment of the media experience (Hartmann & Goldhoorn, 2011).

As we have seen, whether positive or negative, parasocial media relationships can become intense. However, we have all probably felt some emotional connection to figures we know only through the TV, movie, or computer screen. See Giles (2002) for a literature review and proposed model for parasocial interaction. He argues for the importance of specifying the continuum of the relationship between social and parasocial and for identifying the stages in the development of parasocial relationships. Tsay and Bodine (2012) argue that we should consider parasocial interaction as a multidimensional construct.

Agenda Setting

This theory, which initially grew out of communications research on political socialization (Dearing & Rogers, 1996), defines agenda setting as the "creation of public awareness and concern of salient issues by the news media" (Heath & Bryant, 1992, p. 279). The idea here is that the media do not necessarily tell us *what to think*, but rather *what to think about*. For example, through heavy coverage of such issues in a political campaign, media may tell us that past marital infidelity of candidates is an important issue on which to base our vote. Other issues covered in less depth, such as their positions on taxation or foreign policy, are thus positioned as less important. See Chapters 7 and 8 for further discussion of agenda setting in regard to news, and McCombs and Reynolds (2002), Wanta (1997), Kosicki (1993), and Tai (2009) for theoretical conceptualizations.

Although it has been explored most fully in regard to news and politics, agenda setting is also relevant to other media issues. For example, in their basic ignoring of religion, mainstream entertainment media in the United States are sending a message that spiritual issues are not important factors in people's lives. Soap operas and movies that continually show characters engaging in seemingly unprotected casual sex with no apparent concern for consequences like HIV infection or pregnancy are subtly telling us that those concerns are not important. Characters' incessant preoccupation with body image tells viewers they should be concerned about that.

One way that an agenda can be set is through the use of *framing* (Borah, 2011; Entman, 1993; McCombs & Ghanem, 2001; Scheufele & Tewksbury, 2007; Tewksbury & Scheufele, 2009; Wicks, 2001). The way a problem is described selects or highlights certain aspects of its reality and neglects or downplays others. This framing will affect how people respond to it. For example, is some indiscretion described as a "caper," an "affair," or a "scandal"?

Jamieson and Waldman (2003) argued that press coverage of the U.S. Presidential election campaign of 2000 framed the candidates as the "lying panderer" (Al Gore) and the "ineffective bumbler" (George W. Bush) and that media and the public noticed details consistent with the frames and neglected details that were inconsistent (see Chapter 8 for further discussion of the framing of the candidates in the 2000 election). Framing effects can be quite persistent, particularly if the consumers have moderate, rather than high or low, levels of political knowledge about the issue (Lecheler & de Vreese, 2011).

There have been some attempts to integrate agenda setting with other theoretical approaches. For example, Wanta (1997) draws on the cognitive and uses and gratifications perspectives to develop a model of agenda setting that focuses more on the individual, rather than the issue, as the unit of measurement. Wanta tested this model and concluded that those most susceptible to agenda-setting effects are those who more actively process information from news media. McCombs, Shaw, and Weaver (1997) extended agenda setting to some new areas, including political advertising, economic news, and the comparative effectiveness of television and print media in agenda setting. Wanta and Chanem (2007) offer a meta-analysis showing agenda-setting effects of news across a wide variety of studies.

Schema (Script) Theory

Part of what guides the perception and comprehension, and later memories of information from media are *schemas* (Brewer & Nakamura, 1984; Rumelhart, 1980). The schema construct refers to knowledge structures or frameworks that organize an individual's memory for people and events. A schema is a general mental construct or model about some knowledge domain. A person holds mental schemas based on past experiences; for example, our schemas about Latinos, schizophrenics, or the Arab Spring are connected to our memories and personal experiences. One consequence of holding these schemas for information processing is that the individual is likely to go beyond the information actually presented to draw inferences about people or events that are congruent with previously formed schemas (Harris, 1981; Rojahn & Pettigrew, 1992). For example, someone with a very negative schema about Mexican Americans might notice and remember all sorts of negative things about Latinos in response to watching a TV show set in Latino East Los Angeles, whereas someone with a more positive schema would notice and remember different, and more favorable, information from the same show. Typically, much of the content in schemas is culture specific. The schema that members of one culture may hold may cause them to interpret the same story very differently than members of a different culture (Harris, Schoen, & Hensley, 1992; Lasisi & Onyehalu, 1992). Cultural differences must be carefully considered by TV producers in international programming sales (see Close-Up 2.5).

Close-Up 2.5: The Internationalization of Popular Culture

Although the United States is a major exporter of television programming and movies, no country is able to totally dominate media today, if indeed this was ever possible (Chung, 2011; Strubhaar, 2007; Tunstall, 2007). What is actually happening is a globalization of all cultures (Legrain, 2003). McDonald's is becoming more popular worldwide, but so are Indian curry, Japanese sushi, and Greek or Arab hummus. Hollywood studios dominate world movie distribution, but film productions are multinational efforts. For example, many top "American" entertainment figures are not really American at all: Salma Hayek and Gael García Páramo are Mexican; Nicole Kidman, Hugh Jackman, Cate Blanchett, Simon Baker, Mel Gibson, and Russell Crowe are Australian; Hugh Grant, Kate Winslet, Ewan McGregor, and virtually the entire cast of the Harry Potter films are British; Sam Neill is from New Zealand; Michael J. Fox and Ryan Reynolds are Canadian; Antonio Banderas and Javier Bardem are Spanish; and Colin Farrell is Irish. Many top Hollywood directors are similarly from elsewhere than the United States: Peter Weir (Australia), Stanley Kubrick (Britain), Pedro Almodóvar (Spain), Alfonso Cuarón (Mexico), and Peter Jackson (New Zealand). In terms of music, despite the pressure to record in English, many of international music's biggest sellers are not Americans. A few of these are The Beatles and The Rolling Stones (UK), Shakira (Colombia), U2 (Ireland), Björk (Iceland), Justin Bieber, Arcade Fire, and Avril Lavigne (Canada), Abba (Sweden), and Julio and Enrique Iglesias (Spain).

The United States itself is a market as well as a producer. Many broadcast and cable markets now carry Univision and/or Telemundo, both Spanish-language channels headquartered in the U.S. Mexico's Televisa earns millions exporting its soap operas, with some of those sales going to the United States. The British BBC and Granada TV have exported programs to America's PBS for years. With the improvement in cable and satellite technology, there are now specialized American and/or international versions of some channels, such as BBC America, RT (Russia), and CCTV-4 (China). In addition, many American cable and satellite systems offer international channel packages with stations from around the world.

In mass media, activation of a schema in the mind of the audience member may be triggered by some particular information in the TV program, magazine article, or website. It may also be triggered by the content of certain formal features of the particular medium, such as flashbacks, montage, or instant replays in television or film. Young children do not understand these conventions

and will interpret the input literally (e.g., thinking that a flashback or instant replay is continuing new action). Part of the socialization to the use of a medium like television is to learn about these formal features and how to interpret them (Bickham, Wright, & Huston, 2001; Calvert, 1988; Kraft, Cantor, & Gortdiener, 1991; Lang, Geiger, Strickwerda, & Sumner, 1993; Rice, Huston, & Wright, 1986; B. J. Wilson, 1991).

One place we learn schemas and scripts is from media (Luke, 1987). "Script" here does not mean "pages of dialogue," but rather refers to a schema about an activity. For example, when we watch a TV drama about a woman who discovers she has breast cancer, we may acquire a mental script for dealing with that particular situation. The viewer may learn specific activities like breast self-examination, how to tell her husband about her illness, how to seek out information about possible treatments, and how to cope with a mastectomy and chemotherapy in terms of her own self-image and sexuality. Through exposure to samples of activities following a particular script, that abstract script is inferred and gradually becomes a part of our permanent memory (Ahm, Brewer, & Mooney, 1992). This skeleton structure of an activity is then used to interpret future instances of that activity. For example, listeners of a British radio soap opera, *The Archers*, used knowledge of a general familiar script from that show to help them remember specific details from individual episodes (Reeve & Aggleton, 1998).

The potential consequences of learning scripts from media become especially clear when we consider a situation of which readers or viewers have little prior knowledge or scripts from their own life experience. For example, suppose a child's knowledge of dealing with muggers has resulted from watching TV adventure heroes trick and overpower the robber. If that child were to try that script on a real mugger by attempting the moves seen on TV, the consequences might be disastrous. As another example, consider a TV movie dealing with child abuse. A preteen in the story is being sexually molested by her uncle and is sufficiently troubled to mention this to a school counselor, a revelation that sets in motion a sequence of events that eventually, but inevitably, brings this event out in the open. Because child abuse was not discussed for so many years, many viewers, including some current or former victims, may have had no mental script for how to handle it. In this sense, such a movie, if done sensitively yet realistically, could help victims to come forward and seek help. It could provide information on how one may expect to feel about that experience and where to seek help, and, through the context of the drama, it could offer a scenario for what the effects of such a revelation might be.

In a more general sense, media fiction sometimes draws on very abstract scripts, such as "overcoming adversity." This implicit theme may be reflected in a story about a slave escaping from servitude in the antebellum South, a child learning to cope with alcoholic parents, or a burned-out police officer coming to terms with a vicious crime syndicate. Such a script is also used in many human-interest news stories.

There is a very general script for stories in Western culture (Kintsch, 1977). This narrative script is learned implicitly from the earliest days of childhood, when young children hear stories from their parents. Such stories are composed of episodes, each of which contains an exposition, complication, and resolution. That is, the characters and setting are introduced (exposition), some problem or obstacle develops (complication), and that problem or obstacle is somehow overcome (resolution). We grow up expecting stories to follow this general script. Children's stories such as fairy tales do so very explicitly ("Once upon a time there was a . . ."). Adult stories also follow the same script but often in a more complex fashion. For example, some of the complication may be introduced before all of the exposition is finished or there may be two subepisodes embedded in the resolution of a larger episode.

Entertainment media like television or film also draw on the narrative script to make their stories more readily understandable. Children's cartoons follow the script very explicitly. Most TV sitcoms and action-adventure shows also do so, although perhaps in a somewhat more complicated fashion; for example, there may be two interwoven episodes (subplots), each with its own narrative structure. The use of schemas enhances our information-processing capabilities. Meadowcroft and Reeves (1989) found that children had well-developed story schema skills by age 7, and such skills led to better memory for the central story content, a reduction in processing effort, and a greater flexibility of attention-allocation strategies. Soap operas traditionally hold an audience by concluding each day's story just before the resolution. Because we have this sense of our narrative script being incomplete, we are motivated to return the next day or the next week to complete it. This principle of the "cliffhanger" has been used in some prime-time season finales to ensure the interest and return of viewers for the first show of the next season.

Even many ads draw upon the narrative script. For example, a nice young fellow is ready to go out on a hot date (exposition); alas, he notices his teeth are yellowed (complication). But his mom and her amazing dental whitening strips come to the rescue to brighten his teeth just in time (resolution). Because of our familiarity with the narrative script, we are able to comprehend such a commercial very easily, which is of course to the advertiser's advantage. Also, because it fits the story structure of many programs, it seems more entertaining and is thus more likely than a traditional sales pitch to hold viewers' attention. The narrative script is a deeply ingrained knowledge structure; Esslin (1982) went so far as to argue that the 30-second story of an unhappy hemorrhoid sufferer has the same dramatic structure as a classic Greek tragedy!

Limited Capacity Model

Another heavily cognitive model is Lang's (2000) limited capacity model of media information processing. Drawing on basic cognitive psychology, Lang makes two basic assumptions: (1) people are information processors, and

(2) the ability to process information is limited. These information processes are sometimes automatic and sometimes controlled; that is, they involve conscious choice. The three major subprocesses are *encoding*, *storage*, and *retrieval*. These may be done partially in parallel, but the processing resources are limited, and heavy allocation to one may result in superficial allocation to another. One of the automatic selection mechanisms steering the encoding of information is the *orienting response*. When this occurs, as in our attention being captured by the television turning on, more cognitive resources are allocated to encoding the information from that source. Encoding of that information is enhanced, provided that the cognitive load is low. If, however, the cognitive load is high (e.g., a set of scenes that rapidly cuts from one location to another), the limited resources will be overwhelmed, and less encoding will occur. Increasing the cognitive load and resources required by speeding up the pace or having more arousing content decreases memory for the controlled processing of the verbal content, but not for the automatic processing of visual content (Lang, Potter, & Bolls, 1999).

Conclusion

The theoretical frameworks discussed here have all been influential in guiding the research on mass communication. Some have been particularly useful in certain content areas or with certain types of research designs. All are at least somewhat cognitive in nature, as they deal with the knowledge representation of information from the media and the processing of that knowledge through attention, perception, comprehension, and memory. The theories are not necessarily mutually exclusive, either. In fact, in many cases they are quite complementary, as they emphasize different aspects of our interaction with media. For example, social cognitive theory focuses on the modeling of behavior, while cultivation looks more at attitudinal effects, and schema theory and limited capacity say more about the information processing dimension.

Now we have some idea of what research in mass communication is all about and what sort of answers it seeks. There are different types of research and different theories to guide this research. In the next chapter we turn to look at various psychological constructs and topics which are important in understanding media.