

Research in Media Effects

- *Antisocial and Prosocial Effects of Media Content*
- *Uses and Gratifications*
- *Agenda Setting by the Media*
- *Cultivation of Perceptions of Social Reality*
- *Social Impact of the Internet*
Using the Internet

While much research is conducted in professional or industry settings, a great deal of mass media research is conducted at colleges and universities. There are several differences between research in the academic and the private sectors, including, but not limited to:

- Academic research tends to be more theoretical in nature; private-sector research is generally more applied.
- The data used in academic research are public, whereas much industry research is based on proprietary data.
- Top management often determines private-sector research topics; academic researchers have more freedom in their choice of topics.
- Projects in private-sector research usually cost more to conduct than do academic investigations.

The two research settings also have some common features:

- Many research techniques and approaches used in the private sector emerged from academic research.
- Industry and academic researchers use the same basic research methodologies and approaches.
- The goal of research is often the same in both settings—to explain and predict audience and consumer behavior.

This chapter describes some of the more popular types of research carried out by academic investigators and shows how this work relates to private-sector research.

Obviously, not every type of scholarly research used in colleges and universities can be covered in one chapter. What follows is not an exhaustive survey but rather an illustrative overview of the history, methods, and

theoretical development of five research areas: antisocial and prosocial effects of specific media content, uses and gratifications, agenda setting by the media, cultivation of perceptions of social reality, and the social impact of the Internet. Readers who want a more comprehensive treatment of media effects research should consult Bryant and Thompson (2002).

▪ ***Antisocial and Prosocial Effects of Media Content***

The antisocial effect of viewing television and motion pictures is one of the most heavily researched areas in all mass media studies. Comstock, Chaffee, and Katzman (1978) reported that empirical studies focusing on this topic outnumbered work in all other problem areas by four to one, and this emphasis is still apparent more than a decade later. Paik and Comstock (1994) reviewed the results of 217 such studies conducted between 1959 and 1990.

The impact of **prosocial content** is a newer area and grew out of the recognition that the same principles underlying the learning of antisocial activities ought to apply to more positive behavior. Applied and academic researchers share an interest in this area: All the major networks have sponsored such research, and the effects of antisocial and prosocial content have been popular topics on college and university campuses for the past 30 years. It is not surprising that there has been a certain amount of friction between academic researchers and industry executives.

History

Concern over the social impact of the mass media was evident as far back as the 1920s, when many critics charged that motion pictures had a negative influence on children. In 1928, the Motion Picture Research Council, with support from the Payne Fund, a private philanthropic organization, sponsored a series of 13 studies on movies' influence on children. After examination of film content, information gain, attitude change, and influence on behavior, it was concluded that the movies were potent sources of information, attitudes, and behavior for children. Furthermore, many of the things that children learned had antisocial overtones. In the early 1950s, another medium, the comic book, was chastised for its alleged harmful effects (Wertham, 1954).

In 1960, Joseph Klapper summarized what was then known about the social impact of mass communication. In contrast to many researchers, Klapper downplayed the potential harmful effects of the media. He concluded that the media most often reinforced an individual's existing attitudes and predispositions. Klapper's viewpoint, which became known as the *minimal effects position*, was influential in the development of a theory of media effects.

In the late 1950s and early 1960s, concern over the antisocial impact of the media shifted to television. Experiments on college campuses by Bandura and Berkowitz (summarized in Comstock & Paik, 1991) showed that aggressive behavior could be learned by viewing violent media content and that a stimulation effect was more probable than a cathartic (or cleansing) effect. Senate subcommittees examined possible links between viewing violence on television and juvenile delinquency, and in 1965, one subcommittee concluded that televised crime and violence were related to antisocial behaviors among juvenile viewers.

The civil unrest and assassinations in the middle and late 1960s prompted the formation of the National Commission on the Causes and Prevention of Violence, chaired by Milton Eisenhower. The staff report of the Eisenhower Commission, which concluded that television violence taught the viewer how to engage in violence, included a series of recommendations about reducing the impact of television violence.

The early 1970s saw extensive research on the social effects of the mass media. Just three years after the publication of the Eisenhower Commission report came the release of a multi-volume report sponsored by the Surgeon General's Scientific Advisory Committee on Television and Social Behavior (1972, p. 10). In *Television and Growing Up*, the committee cautiously summarized its research evidence:

There is a convergence of fairly substantial evidence on short-run causation of aggression among children by viewing violence . . . and the much less certain evidence from field studies that . . . violence viewing precedes some long-run manifestation of aggressive behavior. This convergence . . . constitutes some preliminary evidence of a causal relationship.

The committee tempered this conclusion by noting that in accordance with the reinforcement notion, "any sequence by which viewing television violence causes aggressive behavior is most likely applicable only to some children who are predisposed in that direction" (p. 10).

At about the same time, the three television networks were sponsoring research in this area. CBS commissioned two studies: a field experiment that found no link between television viewing and subsequent imitation of antisocial behavior (Milgram & Shotland, 1973), and a longitudinal study in Great Britain that found an association between viewing violence on television and commit-

ting antisocial acts such as damaging property and hurting others (Belson, 1978). ABC sponsored a series of studies by two mental health consultants who concluded that television stimulated aggression to only a tiny extent in children (Heller & Polsky, 1976). NBC began a large-scale panel study, but results were not released until 1983. In addition to television violence, the potential antisocial impact of pornography was under scrutiny. The Commission on Obscenity and Pornography (1970), however, reported that such material was not a factor in determining antisocial behavior. The commission's conclusions were somewhat controversial in political circles, but in general they supported the findings of other researchers in human sexuality (Tan, 1986). Subsequent efforts in this area were directed primarily toward examining links between pornography and aggression.

Along with violence and pornography, the contrasting prosocial effect of television was investigated as well. One stimulus for this research was the success of the television series *Sesame Street*. A substantial research effort went into the preparation and evaluation of these children's programs. It was found that the series was helpful in preparing young children for school but not very successful in narrowing the information gap between advantaged and disadvantaged children (Minton, 1975). Other studies by both academic researchers and industry researchers demonstrated the prosocial impact of other programs. For example, the series *Fat Albert and the Cosby Kids* was found to be helpful in teaching prosocial lessons to children (CBS Broadcast Group, 1974).

Studies of these topics continued between 1975 and 1985, although there were far fewer than in the early 1970s. An update to the 1972 Surgeon General's Report, issued in 1982, reflected a broader research focus than the original document; it incorporated investigations of socialization, mental health, and

perceptions of social reality. Nonetheless, its conclusions were even stronger than those of its predecessor: "The consensus among most of the research community is that violence on television does lead to aggressive behavior" (National Institute of Mental Health, 1982, p. 8). Other researchers, notably Wurtzel and Lometti (1984) and Bear (1984), argued that the report did not support the conclusion of a causal relationship, whereas Chaffee (1984) and Murray (1984), among others, contended that the conclusions were valid.

Not long after the Surgeon General's report was updated, the results of the NBC panel study begun in the early 1970s were published (Milavsky, Kessler, Stipp, & Rubens, 1983). This panel study, which used state-of-the-art statistical analyses, found a nonsignificant relationship between viewing television violence during the early phases of the study and subsequent aggression. The NBC data have been reexamined by others, and at least one article suggests that the data from this survey do show a slight relationship between violence viewing and aggression among at least one demographic subgroup—middle-class girls (Cook, Kendzierski, & Thomas, 1983).

From 1985 to 2001, the controversy subsided, but this topic remained popular among academic researchers. Williams (1986) conducted an elaborate field experiment in three Canadian communities. One town was about to receive television for the first time, another received Canadian TV, and the third received both Canadian and U.S. programs. Two years later, Williams and her colleagues found that when compared to children in the other two communities, children in the town that had just received TV scored higher on measures of physical and verbal aggression.

Additional evidence on the topic of television and violence comes from a series of panel studies conducted by an international team of researchers (Huesmann & Eron,

1986). Data were gathered from young people in the United States, Finland, Australia, Israel, and Poland. Findings from the U.S. and Polish studies reached a similar conclusion: Early TV viewing was related to later aggression. The Finnish study found this relationship for boys but not for girls. The Israeli study found that TV viewing seemed to be related to aggression for children living in urban areas but not for those in rural areas. The Australian study failed to find a relationship. In all countries where a relationship between TV viewing and violence was found, the relationship was relatively weak. Rosenthal (1986), who concluded that even a weak relationship could have substantial social consequences, examined the practical implications of this weak relationship.

More recently, Congress passed the Telecommunications Act of 1996. Part of the act specified that newly manufactured TV sets had to contain a **V-chip**, a computer chip that allows parents to block out violent and other objectionable programming from their TV sets. The chip would work in concert with a ratings system developed by the industry. (Recent research suggests that the V-chip has been largely ignored by consumers. One study found that 53% of consumers who had recently purchased a new TV set were not even aware they had a V-chip. A Kaiser Family Foundation study discovered that only 17% of families were using the V-chip to screen programs.)

Another recent research area examined mediating effects on the viewing of TV violence. Nathanson (1999), for example, confirmed that parental mediation of TV viewing helped curtail the antisocial inclinations of their children. The same researcher (Nathanson, 2001) also examined the influence of peer mediation on antisocial TV viewing. She found that peer influence was more frequent and more potent than parental mediation and that it tended to promote a positive attitude toward antisocial TV.

The violence at Columbine High School in Littleton, Colorado, and in other high schools at the end of the century sparked renewed interest in media violence among parents and policy makers. Media leaders were called before a congressional committee investigating this topic. In 2001, the Surgeon General issued a report entitled *Youth Violence*, a document that included a study of the factors that contributed most to antisocial behavior among young people. The report concluded that media violence was less of a risk factor than family influences, peer group attitudes, socioeconomic status, and substance abuse (U.S. Department of Health and Human Services, 2001).

The increasing popularity of video games during the early years of this decade opened up another avenue of inquiry for researchers. Since more than 90% of young people report that they sometimes play these games, and since some of the more popular games feature graphic and explicit violence, social concern over their impact was widespread. Results of some of the early studies in this area (for example, Silvern & Williamson, 1987) suggest that playing video games can lead to increased aggression levels in young children and is related to their self-concepts (Funk & Buchman, 1996). More recent research has reinforced this conclusion. Anderson and Dill (2000) measured aggressive personality traits, recent delinquent behaviors, and video-game playing habits of 227 college students.

Those who reported playing more violent video games in the past engaged in more aggressive behavior and had lower academic grades in college. Sherry (2001) conducted a meta-analysis on 20 studies that examined a possible link between video-game playing and antisocial attitudes and behaviors. He concluded that, like the research results on exposure to TV violence and antisocial behavior, there was a weak but statistically significant link between playing violent video games and aggression.

Research about the antisocial effects of pornography increased in the late 1980s but has recently declined. One controversial research area examined if prolonged exposure to nonviolent pornography had any antisocial effects (Donnerstein, Linz, & Penrod, 1987; Zillmann & Bryant, 1989; Allen, D'Alessio, & Brezgel, 1995). The most recent studies have focused on exposure to pornographic Internet sites (for example, Lo & Weir, 2002).

Research interest in the prosocial effects of media exposure decreased in the 1980s and mid-1990s. Sprafkin and Rubinstein (1979) reported on a correlational study in which the viewing of prosocial television programs accounted for only 1% of the variance in an index of prosocial behavior exhibited in school. The apparent lack of a strong relationship between these two variables, coupled with the absence of general agreement on a definition of *prosocial content*, might have discouraged researchers from selecting this area. In any case, few studies of the media impact on prosocial behavior have appeared in the scholarly literature in the last five years. The meta-analysis of Anderson and Bushman (2001) found only a handful of prosocial studies to analyze but concluded that playing violent video games is linked to a decline in prosocial behavior.

Methods

Researchers who study the effects of mass media have used most of the techniques discussed in this book: content analysis, laboratory experiments, surveys, field experiments, observations, and panels. In addition, they have used some advanced techniques, such as meta-analysis, that have not been discussed. Given the variety of methods used, it is not possible to describe a typical approach. Instead, this section focuses on five different methods as illustrations of some research strategies.

The Experimental Method. A common design used to study the antisocial impact of the media is to show one group of subjects violent media content while a control group sees nonviolent content. This was the approach used by Berkowitz and Bandura in their early work. The dependent variable, aggression, is measured immediately after exposure—either by a pencil-and-paper test or by a mechanical device like the one described next. For example, Liebert and Baron (1972) divided children into two groups. The first group saw a 3.5-minute segment from a television show depicting a chase, two fistfights, two shootings, and a knifing. Children in the control group saw a segment of similar length in which athletes competed in track and field events. After viewing, the children were taken one at a time into another room that contained an apparatus with two buttons, one labeled “Help” and the other labeled “Hurt.” An experimenter explained to the children that wires from the device were connected to a game in an adjacent room. The subjects were told that in the adjacent room, another child was starting to play a game. (There was, in fact, no other child.) At various times, by pressing the appropriate buttons, each child was given a chance either to help the unseen child win the game or to hurt the child. The results showed that children who had seen the violent segment were significantly more likely than the control group to press the “Hurt” button. Of course, there are many variations on this basic design. For example, the type of violent content shown to the subjects can be manipulated (cartoon versus live violence, entertainment versus newscast violence, justified versus unjustified violence). Also, some subjects may be frustrated before exposure. The degree of association between the media violence and the subsequent testing situation may be high or low. Subjects can watch alone or with others who praise or condemn the media violence. Media exposure can be a one-time

event or it can be manipulated over time. For a thorough summary of this research, see Comstock and Paik (1991) and Liebert and Sprafkin (1992).

Experimental studies to examine the impact of media exposure on prosocial behavior have used essentially the same approach. Subjects see a televised segment that is either prosocial or neutral, and the dependent variable is then assessed. For example, Forge and Phemister (1987) randomly assigned preschoolers to one of four conditions: prosocial animated program (*The Get-along Gang*), neutral animated (*Alvin and the Chipmunks*), prosocial nonanimated (*Mr. Rogers' Neighborhood*), and neutral nonanimated (*Animal Express*). The children watched the program and were then placed in a free-play situation where their prosocial behaviors were observed and recorded. The results demonstrated an effect for the program variable (prosocial programs prompted more prosocial behaviors than did neutral programs) but no effect for the animated versus nonanimated variable.

The operational definitions of *prosocial behavior* have varied widely: Studies have examined cooperative behaviors, sharing, kindness, altruism, friendliness, creativity, and absence of stereotyping. Almost any behavior with a positive social value seems to be a candidate for study, as exemplified by the experiment by Baran, Chase, and Courtright (1979): Third-graders were assigned to one of three treatment conditions. One group saw a condensed version of a segment of *The Waltons* demonstrating cooperative behavior; the second group saw a program portraying noncooperative behavior; and the third group saw no program. After answering a few written questions dealing with the program, each subject left the viewing room only to encounter a confederate of the experimenter who passed the doorway and dropped an armload of books. There were two dependent measures: whether the subject

attempted to retrieve the books and how much time elapsed until the subject began to help. The group that saw the cooperative content was more likely to help, and their responses were quicker than those of the control group. It is interesting that there was no difference in helping behavior or in time elapsed between the group that saw *The Waltons* and the group that saw the noncooperative content.

The Survey Approach. Most survey studies have used questionnaires that incorporate measures of media exposure (such as viewing television violence or exposure to pornography) and a pencil-and-paper measure of antisocial behavior or attitudes. In addition, many recent studies have included measures of demographic and sociographic variables that mediate the exposure-antisocial behavior relationship. Results are usually expressed as a series of correlations.

A survey by McLeod, Atkin, and Chaffee (1972) illustrates this approach. Their questionnaire contained measures of violence viewing, aggression, and family environment. They tabulated viewing by giving respondents a list of 65 prime-time television programs with a scale measuring how often each was viewed. An index of overall violence viewing was obtained by using an independent rating of the violence level of each show and multiplying it by the frequency of viewing. Aggression was measured by seven scales. One measured respondents' approval of manifest physical aggression (sample item: "Whoever insults me or my family is looking for a fight"). Another examined approval of aggression ("It's all right to hurt an enemy if you are mad at him"). Respondents indicated their degree of agreement with each of the items on the separate scales. Family environment was measured by asking about parental control over television, parental emphasis on nonaggressive punishment (such as withdrawal of privileges), and other variables.

The researchers found a moderate positive relationship between the respondents' level of violence viewing and their self-reports of aggression. Family environment showed no consistent association with either of the two variables.

Sprafkin and Rubinstein (1979) used the survey method to examine the relationship between television viewing and prosocial behavior. They used basically the same approach as McLeod, Atkin, and Chaffee (1972), except their viewing measure was designed to assess exposure to television programs established as prosocial by prior content analysis. Their measure of prosocial behaviors was based on peer nominations of people who reflected 12 prosocial behaviors, including helping, sharing, following rules, staying out of fights, and being nice. The researchers found that when the influence of the child's gender, the parents' educational level, and the child's academic level were statistically controlled, exposure to prosocial television explained only 1% of the variance in prosocial behaviors.

Field Experiments. Parke, Berkowitz, and Leyens (1977) conducted a field experiment in a minimum-security penal institution for juveniles. The researchers exposed groups to unedited feature-length films that were either aggressive or nonaggressive. On the day after the last film was shown, in the context of a bogus learning experiment, the boys were told they had a chance to hurt a confederate of the experimenters who had insulted one group of boys and had been neutral to the other. The results on an electric shock measure similar to the one used in the Liebert and Baron (1972) study, described previously, revealed that the most aggressive of all the experimental groups were the boys who had seen the aggressive films and had been insulted. In addition to this laboratory measure, the investigators collected observational data on the boys' aggressive interpersonal

Figure 18.1 *Design of Canadian Field Experiment*

| Town | Time one | Time two |
|------|------------------|------------------|
| A | No TV reception | One TV channel |
| B | One TV channel | Two TV channels |
| C | Four TV channels | Four TV channels |

behavior in their everyday environment. These data showed that boys who saw the violent movies were more interpersonally aggressive. However, there was no apparent cumulative effect of movies on aggression. The boys who watched the diet of aggressive films were just as aggressive after the first film as after the last.

Figure 18.1 illustrates the design of the Canadian field experiment (Williams, 1986) discussed earlier. The dependent variable of aggression was measured in three ways: observations of behavior on school playgrounds, peer ratings, and teacher ratings. On the observational measure, the aggressive acts of children in the town labeled A (the town that just received TV) increased from an average of 0.43 per minute in Phase 1 to 1.1 per minute in Phase 2. Children in the other towns showed only a slight and statistically insignificant increase in the same period. Peer and teacher ratings tended to support the behavioral data. As yet, there have been no large-scale field experiments examining prosocial behavior.

Panel Studies. Primarily because of the time and expense involved in panel studies, this method is seldom used to examine the anti-social effects of the media. Five studies relevant to this topic are briefly reviewed here. Lefkowitz, Eron, Waldner, and Huesmann (1972), using a catch-up panel design, reinterviewed 427 of 875 youthful subjects

10 years after they had participated in a study of mental health. Measures of television viewing and aggression had been administered to these subjects when they were in the third grade, and data on the two variables were gathered again a decade later. Slightly different methods were used to measure television viewing on the two occasions. Viewing in the third grade was established based on mothers' reports of their children's three favorite television shows. Ten years later, respondents rated their own frequency of viewing. The data were subjected to cross-lagged correlations and path analysis. The results supported the hypothesis that aggression in later life was caused in part by television viewing during early years. However, the panel study by Milavsky and colleagues (1983), sponsored by NBC, found no evidence of a relationship.

The difference between the results of these studies might be due to several factors. The Milavsky study did not vary its measure of "violent television viewing" throughout its duration. In addition, the NBC researchers used LISREL (linear structural equations), a more powerful statistical technique, which was not available at the time of the Lefkowitz study. Finally, the Lefkowitz measures were taken 10 years apart; the maximum time lag in the NBC study was 3 years.

Another panel study of the media and possible antisocial effects was conducted by Huesmann and Eron (1986). The investigators followed 758 children who were in the first and third grades in 1977 and reinterviewed them in 1978 and 1979. Aggression was measured by both peer nominations and self-ratings. Multiple regression analyses disclosed that, for both boys and girls, watching TV violence was a significant predictor of the aggression they would later demonstrate. Other significant variables were the degree to which children identified with violent TV characters, the perceived reality of the vio-

lence, and the amount of a child's aggressive fantasizing.

More recently, two longitudinal panel studies have found long-term effects of viewing TV violence. Huesmann, Moise-Titus, Podolski and Eron (2003) did a 15-year follow-up study with more than 300 respondents from surveys originally conducted in the 1970s. They found that respondents who watched violent shows at age 8 were more likely to be more aggressive in their 20s. The results remained significant even when such factors as IQ, social class, and parenting differences were statistically controlled. A second study (Johnson, Cohen, Smailes, Kasen, & Brook, 2002) found a significant association between the amount of time spent watching TV during their respondents' teenage years and aggressive behavior as young adults. The results of this study, however, were criticized because the researchers measured general TV viewing rather than viewing of violent programs.

Meta-analysis. A complete description of the techniques of meta-analysis is beyond the scope of this book. For our purposes, **meta-analysis** is defined as the quantitative aggregation of many research findings and their interpretations. It allows researchers to draw general conclusions from an analysis of many studies that have been conducted concerning a definable research topic. Its goal is to provide a synthesis of an existing body of research. Given the large number of research studies that have been conducted concerning antisocial and prosocial behavior, it is not surprising that the mid- to late-1990s saw the growth in popularity of meta-analytic research in this area. Five examples of meta-analysis are discussed here.

Paik and Comstock (1994) performed a meta-analysis on 217 studies from 1959 to 1990 that tested 1,142 hypotheses. They concluded that the magnitude of the impact of exposure to media violence varied with the

method used to study it. Experiments produced the strongest effects, and time-series studies the weakest. Nonetheless, there was overall a highly significant positive association between exposure to portrayals of violence and antisocial behavior. In addition, they found that males were affected by exposure to media violence only slightly more than females and that violent cartoons and fantasy programs produced the greatest magnitude of effects. The latter finding is at odds with the conventional argument that cartoon violence does not affect viewers because it is unrealistic.

A second meta-analysis on the impact of exposure to pornography and subsequent aggressive behavior was done by Allen, D'Alessio, and Brezgel (1995). They analyzed the results of 30 studies and found that there was indeed a connection between exposure to pornography and subsequent antisocial behavior. More specifically, they noted that exposure to nudity actually decreased aggressive behavior. In contrast, consumption of material depicting nonviolent sexual activity increased aggressive behavior, while exposure to violent sexual activity generated the highest levels of aggression. These findings are in accord with those discussed by Paik and Comstock (1994). A meta-analysis of studies examining exposure to pornography and acceptance of rape myths (Allen, Emmers, Gebhardt, & Geiry, 1995) revealed that experimental studies showed a positive relationship between pornography and rape myth acceptance but nonexperimental studies displayed no such effects.

Friedlander (1993) reported the results of a meta-analysis that compared the magnitude of effects reported by studies that looked at antisocial behavior with those that examined prosocial behavior. He found that, with few exceptions, the effects found for prosocial media messages were larger than the effect found for antisocial messages. Finally, Hogben (1998) looked at the results of

56 analyses from 30 studies and concluded that viewing televised violence was associated with a small increase in viewer aggression. In addition, there was a correlation between the year a study was done and the effect size; the later the study, the greater the effect size, suggesting that prolonged exposure has a greater effect on viewers. Last, justified violence and violence that did not accurately portray the consequence of violence generated greater effect sizes.

Summary. Experiments and surveys have been the most popular research strategies used to study the impact of media on antisocial and prosocial behavior. The more elaborate techniques of field experiments and panel studies have been used infrequently. Laboratory experiments have shown a stronger positive relationship between viewing media violence and aggression than have the other techniques. Meta-analyses have offered general conclusions about the scope and magnitude of these effects.

Theoretical Developments

One of the earliest theoretical considerations in the debate on the impact of media violence was the controversy of catharsis versus stimulation. The **catharsis** approach suggests that viewing fantasy expressions of hostility reduces aggression because a person who watches filmed or televised violence is purged of his or her aggressive urges. This theory has some obvious attraction for industry executives because it implies that presenting violent television shows is a prosocial action. The **stimulation theory** argues the opposite: Viewing violence prompts more aggression on the part of the viewer. Research findings in this area have indicated little support for the catharsis position. A few studies did find a lessening of aggressive behavior after viewing violent content, but these results appar-

ently were an artifact of the research design. The overwhelming majority of studies found evidence of a stimulation effect.

Since these early studies, many experiments and surveys have used social learning as their conceptual basis. As spelled out by Bandura (1977), the theory explains how people learn from direct experience or from observation (or modeling). Some key elements in this theory are attention, retention, motor reproduction, and motivations. According to Bandura, attention to an event is influenced by characteristics of the event and by characteristics of the observer. For example, repeated observation of an event by a person who has been paying close attention should increase learning. *Retention* refers to how well an individual remembers behaviors that have been observed. *Motor reproduction* is the actual behavioral enactment of the observed event. For example, some people can accurately imitate a behavior after merely observing it, but others need to experiment. The *motivational* component of the theory depends on the reinforcement or punishment that accompanies performance of the observed behavior.

Applied to the effects area, social learning theory predicts that people can learn antisocial or prosocial acts by watching films or television. The model further suggests that viewing repeated antisocial acts makes people more likely to perform these acts in real life. Another suggestion is that **desensitization** accounts for people who are heavily exposed to violence and antisocial acts becoming less anxious about the consequences.

Bandura (1977) summarized much of the research on social learning theory. In brief, some key findings in laboratory and field experiments suggest that children can easily perform new acts of aggression after a single exposure to them on television or in films. The similarity between the circumstances of the observed antisocial acts and the post-observation circumstances is important in

determining whether the act is performed. If a model is positively reinforced for performing antisocial acts, the observed acts are performed more frequently in real life. Likewise, when children are promised rewards for performing antisocial acts, they exhibit more antisocial behavior. Other factors that facilitate the performance of antisocial acts include the degree to which the media behavior is perceived to be real, the emotional arousal of the subjects, and the presence of cues in the post-observation environment that elicit antisocial behavior. Finally, as predicted by the theory, desensitization to violence can occur through repeated exposure to violent acts.

Other research has continued to refine and reformulate some of the elements in social learning theory. For example, the *arousal hypothesis* (Tannenbaum & Zillmann, 1975) suggests that, for a portrayal to have a demonstrable effect, increased arousal may be necessary. According to this model, if an angered person is exposed to an arousing stimulus, such as a pornographic film, and is placed in a situation to which aggression is a possible response, the person will become more aggressive. (*Excitation transfer* is the term used by the researchers.)

Zillmann, Hoyt, and Day (1979) offer some support for this model. It appears that subjects in a high state of arousal after seeing a violent film will perform more prosocial acts than nonaroused subjects. Like aggressive behavior, prosocial behavior seems to be facilitated by media-induced arousal (Mueller, Donnerstein, & Hallam, 1983).

Other research has shown that social learning theory can be applied to the study of the effects of viewing pornography. Zillmann and Bryant (1982) showed that heavy exposure to pornographic films apparently desensitized subjects to the seriousness of rape and led to decreased compassion for women as rape victims. A similar finding was obtained by Linz, Donnerstein, and Penrod (1984). Men who viewed five movies depicting erotic

situations involving violence toward women perceived the films as less violent and less degrading to women than did a control group not exposed to the films. In sum, social learning theory is a promising framework for integrating many findings in this area.

Another promising theory, outlined by Berkowitz and Rogers (1986), is based on priming effects analysis. Drawing upon the concepts of cognitive neo-associationism, *priming effects analysis* posits that elements of thought, feeling, or memories are parts of a network connected by associative pathways. When a thought element is activated, the activation spreads along the pathways to other parts of the network. Thus, for some time after a concept is activated, there is an increased probability that it and other associated parts of the network will come to mind again, thus creating the priming effect. As a result, aggressive ideas prompted by viewing media violence trigger other semantically related thoughts, thereby increasing the probability that associated aggressive thoughts will come to mind. Berkowitz and Rogers note that priming analysis can explain why much exposure to media violence results in short-term, transient effects. They point out that the priming effect attenuates over time to lower the probability of subsequent violent effects.

Van Evra (1990) suggests that “script theory” might also be useful in explaining the impact of viewing TV violence. Since most viewers, particularly younger ones, have little real-life experience with violence but see a lot of it on TV, their behavior patterns or scripts might be influenced by the TV exposure. Those who watch a large amount of violent TV might store these scripts in their memory and display violence when an appropriate stimulus triggers the acting out of their scripts. Moreover, Huesmann and Eron (1986) argue that if a young child learns early in his or her developmental cycle that aggression is a potent problem-solving technique,

that behavior will be hard to change because the script has been well rehearsed by the child.

Drawing upon this information, Comstock and Paik (1991) proposed a three-factor explanation of the influence of media violence on antisocial and aggressive behavior:

1. Violent portrayals that are unique, compelling, and unusual are likely to prompt viewer aggression because of their high attention and arousal.
2. Social cognition theory suggests that repetitive and redundant portrayals of violence prompt viewers to develop expectations and perceptions of violence.
3. Violent media content encourages the early acquisition of stable and enduring traits. Children who are only 3 or 4 years old may learn some violent scripts.

More recently, Sander (1997) proposed a new theoretical approach, the dynamic transaction model, to explain how viewers perceive violence. The model posits that a person’s reaction to media violence is a function of the precise form of the media stimulus and the interpretive ability of the receiver. A quasi-experimental study of viewers revealed that audience members and researchers perceive violence differently and that specific content variables (physical vs. psychological violence, serious vs. comic violence, real vs. fantasy violence, and so on) have the greatest influence on perceptions, followed by the emotional state of the receiver while watching violence. Krcmar’s (1998) study suggested that family communication patterns are also important in determining how children perceive violence. These last two studies support the idea that perceptions of violence may be a key concept in formulating theories about the impact of this kind of material.

■ Uses and Gratifications

The uses and gratifications perspective takes the view of the media consumer. It examines how people use the media and the gratifications they seek and receive from their media behaviors. Uses and gratifications researchers assume that audience members are aware of and can articulate their reasons for consuming various media content.

History

The uses and gratifications approach has its roots in the 1940s, when researchers became interested in why people engaged in various forms of media behavior, such as radio listening or newspaper reading. These early studies were primarily descriptive, seeking to classify the responses of audience members into meaningful categories. For example, Herzog (1944) identified three types of gratification associated with listening to radio soap operas: emotional release, wishful thinking, and obtaining advice. Berelson (1949) took advantage of a New York newspaper strike to ask people why they read the paper. The responses fell into five major categories: reading for information, reading for social prestige, reading for escape, reading as a tool for daily living, and reading for a social context. These early studies had little theoretical coherence; in fact, many were inspired by the practical needs of newspaper publishers and radio broadcasters to know the motivations of their audience in order to serve them more efficiently.

The next step in the development of this research began during the late 1950s and continued into the 1960s. In this phase, the emphasis was on identifying and operationalizing the many social and psychological variables that were presumed to be the antecedents of different patterns of consumption and gratification. For example, Schramm,

Lyle, and Parker (1961), in their extensive study, found that children's use of television was influenced by individual mental ability and relationships with parents and peers, among other things. Gerson (1966) concluded that race was important in predicting how adolescents used the media. These studies and many more conducted during this period reflected a shift from the traditional effects model of mass media research to the functional perspective.

According to Windahl (1981), a primary difference between the traditional effects approach and the uses and gratifications approach is that a media effects researcher usually examines mass communication from the perspective of the communicator, whereas the uses and gratifications researcher uses the audience member as a point of departure. Windahl argues for a synthesis of the two approaches, believing that it is more beneficial to emphasize their similarities than to stress their differences. He has coined the term *conseffects* of media content and use to categorize observations that are partly results of content use in itself (a viewpoint commonly adopted by effects researchers) and partly results of content mediated by use (a viewpoint adopted by many uses and gratifications researchers).

Windahl's perspective links the earlier uses and gratifications approach to the third phase in its development. Recently, uses and gratifications research has become more conceptual and theoretical as investigators have offered data to explain the connections between audience motives, media gratifications, and outcomes. As Rubin (1985, p. 210) notes: "Several typologies of mass media motives and functions have been formulated to conceptualize the seeking of gratifications as variables that intervene before media effects." For example, Rubin (1979) found a significant positive correlation between the viewing of television to learn something and the perceived reality of television

content: Those who used television as a learning device thought television content was more true to life. DeBock (1980) notes that people who experienced the most frustration at being deprived of a newspaper during a strike were those who used the newspaper for information and those who viewed newspaper reading as a ritual. These and many other recent studies have revealed that a variety of audience gratifications are related to a wide range of media effects. These “uses and effects” studies (Rubin, 1985) have bridged the gap between the traditional effects approach and the uses and gratifications perspective.

In the last several years, the uses and gratifications approach has been used to explore the impact of new technologies on the audience. For example, Lin (1993) posited that audience activity (planning viewing, discussing content, remembering the program) would be an important intervening variable in the gratification-seeking process because of the viewing options opened up by cable, VCRs, and remote controls. Her results supported her hypothesis. Viewers who were most active had a greater expectation of gratification and also reported obtaining greater satisfaction.

Albarran and Dimmick (1993) combined the uses and gratifications approach with niche theory in their study of the utility of the video entertainment industries. They found that broadcast TV was the most diverse in serving the cognitive gratifications of the audience, whereas cable TV and the VCR were the most effective in meeting needs related to feeling and emotional states.

The advent of the Internet has spurred a renaissance in uses and gratifications research as investigators describe Internet motivations and compare and contrast their results with the uses and gratifications from traditional media. To illustrate, Valkenburg and Soeters (2001) found that Internet use among their sample of 8- to 13-year-olds was

most related to an enjoyment of using computers and finding information. Ferguson and Perse (2000) examined the World Wide Web as a functional alternative to TV and discovered that many of the motivations for using the web were similar to those for viewing television. Finally, Papacharissi and Rubin (2000) came up with a set of five motivations for using the Internet: utility, passing time, seeking information, convenience, and entertainment.

Methods

Uses and gratifications researchers have relied heavily on the survey method to collect their data. As a first step, researchers have conducted focus groups or have asked respondents to write essays about their reasons for media consumption. Closed-ended Likert-type scales are then constructed based on what was said in the focus group or written in the essays. The closed-ended measures are typically subjected to multivariate statistical techniques such as factor analysis, which identifies various dimensions of gratifications.

For example, in their study of the uses and gratifications of VCRs, Rubin and Bantz (1989) first asked selected groups of respondents to list 10 ways in which they used their VCRs and to provide reasons for those uses. This procedure resulted in a list of categories and statements describing VCR usage. A questionnaire was then developed from this master list and administered to respondents, who were asked to indicate how frequently they used their VCRs for these purposes and to rate how much importance they placed on the statements detailing the reasons for usage. After revisions, a final questionnaire was developed; it contained 95 motivational statements. This questionnaire was administered to a sample of 424 VCR owners.

Through factor analysis, the 95 statements were then reduced to eight main moti-

specific instructions. As expected, subjects in the test and essay conditions made greater use of the magazines than did the control group. The two test groups also differed in the type of information they remembered from the periodicals. Experiments such as these two indicate that different cognitive or affective states facilitate the use of media for various reasons, as predicted by the uses and gratifications rationale.

Theoretical Developments

As mentioned earlier, researchers in the academic sector are interested in developing theory concerning the topics they investigate. This tendency is well illustrated in the history of uses and gratifications research. Whereas early studies tended to be descriptive, later scholars have attempted to integrate research findings into a more theoretical context.

In an early explanation of the uses and gratifications process, Rosengren (1974) suggested that certain basic needs interact with personal characteristics and the social environment of the individual to produce perceived problems and perceived solutions. The problems and solutions constitute different motives for gratification behavior that can come from using the media or from other activities. Together the media use or other behaviors produce gratification (or nongratification) that has an impact on the individual or society, thereby starting the process anew. After reviewing the results of approximately 100 uses and gratifications studies, Palmgreen (1984) stated that “a rather complex theoretical structure . . . has begun to emerge.” He proposed an integrative gratifications model that suggested a multivariate approach.

The gratifications sought by the audience form the central concept in the model. There are, however, many antecedent variables such as media structure, media technology, social circumstances, psychological vari-

ables, needs, values, and beliefs that all relate to the particular gratification pattern used by the audience. Additionally, the consequences of the gratifications relate directly to media and nonmedia consumption behaviors and the perceived gratifications that are obtained. As Palmgreen admits, this model suffers from lack of parsimony and needs strengthening in several areas, but it does represent an increase in our understanding of the mass media process. Further refinements in the model will come from surveys and experiments designed to test specific hypotheses derived from well-articulated theoretical rationales and from carefully designed descriptive studies. For example, Levy and Windahl (1984) examined the assumption of an active audience in the uses and gratifications approach. They derived a typology of audience activity and prepared a model that linked activity to various uses and gratifications, thus further clarifying one important postulate in the uses and gratifications process.

Swanson (1987) called for more research to encourage the theoretical grounding of the uses and gratifications approach. Specifically, Swanson urged that research focus on (1) the role of gratification seeking in exposure to mass media, (2) the relationship between gratification and the interpretive frames through which audiences understand media content, and (3) the link between gratifications and media content. Van Evra (1990) presents an integrated theoretical model of television’s impact in which the use of the medium is considered along with the amount of viewing, presence of information alternatives, and perceived reality of the medium. Her description highlights the complex interactions that need to be examined in order to understand the viewing process. Additionally, uses and gratifications researchers have incorporated a theory from social psychology, expectancy-value theory, into their formulations (Babrow, 1989). This theory suggests that audience attitude toward media behavior is an important factor in media use.

Rubin (1994) summarized the growth of theory in the area and concludes that single-variable explanations of media effects are inadequate. He suggests that more attention be given to antecedent, mediating, and consequent exposure conditions. Finn (1997) investigated a five-factor personality model as a correlate of mass media use. He found that people who scored high on the extroversion and agreeableness dimensions of a personality measure were more likely to choose non-media activities (such as conversation) to meet their communication needs. In a comprehensive review of the theoretical developments relevant to uses and gratifications theory, Ruggiero (2000) argues that researchers must expand the uses and gratifications model to accommodate the unique features of the Internet such as interactivity and demassification. He also contends that the growing popularity of the Internet will make the uses and gratifications approach even more valuable in the future.

The uses and gratifications approach also illustrates the difference in emphasis between academic and applied research objectives. Newspaper publishers and broadcasting executives, who want guidance in attracting readers, viewers, and listeners, seem to be particularly interested in determining what specific content is best suited to meeting the needs of the audience. College and university researchers are interested not only in understanding content characteristics but also in developing theories that explain and predict the public's media consumption based on sociological, psychological, and structural variables.

■ **Agenda Setting by the Media**

Agenda setting theory proposes that “the public agenda—or what kinds of things people discuss, think, and worry about (and sometimes ultimately press for legislation

about)—is powerfully shaped and directed by what the news media choose to publicize” (Larson, 1994). This means that if the news media decide to give the most time and space to covering the budget deficit, this issue will become the most important item on the audience's agenda. If the news media devote the second most coverage to unemployment, audiences will also rate unemployment as the second most important issue to them, and so on. Agenda setting research examines the relationship between media priorities and audience priorities in the relative importance of news topics.

History

The notion of agenda setting by the media can be traced back to Walter Lippmann (1922), who suggested that the media were responsible for the “pictures in our heads.” Forty years later, Cohen (1963) further articulated the idea when he argued that the media may not always be successful in telling people what to think, but they are usually successful in telling them what to think about. Lang and Lang (1966, p. 468) reinforced this notion by observing, “The mass media force attention to certain issues. . . . They are constantly presenting objects, suggesting what individuals in the mass should think about, know about, have feelings about.”

The first empirical test of agenda setting came in 1972 when McCombs and Shaw (1972) reported the results of a study done during the 1968 presidential election. They found strong support for the agenda-setting hypothesis. There were strong relationships between the emphasis placed on different campaign issues by the media and the judgments of voters regarding the importance of various campaign topics. This study inspired a host of others, many of them concerned with agenda setting as it occurred during political campaigns. For example, Tipton, Haney, and Baseheart (1975) used cross-

lagged correlation to analyze the impact of the media on agenda setting during statewide elections. Patterson and McClure (1976) studied the impact of television news and television commercials on agenda setting in the 1972 election. They concluded that television news had minimal impact on public awareness of issues but that television campaign advertising accounted for increased audience awareness of candidates' positions on issues.

Agenda setting continued to be a popular research topic through the 1980s and 1990s. Its focus has expanded from looking at political campaigns to examining other topics. The agenda-setting technique is now being used in a variety of areas: history, advertising, foreign news, and medical news. McCombs (1994) and Wanta (1997) present useful summaries of this topic.

In recent years the most popular subjects in agenda-setting research are (1) how the media agenda is set (this research is also called *agenda building*), and (2) how the media choose to portray the issues they cover (called **framing analysis**). With regard to agenda building, Wanta, Stephenson, Turk, and McCombs (1989) noted some correlation between issues raised in the president's State of the Union address and the media coverage of those issues. Similarly, Wanta (1991) discovered that the president can have an impact on the media agenda, particularly when presidential approval ratings are high. Boyle (2001) found that major party candidate political ads can have an influence on media coverage of a campaign. Reese (1990) presents a review of the agenda-building research.

Framing analysis recognizes that the media can impart a certain perspective, or "spin," to the events that they cover and that this, in turn, might influence public attitudes on an issue. Framing analysis has been called the second level of agenda setting. As Ghanem (1997, p. 3) put it:

Agenda setting is now detailing a second level of effects that examines how media coverage affects both what the public thinks about and how the public thinks about it. This second level of agenda setting deals with the specific attributes of a topic and how this agenda of attributes also influences public opinion.

For example, Iyengar and Simon (1993) found a framing effect in their study of news coverage of the Gulf War. Respondents who relied the most on television news, where military developments were emphasized, expressed greater support for a military rather than a diplomatic solution to the crisis. In their study of the way media framed breast cancer coverage in the 1990s, Andsager and Powers (1999) discovered that women's magazines offered more personal stories and more comprehensive information, while news magazines focused more on the economic angle, stressing research funding and insurance. Finally, Andsager (2000) analyzed the attempts by interest groups to frame the abortion debate of the late 1990s and the impact their efforts had with news media. She found that the pro-life group was more successful in getting their interpretation into press coverage.

Methods

The typical agenda-setting study involves several of the approaches discussed in earlier chapters. Content analysis is used to define the media agenda, and surveys are used to collect data on the audience agenda. In addition, since determining the media agenda and surveying the audience are not done simultaneously, a longitudinal dimension is present. More recently, some studies have used the experimental approach.

Measuring the Media Agenda. Several techniques have been used to establish the media agenda. The most common method in-

volves grouping coverage topics into broad categories and measuring the amount of time or space devoted to each category. The operational definitions of these categories are important because the more broadly a topic area is defined, the easier it is to demonstrate an agenda-setting effect. Ideally, the content analysis should include all media: television, radio, newspaper, and magazines. Unfortunately, this is too large a task for most researchers to handle comfortably, and most studies have been confined to one or two media, usually television and the daily newspaper. For example, Williams and Semlak (1978) tabulated the total air time for each topic mentioned in the three television network newscasts over a 19-day period. The topics were rank-ordered according to their total time. At the same time, the newspaper agenda was constructed by measuring the total column inches devoted to each topic on the front and editorial pages of the local newspaper. McLeod, Becker, and Byrnes (1974) content-analyzed local newspapers for a 6-week period, totaling the number of inches devoted to each topic, including headlines and pertinent pictures on the front and editorial pages. Among other things, they found that the front and editorial pages adequately represented the entire newspaper in their topical areas.

The development of new technologies has created problems for researchers when it comes to measuring the media agenda. Cable TV, fax machines, email, online computer services, and the Internet have greatly expanded the information outlets available to the public. The role of these new channels of communication in agenda setting is still unclear.

Measuring Public Agendas. The public agenda has been measured in at least four ways. First, respondents are asked an open-ended question such as “What do you feel is the most important political issue to you per-

sonally?” or “What is the most important political issue in your community?” The phrasing of this question can elicit either the respondent’s intrapersonal agenda (as in the first example) or interpersonal agenda (the second example). A second method asks respondents to rate in importance the issues in a list compiled by the researcher. The third technique is a variation of this approach. Respondents are given a list of topics selected by the researcher and asked to rank-order them according to perceived importance. The fourth technique uses the paired-comparisons method. Each issue on a preselected list is paired with every other issue, and the respondent is asked to consider each pair and to identify the more important issue. When all the responses have been tabulated, the issues are ordered from the most important to the least important.

As with all measurement, each technique has its own advantages and disadvantages. The open-ended method gives respondents great freedom in nominating issues, but it favors those people who are better able to verbalize their thoughts. The closed-ended ranking and rating techniques make sure that all respondents have a common vocabulary, but they assume that each respondent is aware of all the public issues listed and restrict the respondent from expressing a personal point of view. The paired-comparisons method provides interval data, which allows for more sophisticated statistical techniques, but it takes longer to complete than the other methods, and this might be a problem in some forms of survey research.

Three important periods used in collecting the data for agenda-setting research are (1) the duration of the media agenda measurement period, (2) the time lag between measuring the media agenda and measuring the personal agenda, and (3) the duration of the audience agenda measurement. Unfortunately, there is little in the way of research or theory to guide the investigator in this area.

To illustrate, Mullins (1977) studied media content for a week to determine the media agenda, but Gormley (1975) gathered media data for 4.5 months. Similarly, the time lag between media agenda measurement and audience agenda measurement has varied from no time at all (McLeod et al., 1974) to a lag of 5 months (Gormley, 1975). Wanta and Hu (1994a) discovered that different media have different optimum time lags. Television, for example, has a more immediate impact, whereas newspapers are more effective in the long term.

It is not surprising that the duration of the measurement period for audience agendas has also varied widely. Hilker (1976) collected a public agenda measure in a single day, whereas McLeod and colleagues (1974) took 4 weeks. Eyal, Winter, and DeGeorge (1981) suggested that methodological studies should be carried out to determine the optimal effect span or peak association period between the media emphasis and public emphasis. Winter and Eyal (1981), in an example of one of these methodological studies, found an optimal effect span of 6 weeks for agenda setting on the civil rights issue. Similarly, Salwen (1988) found that it took from 5 to 7 weeks of news media coverage of environmental issues before they became salient on the public's agenda.

In a large-scale agenda-setting study of German television, Brosius and Kepplinger (1990) found that the nature of the issue had an impact on the time lag necessary to demonstrate an effect. For general issues such as environmental protection, a lag of a year or two might be appropriate. For issues raised in political campaigns, 4 to 6 weeks might be the appropriate lag. For a breaking event within an issue, such as the Chernobyl disaster, a lag of a week might be sufficient.

Agenda-setting researchers are now incorporating more complicated longitudinal analysis measures into their designs. Gonzenbach and McGavin (1997) for example, pre-

sent descriptions of time series analysis and time series modeling and a discussion of non-linear analysis techniques.

Several researchers have used the experimental technique to study the causal direction in agenda setting. For example, Heeter, Brown, Soffin, Stanley, & Salwen (1989) examined the agenda-setting effect of teletext. One group of subjects was instructed to abstain from all traditional news media for five consecutive days and instead spend 30 minutes each day with a teletext news service. The results indicated that a week's worth of exposure did little to alter subjects' agendas. The experimental method has also been employed to measure the impact of different message frames. Valentino, Buhr, and Beckmann (2001) manipulated the frame of a news story about a politician by creating one version in which an elected official's policy decision was represented as a sincere choice to benefit constituents and another version in which the same decision was represented as a selfish effort to win votes in the next election. The frame that emphasized the vote-getting effort produced more negative reactions than did the sincere choice interpretation.

Theoretical Developments

The theory of agenda setting is still at a formative level. In spite of the problems in method and time span mentioned earlier, the findings in agenda setting are consistent enough to permit some first steps toward theory building. To begin, longitudinal studies of agenda setting have permitted some tentative causal statements. Most of this research has supported the interpretation that the media's agenda causes the public agenda; the rival causal hypothesis—that the public agenda establishes the media agenda—has not received much support (Behr & Iyengar, 1985; Roberts & Bachen, 1981). Thus, much of the recent research has attempted to specify the

audience-related and media-related events that condition the agenda-setting effect.

It is apparent that constructing an agenda-setting theory will be a complicated task. Williams (1986), for example, posited eight antecedent variables that should have an impact on audience agendas during a political campaign. Four of these variables (voter interest, voter activity, political involvement, and civic activity) have been linked to agenda setting (Williams & Semlak, 1978). In addition, several studies have suggested that a person's "need for orientation" should be a predictor of agenda holding. (Note that such an approach incorporates uses and gratifications thinking.) For example, Weaver (1977) found a positive correlation between the need for orientation and a greater acceptance of media agendas.

These antecedent variables define the media-scanning behavior of the individual (McCombs, 1981). Important variables at this stage of the process are the use of media and the use of interpersonal communication (Winter, 1981). Other influences on the individual's agenda-setting behavior are the duration and obtrusiveness of the issues themselves and the specifics of media coverage (Winter, 1981). Three other audience attributes that are influential are the credibility given to the news media, the degree to which the audience member relies on the media for information, and the level of exposure to the media (Wanta & Hu, 1994b).

Despite the tentative nature of the theory, many researchers continue to develop models of the agenda-setting process. Manheim (1987), for example, developed a model of agenda setting that distinguished between content and salience of issues. Brosius and Kepplinger (1990) used time series analysis in their study of German news programs to test both a linear model and a nonlinear model of agenda setting. The linear model assumes a direct correlation between coverage and issue importance; an increase or decrease

in coverage results in a corresponding change in issue salience. Four nonlinear models were also examined: (1) the threshold model—some minimum level of coverage is required before the agenda-setting effect is seen; (2) the acceleration model—issue salience increases or decreases to a greater degree than coverage; (3) the inertia model—issue importance increases or decreases to a lesser degree than coverage; and (4) the echo model—extremely heavy media coverage prompts the agenda-setting effect long after coverage recedes. Their data showed that the nature of the issue under study was related to the model that best described the results. The acceleration model worked better for issues that were considered subjectively important by the audience (taxes) and for new issues. The linear model seemed to work better with enduring issues (the environment). Some support was also found for the threshold model. There was, however, little support for the inertia model, and not enough data were available for a convincing test of the echo model. In sum, these data suggest an agenda-setting process more complicated than that envisioned by the simple linear model.

■ **Cultivation of Perceptions of Social Reality**

How do the media affect audience perceptions of the real world? The basic assumption underlying the **cultivation**, or enculturation, approach is that repeated exposures to consistent media portrayals and themes influence our perceptions of these items in the direction of the media portrayals. In effect, learning from the media environment is generalized, sometimes incorrectly, to the social environment.

As was the case with agenda-setting research, most of the enculturation research has been conducted by investigators in the

academic sector. Industry researchers are aware of this work and sometimes question its accuracy or meaning (Wurtzel & Lometti, 1984), but they seldom conduct it or sponsor it themselves.

History

Some early research studies indicated that media portrayals of certain topics could have an impact on audience perceptions, particularly if the media were the main information sources. Siegel (1958) found that children's role expectations about a taxi driver could be influenced by hearing a radio program about the character. DeFleur and DeFleur (1967) found that television had a homogenizing effect on children's perceptions of occupations commonly shown on television.

The more recent research on viewer perceptions of social reality stems from the Cultural Indicators project of George Gerbner and his associates (1968). Since 1968, they have collected data on the content of television and have analyzed the impact of heavy exposure on the audience. Some of the many variables that have been content analyzed are the demographic portraits of perpetrators and victims of television violence, the prevalence of violent acts, the types of violence portrayed, and the contexts of violence. The basic hypothesis of cultivation analysis is that the more time one spends living in the world of television, the more likely one is to report conceptions of social reality that can be traced to television portrayals (Gross & Morgan, 1985).

To test this hypothesis, Gerbner and his associates have analyzed data from adults, adolescents, and children in cities across the United States. The first cultivation data were reported more than two decades ago (Gerbner & Gross, 1976). Using data collected by the National Opinion Research Center (NORC), Gerbner found that heavy television viewers scored higher on a "mean

world" index than did light viewers. [Sample items from this index are "Do you think people try to take advantage of you?" and "You can't be too careful in dealing with people (agree/disagree)."] Data from both adult and child NORC samples showed that heavy viewers were more suspicious and distrustful. Subsequent studies reinforced these findings and found that heavy television viewers were more likely to overestimate the prevalence of violence in society and their own chances of being involved in violence (Gerbner, Gross, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1978). In sum, their perceptions of reality were cultivated by television.

Not all researchers have accepted the cultivation hypothesis. In particular, Hughes (1980) and Hirsch (1980) reanalyzed the NORC data using simultaneous rather than individual controls for demographic variables, and they were unable to replicate Gerbner's findings. Gerbner responded by introducing **resonance** and **mainstreaming**, two new concepts to help explain inconsistencies in the results (Gerbner, Gross, Morgan, & Signorielli, 1986). When the media reinforce what is seen in real life, thus giving an audience member a "double dose," the resulting increase in the cultivation effect is attributed to resonance. Mainstreaming is a leveling effect.

Heavy viewing, resulting in a common viewpoint, washes out differences in perceptions of reality usually caused by demographic and social factors. These concepts refine and further elaborate the cultivation hypothesis, but they have not satisfied all the critics of this approach. Condry (1989) presents a comprehensive review of the cultivation analysis literature and of cultivation analysis and an insightful evaluation of the criticisms directed against it. Shanahan and Morgan (1999) also present a comprehensive review of cultivation research.

Additional research on the cultivation hypothesis indicates that the topic may be more

final trend concerns the conceptual mechanisms that result in the occurrence of the cultivation effect and are discussed in the Theoretical Developments section, immediately following the Methods section.

Methods

There are two discrete steps in performing a cultivation analysis. First, descriptions of the media world are obtained from periodic content analyses of large blocks of media content.

The result of this content analysis is the identification of the messages of the television world. These messages represent consistent patterns in the portrayal of specific issues, policies, and topics that are often at odds with their occurrence in real life. The identification of the consistent portrayals is followed by the construction of a set of questions designed to detect a cultivation effect. Each question poses two or more alternatives. One alternative is more consistent with the world as seen on television, while another is more in line with the real world. For example, according to the content analyses performed by Gerbner and colleagues (1977), strangers commit about 60% of television homicides. In real life, according to government statistics, only 16% of homicides occur between strangers. The question based on this discrepancy was, "Does fatal violence occur between strangers or between relatives and acquaintances?" The response "strangers" was considered the television answer. Another question was, "What percentage of all males who have jobs work in law enforcement and crime detection? Is it 1% or 5%?" According to census data, 1% of men in real life have such jobs, compared with 12% in television programs. Thus, 5% is the television answer.

Condry (1989) points out that the cultivation impact seems to depend upon whether

respondents are making judgments about society or about themselves. Societal-level judgments, such as the examples just given, seem to be more influenced by the cultivation effect, but personal judgments (such as "What is the likelihood that you will be involved in a violent crime?") seem to be harder to influence. In a related study, Sparks and Ogles (1990) demonstrated a cultivation effect when respondents were asked about their fear of crime but not when they were asked to give their personal rating of their chances of being victimized. Measures of these two concepts were not related. Related findings were reported by Shanahan, Morgan, and Stenbjerre (1997), who found that TV viewing was associated with a general state of fear about the state of the environment but not related to viewers' perceptions of specific sources of environmental threats.

The second step involves surveying audiences about their television exposure, dividing the sample into heavy and light viewers (4 hours of viewing a day is usually the dividing line), and comparing their answers to the questions that differentiate the television world from the real world. In addition, data are often collected on possible control variables such as gender, age, and socioeconomic status. The basic statistical procedure consists of correlational analysis between the amount of television viewing and the scores on an index reflecting the number of television answers to the comparison questions. Also, partial correlation is used to remove the effects of the control variables. Alternatively, sometimes the *cultivation differential* (CD) is reported. The CD is the percentage of heavy viewers minus the percentage of light viewers who gave the television answers. For example, if 73% of the heavy viewers gave the television answer to the question about violence being committed between strangers or acquaintances compared to 62% of the light viewers, the CD would be 11%. Laboratory

experiments use the same general approach, but they usually manipulate the subjects' experience with the television world by showing an experimental group one or more preselected programs.

Measurement decisions can have a significant impact on cultivation findings. Potter and Chang (1990) gauged TV viewing using five different techniques: (1) total exposure (the traditional way used in cultivation analysis); (2) exposure to different types of television programs; (3) exposure to program types while controlling for total exposure; (4) measure of the proportion of each program type viewed, obtained by dividing the time spent per type of program by the total time spent viewing; and (5) a weighted proportion calculated by multiplying hours viewed per week by the proportional measure mentioned in the fourth technique.

The results showed that total viewing time was not a strong predictor of cultivation scores. The proportional measure proved to be the best indicator of cultivation. This suggests that a person who watches 20 hours of TV per week, with all of the hours being crime shows, will score higher on cultivation measures of fear of crime than a person who watches 80 hours of TV a week with 20 of them consisting of crime shows. The data also showed that all of the alternative measures were better than a simple measure of total TV viewing.

Potter (1991a) demonstrated that deciding where to put the dividing point between heavy viewers and light viewers is a critical choice that can influence the results of a cultivation analysis. He showed that the cultivation effect may not be linear, as typically assumed. This finding may explain why cultivation effects in general are small in magnitude; simply dividing viewers into heavy and light categories cancels many differences among subgroups. Diefenbach and West (2001) offer another insight into possi-

ble ways of measuring the cultivation effect. In their study of the cultivation effect, they found no relationship between TV viewing and estimates of murder and burglary rates in society when using the traditional regression model. However, when they used a different form of regression analysis, one based on non-normally distributed dependent variables, they detected a cultivation effect.

Theoretical Developments

What does the research tell us about cultivation? After an extensive literature review in which they examined 48 studies, Hawkins and Pingree (1981) concluded that there was evidence for a link between viewing and beliefs regardless of the kind of social reality in question. Was this link real or spurious? The authors concluded that the answer did, in fact, depend on the type of belief under study. Relationships between viewing and demographic aspects of social reality held up under rigorous controls. As far as causality was concerned, the authors concluded that most of the evidence went in one direction—namely, that television causes social reality to be interpreted in certain ways. Twelve years later, Shrum and O'Guinn (1993) echoed the earlier conclusion by saying that cultivation research has demonstrated a modest but persistent effect of television viewing on what people believe the social world is like. More recently, Morgan and Shanahan (1997) performed a meta-analysis of 82 published cultivation studies and concluded that there is a small but reliable and pervasive cultivation effect that accounts for about 1% of the variance in people's perceptions of the world. The authors argue that although the effect is small, it is not socially insignificant.

How does this process take place? The most recent publications in this area have focused on conceptual models that explain the

cognitive processes that cause cultivation. Potter (1993) presents an extensive critique of the original cultivation formulation and offers several suggestions for future research, including developing a typology of effects and providing a long-term analysis. Van Evra (1990) posits a multivariate model of cultivation, taking into account the use to which the viewing is put (information or diversion), the perceived reality of the content, the number of information alternatives available, and the amount of viewing. She suggests that maximum cultivation occurs among heavy viewers who watch for information, believe the content to be real, and have few alternative sources of information. Potter (1991b) proposes a psychological model of cultivation incorporating the concepts of learning, construction, and generalization. He suggests that cultivation theory needs to be extended and revamped in order to explain how the effect operates.

Tapper (1995) presents a possible conceptual model of the cultivation process that is divided into two phases. Phase one deals with content acquisition and takes into account such variables as motives for viewing, selective viewing, the type of genre viewed, and perceptions of the reality of the content. Phase two is the storage phase and elaborates those constructs that might affect long-term memory. Tapper's model allows for various cultivation effects to be examined according to a person's viewing and storage strategies.

Shrum and O'Guinn (1993) present a psychological model of the cultivation process based on the notion of accessibility of information in a person's memory. They posit that human memory works much like a storage bin. When new information is acquired, a copy of that new information is placed on top of the appropriate bin. Later, when information is being retrieved for decision making, the contents of the bin are searched from the top down. Thus, information deposited most recently and most

frequently stands a better chance of being recalled.

A person who watches many TV crime shows, for example, might store many exaggerated portrayals of crime and violence in the appropriate bin. When asked to make a judgment about the frequency of real-life crime, the TV images are the most accessible, and the person might base his or her judgment of social reality on them. Shrum and O'Guinn reported the results of an empirical test of this notion. They reasoned that the faster a person is able to make a response, the more accessible is the retrieved information. Consequently, when confronted with a social reality judgment, heavy TV viewers should be able to make judgments faster than light viewers, and their judgments should also demonstrate a cultivation effect. The results of Shrum and O'Guinn's experiment supported this reasoning. Shrum (1996) reported a study that replicated these findings. In this experiment, subjects who were heavier viewers of soap operas were more likely to show a cultivation effect and responded faster to the various cultivation questions that were asked of them. The same author (Shrum, 2001) presents evidence that the cognitive information-processing strategy employed by the viewer has an impact on cultivation. Specifically, when subjects were asked to respond to questions about estimates of crime and occupations spontaneously, a cultivation effect was found. On the other hand, when subjects were asked to think systematically about their answers, the cultivation effect was not found. Shrum argues that those who thought systematically were more likely to discount TV as a source of their information and rely on other sources, thus negating a cultivation effect.

In sum, cultivation has proven to be an evocative and heuristic notion. It is likely that future research will concentrate on identifying key variables important to the process and on specifying the psychological processes that underlie the process.

■ **Social Impact of the Internet**

Mass media research follows a typical pattern when a new medium develops. Phase 1 concerns an interest in the medium itself: the technology used, functions, access, cost. Phase 2 deals with the users of the medium: who they are, why they use it, what other media it displaces. Phase 3 pertains to the social, psychological, and physical effects of the medium, particularly any harmful effects. Finally, Phase 4 involves research about how the medium can be improved.

Research examining the Internet has generally followed this pattern. Much of the research done during the mid-1990s described the technology involved in the Internet and some of the possible functions that it might serve (see, for example, Porter, 1997). In recent years, however, research that falls into Phase 3 has become popular. Most of the research reviewed in this chapter concerns Phases 2 and 3.

The Internet is such a recent development that this section departs from the organizational structure we used earlier. It is too early to write the history of Internet research or to talk about theoretical developments. The methods used to study the net are those discussed earlier in this book: surveys, content analysis, and the occasional experiment. Moreover, new research methods that use the unique resources of the Internet will continue to emerge. Consequently, this section divides the research into relevant topic categories.

Audience Characteristics

According to the 2000 Census, about 44 million U.S. households (about 42% of all households) had at least one member online. About 95 million people used the Internet in 2000, up from 57 million in 1998.

By the beginning of 2005, the demographic profile of the average Internet user

was similar to that of the average American. According to Nielsen//NetRatings data, 52% of online users were women, a percentage that almost exactly mirrors that of the general population. In addition, the average household income of the online population was only slightly higher than that of the U.S. population. The Internet population was still generally younger, with 76% of the online users between 18 and 49, compared to 63% in the general population. Older Americans, however, were among the fastest-growing age category of Internet users. Education is related to Internet use. A Mediamark survey found that 80% of users had attended college, a proportion greater than the U.S. average. Research by the Pew Internet and American Life Project (2003) found that the demographic make-up of Internet users had not changed drastically from 2001 to 2003.

Longitudinal usage data suggest that the Internet deviates from the pattern followed by other new media. Lindstrom (1997) points out that initial use of a medium is abnormally high during the novelty phase and then declines over time as the medium becomes familiar. During the 1950s, for example, individuals who bought TV sets watched more TV during their first few months of ownership than they did during the rest of the year. Lindstrom cites data from a Nielsen survey, however, showing that Internet use actually increased in the 12-month period following initial use. He hypothesizes that it requires both learning and practice to get the most utility out of the Internet, thus increasing use over time. A 2000 survey by the Stanford Institute for the Quantitative Study of Society lends support to this hypothesis (Nie & Erbring, 2000). Amount of Internet use was positively correlated with the number of years respondents had had Internet access.

Recent research on Internet usage suggests that time spent on the net displaces time spent on other media, particularly television. Television viewing suffers because a great

deal of Internet usage is during the evening hours, when people traditionally watch TV (Weaver, 1998). The Stanford study found that 65% of their respondents who were online more than 10 hours per week reported they spent less time watching TV. Time spent on the Internet was also negatively related to time spent reading newspapers, but the effect was not as great as with TV (Nie & Erbring, 2000). Radio listening occurs mainly in cars and as a result does not seem to be affected by Internet use. When it comes to news, however, using the Internet seems to have little impact. Stempel, Hargrove, and Bernt (2000) found that Internet users and nonusers were alike in their viewing of local and network newscasts, and, in a finding that is at odds with the Stanford results, they found that users actually were more regular readers of the daily newspaper. A more recent study (Stempel & Hargrove, 2003) also found that the Internet still lagged behind traditional media as a news source.

The audience still relies on and trusts traditional news sources for most of their information about the world. A Gallup survey of more than 1,000 Americans conducted in 1998 revealed that only a few people (about 11%) frequently used the Internet as a source of news. In addition, about 45% of the Gallup sample reported that they can't trust the accuracy of what's on the net. Only infomercials and talk shows were viewed with more distrust than the Internet (Newport & Saad, 1998). Johnson and Kaye (1998) found similar results. About 14% of their survey respondents rated online newspapers and online magazines as moderately or very credible sources. When compared to their traditional counterparts, however, online information sources fare relatively well. Flanagin and Metzger (2000) found that their respondents rated the credibility of Internet information sites as highly as they rated the credibility of information obtained from television, radio,

and magazines. Only the traditional newspaper was rated higher in credibility.

Functions and Uses

Although a definitive list of uses and gratifications has yet to be designed, some preliminary results show a few general trends. At the risk of oversimplifying, the main functions seem to be (1) information, (2) communication, (3) entertainment, and (4) affiliation.

The primary use seems to be information gathering. The Pew Center survey mentioned previously found that more than 80% of their sample had used the net to find information on some specific topic. A Nielsen survey found that about 75% used the net for informational needs, with most looking for information about products or services.

The communication function is best exemplified by the use of email. About 90% of the Pew Center survey respondents used the net to send email. The Stanford survey turned up a comparable result (Nie & Erbring, 2000).

Surfing the web and generally exploring websites illustrate the entertainment function of the Internet. The Stanford survey found that a little more than a third of their respondents surf the web and play games for fun. The Pew Center found an even greater percentage: 68% said they surf the web to be entertained.

The last function, affiliation, may be the most interesting. A Georgia Tech study found that 45% of respondents reported that after going on the net they felt more "connected" to people like themselves ("GVU Survey," 1998). About 35% of the Pew Center respondents reported participating in an online support group. Finally, the frequency of Internet uses seems to be related to age. Younger people use the net more for entertainment and socializing, whereas older people use it more for information (Cortese, 1997).

Social and Psychological Effects

Phase 3 research is still evolving, but existing studies provide some early guidance. One potential harmful effect has been labeled “Internet addiction” (Young, K., 1998). This condition is typified by a psychological dependence on the Internet that causes people to turn into “online-aholics” who ignore family, work, and friends as they devote most of their time to surfing the net. Young estimated that perhaps 5 million people may be addicted. Surveys have shown that middle-aged women, the unemployed, and newcomers to the net are most at risk (Hurley, 1997). Students are also susceptible. One study reported that one in three students knew someone whose grades had suffered because of heavy net use. Another found a positive correlation between high Internet use and dropout rate (Young, J., 1998). In New York an Internet addiction support group has started regular meetings to help addicts kick the habit. (<http://netaddiction.com/resources/test> has a test you can take online to see whether you suffer from Internet addiction.)

A 1998 study done at Carnegie Mellon University raised some interesting questions about the relationship between Internet use and feelings of depression and loneliness (Harmon, 1998). Somewhat unexpectedly, a 2-year panel study of 169 individuals found that Internet use appeared to cause a decline in psychological well-being. Even though most panel members were frequent visitors to chat rooms and used email heavily, their feelings of loneliness increased as they reported a decline in their amount of interaction with family members and friends. The researchers hypothesized that online communication does not provide the kind of support obtained from conventional face-to-face communication. These findings were reinforced by the results of the Stanford survey. Nie and Erbring (2000) reported that heavy

Internet users spent less time talking to family and friends over the phone and spent less time with family and friends in person. On the other hand, the Pew survey found the opposite. Their results suggested that Internet use actually sustained and strengthened social and family ties. Subsequent studies have suggested a “rich get richer” effect. People who are outgoing and extroverted use the Internet to link up with friends and family and increase their social contacts. Those who are more introverted tended to shy away from online social contacts (Kraut, Kiesler, Bonera, Cummings, Hegelson, & Crawford, 2002).



Using the Internet

Some helpful websites for more information about media effects research include:

1. www.pewinternet.org The Pew Internet & American Life Project creates and funds original, academic-quality research that explores the impact of the Internet on children, families, communities, the workplace, schools, health care, and civic/political life. This is a good source for current data on Internet usage.
2. <http://www.aber.ac.uk/media/Documents/short/cultiv.html> contains a helpful overview of cultivation analysis and its methods.
3. www.surgeongeneral.gov/library/youthviolence/chapter4/sec1.html will take you to the Surgeon General’s Report on Youth Violence. Appendix 4B is entitled “Violence in the Media and Its Effect on Youth Violence,” and it contains a readable and succinct summarization of the TV violence literature.
4. <http://zimmer.csufresno.edu/~johnca/spch100/7-4-uses.htm> This site contains an extended discussion of the uses and gratifications approach.

For additional information on these and related topics, see www.wimmerdominick.com.

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