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Designing Experiments on Television and Social Behavior

Developmental Perspectives

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In pairs or small groups, the participants enter the laboratory and are presented with an intriguing cover story about what will follow. They are then randomly assigned to one of the following three television viewing conditions: (a) watching clips of Content X (e.g., antisocial behavior, stereotypical gender roles), (b) watching clips of Content Not X, or (c) watching no television at all. The stimuli have been carefully selected or created by the experimenter to represent the images or messages in question. Before and after viewing the clips, participants complete survey measures that include questions about their attitudes toward Content X. These data can then be compared across the three conditions to determine how people respond to different content and whether viewing the stimuli somehow affects their attitudes. Participants may not even realize that their responses had changed, thereby demonstrating that television's content has the

power to influence on an unconscious level. Using this type of experimental design, an exciting and informative body of research has been produced concerning television's link to our social attitudes and behaviors.

However, television is more than just a stimulus to which people unconsciously respond. For many people, television is a rich and intricate part of the social fabric of their everyday lives. They retell jokes and stories seen on television. They incorporate television characters into their dreams and fantasies. They buy the mugs, T-shirts, and fan magazines associated with the programs. Viewers memorize dialogue from popular series, which then becomes a part of the lexicon of popular culture (e.g., "to the moon, Alice," "sit on it," "wild and crazy guys," "master of my domain"). They hum the theme songs, test each other with trivia, and debate controversial content presented. Young children act out scenes from programs and news events, pretending to be televised characters and people. To many, television serves as friend, teacher, and adviser. A recent survey by the Los Angeles district attorney's Gang Prevention Unit showed television to be the second most influential factor in adolescent decision making, ahead of parents, school, and church (Hanania, 1996). Thus, there is a richness in our interactions with television that much of traditional experimental research and traditional research methodology does not capture.

In this chapter, we review and discuss experimental designs used in research studying connections between television and viewers' social attitudes and behavior. We attempt to address both what is and what could be in the domain of experimental television research methodology. Our emphasis is on both developmental research and entertainment television, with little focus on older adults, television news, or information programming. We do not attempt to critique every experimental study ever published; instead, we focus on the general nature, strengths, and limitations of this type of research methodology. In our review of existing studies, we have chosen to focus on those that present televised stimuli of some type to participants, either in a social science laboratory or in their classrooms, and do not cover correlational or survey methods. However, in the discussion that follows, we point out the connections between different types of research designs and different theories concerning the mechanisms of

television's influence. We also describe some particularly innovative lines of research and offer suggestions for new experimental methods and issues for future research.

■ General Issues

Several criticisms have been levied against the use of experimental design to examine the impact of television on social attitudes and behaviors (e.g., Cook, Kendziersky, & Thomas, 1983; Freedman, 1984; Gross & Jeffries-Fox, 1978; Stipp & Milavsky, 1988), mostly in the area of television violence and aggressiveness. A frequent concern with experimental design is the low external validity of both the stimuli used and the dependent variables tested. In many experiments, the stimuli are (a) created by the experimenters (potentially to maximize effects), (b) shown in isolation from other types of content (via the viewing of one selected clip), and (c) followed by an attitudinal or behavioral measure that is removed from real social cues, constraints, and concerns. Researchers have, therefore, questioned the ability of these techniques to assess long-term, real-world effects. A second concern raised is the potential bias resulting from the demand characteristics of the tasks. Laboratory experiments often involve an artificial setting in which viewers are instructed to attend to particular television content, thereby potentially enhancing its importance and validity. A final concern is that the laboratory viewing experience is too bare and excludes potentially influential aspects of viewing such as choosing the programs and discussing content with co-viewers. Thus, given the complexity of television content and of the viewing experience, it may seem as if the use of experimental designs in television research is inappropriate and inadequate.

However, experimental design has its own particular strengths. Indeed, because of its high internal validity, it often is a more precise way of answering effects questions than is field research. It is *because* laboratory experiments randomly assign subjects to treatments and deliberately manipulate independent variables that they permit researchers to make causal inferences and can ensure that the differences between groups are not a function of other unmeasured variables (Friedrich-Cofer & Huston, 1986). With this greater control and

precision, experimental design may be especially well suited to address specific research questions, for example, those concerning the differential impact of specific television features or genres, the sex or race of the characters, or the priming effects of certain materials.

Indeed, a unique feature of experimental television research is that experimenters *can* make their own video stimuli, both animated and live action. With this option, experimenters can dictate the exact content of the dialogue as well as the presentation, look, and behaviors of all characters, allowing any variable to be manipulated. For example, it is only with this device that researchers could demonstrate that viewers evaluate identical content differently based on the sex of the actor (e.g., Durkin, 1985a; Ruble, Balaban, & Cooper, 1981). By making one's own video stimuli, the independent variables can be much more precise than would be possible with naturalistic television stimuli.

In addition, there are several new strategies that experimental researchers could employ to improve external validity. For example, stimuli could be selected from among the population's most preferred programs, thereby increasing the likelihood that the material would have been viewed outside the laboratory. To better approximate actual programming, a mixed selection of material could be presented that contains the stimuli in question as well as irrelevant materials and television commercials. These are but a couple of several possible approaches to improving external validity; more are presented later in this chapter.

Therefore, although experiments have some limitations, they can, if designed with care, offer a level of control and address specific questions and issues of causality better than can other methods. Consequently, our recommendation would be for the research enterprise as a whole to use experimental studies in conjunction with field and survey research, using each method to answer different but complementary questions. An experimental design can answer questions concerning the potential effects of a television stimulus in isolation. It can test some causal mechanisms suggested by field research or by other methodologies. A field study can report how often and in what contexts television stimuli similar to the experimental stimulus are actually viewed. Field methods can be used to assess the effects of a whole television diet or to examine behavioral reactions

experienced during home viewing. Survey methods also can be used to identify the most commonly viewed programs, which can then be used as experimental stimuli in the laboratory. By using both experimental and nonexperimental formats as complements, the strength and validity of both formats can be improved.

■ Existing Research: The Case of Research on Gender Roles

In this section, we move from theoretical issues concerning experimental methodology for television research to a consideration of what methods have actually been used. The range and depth of existing experimental research on television varies greatly by topic area. The television violence research has the greatest range and depth, with several meta-analyses and review pieces summarizing the hundreds of studies of all types (e.g., Andison, 1977; Comstock, 1991; Hearold, 1986; Paik & Comstock, 1994; Wood, Wong, & Chachere, 1991). In this topic domain, researchers have examined the differential impact of violent images based on variations in the viewer (e.g., prison inmates, preschoolers, adolescents, abused children, mentally retarded children, children in different countries), the stimuli (e.g., real vs. fictional violence, justified vs. unjustified aggression, harmful vs. harmless violence), and the dependent variables measured (e.g., physical aggression, rule breaking, verbal aggression, approval of aggression). By contrast, other content areas, such as race and sexuality, have been sparsely researched via experimental designs. Still other areas, such as television's impact on gender role norms, have received considerable experimental attention, albeit less than violence. Researchers interested in these social behaviors and topic domains can look to the violence literature and use the same techniques to study gender, race, sex, and other social topics.

To explore more closely the strengths and limitations of existing experimental paradigms, we offer an in-depth analysis of the methodology used to examine one particular issue: the impact of television's gender role portrayals on viewers. We have chosen to focus more closely on this area for three reasons. First, outside of experiments on violence, this probably is the topic domain with the largest core of experiments to discuss; thus, good models of experimental method-

ology already exist. Second, there remains much more to be done at the same time. Research in this area has petered out somewhat, with much of the work having been done from the late 1970s to the mid-1980s. This decline enables us to offer a broad range of suggestions for the use of experimental methods in future research. Third, a particularly innovative line of research has begun recently (e.g., Hansen & Hansen, 1988) that provides an excellent model for how future experiments can be conducted. Thus, we use research on television and gender roles both to illustrate certain types of experimental research methods and to point out methodological gaps and potential sites for further research.

A review of 26 experimental studies summarized in Table 2.1 revealed that research typically followed one of four experimental formats, with formats differing based on the theoretical questions and mechanisms of effects proposed. In the first and probably most obvious format, experimenters present different stimuli to the experimental groups, often with one group viewing stereotypical content and another group viewing counterstereotypical or neutral content (e.g., Carder, 1996; Davidson, Yasuna, & Tower, 1979; O'Bryant & Corder-Bolz, 1978; Pingree, 1978; Tan, 1979). These studies generally include either postviewing or pre- and postviewing measures of participants' attitudes or preferences concerning activities, occupations, and traits appropriate for males and females. Viewers' gender-related behavior is seldom the focus (but see McArthur & Eisen, 1976, for an exception). Generally, the question of interest here is whether watching stereotypical material on television will lead viewers to be more stereotyped in their attitudes or whether watching counterstereotypical material will lead them to be more open and accepting. The stimuli are commonly laboratory produced with a focus on who (what gender) is performing which job, role, or activity.

In a second experimental format, the focus is on whether gender will become linked with a neutral action or toy depending on the sex of the person modeling it (Cobb, Stevens-Long, & Goldstein, 1982; Ruble et al., 1981). Thus, the two groups of participants view similar content, but with different actors performing the activity. Postviewing measures of play with the toys modeled is then assessed. Here, the material must be laboratory produced to equate all factors except gender. At the same time, focusing on viewers' actual postviewing

(text continued on p. 76)

TABLE 2.1 Summary of Research Experiments Examining the Impact of Television's Gender Role Portrayals

Authors	Year	Ages or Grades	Conditions/ Design	Stimuli Form	Stimuli Origin	Dependent Variables
Type 1 Flerx et al.	1976	5 years	T vs. NT (books) vs. NT (films)	Short films	Professionally produced	Stereotyping of traits, activities, roles
McArthur & Eisen	1976	2 years 11 months to 5 years 6 months	Toy play: T vs. NT	9-minute clips	Laboratory produced	Play behavior, recall, preferences
Pingree	1978	3rd and 8th graders	T vs. NT (also three types of instructions)	Commercials	Network	Attitudes toward F, perceived reality
O'Bryant & Corder-Bolz	1978	5 to 10 years	F jobs: T vs. NT	Commercials	Network and laboratory	Job knowledge, preferences, stereotyping
Cordua et al.	1979	5 years 0 months to 6 years 8 months	M vs. F in job	Short films	Laboratory produced	Recall
Davidson et al.	1979	F 5 to 6 years	T vs. N vs. NT	Cartoons	Network	Trait stereotypes
Tan	1979	F 16 to 18 years	T (beauty) vs. N	Commercials	Network	Conceptions of social reality, liking, recall
Tan et al.	1980	3rd to 5th graders	M vs. F in job	News casts	Laboratory produced	Retention, believability

(continued)

TABLE 2.1 Continued

Authors	Year	Ages or Grades	Conditions/ Design	Stimuli Form	Stimuli Origin	Dependent Variables
Durkin & Hutchins	1984	12 to 13 years	NT vs. NT explicit vs. T vs. none	Clips of charts	Laboratory produced	Career aspirations and stereotyping
Waite	1987	5th and 9th graders, UG	Sexist vs. N vs. nonsexist	Music videos	Network	Gender role orientation, attitudes toward F
Jeffrey & Durkin	1989	1st, 4th, 6th, and 9th graders	NT ₁ (high power) vs. NT ₂ (low power)	9-minute clips	Laboratory produced	Interest, typicality, reasons
Carder	1996	F adults	N vs. stereotyped	Commercials	Network	Attitudes about stereotyping
Type 2						
Ruble et al.	1981	3 years 8 months to 6 years 5 months	Modeling F vs. M	Commercial	Laboratory produced	Toy play, liking, recall
Cobb et al.	1982	4 to 6 years	Modeling F vs. M	Muppet clips	Laboratory produced	Toy play
Type 3						
Cheles	1974	4th and 5th graders	Perceptions of roles	Commercials	Network	Stereotype acceptance, recall, television attitudes, others
Williams et al.	1981	4th to 6th graders	Perceptions of NT	30-minute dramas	Network	Liking, identification, job stereotypes, activity interests, others
Type 4						
List et al.	1983	3rd graders	Recall of T and NT	18-minute clips	Network	Sex Role Learning Index, content recognition
Eisenstock	1984	4th to 6th graders	Perceptions of NT	30-minute dramas	Network	Identification, activity and trait preferences
Dambrot et al.	1988	UG	Perceptions of characters	2-minute scene	Network	Personality Attributes Questionnaire (self, M character, F character)
Reep & Dambrot	1988	UG	Perceptions of characters	2-minute scene	Network	PAQ, character rating
Melville & Cornish	1993	UG	Perceptions of roles	Commercials	Network	Varied ratings, conservatism
Toney & Weaver	1994	UG	Perceptions of three types	Music videos	Network	Bem Sex Role Inventory, ratings for self and peers
Type 4						
Jennings et al.	1980	UG	Prime: T vs. NT	Commercials	Laboratory produced	Independence and confidence
Hansen & Hansen	1988	UG	Prime: T vs. NT	Music videos	Network	Views of M-F interaction
Hansen	1989	UG	Prime: T ₁ , T ₂ , N	Music videos	Network	Likability of M and F characters, recall, trait impressions
Hansen & Krygowski	1994	UG	Prime: T ₁ , T ₂	Music videos, commercials	Network	Ratings of commercials

NOTE: T = traditional; NT = nontraditional; N = neutral (stimulus); F = female; M = male; UG = undergraduates.

behavior draws a stronger link between the laboratory and potential responses in the real world.

A third format focuses on factors that affect viewers' perceptions of the same televised content (e.g., Eisenstock, 1984; List, Collins, & Westby, 1983; Melville & Cornish, 1993; Reep & Dambrot, 1988). All participants typically view the same stimuli, whether they be commercials, music videos, or clips from television dramas, and then complete evaluations of the characters or the general material. Here, the material, which almost always is drawn from broadcast programming, is less of a focus than is the mind of the participant. The researchers typically are most interested in which aspects of the viewer (e.g., gender role orientation, level of stereotyping), or of the characters or scenarios depicted, will lead to variations in perceptions of the content.

The final experimental format focuses on the role that television content plays in priming viewers' subsequent impressions (Hansen, 1989; Hansen & Hansen, 1988; Hansen & Krygowski, 1994) and actions (Jennings, Geis, & Brown, 1980). This line of work differs from the others in the mechanism of effects proposed. It is not concerned with whether behavioral imitation or cultivation of gender role attitudes will result from viewing; instead, these studies test whether viewing stereotyped content primes viewers' existing gender schemas, which then color how they evaluate and conduct subsequent interactions. These experimental approaches are powerful because they emphasize a new mechanism for a direct link between what viewers see and what they do next, thereby attaining a high degree of external validity. We present two examples below.

In their 1988 experiment, Hansen and Hansen examined whether viewing stereotypical depictions of males and females would prime sex role stereotypical schemas, which, in turn, might color viewers' interpretations of subsequently observed male and female interactions. In the first portion of this experiment, participants viewed either neutral music videos or stereotypical music videos in which females were portrayed as pawns and sexual objects. All participants then viewed a videotaped interaction of a male and a female interviewing for positions as video jockies. In the videotape, the male made sexual advances to the female, who either reciprocated or did not. After viewing this interaction, participants rated the characters on

several dimensions. Results indicated that the music video was effective as a prime. When sex role stereotypical schemas were primed by the stereotypical music video, the female was judged according to whether she adhered to or did not adhere to the standard gender role script; this occurred significantly less in response to the neutral music video. The priming effect also extended to perceptions of the man's behavior; after viewing the stereotypical music video, stereotypical gender role behavior from the male was seen as more acceptable than it was after the neutral video.

In their 1980 experiment, Jennings et al. examined whether viewing traditional or nontraditional images of femininity might affect women's subsequent self-confidence and independence. In the first portion of the experiment, participants viewed either four commercials with males and females in traditional domestic roles or four commercials with the roles reversed (e.g., a man serving dinner to a woman). After completing ratings of the commercials (a procedure intended to increase the salience of their content), the women participated in two tasks individually. In one task, they were asked to rate the funniness of each of 16 cartoons on a scale of 1 to 7. A mean rating for each cartoon was posted on the board, and the women were told that their scores would be added in with the mean. Because the posted means for 6 of the cartoons were purposely misrepresented, experimenters could determine the extent to which participants' own ratings reflected the true mean (and therefore represented independent judgments) or reflected the false mean posted. For the second task, participants were asked to give a 4-minute extemporaneous speech before two judges, who subsequently rated the women's nonverbal behavior for signs of confidence and tentativeness. Results indicated that females who saw the four counterstereotypical commercials exhibited greater independence of judgment and more self-confidence than did women who viewed the stereotypical commercials. Thus, in both of these studies, the viewing of particular content affected viewers' subsequent impressions and/or behaviors in a conceptually related arena.

In these experiments, the intervening process of schema activation is not tested directly; instead, a relationship between the external schemas and subsequent behaviors is demonstrated. However, because the televised stimuli and the resultant behavior are similar on a

conceptual rather than a concrete level, an abstract process such as schema activation more appropriately explains the results. Priming studies demonstrate a mechanism of television influence that assumes more sophisticated mechanisms of human learning and thinking than do studies based on the relatively simple mechanism of replication of a model. (Note that replication as a mechanism covers the replication of worldview as well as the imitation of behavior.) Even in cultivation theory (Gerbner, Gross, Morgan, & Signorielli, 1986), the subject simply replicates or "imitates" the worldview that is presented on television). Because these studies introduce more abstract and complex cognitive processes, the priming concept contributes a valuable addition to experimental methodology on television and social behavior.

The research questions and experimental designs discussed here offer critical information concerning television's role in shaping viewers' gender role attitudes and behaviors. These types of experimental design demonstrate well that even brief exposure to a particular content can have immediate short-term effects on viewers' attitudes, subsequent behaviors, and impressions. Particularly with the addition of the priming studies, the range of psychological mechanisms by which television exerts its social influence is expanded to include more complex and abstract human cognitive processes. Each of the four types of experimental designs can be used to research areas of social behavior beyond the topic of gender.

■ Methodological Gaps

Yet, within this research on television and gender roles, several dimensions and populations remain unstudied, thereby limiting the scope of the field. In many cases, new studies can address these limitations by making small alterations in the experimental designs currently in place. In others, more extensive thought and planning are required. In this section, we describe seven methodological gaps in the current field of experimental research on television and gender roles and discuss how these gaps can be filled. Although our critiques and suggestions are based on the gender role research reviewed earlier, they apply to other topics as well. Because the topic of televised violence has stimulated a more varied pool of methods, some of our

suggestions already have been used in relation to television violence (for a review, see Hearold, 1986). (Note that the first two gaps are related in that both concern the ecological validity of the stimuli presented.)

Gap 1: Use of Popular Network Programs as Stimuli

First, apart from the commercials and music videos selected as stimuli, gender role research seldom uses popular television programming. Although situation comedies, dramas, and soap operas are among the most heavily watched formats, they seldom are used as stimuli (see Stipp & Milavsky, 1988, for a similar critique of the violence literature). Even the dramas selected in the few studies that used them (e.g., Eisenstock, 1984; Williams, LaRose, & Frost, 1981) were from a short-lived program aired on PBS. Therefore, more work is needed in which popular network programs are used as stimuli. In many cases, the stimuli were created in the laboratory, which, as stated earlier, is an excellent way in which to control and manipulate the content. However, for cases in which nontraditional images were needed, there is the additional concern of how well viewers will tolerate some of the counterstereotypical portrayals created (Durkin, 1985b). If the portrayals differ too much from an everyday viewing diet, will subjects assimilate them? In these cases, additional testing of specific stimuli may be needed.

Gap 2: Use of Programs Chosen by the Viewer as Stimuli

A second limitation is that, in all cases, participants viewed and responded to material that had been selected by the experimenter to represent a certain content area. However, it is not known whether viewers would actually be exposed to such content on their own or would choose to focus on the particular material presented. Although the experimenters' decision is understandable, it omits potential contributions that viewing familiar and likable characters may make on viewers' responses. In real life, research has shown that liked and admired people are more potent role models. Insofar as television characters and personalities are an extension of the real-life social environment (Meyrowitz, 1985), this principle might hold for televi-

sion as well. Indeed, preliminary evidence suggests that liking and familiarity do influence viewers' perceptions (e.g., Brown & Schulze, 1993). For example, Miller and Reeves (1976) found that 3rd and 6th graders who were familiar with female television characters with nontraditional occupations were more accepting of girls' aspiring to them. Consequently, given that viewers of all ages have favorite characters and programs and often make deliberate viewing choices, how does character or even genre familiarity affect the richness of their interpretations and the social impact of the shows? For example, are viewers less likely to scrutinize and criticize actions in familiar programs and commercials, and are they perhaps more affected by them? Direct experimental testing of these questions would provide both substantive data and useful information about the ecological validity of many experimental formats.

How might these issues of choice, liking, and familiarity be addressed experimentally? One approach would be to use liking as an independent variable in a two-factor analysis of variance. Suppose, for example, that one were interested in exploring the effects on adolescent viewers of stereotypes about men's and women's ability to nurture. One might first select a set of eight clips from situation comedies of varying popularity among adolescents. In half of these clips, the female would be depicted as the nurturant one (the traditional image); in the other half, the male would be the nurturant one (a nontraditional image). During testing sessions, experimenters would first ask participants to rank the programs from which the stimuli had been selected to determine the most and least favored for each participant. These rankings would then be used to assign program stimuli to participants using a 2×2 design in which liking is crossed with traditionality. Thus, Group 1 would see four clips depicting traditional images of nurturers from their more favored shows. Group 2 would see four clips depicting traditional images of nurturers from their least favored shows. In the same way, Groups 3 and 4 would see clips depicting nontraditional images of nurturers from their more favored and least favored programs, respectively. Actual stimuli would vary from person to person in the same experimental group; what would be held constant would be the participants' evaluations of the stimuli. This is a version of the "individualized experiment" (Greenfield & Zukow, 1978). As possible dependent variables, participants

could complete pre- and posttest measures assessing their attitudes on males and females as parents. Participants also could rate their willingness to hire male and female applicants as baby-sitters. With this design, the results would illustrate the effects of traditional images, the effects of liking, and any interaction between the two factors.

Gap 3: The Impact of Genre, Format, or Formal Features

A third methodological gap concerns the impact of the genre, format, or formal features of the televised material. For most television experiments concerning social behavior, the focus is on the content, with the stimuli selected all representing one particular program format (e.g., commercials, music videos). Yet, it also would be interesting to know whether the format, genre, or presentation style matters. Is stereotypical content more or less influential when it is part of a drama, situation comedy, cartoon, commercial, or music video? Is using a low camera angle to make a character appear more dominant equally effective for both males and females? Is a nontraditional female character selling auto parts in a commercial less likely to open viewers' minds than a nontraditional female doing the same in a drama? Studies involving material from two or more genres have been conducted in the violence literature (e.g., Atkin, 1983; Noble, 1973), often comparing fictional violence and realistic violence. We suggest that this type of research be extended to other areas and to all genres.

Gap 4: Developmental Research

A fourth gap in the field concerns developmental research. Few studies test a wide range of ages, with most studies focusing on a specific age group (but see Jeffrey & Durkin, 1989, and Waite, 1987, for exceptions). At the same time, the participants selected most often are grade schoolers (K-6) or undergraduates, with little attention given to adolescents (ages 12-17 years). Consequently, it is difficult to outline developmental trends or to know how specific stimuli affect viewers at different ages. Indeed, there may be particular developmental periods during which viewers are especially vulnerable to stereotypical or counterstereotypical portrayals (Durkin, 1985b). Individual critical periods that have been suggested include pre- and postgender

constancy (Ruble et al., 1981) and adolescence (Tan, 1979). Thus, experiments testing children and adults of varied ages would provide valuable information on these issues.

Gap 5: The Impact of Misrepresentation Versus Underrepresentation

A fifth gap concerns knowledge about the contrasting impact of underrepresentation versus misrepresentation of people in various social categories. Many of the existing paradigms that study television's representation of particular groups focus on the influence of stereotypical versus nonstereotypical portrayals. However, content analyses across several decades (e.g., Comstock, 1991; Greenberg & Brand, 1994; Signorielli, 1989, 1993) indicate that certain groups (e.g., minority groups, the elderly, women in certain genres) not only are misrepresented (portrayed stereotypically) but also typically are underrepresented in relation to their numbers in the real world. For example, Huston and Wright (in press) summarize data indicating that from 1967 through 1985 the proportion of female characters increased from one fourth in the 1960s to about one third in the 1980s, with the proportion reaching only one fourth to one fifth for children's entertainment programming. Experiments would be an excellent tool for exploring the differential impacts of misrepresentation and underrepresentation on viewers' perceptions of the target group. Given the already demonstrated effects of positive versus negative or stereotypical portrayals, the main question here would be as follows: Are group members perceived as less important, competent, or powerful when they are minimally represented on television or when they are present yet depicted negatively or stereotypically?

A possible way in which to test this issue experimentally would involve a pretest-posttest design with four experimental groups and one control group. For example, if one were concerned about portrayals of the elderly as incompetent, one would have Experimental Group 1 view clips from television commercials (or situation comedies, soap operas, etc.) in which elderly characters are portrayed negatively—as feeble, indecisive, and/or senile. Experimental Group 2 would see clips of a similar format and content but in which elderly characters are presented positively—as capable, helpful, and/or intelligent. Experi-

mental Group 3 would see clips of a similar format and content in which the elderly are presented in only one or two neutral roles. Experimental Group 4 would view clips of a similar format and content but with no elderly characters. The control group would view no television. This design would allow the comparison of positive (counterstereotypical) portrayals, negative (stereotypical) portrayals, peripheralized portrayals, omission, and baseline (no television).

The specific pre- and posttest dependent variables could vary considerably. Perhaps the focus could be on viewers' general attitudes toward the elderly, with both in-group (i.e., the elderly) and out-group members participating. Care would need to be taken here to reduce social desirability biases. This could possibly be done by including questions on different topics or by presenting an elaborate cover story concerning the purposes of viewing the clips (e.g., to rate the effectiveness of particular actors or products).

Another approach would be to assess priming effects. Participants could, for example, rate their willingness to hire job candidates of varying ages for a fictitious temporary position. The same applications and cover letters could be accompanied by pictures of different candidates. Another option would be for participants to interact directly with elderly confederates in a problem-solving task. How does watching negative clips of that group prime viewers' subsequent attitudes and behaviors? With each of these options, researchers could compare differences in viewers' attitudes toward or behavior with the elderly based on the type of television exposure they had received.

Gap 6: The Role of Individual Interpretations

A sixth methodological gap concerns the nature and impact of viewers' individual perceptions of the stimuli presented. As noted earlier, many of the experimental studies examined focused on cultivation and imitation as the mechanisms of effects, assuming that viewers would adopt the attitudes or imitate the behaviors in the content presented. However, because a segment's impact is likely to vary based on viewers' interpretations of it, research also needs to consider the role of viewers' individual perceptions. Indeed, a growing body of research indicates great variation in viewers' interpretations of even the most obvious actions or behaviors. For example, in their

examination of undergraduates' interpretations of two music videos by Madonna, Brown and Schulze (1993) reported that perceptions varied greatly and that even this relatively homogeneous set of viewers "didn't all agree about even the most fundamental story elements" (p. 269). Further evidence comes from a study of undergraduates' perceptions of male-female interactions in four clips from situation comedies (Ward & Eschwege, 1996). Here, no more than 40% of the participants agreed that any one of the five themes presented was the dominant message of the scene viewed. Thus, given the complexity of actual network content, it should be expected that individual viewers often would see the same material differently and that the effects of this content would vary based on these interpretations (see Gunter, 1988, for a discussion on viewers' perceptions of television violence).

Even if viewers did interpret a given material in the same way, some might choose to accept the messages inferred whereas others might be offended by or even reject them. Content is likely to be interpreted in a way that reinforces one's existing views and perspectives. For example, Carder (1996) reported that adult females who viewed sex stereotyped (vs. neutral) commercials became *more* offended by sex role stereotyping after viewing them. Similarly, Ward and Wyatt (1994) reported that even when particular characters were seen to represent specific messages (e.g., Lucy as a smart, manipulative female), some chose to emulate and embrace such portrayals whereas others rejected them.

Consequently, more work is needed that takes a constructivist approach to television's role, one that focuses on individual interpretations as the dependent variables. Given that the construction of meaning is central to human culture and behavior, methods need to be developed that allow subjects to tell researchers what meanings particular television materials have for them. As reported earlier in Table 2.1, some studies have examined viewers' perceptions of specific content and have explored how these views relate to various demographic or developmental factors (e.g., level of gender constancy). To expand these paradigms further, new studies could explore additional factors affecting viewers' perceptions including their personal experiences in related areas, their motivations for watching particular programs, and their perceived realism of specific content.

Moreover, because differential interpretations are likely to mediate other effects, researchers can use subjects' interpretations as mediating variables to explore their impact on related social attitudes and behaviors. For example, will stereotyped material have a greater impact if viewers interpret the behavior of the characters as justifiable? To test this issue, one might develop or obtain a set of clips in which the male character is domineering and aggressive whereas the female is passive and meek but in which their motives for being this way are ambiguous. These clips could then be presented to viewers, who would be asked to evaluate the behavior of each male and female character and to rate how appropriate or justifiable their actions were. Participants could then be involved in a group task with a pushy or submissive confederate male and could offer reactions to this group member once the task is complete. Data could then be analyzed to determine whether the impressions or subsequent behaviors of participants who saw the behavior of the television males as sexist *and* inappropriate differed from those who saw him as sexist yet appropriate or justified. Would viewers who accepted the behavior of a sexist male on television be more likely to put up with a pushy male in the real world? Could such a clip make viewers more tolerant of sexism in the real world? How would viewers respond if they read the behavior of the television male as nonsexist and inappropriate? In using the interpretive variables as independent variables, this type of design would make excellent contributions to all areas of research on television and social behavior.

From a different angle, another approach to investigating television's meaning to individuals would be to use television viewing itself as a dependent variable. What is watched, and why is it watched, under specific experimental circumstances? The class of research designs used to test this issue would be analogous to those used in experimental social psychology. Some type of social action or behavior would serve as the independent variable in this experiment, for example, witnessing a sexist or racist encounter, experiencing an assault to one's self-esteem, or being the recipient of an altruistic social move. Each participant would then be given the choice of several activities, of which at least one would be watching television. Whether the participant chooses television and, if so, what type of show is chosen under these circumstances would be the major dependent variables of interest. An alternative or complementary study would be to assign activi-

ties to participants after they had experienced particular social stimuli and then to assess how their reactions and feelings vary when different activities or types of television shows are used in these different socioemotional contexts. This type of experimental design investigates questions of interest in the uses and gratification framework—how and when people use television and what psychosocial functions it fulfills.

Gap 7: Multimedia Research

A final methodological gap is the testing of the effects of television content that is presented in multiple media. Although almost all research on television addresses the medium in isolation, television is part of an interlinked multimedia environment that includes supersystems built around the same characters and stories (Kinder, 1991). Not only can viewers see their favorite characters on television, they can buy the T-shirts, play the video games, read the comic books, and see the films in which the characters appear. What impact do these supersystems have on consumer behavior or on viewers' social interactions? Do viewers believe and identify more with characters they have encountered in several media? Do they see them as more realistic or like themselves? Whereas the only published study provides a model for examining the interactive effects of interlinked pairs of media such as toys and television (Greenfield et al., 1990), there is a total gap in methods for studying more complex systems consisting of more than two media. New methods for dealing with these social questions in the much more complex environment of the supersystem are needed.

■ Extending the Priming Paradigm: One Innovative Approach for Bridging Research Gaps

As noted earlier, some studies (e.g., Hansen & Hansen, 1988) have begun to focus on television's role in priming viewers' existing schemas that then color their subsequent behaviors and impressions. Because of the promise and uniqueness of this approach, it would benefit the field to attempt to expand it further. Several new questions

can be addressed experimentally using the priming paradigms presented earlier.

It may be useful, initially, to test the parameters of the current findings. For example, how long will the priming effects last? Will male-female interactions witnessed hours later, or even the next day, still be colored by the content of the music videos viewed earlier? Different time windows could be tested experimentally. Are television genres that are longer and more complex than music videos and commercials equally effective primes? It may be the case that stereotyped content presented in a 30-minute situation comedy or in a 1-hour drama may be lost in the noise of the other content and may therefore be less salient to viewers and a less effective prime. Clips and programs of different lengths and different formats (e.g., documentary vs. comedy) could be tested for their effectiveness.

There also is considerable room to test and extend these paradigms using different dependent variables. In the area of gender role stereotypes, for example, researchers could examine priming effects on gender-related behaviors that focus on being submissive or being assertive. After they have watched stereotyped television content in which males are dominant and females play supporting roles, will female participants be less likely and males more likely to assert themselves? Here, situations and behaviors not depicted in the television content viewed would be used such as arguing an unfair outcome (e.g., a parking ticket, an altered price), asking someone to move his or her seat or to stop talking, or turning away an annoying person. Further questioning of their justifications for their postviewing behaviors also could be conducted. Are there differences in how viewers interpret their own behaviors based on the type of material that primed them? These testing situations could be incorporated into the laboratory either via written scenarios or via the use of confederates. It also would be useful to examine the priming effect of stereotyped material on viewers' gender esteem and affect. How does watching strong men and weak women (or the reverse) make females feel about being women and males feel about being men? The possible dependent variables that could be examined with this paradigm are virtually endless.

To explore the role of priming even further, an additional approach would be to reverse the paradigm and examine how priming stereo-

types *before* viewers watch television affects their perceptions of the television content. Here, participants would be exposed to particular conditions or written materials that would prime their gender schemas. Participants in Experimental Group 1 would be exposed to material focusing on nontraditional gender roles. Participants in Experimental Group 2 would be exposed to material focusing on traditional gender roles. Participants in the control group would not be primed. All groups would then view the same complex television stimuli that would contain several messages with multiple interpretations. Participants' perceptions of the content and characters would then be assessed, perhaps with questions focusing on the salient themes or on their identification with the main characters.

■ Expanding Experimental Methodologies to Address These Gaps: Three Case Studies

In this section, we offer a more detailed analysis of the methodology in three specific studies we have conducted that have attempted to address some of the methodological gaps discussed in the preceding sections. Each study is by no means flawless and comes with its own set of limitations. Yet, each does provide a somewhat unique approach to television's link to viewers' social attitudes and behaviors. Moreover, because each study is in a different topic domain, we offer here a more thorough sense of how different issues can be handled via experimental means.

Perceptions of Television's Sexual Content: Bridging Gaps 1 and 6

Although television is a common source of input to teenagers about the world of romance (e.g., Buerkel-Rothfuss & Strouse, 1993; Fabes & Strouse, 1986), little is known about how this material is perceived. Indeed, much of the content of prime-time television programs is created with more mature adult viewers in mind. How, then, is this material perceived by younger viewers with less actual experience in this domain? More important, which factors—demographics, amount of television watched, or personal attitudes—best predict what is seen

and believed? These questions can be answered only by the use of popular programming as stimuli (Gap 1) and by investigating viewers' individual interpretations of the programs (Gap 6); this strategy was used by Ward and Eschwege (1996) in the study described below.

These researchers explored adolescents' interpretations of television content dealing with dating and relationships. They also investigated the links from these perceptions and personal attitudes to both qualitative and quantitative aspects of television viewing. The general design of the study was simple. A multiethnic sample of 151 adolescent undergraduates ages 18-20 years was tested in groups during 1-hour testing sessions. For half the session, participants completed detailed survey measures assessing their television viewing amounts, motivations, and styles (i.e., active vs. passive) as well as their attitudes and expectations about gender roles, dating, and relationships. Demographic information on each participant's sex, age, socioeconomic status, and ethnic background also was elicited. For the other half of the testing session, participants watched four brief clips from actual prime-time television shows popular among adolescents and answered written questions about each clip. These questions focused on the main messages of the scenes, the realism and appropriateness of the characters' actions, and participants' identification with the main characters. Participants then ranked in importance five potential messages conveyed by each scene.

This design offered several benefits and opportunities. First, using a diverse set of clips from actual prime-time television shows enhanced the external validity. The clips had been selected from a previous analysis of sexual content on the television programs adolescents view most (Ward, 1995) and were chosen to represent different ethnic groups, stages of relationships, and ages of characters. Because the clips were popular among participants in the selected age group, the likelihood was increased that they would actually view that material on their own. In addition, having studied the programs first via content analyses provided greater assurance that the themes in the selected clips were representative of the types of sexual messages present on these programs. Second, via the detailed viewing surveys included, it was possible to determine both how familiar viewers were with each of the stimulus programs and whether this familiarity

affected their interpretations of the clip. Third, using viewers' interpretations as the dependent variables, we were able to analyze which of several factors best predicted them. Ethnicity was the strongest demographic contributor, and both total television viewing amounts and viewer's attitudes toward relationships made large contributions. Finally, in future analyses planned, viewers' interpretations will serve as the independent variables to predict other aspects of adolescents' attitudes and expectations about sexuality. Whereas this study is limited in that it explored only one age group and one television genre, it does illustrate how popular material can be used as stimuli and how viewers' interpretations are informative as both dependent and independent variables.

Effects of Formal Features on Perceptions of Violence and Suffering: Bridging Gap 3

Research has indicated that the formal presentation features of television, such as editing cuts, fades, and the presence of music, will affect children's comprehension of the material and their understanding of its intent (for a review, see Huston & Wright, *in press*). Similarly, advertising research has demonstrated that the angle from which a product is photographed will affect viewers' perceptions of that product (Kraft, 1987; Meyer-Levy & Peracchio, 1992). Consequently, might differences in the presentation features of violent content influence viewers' perceptions of that content? For example, would violent confrontations viewed in slow motion be seen as more or less violent than attacks viewed at normal speed? These types of questions can be handled very well through experimental means.

Moving in this direction, we recently conducted a study examining the impact of presentation speed (slow vs. normal) on viewers' perceptions of real violent confrontations (Ward, Greenfield, & Colby, 1996). The general format required undergraduate participants to view a violent attack twice, each time in one of two speeds (slow or normal), and then to answer written questions about the specific content (recall test) and about the nature of the violence. In designing this study, we incorporated several methodological features that would address issues of individual differences in perceptions, external validity, and content effects.

First, to reduce variance caused by individual differences in ratings and perceptions, we used a within-subjects, repeated-measures design. Thus, all participants watched the same clip two times (approximately 30 minutes apart) in one of the following four viewing conditions: normal speed and then slow speed, slow speed and then normal speed, normal speed both times, or slow speed both times (the latter conditions controlled for mere repetition). With this design, we could compare differences in initial perceptions based on speed and could examine directly whether changes in speed changed viewers' perceptions of the attacks. We also were able to test the effects of mere repetition via the control conditions.

Second, to increase external validity, we selected videotaped footage from actual violent confrontations. By using short clips from documentary footage whose quality was not always superior, we hoped to better approximate the type of material that might appear as evidence in the courtroom. Finally, because viewers' perceptions are likely to vary based on the exact content of the attacks, we used three different confrontations as stimuli. These attacks varied in the number, race, and status (e.g., civilians vs. police) of the aggressors and the victims. In general, the results indicated that all three factors—speed (slow motion vs. real time), film content (lunch counter sit-in, attack of a black man by white men, riots at 1968 Democratic Convention), and time (first viewing vs. repeated viewing)—related in some way to viewers' perceptions of the violence depicted. Thus, with this design, we were able to both examine several possible factors affecting viewers' perceptions and reduce some of the noise at the same time.

Given the current use of video footage in the criminal justice system, concerns about the impact of television and televised violence have expanded to a new domain. Here, however, the focus is less on violence as entertainment and more on truth and on understanding events as they actually occurred. The experiment by Ward et al. (1996) was inspired by the trials of the police officers who beat Rodney King. In these trials, a videotape of the beating was at the center of the evidence. Moreover, the formal features of slow motion and repetition figured prominently in the way in which the tape was used during the trial. As video evidence and its manipulation become ever more important in the justice system, an understanding of how different

formal manipulations affect interpretations of videotape takes on practical as well as theoretical importance.

Effects of Television Toy Tie-Ins on Interactive Storytelling: Bridging Gaps 4 and 7

Interest in television and social behavior also has focused on its relation to the development of young viewers' creative and imaginative play. Whereas many argue that television's audiovisual narratives may depress viewers' own imaginations and creative tendencies, some propose that television's images and characters may stimulate fantasizing and daydreaming (for a review, see Valkenburg & van der Voort, 1994). These hypotheses have been tested in several formats, often via correlational designs or via experimental media comparisons assessing viewers' imaginative storytelling or responses following material presented via video, audio, or print. Yet, in this age of multimedia super-systems, the same characters often are presented via film, television, video games, and consumer products (e.g., action figures, lunch boxes, T-shirts). How, then, can one tease out the effects of television's narratives and characters when those same characters are everywhere? Given this complexity, might watching a particular program and then playing with the action figures re-created from that program be doubly influential? Will any effects of multimedia combinations differ at different stages of development?

To begin to deal with the developmental effects of a multimedia environment in which television symbols can refer to toy characters and vice versa (Kinder, 1991), Greenfield et al. (1990) employed an experimental pretest-posttest design that focused on media combinations. Their design tested the effects of the *combination* of television-related toys and toy-based television on children's interactive storytelling at two different grades, first grade and second grade. These are ages during which such skills would be developing and advancing. This is an example of a study that addresses both Gap 4 (the gap in developmental research) and, more important, Gap 7 (the gap in research on multimedia).

In this study, the experimental treatment was divided into two elements, media experience and toy play, with a choice of stimuli for

each element. For the media experience, some of the subjects saw a television program (*The Smurfs*) and the others played a table game. For the toy experience, some of the subjects had Smurf toys and the others had troll figures. By crossing the media experience with the toy experience, several combinations could be tested including the following three conditions examined in this study: experimental group (Smurf cartoon, Smurf toys), Contrast Group 1 (connect-the-dot game, Smurf toys), and Contrast Group 2 (Smurf cartoon, troll toys). Thus, with this design, the study moved beyond the usual television effects experiments that deal with single forms of stimuli. Its goal was to assess the effects of matching the characters in television programs and toys, as opposed to the effect of either element present alone.

Another notable aspect of the design was its use of interacting pairs of children as the unit of analysis for the dependent variables. The experimental task for both the pre- and posttest was to tell a story using the toy figures. The dependent variables assessed the freedom of the story content from the preceding stimulus, either the game or the television program. By using pairs of children constructing a story together, this experiment looked at the effect of television and the multimedia environment on a product of social interaction. (Ongoing social interaction is a process that has been understudied in research on the social impact of television. This study, therefore, provides a methodological model that could, in principle, be adapted to research on other effects of televised material on social interaction.)

Also notable was the study's use of a multivariate analysis of variance design to look at the impact of the independent variables on two groups of interrelated dependent variables (i.e., different aspects of interactive storytelling). In follow-up analyses, personal characteristics that correlated with the dependent variables were used as covariates in multivariate analysis of covariance analyses. This statistical methodology combined the analyses of factorial independent variables, interrelated dependent variables, and mediating individual differences. A similar statistical approach also was used in the study of the effects of slow motion and repetition on perceptions of violence and suffering described earlier. It should be applicable for other topics in which complex systems of dependent variables, multiple independent variable factors, and individual differences all come into play.

■ Into the Future, Part 1: Testing Old Theories With New Experimental Approaches

In addition to priming, there are other theoretical approaches to television effects that have as yet received minimal experimental testing. Whereas some theories lend themselves more easily to experimentation than do others, it would benefit our understanding of television's role to attempt to test each one experimentally. Assumptions of individual theories could be tested initially, followed by experiments in which competing theories are tested at the same time to begin to determine which hold stronger explanatory power. In the discussion that follows, we describe three sets of theoretical propositions that focus attention on overlooked aspects of television's influence and offer suggestions for how each might be tested via experimental means.

Greenberg's Drench Hypothesis

One set of propositions that has received minimal empirical testing is Greenberg's (1982, 1988) "drench hypothesis." In explaining the potential impact of television's often stereotypical portrayals, Greenberg proposed that "critical images may contribute more to impression-formation and image-building than does the sheer frequency of television characters and behaviors that are viewed" (Greenberg, 1988, p. 100). As a result, the strength of particularly salient or meaningful portrayals may override the messages of masses of others. Greenberg's notions differ from those of cultivation theory in his emphasis on the power of individual portrayals and performances. He asserted that not all portrayals have the same impact and that viewers probably "attend more closely to a limited set of portrayals, ones that become significant for us" (p. 99). This focus on specific portrayals may be especially relevant now because television networks appear to be developing more programming (and cable channels) aimed at particular viewing populations instead of general programming that appeals to everyone. Therefore, a thorough testing of Greenberg's drench hypothesis is needed.

Perhaps the most effective method for testing these propositions experimentally would involve a two-stage approach, first assessing

what the critical portrayals are and then testing whether their themes and messages have a greater impact than those from noncritical portrayals. (Although this line of inquiry is similar to the one focusing on effects of liking and familiarity described earlier, here the emphasis is more on particular portrayals than on liked and disliked programs.) During the first stage, a population of viewers (e.g., African American adolescent females) would be surveyed concerning the television portrayals they most like and identify with—the characters who "speak to them." Participants could respond to open-ended questions or could be cued with lists of names of various television characters. Participants also would be asked to describe the particular aspects of those portrayals that heighten their impact. Once this information had been obtained and a list of critical portrayals and their attributes had been produced for that population, subgroups of students could be retested using experimental manipulations.

In this second stage, the emphasis would be on the effects of particularly salient portrayals versus the effects of messages culled from randomly selected stimuli. The specific design could take a number of forms, depending on the nature of the critical portrayals and on the research question at hand. Suppose, for example, one were interested in gender role portrayals and had first surveyed the population of African American adolescent females just mentioned. Three experimental conditions would then be needed to test the impact of the critical portrayals provided on viewers' expectations about gender roles. Participants in Group 1 would view five clips in which the chief female characters represented both noncritical portrayals and nontraditional gender roles. Participants in Group 2 would view five clips in which the chief female characters represented noncritical portrayals yet traditional gender roles. Participants in Group 3 would view five clips as well—four in which the chief female characters were noncritical and traditional and one in which the chief female character was a critical portrayal and nontraditional. Pre- and postviewing surveys would be administered to assess participants' gender role attitudes. Analyses would focus on the following question: Would the responses of participants in Group 3 be closer to those in Group 1, thereby demonstrating the strength of one nontraditional portrayal in a sea of traditional ones, or closer to those in Group 2, thereby demonstrating the strength of the predominant images? With this type of experimen-

tal design, researchers could assess whether the effects of viewing nontraditional behavior from one impactful portrayal equal the effects from several noncritical portrayals.

Meyrowitz's Theory

Meyrowitz (1985) opened up a whole new set of questions in his provocative book *No Sense of Place*. These are questions that current methods have been ill-suited to answer. Meyrowitz's theory begins with his experience of television as a child, growing up when the medium was in its infancy.

I responded to television as if it was "a secret revelation machine" that exposed aspects of the adult world to me that would otherwise have remained hidden. My primary response to television was not imitation of the behavior I saw on it, nor was it to be persuaded that I needed to own the many products advertised. Rather, the information I received about social interaction on television affected my own willingness to accept other people's behaviors and claims at face value. Television educated me and my friends about certain aspects of adulthood that no longer allowed our parents "to get away" with some traditional parental behavior. It also affected our views of members of the other sex and of teachers, police, politicians and other "authorities." . . . Television changed the ways in which the walls of my home formed and limited my social experience. (p. x)

The major mechanism by which Meyrowitz (1985) posited these changes take place is through the access television provides to people's "backstage behavior." This is behavior that is not meant to be seen by the audience, behavior outside of a person's public role-playing behavior. For example, on television, children get to see parents' marital problems, which might be hidden from their view at home; students get to see teachers' personal lives, which would be hidden from their view at school; and voters get to see politicians' personal foibles, which could be hidden from their view in print and on radio. Access to backstage behavior, Meyrowitz posited, leads to a sense of closeness with these authority figures but also a loss of respect—both familiarity and contempt.

Meyrowitz's (1985) main criticism of research on the impact of television (and other electronic media) on social behavior was that it places too much emphasis on content and too little on "different patterns of information flow fostered by different media" (p. 14). The implication for experimental design is twofold. Studies are needed that demonstrate (a) the same effect on social behavior of different content in the same medium (i.e., television) and (b) different effects of the same content in different media (e.g., television, radio, print).

A general design might be to compare two programs or films providing opposite views on the same topic plus a print screenplay of one or both of the programs. Would divergent form matter more than divergent content? For example, segments of two films on teachers might be shown to two groups of subjects. One (e.g., *Stand and Deliver*) would present a positive view of the profession; the other (e.g., *The Nutty Professor*) would present a negative view. (Because films end up on television, we are not here making a distinction between the two media.) Based on a central idea in Meyrowitz's book that television lowers respect for authority figures by showing "backstage" (private) behaviors, the predictions would be that children's respect for their favorite teachers and for the teaching profession as a whole would go down after viewing either film, whereas empathy with one's own teacher (perceived similarity to self) would go up. The particular content of the stimuli (negative vs. positive portrayals) would not matter; both are predicted to have the same effect. Respect for one's own teacher might also diminish in the case of *Stand and Deliver* because one's own teacher's performance might pale in comparison with that of star teacher Jaime Escalante.

In this experiment, two other groups would read screenplays of the same film segments. The prediction, based on Meyrowitz's theory, is that, because of the relative lack of concrete detail and nonverbal behavior in the print medium relative to television, neither screenplay would affect viewers' evaluations of their own teachers or of the teaching profession as a whole. Once again, the particular content of the material read would not matter.

A similar design could be used to examine role perceptions of parents or doctors, perhaps using popular television series as stimulus sources. The innovations of this type of design would be twofold:

(a) demonstrating that the effects of medium form can override the effects of medium content and (b) using social attitudes as dependent variables in cross-media comparative studies. Indeed, so far most cross-media studies have used cognitive not social behaviors as their dependent variables. Insofar as perceptions of teachers, parents, and doctors affect one's ability to play the complementary roles of student, child, and patient, this research method could address what Meyrowitz (1985) saw as an important issue: "the ways in which new patterns of access to information about social behavior might be affecting people's ability to play old forms of roles" (pp. x-xi).

It also may be beneficial to directly test the effects of the presence of backstage behaviors. Is seeing them what lowers viewers' respect and increases their familiarity, or is it some other aspect of television? Testing this question would involve an intramedia design that uses different types of television stimuli. For example, continuing the research on television's portrayals of teachers, one might wish to compare responses to television stimuli in which the teacher's backstage behavior is shown with those in which it is not. Here, participants in Group 1 would watch clips from a situation comedy in which the teacher is the central character (e.g., *Welcome Back, Kotter*) and his or her flaws and personal problems are depicted. Participants in Group 2 would view clips in which teachers are included but are peripheral characters and are shown only in a formal authority role. Participants in Group 3 would view no clips. Pre- and postviewing attitudes on teachers and on the teaching profession could be compared across positions. Would viewers' respect for teachers' authority diminish for Groups 1 and 2, thereby demonstrating a general effect of teachers being depicted on television, or only for Group 1, which saw the backstage behavior? With this type of design, researchers could begin to tease out the specific effects of airing backstage behavior.

A second methodological issue raised by Meyrowitz's (1985) theory is that traditional experimental designs, with their distinctions between independent and dependent variables, have been ill-suited to deal with a model of the relationship between television and social behavior in which television settings, characters, actions, and events become an extension of the unmediated social environment. In the preface of his book, Meyrowitz states,

There were few models that dealt with both systems of communicating as part of a continuum rather than a dichotomy. Most of the concerns were about people imitating behavior they saw on television, or about the inaccurate reflection of reality as portrayed in television content—real life as opposed to the media. Few studies examined both media and interpersonal interaction as part of the same system of "behaving" or responding to the behavior of others. (p. x)

For example, Meyrowitz (1985) introduced the concept of media "friends," the illusion heightened by television of knowing and interacting with people one has never met. Horton and Wohl (1956) called this a parasocial relationship and noted that it has the greatest impact on the socially isolated. A needed type of research design would have as its goal to consider the television world and the real world as complementary sources of social relationships. This approach could, for example, lead to a study that would relate the strength and quantity of real-world social relationships to parasocial relationships based on television. The prediction would be an inverse relationship between the depth and quantity of real-world relationships and the depth and quantity of parasocial relationships. For example, people living alone would have more important parasocial relationships than would those not living alone. People relating to many real people every day would have fewer parasocial relationships than would those relating to fewer real people in an average day.

A cross-media design also could be used to test the very concept that parasocial relationships are stronger for television than for other media. For example, a book chapter and a television program from *Little House on the Prairie* could be compared. Based on Meyrowitz's theory, the prediction would be that subjects would feel they knew the characters better after viewing the television show than after reading the book chapter.

One distinctive feature of Meyrowitz's theory is that it includes real-life people and events as well as fictional ones. Any of these designs could be used in relation to actual people and events on television (e.g., news). For example, do subjects feel they know a news personality better after that person appears in documentary television (e.g., *60 Minutes*) or a magazine article? This idea also extends well to the political arena, where one of Meyrowitz's main applications

concerns television's ability to lower respect for political figures. At the same time, his theory implies that television will make people feel that they know public figures better. A cross-media study could test these ideas by, for example, presenting the speech of an unknown political figure in three media—television, radio, and print. Dependent variables would include a sense of knowing the politician, level of respect and liking, and evaluations of his or her competence and similarity to self. The theory would predict that people would feel they know the politician better but would have less respect for him or her after the television contact compared with radio and print contact. A related literature concerning the ability of different media forms to persuade also supports such a finding (for a review, see Petty & Cacioppo, 1981). Thus, the designs and studies proposed here offer an exciting new approach to studying television's social impact.

Kinder's Supersystems

The work of Kinder (1991) discussed similar issues in a more extreme form and raised even more difficult methodological questions. She took up the issue of the effect of the primacy of image over thing. What is "the impact of seeing an imaginary world so full of rich visual signifiers before having encountered their referents or acquired verbal language?" (p. 35).

A central issue in Kinder's (1991) work was the postmodern prevalence of the sliding signifiers that "change meaning in different contexts and that derive their primary value precisely from that process of transformation" (p. 3). Kinder questioned whether the primacy of image over thing in the media-dominated world (particularly television) encourages "the sliding of the signifier, so that by the time one first encounters, say, an elephant in the zoo, the living animal is merely another signifier for the image already seen on TV in documentaries and animated cartoons—that is, merely part of the paradigm of elephant signifiers?" (p. 35). Research designs are needed that can assess the impact of prior media exposure on subsequent interaction with and evaluation of many types of people of various ages, occupations, genders, ethnicities, and nationalities. What is the impact of media priority on understanding of and relations with real people?

■ Into the Future, Part 2: Using Experimental Approaches With New Television Genres and Technologies

Both television content and the viewing experience have changed greatly in the last decade. New satellite and cable technologies have increased viewing channels and options. The proliferation of videocassette recorders has made the renting, purchasing, and home viewing of theatrical film releases commonplace. New genres of reality-based programming have been introduced that provide more than enough information about the intimate lives of those around us. As a result of these changes, there are many new issues about the links between television and social behavior that can be explored with traditional and not-so-traditional experimental designs.

One genre of programming that has expanded in recent years is reality-based programs. Included in this group are programs such as *Cops*, *Rescue 911*, and *Unsolved Mysteries* that feature reenactments of real crimes or disasters; high-profile courtroom trials aired on Court TV and on other networks; and programs in which the lives of everyday people are followed, such as MTV's *Real World* and *Road Rules* and HBO's *Taxicab Confessions*. With this genre of programming comes a new set of questions concerning the use and impact of television content. For example, are the themes and events on these programs more influential because they are closer to reality? Are younger viewers more frightened by criminal acts viewed on *Unsolved Mysteries* than by similar acts viewed on fictional police dramas? Do viewers identify more with the everyday real-world characters than with characters from fictional dramas? These questions could easily be addressed experimentally using stimuli from different genres. In a related type of study, Pingree (1978) found that children were more influenced by commercials when told that the actors were real than when told that they were paid actors. These findings illustrate that a line of research examining the impact of this new reality-based programming would be of critical importance.

Yet, not only has the content of the programming changed, but the nature of the viewing experience has changed as well. With cable movie channels and home video systems readily available, viewers can now view their favorite movies, programs, and characters repeatedly. As a result, we no longer can assume that all viewing experiences

consist of singular presentations of varied images, themes, and portrayals. Instead, viewers, especially young children and adolescents, can view the same programs ad nauseam. With repeated viewings, content often takes on a new level of importance. For example, in the Ward et al. (1996) study on slow motion and violence described earlier, just watching the same attack at the same speed two times was related to an increase in participants' perceptions of the level of violence involved. With repeated home viewings of particular films or miniseries, might already larger-than-life protagonists such as the Terminator, Simba in *The Lion King*, or fighter pilots in *Independence Day* assume even greater stature or familiarity?

Given this new dynamic of the television viewing experience, it would be beneficial to begin to examine the potential consequences of viewing the same material repeatedly. What additional meanings do viewers construct with repeated viewings? Are the characters in films and programs viewed repeatedly more influential because they have assumed a greater stature or less influential because they have become familiar friends (i.e., habituation)? Experimental research could examine links between single and repeated viewings of certain content as well as viewers' perceptions of the realism of the characters or programs, their acceptance of certain behaviors or attitudes depicted, their identification with specific characters, and their likelihood of behaving similarly. One level of experimentation could be correlational surveys, which would assess a general connection between number of viewings and these dependent variables. Field experiments could compare the responses of one population of viewers who rented a movie and viewed it only once with those of viewers who purchased that movie and viewed it repeatedly. Assessments could be conducted after the first viewing and then 1 and 3 months later. Laboratory experiments also could be conducted with shorter material, perhaps with music videos or 30-minute situation comedies. Responses of participants who viewed the stimuli three times in a row could be compared with those of participants who had only a single viewing and who had no viewing at all.

The nature of the viewing experience also has changed in that it has become somewhat more interactive. Many television programs have World Wide Web sites, allowing viewers to "chat" about the programs and content with each other and sometimes even with the actors and

actresses. These interactions intensify television's role in our social world, highlighting the phenomenon described by Meyrowitz (1985). How are viewers' perceptions and acceptance of specific content affected by the extent of their postviewing behaviors and discussions? New experimental research exploring the consequences of active (vs. passive) viewing is needed here. Other television programs require direct viewer involvement to survive. A prominent example is *America's Funniest Home Videos*, where viewers send in their own video footage and potentially may appear on the show itself. Does experience in filming social behavior through home video affect interpretations of social behavior on television or the filmmaker's real-world social behavior?

In general, people are appearing on television more and more every day. It no longer is the province of actors—beautiful, well trained, and somewhat larger than life. Instead, with the proliferation of daytime talk shows, viewers see folks from every walk of life sharing their intimate problems and secrets on national television. How is this behavior perceived? Is their behavior seen as normative or representative of their group? What does people's willingness to reveal intimate information to a national audience say about the power and seductiveness of the medium and of fame in general? How does the experience of being on television affect viewers' perceptions of the medium and its content? Now that they have seen some of television's own backstage behavior, are they less likely to be influenced by it? New lines of experimental research could be designed to begin to address such questions.

■ Conclusion

Experimental design can be an excellent tool for investigating potential links between television and viewers' social attitudes and behavior. With its high internal validity and content control, experimental designs have served well for answering questions about the effects of particular content, genres, dialogue, and characters. Unfortunately, the scope of the existing literature has been somewhat constrained by concerns over potentially "harmful" content (e.g., violence, sexist portrayals) and by the use of a limited number of

theoretical approaches. Moreover, the methods and research tracks have not kept up with the complexity of the media environment. As a result, other dimensions of television's potential influence, such as the impact of critical portrayals, backstage behaviors, and parasocial interactions, have received less attention. Creativity is therefore needed to continue to move this research forward and to expand its scope to address additional issues, technologies, and theoretical perspectives.

In the discussion presented in this chapter, we have attempted to offer several suggestions for future directions with experimental paradigms. What we propose is just the beginning. Although our focus has been on experimental methods, it also is possible to address some of the questions raised via field research or via survey and correlational measures. Indeed, for addressing the impact of more complex media supersystems, there may be a limitation to what experimental designs can offer. In addition, many of our suggestions involved using clips from popular television programs. However, finding broadcast content that represents a particular issue may be time-consuming, and matching content and behaviors across clips can be difficult. Consequently, more thought and work may be needed to make some of our proposals a practical reality.

Yet, the need and room for additional approaches is clear. More work is needed that incorporates the richness and complexity of television content, perhaps focusing on the consequences of multimedia portrayals, underrepresentation, or particular format features (e.g., slow motion). There also is a strong need for more theory-driven work, for experiments that test the assumptions of particular theorists and of specific causal mechanisms (e.g., priming). Including viewers' own perceptions and preferences will go a long way toward improving external validity in future experiments, as will selecting stimuli from popular television programming.

There still are many questions that experimental research can help answer regarding television's link to our social attitudes and behaviors. Future projects could examine traditional content areas (e.g., gender roles, violence) or could venture out to explore the impact of television on other social dimensions (e.g., helpfulness, cooperation, competition). We should not limit ourselves by what already has been done. Instead, we can use this existing literature and methodology to

help address the provocative new questions that have surfaced in today's more technologically advanced society.

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3

Quasi-Experimental Research on Television and Behavior

Natural and Field Experiments

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Methodological discussions regarding research on the effects of television often contrast the advantages of laboratory experiments for making causal inferences with the advantages of more naturalistic or ecologically valid field studies. Laboratory experiments are designed to answer the question "Can television affect viewers?" whereas field studies are designed to answer the question "Does television affect viewers as they use it over time in day-to-day life?" Most field studies are correlational, however, and permit us only to determine whether television use is related to some other behavior, such as school achievement or aggression, not whether there is a causal relationship. This chapter focuses on two special and relatively unusual types of quasi-experimental field studies that have the potential to answer both the *can* and *does* questions. That is, if well designed, they enable us to