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TELEVISION AND HUMAN BEHAVIOR:  
THE RESEARCH HORIZON,  
FUTURE AND PRESENT  

PREPARED UNDER A GRANT FROM  
THE EDNA McCONNELL CLARK FOUNDATION  

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PREFACE

This volume is one of three Rand reports produced as part of an evaluation of the state of scientific knowledge about the influence of television on human behavior, performed under a grant from The Edna McConnell Clark Foundation. At the time the study was undertaken, in the fall of 1973, no single source of information existed either about research currently under way or about the thinking in the scientific community about future research. Therefore, this report was prepared to provide an insight into the priorities held by that community in regard to future research, the viewpoints that are likely to influence future research, and research in progress. Since there are no rules for this kind of charting of the frontier of an area of scientific research, this work must be viewed as an exploratory effort.

The other volumes in this series are


In addition, the major product of the evaluation will be a book which is in preparation at this writing (title tentative):

- The Fifth Season: How Television Influences Human Behavior. By George Comstock and others.
SUMMARY

This volume begins with an analysis of the priorities held by the scientific community in regard to research on television and human behavior, the perspectives within the community that are likely to influence such research, and some of the implications of the desire on the part of many social scientists to make such research more relevant to television policy decisionmaking. The analysis is based on in-depth interviews with selected social scientists, information collected in other ways from the scientific community, and the reactions to preliminary analyses of a panel of highly informed social scientists.

It also contains descriptions of about 50 "in progress" research projects uncovered in a special survey, and an annotated bibliography of current publications. Its overall intent is to describe current activity and to report on some of the factors which will influence future research.
ACKNOWLEDGMENTS

The project of which this volume is an important part represents the contributions of several hundred persons. They include those who replied to questionnaires, answered telephone queries, granted lengthy interviews, wrote letters, or in other ways offered information, advice, and access to their thoughts. They include those who sent unpublished and otherwise unavailable material, including the drafts of material "in press." They include those whose work is discussed in various places, but with whom there was no direct communication. They also include the very large number of persons at Rand who provided help. The multitude involved does not diminish the gratitude and debt of the authors to each of them.

Despite the breadth of the obligation, there are a number of persons we should like to cite individually. One is Merrell Clark, Vice President, The Edna McConnell Clark Foundation. His unfluctuating encouragement and support made bravery possible when difficulties arose. Five others are Dr. Steven Chaffee, University of Wisconsin; Dr. Natan Katzman, Corporation for Public Broadcasting, San Francisco; Dr. Maxwell McCombs, Syracuse University; Dr. Donald Roberts, Stanford University; and Dr. Eli A. Rubinstein, State University of New York, Stony Brook. Their advice and assistance were continual, extensive, and always pertinent.

Of our colleagues within The Rand Corporation, we are particularly indebted to Dr. Leland Johnson, Director of the Communications Policy Program, within which the project was conducted. He provided an environment of freedom and helped in the averting of many problems. Others without whom things would have gone far less smoothly, if at all, are (in alphabetical order) Dr. David Armor, Dr. Stephen Carroll, Martha Connelly, Janet DeLand, Connie Greaser, Dr. Paul Hammond, Ethel Lang, Rita McDermott, Eileen Miech, Marjorie Roach, Benjamin Rumph, Rhonda Russo, Jean Scully, Gustave Shubert, Marcia Teeter, Ann Valsasina, Beverly Westlund, and Marian Winston.

A loud salute is owed the Rand Library, and especially to Anne Beggin, Douglas Hague, Barbara Neff, and E. Reginald VanDriest II. Our bibliographic demands were elephantine, but they failed utterly to irritate or to diminish the quality of service.

The most visible debt is to Bernadette Lewis, artist, for the cover of this volume.

The basis for the work was laid by The Markle Foundation. Many of the resources on which the work drew, staff as well as materials, were available because of the Foundation's continuing support of the Communications Policy Program at Rand. Finally, an obvious and large debt is owed The Edna McConnell Clark Foundation, whose grant financed the project.
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I. INTRODUCTION

In this volume we have attempted to chart the "frontier" of research on television and human behavior. Since that frontier is constantly changing, the attempt, by definition, can be only partially successful. Nevertheless, the volume should be of use to anyone with a desire to know about current activity and current thinking within the scientific community, since it presents a comprehensive overview that is available nowhere else.

INTENDED AUDIENCE

The public for which this volume is intended consists of those with an interest in current research on television and human behavior. This is a specialized but variegated and widely situated group which includes

- Persons within the broadcasting industry.
- Social scientists.
- Students, and especially doctoral students.
- Persons in government agencies and private foundations.

The informational motives of these parties are varied. Some will want to identify investigators with particular interests. Others will want to divine trends. Others will want to identify some of the more prominent investigators. Others will want to know the priorities held by the scientific community. Others will want to be forewarned about findings likely to be reported in the near future. Others will want to learn about funding sources and amounts of money being spent. Some will want the information simply to be better informed. Some will want it for planning their own research, or for finding persons with whom they might jointly engage in research. Some may want it for developing research programs bringing together various combinations of talents, or for recruiting individuals for particular positions. And some—those in government agencies and private foundations—will want the information to help in making decisions about the topics on which they should, or can, encourage research, and to learn about the level of funding associated with particular kinds of research, the interest in the scientific community in various topics, the range of talents available, and the directions current research is pursuing.

Because of these informational desires, we expect that this volume will stimulate communication within the scientific community. We would predict that those persons whose in-progress (and therefore to some degree hidden) work we have catalogued here will receive increased communication from interested parties. In addition, they themselves, because of their unavoidable exposure to news about other research in the course of reviewing their own treatment here, may undertake communication with other investigators which would not otherwise have occurred.¹ Because we want to facilitate communication within the scientific community, we

¹ A study of the effects of this publication on communication within the scientific community is being considered by the authors.
have been careful at all points to include the information necessary for readers to reach one another.

This comprehensive examination of current research on television and human behavior should be especially useful in view of the diversity of the groups concerned with the topic and the diversity of disciplines engaged in relevant research. These disciplines include communications, psychology, social psychology, sociology, political science, and marketing and business. Within each of these fields, there is a fair probability that scientists with an interest in the topic know about each other, but between fields, the likelihood of such knowledge is markedly less.

ORGANIZATION

This volume is organized into three main parts, each representing a somewhat different approach to the problem of charting the frontier of a scientific topic. Together, they provide a more thorough picture than would any one alone.

In the first part, "The Research Horizon," we analyze the current research and methodological priorities of the scientific community, identify perspectives within the community that are likely to influence future work, and analyze the implications of policy relevance for research priorities. Our sources of data include in-depth interviews with leading social scientists active in television research and the reactions of an expert panel whose members were asked to test our analysis against their own knowledge.

In the second part, "Contemporary Research," we describe the research on television and human behavior currently under way. This information was obtained by a formal survey of more than 200 members of the social science community, all of whom we determined to be highly likely to be engaged in television research. We queried each of these researchers about their current projects and have tried to describe their methods, purposes, and, if possible, any early findings, as well as their current reflections. When possible, we have included level and source of funding, length of project, and information on available and anticipated publications.

In the third part, "Current Publications," we present an annotated bibliography of very recent scientific publications on television and human behavior. The entries, drawn from the other volumes in the present series (described below), were uncovered in an extensive literature search which emphasized new work, and bear 1973, 1974, or 1975 dates or are identified as "in press".

THE LARGER PROJECT

The work presented here was performed in support of a larger evaluation of the state of scientific knowledge about television and human behavior. Although this volume stands alone, it will be of maximum use to the reader who understands its place in the overall scheme.

The "major product" of the study is to be a book-length evaluation and interpretation of current knowledge in this area (title tentative):

In addition, work undertaken in support of this major product is presented in three "by-product" reports:

- *Television and Human Behavior: The Research Horizon, Future and Present*, by George Comstock and Georg Lindsey, with the assistance of Marilyn Fisher.

The relationship among these four volumes is illustrated in Fig. 1.

Each of the three supporting reports contributed to the others. For example, a survey of several hundred schools and departments of mass communication/journalism, psychology, and sociology undertaken as part of the literature search for the first report, *A Guide to the Pertinent Scientific Literature*, provided many leads for the survey of "in-progress" research reported in the present volume. In turn, the survey of "in-progress" research for this volume uncovered many entries for the *Guide*. In addition, the *Guide* provided the pool from which the entries to be summarized in the second report, *The Key Studies*, were drawn, and these summaries were the starting point for the brief descriptions of current publications in Sec. IV in this report. Finally, many of the documents referenced in this volume are summarized in some detail in that same second report. So that the reader will know when such information is available, these citations carry the note, *(TKS)*.

An introduction explains the organization of the book, the plan of the work behind it, and certain unusual procedures and activities connected with it.

An overview summarizes and comments on the text.

Ten chapters evaluate the state of scientific knowledge about television and human behavior.

Seven of the ten chapters review and interpret findings.

One chapter evaluates the usefulness of the findings for policymaking.

One chapter evaluates the promise of alternative methodological strategies for future research.

One chapter analyzes current research, the thinking in the scientific community about research priorities and alternatives for future research, and makes recommendations about research priorities.

*Tentative title.


2,300 bibliographic citations, accompanied by brief descriptions of the contents.

Almost 450 are flagged, indicating that an annotation is available in the second volume in this series.

More than 50 citations represent studies “in progress” and not a published or unpublished document.

About 500 citations represent current research—items dated 1974, 1975, “in press,” or “in progress.”

Eleven specialized bibliographies.

Ten represent the topics areas used for the broad evaluation of the state of scientific knowledge.

One represents current research.

Each study is cited wherever it is relevant.

- Serves the larger evaluation by providing specialized bibliographies, including many items which would escape a conventional literature search.
- Serves the reader by providing access to the literature in a single source.


Summaries of about 450 journal articles, books, and other items judged to be “key” to understanding the scientific literature.

Each summary is evaluated in terms of current interest by zero to three Michelin-type *’s awarded by a jury of experts.

The summary format is “user-oriented,” with priority emphasis given first to principal findings and conclusions.

Eleven specialized bibliographies give the user access to the scientific literature on a variety of dimensions.

Ten represent the topics areas used for the broad evaluation of the state of scientific knowledge.

One represents current research.

Each study is cited wherever it is relevant.

Methodological trends, issues, and problems are analyzed in a separate commentary, with examples and illustrations drawn from the summaries.

- Serves the larger evaluation by providing access to key studies on all topics and an independent check on interpretations of key studies.
- Serves the reader by providing convenient access to the key studies in some detail.

Television and Human Behavior: The Research Horizon, Future and Present, by George Comstock and Georg Lindsey, with the assistance of Marilyn Fisher. Rand R-1748-CF.

An analysis of the present interests and the thinking about research needs and priorities for the future within the scientific community, based on interviews with leading researchers.

Descriptions of more than 50 ongoing research projects, representing the results of a survey of current research activities.

Each description covers purpose, methodology, time schedule, funding (where possible), and available and planned publications.

Included are tentative and preliminary findings, and the surmises of the investigators.

Sufficient information about the investigators is included for interested persons to write them directly.

A specialized bibliography of recent and “in press” publications, with brief descriptions of the contents of each publication.

- Serves the larger evaluation by providing news of current research and the views of the scientific community.
- Serves the reader by providing a profile of the current state of activity and thinking in the scientific community.

Fig. 1—Relationship between components of project
II. THE RESEARCH HORIZON

Our examination begins with a description and analysis of the scientific community's state of mind concerning television and human behavior. Our focus is on the implications of that state of mind for future research. This part of our work falls into three segments:

- An outline of the agenda presently held by the community in regard to future research, focusing first on topics, then on methods.
- A description of the perspectives of specific social scientists that are likely to influence the direction of future research.
- An analysis of the challenges posed to the conventional television research paradigms by the growing interest in making research relevant to programming policy and by other changes inside and outside the scientific community.

OUR PROCEDURE

We have used three major data sources:

1. In-depth interviews with social scientists who are highly active in research on television and human behavior.
2. Opinions and information collected from a wide spectrum of the concerned scientific community between 1973 and the present writing.
3. The views of a panel of social scientists who are active in research on television and human behavior and well informed about trends and currents within the field.

Our procedure differed from the procedures ordinarily used in reporting surveys or in analyzing collections of information. Unlike the ordinary survey report, we do not simply reproduce what people told us; rather, we use what they told us as the initial step in constructing a broader description. At the same time, while we rely extensively on our store of less systematically collected information, the interviews and the responses of our review panel provide a direct check on the degree to which our analysis conforms to reality.

We began by interviewing in depth a sample of persons currently active in television research which represented a wide spectrum of views and interests. From these interviews, we constructed a "map" of the scientific community which we enlarged using information collected during the preceding year-and-a-half of the larger evaluation.

At this point, we submitted a draft report to a panel of social scientists.\(^1\) The role of the panel was to test our hypothesis that we had constructed a fairly accurate portrait of the thinking of the scientific community. Revisions were made on the

\(^1\) Dr. Steven Chaffee, University of Wisconsin; Dr. Natan Katzman, Corporation for Public Broadcasting; Dr. Maxwell McCombs, Syracuse University; Dr. Donald Roberts, Stanford University; and Dr. Eli A. Rubinstein, State University of New York, Stony Brook.
basis of the panel's reactions, with the principal author arbitrating disagreements among those involved.²

In the interviews, our focus was on research trends, problem areas, priorities, and forecasts of the future. We developed a set of questions that would indicate the kinds of information we were after (Appendix A); not all questions were answered by all respondents, however. The interviews were usually conducted in face-to-face meetings and usually taped; telephone calls were used for follow-up and, in a few cases, for interviews when a meeting could not be arranged.

Because the broadcast industry often seems to be a target for academic researchers, and because there is a growing body of industry-sponsored social science research, we made an effort to include research spokesmen from each network. At NBC, we spoke with Thomas Coffin and Ronald Milavsky; at CBS, with Joseph Klapper; at ABC, with Seymour Amlen and Herman Keld. In the academic community we spoke with Albert Bandura, Donald Roberts, and Alberta Siegel at Stanford University; Paul Ekman, Wallace Friesen, and Randall Harrison at the University of California, San Francisco; Percy Tannenbaum at the University of California, Berkeley; Aimee Leiffer and Scott Ward at Harvard University; Robert Liebert at the State University of New York, Stony Brook; George Gerbner at the University of Pennsylvania; and Aletha Stein at Pennsylvania State University. In addition, to obtain the views on research of a consumer activist, we spoke with Peggy Charren of Action for Children's Television.

PRIORITIES WITHIN THE SCIENTIFIC COMMUNITY

The identifying of priorities within a scientific field is a tricky business, particularly when this includes ranking the popularity of alternatives. It is easy enough to come up with "interesting ideas" which merit attention or topics where "more research" needs to be done—collecting or inventing a bucketful of "oughts" is no problem. It is another matter to actually assign a priority to one or another that will represent the thinking of a specific group. Besides the troublesome problem of aggregating what essentially are qualitative, subjective views, there is the conundrum of drawing proper or meaningful boundaries around sets of interests, so that essentially supportive priorities are not falsely interpreted as being competitive.

The priorities we believe to be current in the scientific community are listed in Table 1, in order of the quantity of attention and research we would expect each topic to receive in the next decade if present inclinations were followed.

THE NUMBER ONE PRIORITY: TELEVISION AND THE SOCIALIZATION OF YOUNG PERSONS

The number one priority, "television and the socialization of young persons,"³ encompasses a diverse set of interests. We have also ranked these interests in

² The procedure is analogous to interpretative journalism in which a core story is developed from basic sources, fleshed out by an array of less systematically gathered information, and the resulting account tested for accuracy and further revised on the basis of the views of highly knowledgeable persons.

³ An elaborately qualified and hence more precise description of Table 1 would be, "Our presentation of the ranking we believe the scientific community now gives to this set of research topics. These topics
Table 1

**Research Priorities Within the Scientific Community**

1. Television and socialization of young persons
   - Prosocial behavior
   - Role socialization
   - Political socialization
   - Antisocial behavior
   - Consumer socialization
   - Cognitive learning
   - Television and other agents of socialization
   - Television viewing patterns

2. Television and politics
   - News and public affairs coverage
   - Effects on political beliefs and behavior

3. Television and special populations
   - Minorities
   - Poor
   - Elderly
   - Women

4. Psychological and behavioral effects
   - The arousal hypothesis
   - Dynamics behind effects
   - Prosocial behavior

5. Uses and gratifications of television

6. Analysis and monitoring of entertainment content

7. Operation and management of television
   - News and public affairs decision-making
   - Entertainment decision-making
   - Alternatives to present system

8. Comparative media systems
   - Media structure and organization
   - Control of media content
   - International flow of television content

9. Television and society

Represent our sorting and aggregating of the community's interests into homogeneous, if overlapping, categories. A different set of categories would result in a different ranking. The analysis which leads to socialization being placed first serves perfectly to illustrate the problems of representing priorities. In terms of aggregating, we find a majority of researchers believing that future research should focus on one aspect or another of young persons' behavior in regard to television. Even when young people were not a first-priority interest, they usually appeared as one of the topics that social scientists believed should receive attention in the future. This was not true for any other topic. In terms of drawing sensible conceptual boundaries, it should be recognized that the topic appears first precisely because of the broad boundary drawn. If we were to treat the separate components of the larger topic of socialization independently, the consensus for "socialization" would be defined away. Instead, we would be writing about a diversity of competing socialization priorities none of which would be number one. This illustrates a general feature of this kind of analysis: The drawing of the boundaries around concepts is a major determinant of the outcome, and no analysis is better than the meaningfulness or appropriateness of the boundaries. The task in a sense, is analogous to the assigning of persons to political allegiances, which can recede into an infinity of meaningless clusters or balloon into a useless monolith of "all Americans." Although the procedure for developing the priorities was not quantitative in the sense of head counting, the logic can be most clearly described in such terms: A menu of research topics is developed. The menu...
priority order, but we are less confident about this ordering than about that of the more inclusive topics. We found that the first four areas—prosocial behavior, role socialization, political socialization, and antisocial behavior—all command high levels of interest, while the next four command distinctly less interest.

Within the area of television’s impact on young persons, there is a relatively high degree of substitutability on the part of social scientists. A striking set of findings, an innovative approach, the development of an attractive theory, or shifts in the allocation of research funds would draw researchers to one topic or another and away from the rest.

**Prosocial Behavior.** Within the top-priority group, the element having highest priority is the influence of television on what in social science jargon is called “prosocial” behavior.⁴ There are four primary reasons for this ranking. First, interest in conducting new research on television’s effects on “antisocial” behavior has at least temporarily waned because of the widespread belief that the Surgeon General’s Scientific Advisory Committee’s conclusion that the evidence suggests a causal link between violence viewing and aggression is correct, and that without significant advances in methodology little can be added in regard to the causal issue.⁵,⁶ Second, there is a widely entertained working hypothesis that the social and psychological dynamics involved in any effects of television with regard to aggression also result in television affecting other classes of behavior. Third, prosocial behavior, which, as a dependent variable, has many attributes in common with aggression, can be readily studied in laboratory settings where aggressive effects already have been demonstrated. Thus, the topic has the lure of promising positive, publishable findings. And fourth, it is believed by some that such research could lead to the development of entertaining programming that would displace violent fare without affecting audience size. The consequence of these four factors is that many investigators have turned to the possibility that television can influence positive and desirable forms of behavior.

**Role Socialization.** The second-ranked component is “role socialization,” which means here the processes by which a person learns the beliefs, values, and

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⁴ This term often inspires lively debate about who is to judge what is "prosocial." Of course, this is a meaningless dispute to the researcher, since the term is simply a convenient code word for behavior that is widely deemed to be desirable in situations where aggressiveness and violence are not deemed to be appropriate. It is understood by all that the actual "prosocial" (or "antisocial") quality of a real-life act depends both on the circumstances and on the subjective values of the observers (one man’s robbery is another man’s revolution, just as one man’s ruthless aggression is another’s intervention on behalf of peace). In any case, since we have now introduced this necessary item of jargon, quotation marks will be omitted except when we wish to give special emphasis to the subjective status of "prosocial" events and behavior. The term "antisocial" appears less subjective, but in fact both "antisocial" and "prosocial" are identical in status.


attitudes, and the kinds of behavior that are appropriate for a particular category of person and for particular situations. Such acquired knowledge, of course, shapes both a person's own behavior when he perceives himself as being in a particular category or a particular situation as well as his expectations and behavior in regard to others. At present, the greatest research interest in the area of television's influence on role socialization centers on (1) sex roles, (2) occupational roles, and (3) general orientation to the environment, such as the expectation of falling victim to a crime or of attaining a particular job or goal.

**Political Socialization.** The third-ranked component is "political socialization," the process by which an individual comes to have a particular set of beliefs, values, and attitudes, and a particular kind of behavior in regard to politics and public issues. The substantial scientific interest results from increased concern about the role in socialization of the mass medium most attended to by the young, and from a marked shift in the paradigm guiding research on television and politics. (This shift will be discussed later in connection with research on television and politics.)

**Antisocial Behavior.** The fourth-ranked component is "antisocial" behavior. Although since the Surgeon General's study there has been comparatively limited interest in the causal issue, there remains a great deal of interest in research on various related topics. The three most likely to receive attention are:

1. The environmental circumstances and psychological processes on which any effect of television violence on antisocial behavior is contingent—including such topics as (a) the variables that determine whether any aggression at all will occur, whether it will be imitative or nonimitative, what its strength will be, and what the choice of target will be, and (b) the conditions, including aspects of the television stimuli as well as environmental factors, that might mitigate any contribution by television to the likelihood of antisocial behavior.

2. The degree to which any effects of television violence on aggression may be attributable not to class of program content (such as violence or humor) but to the medium's ability to excite and arouse, thereby indicating that nonviolent arousing content may stimulate antisocial behavior or other forms of situationally relevant behavior.

3. The degree to which exposure to television violence leads to an increased tolerance for or "desensitization" in regard to real-life aggression, either observed first hand or experienced through the media, and thereby influences behavioral and attitudinal reactions to that real-life aggression.

We expect television's possible contribution to aggression and antisocial behavior to continue to be the topic of extensive research. The decline in interest in the
causal issue represents neither the belief that this issue is settled unimpeachably nor disinterest in a wide range of aspects of the topic. Instead, there is simply some weariness with the simple cause-and-effect question, some doubt about whether social science can provide more evidence than has already been advanced, and some skepticism over the impact of research on policy and industry behavior. As a result, there has been a refocusing of research interest.

**Consumer Socialization.** The fifth-ranked component is "consumer socialization," the process by which a person develops a set of beliefs, values, and attitudes, and a particular kind of behavior in regard to consumption. Almost all research interest in television's influence on consumer socialization so far has focused on the role of television advertising, although presumably the influence of entertainment or public affairs and news content in such socialization is also relevant.

Despite the extensive publicity given to the efforts of Action for Children's Television to restrict the television advertising that reaches children, the plausibility of the (unproven) contention that advertising is somehow harmful to them, the conflict between the exposure of children to commercial manipulation and the social value of sheltering them from adult experience, the regulatory interest of the Federal Trade Commission (FTC), and the strong interest of a small number of researchers, extensive research on this topic is unlikely. The principal reason is that only within marketing and business academia does television advertising of commercial products command great interest, and this is not the community that performs much research on television apart from that devoted to increasing television's prowess as a medium of economic self-enhancement for private enterprise. Furthermore, there is considerable skepticism in the research community about the likelihood of any such research having practical influence."9

However, we have assumed that there will be little change in the extent to which the various concerned institutions—such as the Federal Trade Commission, Federal Communications Commission (FCC), and the networks—employ social research in their decisionmaking. If research were more often and more prominently drawn upon, there would probably be a great increase in interest.10 Furthermore, "consumer socialization" to date has had few implications for commercial profitmaking, and there is no indication that greater knowledge would lead to increased prowess on the part of advertisers. Were the latter to become the case, we would expect great interest within the marketing research community (although whether the research eventually undertaken would ever be released from behind proprietary walls for scientific scrutiny is moot). We also assume no new nurturing of research talent. However, since a federally sponsored evaluation of present scientific capability and manpower needs in regard to advertising and children is now under way, this assumption may prove to be false.11 Finally, we assume that research on children's

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10 For example, it has been suggested that when there is a conflict between advertisers and some regulatory agency or public interest group, the issue should be posed in a way which could be answered by empirical data, the appropriate research designed, and the *status quo* continued or changed on the basis of the results, with the parties bound to such an outcome by advance commitment. Of course, such a system of "arbitration by science" would not be easy to design because it is unclear how the parties would be protected from the actions of others not involved in the initial agreement.

11 The project is sponsored by the National Science Foundation at the behest of the Federal Trade Commission. The project director is Richard Adler, Aspen Institute Program on Communications and Society.
responses to advertising will continue to focus on their understanding of content, desire for products, and attitudes toward advertising. If a reconceptualization should occur in which research focuses on advertising's impact on consumption practices, such as food preferences and other health-related behavior, and should findings hint at some negative or positive contribution of television, we would expect researchers to be magnetically attracted. Because of the many unknowns, the amount of research to be expected on this topic is particularly hard to judge.

**Cognitive Learning.** The sixth-ranked component is "cognitive learning," the effects of day-to-day, ordinary television viewing on young persons' acquisition of facts and intellectual skills.\(^\text{12}\) Despite much activity when television was younger, this topic, with one notable but in some ways marginal exception, has been the focus of little research during the past few years. Now there are signs of renewed interest.

The exception, of course, is the varied research done in connection with *Sesame Street* and other productions of the Children's Television Workshop (CTW); notable, because that research is surely responsible for much of the interest which now exists, and somewhat marginal because its focus has been the shaping and evaluation of a particular set of television broadcasts and not the phenomenon itself (although some of the research has implications which go beyond the specific broadcasts involved).\(^\text{13}\) The relative lack of interest which this research has helped dispel is probably attributable to early evidence that commercial television's influence on cognitive learning was extremely limited—for example, that among young children television viewing increased knowledge about popular entertainers but not about academic subjects and gave them a vocabulary advantage in the early grades that vanished by later grades.\(^\text{14}\) The unintended message to the researcher was that there was little to discover.

The situation has been changed by the public attention commanded by *Sesame Street*, to which academies have not been immune; by the general increase in interest in television's role in the lives of young persons; and, as we have said, by the research done in connection with CTW's various productions. Of course, many are always ready to conduct "formative" and "evaluative" research for public service programming, whether it is *Sesame Street* or anti-drug-abuse spots, and at least some of such research usually bears on cognitive learning.\(^\text{15}\) However, there are also several specific issues on which new research can be expected:

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\(^\text{12}\) As should be obvious, we are not at all concerned with priorities in regard to research on instructional television as such. However, in this instance interests within the instructional television research community and the rather different community with which we are concerned overlap, because many of the questions one might ask about instructional television—such as, "When is it most effective in teaching?"—are the same questions one might pose in regard to the open commercial and public television with which we are concerned. This similarity should not distract the reader from our focus, which is the role of television outside an explicitly instructional framework. However, we acknowledge that at points the boundaries become hazy, as *Sesame Street* nicely illustrates (from the communicators' viewpoint, it is instructional; from the child viewer's perspective, it is entertainment—if the communicators have been successful, from the viewpoint of parents, it may be either; the mode of broadcast dissemination is the same as for entertainment).


\(^\text{15}\) The jargon is Gerald Lesser's. "Formative research" presumably shapes broadcasts; "evaluative research" measures some effects of the finished product. For a discussion of the *Sesame Street* experience with such research, see Lesser, G. S., *Children and television: Lessons from Sesame Street*. New York: Random House, 1974 (TKS).
1. The stimulus factors which affect learning from television, such as camera treatment, use of audio, pacing, depictions or persons, and the like.

2. The viewer characteristics which affect learning from television, such as motivation, age, and intellectual ability.

3. The environmental circumstances which affect learning from television, such as parental guidance in program selection, parental discussion of content, and peer relationships.

For those familiar with the history of research on television, there is a suggestion of the mummy's return in these issues; they have been around so long that many probably thought them interred long ago. They are alive because of the lack of compelling or comprehensive findings and the belief that cognitive learning can and may occur from television viewing outside a purely instructional situation, at least under some conditions.

**Television and Other Agents of Socialization.** The seventh-ranked component is "television and other agents of socialization," which includes research on the comparative influence of television and other socializing agents, and research relating various family characteristics to the role played by the media in socialization.

We certainly expect some research on these questions. However, two factors indicate that the quantity of activity will be limited. First, while a few researchers do have a definite, high interest in the relationship of family characteristics to individual behavior in regard to the media, social scientists interested in both the family and the media are rare. Furthermore, almost all of this select group are primarily interested in the media and are likely either to divide their attention with or be drawn entirely to television-related topics. As a result, the group attracted is unlikely to be large. Second, while there is great interest in the question of the relative influence of television and other socializing agents, there is no methodology available which would make comparisons less than highly inferential. Again, despite the possible implications for a wide range of groups, including federal regulatory agencies, the networks, and parents, the group of interested researchers is likely to be small.

**Television Viewing Patterns.** The component in which there is least interest is the further measurement of the viewing patterns of children and young persons. The prevalent belief is that enough knowledge has been accumulated on this topic that only occasional monitoring is merited until there are signs of some significant change in either the medium or the environment which might affect viewing behavior. This does not mean that viewing data will not be collected—it will, but as a by-product of research with other foci.

**Concluding Comment.** Overall, we expect television and socialization to be the focus of a great deal of research, although the specific topics will be highly varied. The reasons are obvious. First, children spend a great deal of time viewing television. Second, society acknowledges a responsibility for their welfare. Third, the Surgeon General's study focused the attention of the research community on young persons, stimulated the entry of researchers into the area, and boosted the expectation of social scientists that research on television's "effects" on children would be productive of meaningful findings.

Although we found "prosocial" behavior to be the top-priority topic within the larger topic of socialization, there is considerable (although not complete) substitut-
bility within the relevant segment of the social science community. Particularly striking findings, an innovative approach, development of new theories, or changes in funding allocations could alter the configuration of activity considerably.

OTHER PRIORITY TOPICS

The widespread and high interest in research on television and socialization does not imply a lack of interest in other topics. There are several other areas where extensive research can be expected over the next decade.

No. 2: Television and Politics

We found the second-priority topic to be "television and politics." This field has two components in which there is about equal interest. One is the treatment by television of news and public affairs; the other is the effects of television on public beliefs, values, attitudes\(^\text{16}\) and behavior.

Mass media news and public affairs coverage has always been a topic of controversy. However, the dramatic nature of television coverage and the often truly dramatic character of the events covered has greatly heightened interest in the analysis of content, for three reasons: First, there is a demand for objective, quantitative data when charges are exchanged about bias in coverage. Second, there are many instances when the demonstration of a trend in content is enough for various interested parties to seek a change in programming policy, even in the absence of evidence about effects. Third, the governmentally ascribed responsibility to serve the public interest is widely construed to mean balanced and impartial treatment of public events, issues, figures, and groups, which makes content of interest per se.

In addition, there has been a shift in scientific consciousness. It has become apparent that television involves many more dimensions for analysis than other news and public affairs carriers, and that the interrelationship of these dimensions is uncertain.\(^\text{17}\) Thus, television has become more attractive for analysis.

The effect of television and other mass media on public beliefs and behavior also has long been a topic of controversy. At present, two specific areas of influence command the greatest interest. One is the role of television and other mass media in the shaping of public knowledge and perceptions about politics, public life, and those who participate in them, and in identifying and assigning priority to the issues, events, and figures to which the public and the nation's institutions give attention. The other is the way television has influenced the organization of campaigns, campaign funding, and the behavior of politicians and others involved in campaigns.

The present level of research interest reflects the influence of this relatively new

\(^{16}\) A triumvirate for which we shall hereafter substitute the single term, "beliefs."

\(^{17}\) For example, Presidential campaign coverage may be biased in different degrees and directions, depending on whether verbal, visual, or other dimensions (such as consistency with the candidate's apparently intended image) is employed as a measure. Again, different conclusions may be reached, depending upon whether the analysis is confined to campaign reporting or is extended to other news coverage (such as the ongoing Viet Nam war in 1972). For an example of multidimensional analysis, see Lowry, D. T., Multiple measures of network TV news bias in campaign '72. Paper presented at the meeting of the International Communication Association, New Orleans, April 1974 (TKS); and Frank, R. S., Message dimensions of television news, Lexington, Mass.: Lexington Books, 1973 (TKS).
twofold conceptualization of effects. When mass media first became the subject of social research, traceable, direct effects on attitudes and votes were hypothesized. When, despite isolated instances in which victories seemed to be won or lost by the media, no such dramatic influence was found to be the general rule, interest flagged. The renewal of interest has occurred with the at least temporary abandonment of the direct-effects hypothesis.

We can expect television and politics to be the subject of a great deal of research over the next decade. The underlying attraction for researchers is clear. Not only would the medium appear to have an enormous potential for influencing politics and to command a high degree of public interest in regard to its treatment of politically relevant content, television also has attributes which makes it very attractive to politically conscious researchers: Unlike newspapers, it is a national medium; unlike magazines, it commands a huge audience; unlike radio, which can serve as a national medium although it has become increasingly localized, it provides extended, dramatic coverage. Thus, television presents a research target more important than any other in mass media history.

No. 3: Television and Special Populations

We found the third priority to be "television and special populations," that is, demographically identifiable segments of the television audience. There are four segments in particular in which there is a marked interest in their portrayal by television and in the influence of television on them and on their relationships with others: minorities, the poor, the elderly, and women.

Each of the four groups has two things in common. Each is a high consumer of television, and for one reason or another each has become the focus of social concern.

At present, the populations commanding the greatest research interest are minorities and the poor. However, there is considerable interest in television's influence on the learning and performance of sex-related roles, and especially in the portrayal of such roles, and also some relatively unfocused interest in the role of television in the lives of the elderly.

For all four groups, the loci of research interest are: differences from other population segments in the quantity of viewing and kinds of programming consumed; the way members are portrayed by television; and the social and psychological functions served for members by television. There is also interest in studying the degree to which television can be employed to disseminate news and information to minorities, the poor, and the elderly.

Since programming policy, like other classes of institutional decisionmaking, is often formulated in terms of target populations, we can expect future television research on these and possibly other special populations.

No. 4: Psychological and Behavioral Effects

The fourth priority is "psychological and behavioral effects." The three topics in this area likely to get extensive attention, in priority order, are: (1) the "arousal hypothesis," (2) the dynamics behind effects, in particular effects on antisocial attitudes and behavior, and (3) prosocial behavior.

The arousal hypothesis holds that any demonstrable effects of television viewing on subsequent behavior, including aggressive behavior, are attributable at least in
part to its capacity to arouse emotionally and physiologically. The implication is that humorous, erotic, patriotic, and athletic content of an arousing character might stimulate aggressive behavior, and that violent content might stimulate behavior other than aggressive behavior, depending on what is situationally appropriate and the kind of response customarily made by the individual in such a situation.

Interest in the dynamics behind effects at present largely centers on the processes involved in any contribution of television to antisocial behavior, and can be specified as follows:

1. The environmental circumstances and psychological processes on which any effect of television violence on antisocial behavior is contingent, including (a) the variables which determine whether any aggression at all will occur, whether it will be imitative or nonimitative, what its strength will be, and what the choice of target will be, and (b) the conditions, including aspects of the television stimuli as well as environmental factors, which might mitigate any contribution by television to the likelihood of antisocial behavior.

2. The degree to which any effects of television violence on aggression may be attributable not to program content but to the medium's ability to excite and arouse, thereby indicating that nonviolent arousing content also may facilitate antisocial behavior or other forms of situationally relevant behavior.

3. The degree to which exposure to television violence leads to an increased tolerance for or "desensitization" in regard to real-life aggression, either observed first hand or through the media, and thereby influences behavioral and attitudinal reactions to that real-life aggression.

Interest in television's influence on prosocial behavior at present is largely confined to investigators interested in socialization. In addition, its relatively early stage of scientific maturity makes the specification of research foci impossible. However, if the socialization-focused prosocial research generates interesting findings we can expect research focused on the phenomenon itself, including research on prosocial effects on adults.

No. 5: Uses and Gratifications of Television

The fifth priority is "uses and gratification of television," the sociological, social, and psychological functions performed by television and the rewards and pleasures delivered to the viewer. This has been an area of continuing modest-level interest.

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19 It would be easy to recast the expected directions advanced in regard to antisocial behavior (substituting "prosocial" for "antisocial" and "stimulating" for "mitigating" would do the job), but this would distort reality. Research on prosocial behavior is too young for well-defined foci.

19 There is an obvious and not accidental redundancy between the topics dealt with in this section and certain of those dealt with under socialization. The difference is that here it is the phenomenon itself, including effects on older persons, rather than its role in the preparation of young persons for later life, which holds primary attention. There is also redundancy between the two descriptions of the arousal hypothesis within this section; this occurs because, in the first instance, the interest is primarily in the phenomenon itself, and in the second, the interest is in its role as a mediator of increased aggressiveness after viewing television violence. To eliminate this redundancy would distort the topology of television research. For a description of the procedure which accounts for it, see footnote 3.

20 For example, the use of television for political information is a sociological function, the use of television as a guide for dating behavior is a social function, and the use of television for relief from tension is a psychological function.
which derives from the reasonable inference that there must be something behind the vast amount of time people devote to television.

Until recently, more attention has been paid to theorizing than to empirical study, and the limited empirical studies that were done generally involved children and young people. Now, however, there is a growing body of empirical studies, and this topic can be said to be experiencing a minor boom in interest. Children and young people remain a frequently studied population in the new research, but the adult population is also receiving attention.\(^{21}\) One promising trend is the use of needs as expressed by the audience as a criterion for measuring television’s performance, thus evading the dilemma of being confined to descriptive data which seems to justify status quo programming.\(^ {22}\)

No. 6: Analysis and Monitoring of Entertainment Content

The sixth priority is the “analysis and monitoring of entertainment content,” which includes all dramatic, variety, talk, musical, cartoon, and non-news, non-information, non-public-affairs content, including all commercials. We expect attention to focus on four overlapping topics: the picture of the world provided by television drama, the portrayal of particular segments of the audience, the prosocial content of television, and violence.\(^ {23}\)

There is almost certain to be continuing research on the way the world is portrayed in television drama because that has become a major focus of Gerbner’s annual analyses of a fall week of programming, although he also continues to measure a variety of dimensions of television violence in drama and cartoons.\(^ {24}\) In addition, the Annenberg School of Communications at the University of Pennsylvania, where Gerbner is Dean, is producing Ph.D.’s who may be expected to perform competent discipleship in various posts in future years.

There have been a number of studies of the way particular groups are portrayed. We can expect continuing analyses of the portrayal of blacks, other minorities, women, and the elderly (there are so few poor people portrayed on television that an analysis is unlikely). At the present time, the greatest interest is in the portrayal of sex-related roles. However, once the broad dimensions are established, we would expect only occasional updates for the recording of trends, since there will be little left to learn. For this reason, the group on which research attention is focused changes every two or three years.

The prosocial content of television is likely to be studied because a coding scheme for content analysis has been developed, because prosocial content commands inter-


\(^{23}\) We remind the reader that “prosocial” is simply jargon for behavior that can be said to be widely socially esteemed, and there is no implication that any act can be considered “prosocial” in all circumstances or from every perspective.

est analogous to the interest in violent content, and because a by-product is the
identification of programming for use as an independent variable in research on the
effects of television on prosocial behavior.25

Of course, television violence has been the subject of innumerable content analy-
yses over the past 25 years. We expect such analyses to continue to appear for three
reasons. First, Gerbner’s annual coding produces a great quantity of data on violence
for his own and other’s use. Second, there is broad interest in a measure of network
behavior with regard to violence. Third, a specific demand exists for a "violence
profile" which could be readily used to evaluate broadcaster performance or to warn
consumers.26

No. 7: Operation and Management of Television

The seventh priority is the "operation and management of television," in partic-
ular, the decisionmaking process affecting news and public affairs coverage, the
decisionmaking process affecting entertainment programming, and the analysis of
alternative operating circumstances which would lead to allegedly superior or more
diverse programming.

Like the content itself, the decisionmaking behind television news and public
affairs coverage has been controversial. We can expect considerable research on this
topic, particularly on the interplay of network news policies, personal decisions, and
external pressures, and on the legitimacy of the model preferred by television in
which decisions are said to represent purely "professional" judgments.27

The impetus for the study of entertainment decisionmaking stems from interest
in the reasons for the oscillating but consistently high level of violence on television.
Typically, the interest has been in the production process and the sociology of
television production.28 However, a wider perspective is likely in the future. For
example, the events and decisions leading to the more stringent "family viewing"
structures introduced into network and broadcasting codes in 1975 hopefully will
inspire some attention.

The study of alternatives to the present system of broadcast operation interests
some social scientists dissatisfied with present programming. This interest is fairly
widespread, particularly among those interested in television and socialization, but
it is seldom a preeminent interest for anyone. However, there is likely to be far more
discussion, and the advocacy of various innovations, than empirical research. One

25 The multidimensional coding scheme has been developed by Robert Liebert, Professor of Psychology
and Psychiatry, State University of New York, Stony Brook. At the present writing, Liebert is compiling
a library of coded television drama.

26 The current expression of this interest is the funding in late 1973 of a three-year Committee on
Television and Social Behavior under the Social Science Research Council by the National Institute of
Mental Health. "The planning and instigation of research leading to the development of a multidimen-
sional profile would be a special responsibility" of the committee, the Secretary of HEW wrote Senator
Pastore in 1973, adding that the analyses of television violence by Gerbner should be considered a "pilot"
effort.

27 The effect of this model is to define away the possibility of bias, since that would be inconsistent with
professional standards. The basic argument is that, given professional news criteria, content is
determined by events.

28 For example, see Baldwin, T. F., and Lewis, C., Violence in television: The industry looks at itself
(TKS); and, Cantor, M. G., The role of the producer in choosing children’s television content (TKS). In
G. A. Comstock and E. A. Rubenstein (Eds), Television and social behavior. Vol. 1. Media content and
reason is that this is not a topic on which most behavioral scientists have been prepared by their training. Another is that other topics, for which they are better prepared, hold greater interest. A third is that it is unclear whether there is very much that empirical behavioral science can contribute, except perhaps in the evaluation of trial innovations, which are likely to be rare because of their expense. Nevertheless, one can expect some new research here, probably in conjunction with persons from disciplines not normally classified with the behavioral sciences, such as economics.

Of these three components, there is unambiguously more interest in the first than in the other two, in each of which there is about equal interest. This reflects the widespread presumption that television news and public affairs coverage has major effects on viewers.

No. 8: Comparative Media Systems

The eighth priority is "comparative media systems." Studies in this area compare television and other mass media across different societies. Within this priority, there are several separate but related topics holding about equal interest within a rather small community of researchers.

One is the study of television organization and its relationship to other institutions, including its relationship to government and other media, the means by which broadcasting is financed, and the relationship of these factors to trans-societal differences in broadcasting content. Another is the study of the various policies by which content is constrained and monitored in various societies. Another is the study of the transfer of communications across international boundaries, with particular attention to two topics: the degree of "Americanization" of world television by heavy reliance on American productions, and the criteria applied by various countries in prohibiting importation of various classes of content. A fourth is the cross-societal analysis of the content of certain controversial classes of programming, such as the inclusion of commercials in children's programming.

No. 9: Television and Society

The ninth priority is the macro-study of "television and society." By macro-study, we mean scholarship and research that focuses on the effects of television in terms of very broad social impact. Admittedly, this is a very vaguely defined category. Yet, there is a recognizable interest in a sort of ultimate evaluation of the role of television which transcends interest in any of the previously cited, more specific priorities. Like past work in this area, efforts in the future are likely to consist largely of synthesizing data from a wide spectrum of sources in terms of social impact. New empirical research will probably be very limited. However, Gerbner and his colleagues have been collecting fresh survey data in the context of just such a macro-level theory, and if their pioneering proves successful—in the sense of producing research acclaimed by their fellow social scientists—a number of other researchers may also attempt to conduct empirical studies deriving directly from theories ostensibly explaining television's ultimate societal impact.29

METHODOLOGICAL PRIORITIES

Of course, certain issues obviously are linked directly to specific research methods. When the issue is content, the appropriate procedure is content analysis. However, in the case of viewer behavior the investigator may choose from a range of alternatives. These methodological genres include the clinical or case study, the (cross-sectional) survey, the laboratory experiment, the panel study, and the naturalistic field experiment.

Because television research represents the confluence of a variety of disciplines, no single methodological paradigm can be said to prevail. There has been a continuing debate about the utility of these competing genres for drawing conclusions with implications for real life. As one would expect, a relationship exists between advocated method and research goals. This is illustrated in Table 2. Each method has adherents who are set apart by their qualitatively different interests.

Despite these differences, we identified four distinct priorities in regard to methodology. These appear in Table 3. Although any single social scientist is likely to be personally interested in devoting effort to only one, or at most two, these four approaches reflect the interests of the scientific community as a whole. Because almost all social scientists would agree that all are important, there is no attempt to rank them. Each is likely to influence research in the future.

The first of these, naturalistic experimentation, involves "naturalistic" experiments in real-life settings, or "in the field," sometimes called "moving the laboratory into the streets." Such experiments are characterized by circumstances in which the manipulation or the dependent measurement or both occur without the subjects knowing that any research is under way (this tactic is quite different from their

<table>
<thead>
<tr>
<th>Goals</th>
<th>Preferred Methods</th>
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<tbody>
<tr>
<td>In-depth explication of a particular experience</td>
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<tr>
<td>with the focus on the weighing and interpreting of all relevant factors</td>
<td>Case study</td>
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<tr>
<td>Unambiguous cause-and-effect inferences</td>
<td></td>
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<tr>
<td>Testing of hypotheses derived from theory</td>
<td>Laboratory study</td>
</tr>
<tr>
<td>Examination of phenomena difficult to isolate in normal course of events</td>
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<tr>
<td>Unambiguous direct generalizability of cause-and-effect inferences to real life</td>
<td>Field experiment</td>
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<tr>
<td>Measurement of real-life events</td>
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<tr>
<td>Generation of hypotheses for further testing</td>
<td></td>
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<tr>
<td>Analyses of patterns among a wide variety of variables as they operate in real life</td>
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<tr>
<td>Data interpretable as suggestive of cause-and-effect inferences with unambiguous real-life implications</td>
<td></td>
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<tr>
<td>Tracking of relationships and their fluctuation over time</td>
<td></td>
</tr>
<tr>
<td>Unambiguous direct generalizability of cause-and-effect inferences to real life</td>
<td>Panel study</td>
</tr>
<tr>
<td>Surveys in time series</td>
<td></td>
</tr>
</tbody>
</table>
Table 3

**Methodological Priorities Within the Scientific Community**

- Naturalistic experimentation
- Use of multiple genres of method within the same design
- Refinement of techniques for panel analysis
- More advantageous use of the laboratory experiment

being misled about the purpose of what is perceived by them as an experiment or an instance of measurement). The purpose of naturalistic experimentation is to produce findings which are readily generalizable to everyday life. The possibility for such generalization is attributable to three assets claimed for naturalistic experiments: (1) any distortion that might emanate from the subjects' knowledge that they are participating in an experiment or being measured is eliminated; (2) the behavior of interest is measured as it naturally occurs—in an everyday setting, in response to natural television stimuli, or in natural interaction with other persons; and (3) the formal logic of the paradigm, since it is identical to that of the laboratory experiment, permits relatively unambiguous causal inference. There is great interest in naturalistic experimentation because of the broadcasting industry’s demand that real-life effects be demonstrated before changes in programming policy are entertained. And this interest is particularly evident among investigators previously involved in laboratory experiments demonstrating that television violence increases subsequent aggressiveness.

Another is the use of multiple methods within the same research design. In such an undertaking, two or more methods—such as a survey and a set of laboratory experiments—are undertaken in order to crossvalidate instruments and to test the same hypotheses by different methods. The assumption is that no single method is ever totally free of criticism, and that inference should depend on results from multiple methods (such a set of results may support each other, cast doubt on each other, or qualify the inferences drawn from one or the other).

There is high and widespread interest in employing multiple research methods. This is particularly so for those associated with the variegated but not highly integrated research program conducted in connection with the Surgeon General’s study of the effects of television research. Apparently, this experience sensitized many of the several dozen social scientists involved to the promise of such an approach.\(^{30}\)

A third methodological approach is the conduct of panel studies, which involve the measurement of the same set of individuals at two or more points in time, and the development of improved techniques for the analysis of such longitudinal data. Presumably, panel samples measured at two points provide a set of data for causal

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inference that is superior to single-measurement cross-sectional surveys, and panels
where there are multiple points of measurement have the added advantage of
allowing the analysis of fluctuations over time. We find great interest in panel
studies among those who believe that effects should be measured as they occur,
rather than examining the linkage between them and isolated stimuli (as occurs in
all laboratory and many field experiments). However, we also find skepticism about
their prowess for generating convincing causal inferences because of the possibility
that some artifact of the data or some variable than those under scrutiny is respon-
sible for the pattern of correlations obtained.

A fourth approach is continued use of the laboratory experiment. The laboratory
will remain very active in television research, and not solely because it is an
economical place for the earning of publication credits. The laboratory has two
advantages: (1) It provides the control necessary for clear causal inference, and such
control is easy to lose in naturalistic experiments; and (2) it provides the flexibility
for the study of a wide range of variables, including many which would elude study
under more naturalistic circumstances. Thus, laboratory experimentation is the
method of choice of those studying the mediating processes and the conditions on
which television’s effects are contingent, whether the effects are classified as antisocial
or prosocial, including research deriving from the arousal hypothesis, and of
those studying the effects of very specific classes of television stimuli.

When we review our conclusions about methodological priorities, we are struck
by the influence of events upon scientific behavior. The first three priorities are the
legacy of the debate over the effects of television violence on aggressiveness. A major
salvo in this exchange was the criticism of the laboratory experiments as irrelevant
for inferences about real life because of the artificiality of the circumstances under
which the data are obtained, the lack of correspondence between the aggression
measures and real-life aggression, the typical absence of the possibility of retaliation
by a victim, and the frequent departure of the television stimulus from what is
ordinarily viewed on television. Most of these experiments had demonstrated that
aggressiveness is heightened immediately after exposure to television violence, al-
though the experimental circumstances and the theoretical rationales varied con-
siderably. Such criticism was offered by industry spokesmen as a reason for ignoring
the findings of these experiments in making programming policy decisions, although
it would be very unfair to suggest that it was confined to or entirely the creature
of the industry. In any case, the criticism has had its impact. The first three have
become priorities because they are paradigms less open to the same criticism.

SELECTED PERSPECTIVES

As in the arts and in politics, television research has as many perspectives as
it has participants. Nevertheless, at a slightly higher level of synthesis it is possible
to distinguish certain perspectives which are likely to influence future research.
These are described briefly in Table 4.

We have focused on the work of particular individuals, thereby providing a
partial guide to current significant research. However, our major purpose is to
portray perspectives around which future research is likely to be organized.31

31 We must caution that our list is definitely selective and is designed to cover a diversity of perspec-
tives having in common only our evaluation of them as important and likely to influence research in the
<table>
<thead>
<tr>
<th>Perspective</th>
<th>Capsule Characterization</th>
<th>Representative Researcher</th>
</tr>
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<tbody>
<tr>
<td>Micro social engineering</td>
<td>Social engineering using laboratory experiments to design television sequences which enhance the likelihood of prosocial behavior on the part of children</td>
<td>Robert Liebert (Professor of Psychology and Psychiatry, State University of New York, Stony Brook)</td>
</tr>
<tr>
<td>Mediating affect, naive populations</td>
<td>Study of naive populations to eliminate effects of viewing history; measurement of emotional reactivity as a mediator of behavioral effects of media exposure</td>
<td>Paul Ekman (Professor of Medical Psychology, University of California Medical School, San Francisco)</td>
</tr>
<tr>
<td>Arousal</td>
<td>Laboratory experimentation on prowess of media to affect behavior by its excitatory impact regardless of the specific class of content involved (such as violence); measurement of physiological levels of arousal as well as level of external behavior</td>
<td>Percy Tannenbaum (Professor of Public Affairs, University of California, Berkeley)</td>
</tr>
<tr>
<td>Social learning</td>
<td>Laboratory experimentation; theory construction; observational learning, or imitation; media effects on young children</td>
<td>Albert Bandura (Professor of Psychology, Stanford University)</td>
</tr>
<tr>
<td>Disinhibition</td>
<td>Laboratory and field experiments; theory construction; focus on aggression, particularly disinhibiting or stimulating effects of exposure to violent media, and role of media and environmental cues</td>
<td>Leonard Berkowitz (Professor of Psychology, University of Wisconsin)</td>
</tr>
<tr>
<td>Aggression reduction</td>
<td>Laboratory and field experiments; focus on &quot;catharsis,&quot; or circumstances under which exposure to violent media reduces likelihood of subsequent aggressive behavior and thought</td>
<td>Seymour Feshbach (Professor of Psychology, University of California, Los Angeles)</td>
</tr>
<tr>
<td>Ad hoc naturalism</td>
<td>Naturalistic experimentation; atheoretical hypothesis-testing; emphasis on cause-and-effect inferences and direct generalizability to real-life circumstances</td>
<td>Stanley Milgram (Professor of Psychology, Graduate Center, City University of New York)</td>
</tr>
<tr>
<td>Developmental</td>
<td>Laboratory experiments and field experiments; emphasis on role of television in child’s development, with special attention to age-related variables on which media effects might be contingent</td>
<td>Aletha Stein, Lynette Friedrich (Associate Professor of Human Development; Research Associate; Pennsylvania State University Graduate School of Education) Aimee Leifer (Assistant Professor, Harvard University) Donald Roberts (Assistant Professor, Stanford University, Department of Communications)</td>
</tr>
<tr>
<td>Perspective</td>
<td>Capsule Characterization</td>
<td>Representative Researcher</td>
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<tr>
<td>Focus on the social environment and response to television</td>
<td>Survey methodology and multivariate analysis; examination of correlational patterns for possibly theoretically significant hypotheses; use of social structure of family as an independent variable</td>
<td>Steven Chaffee, Jack McLeod (Professors of Journalism and Mass Communication, University of Wisconsin)</td>
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<tr>
<td>Focus on agenda-setting as a response to mass media</td>
<td>Survey methodology; focus on political effects of the media, in particular the degree to which the media define the issues or “set the agenda” for the nation</td>
<td>Maxwell McCombs (Professor of Journalism, Syracuse University)</td>
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<td>Focus on role of social attributes in responding to television</td>
<td>Surveys and laboratory experiments; focus on income and race as variables that make a difference in regard to use of the media, gratifications derived from them, and their effects</td>
<td>Bradley Greenberg (Professor of Communications, Michigan State University)</td>
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<td>Focus on television’s public image</td>
<td>Survey methodology; focus on measuring national attitudes and behavior in regard to television, with particular emphasis on public evaluation of television</td>
<td>Robert Bower (Director, Bureau of Social Science Research, Washington, D.C.)</td>
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<td>Focus on media ecology</td>
<td>Survey methodology; focus on role of television in lives of young persons; focus on audience composition, with special attention to young audiences and the audience for public television; emphasis in data interpretation of motives which lie behind particular media choices</td>
<td>Wilbur Schramm (Director, East-West Communication Institute, University of Hawaii)</td>
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<td>Focus on human fluctuation in response to television</td>
<td>Panel methodology, with measurements at more than two points in time; tracing of behavioral fluctuations, both in regard to television viewing and possible effects; measurement of wide range of behavior and beliefs relevant to television</td>
<td>Jack Lyle (Director of Research, Corporation for Public Broadcasting, Washington, D.C.)</td>
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<tr>
<td>Macro holism</td>
<td>Content analysis, survey methodology, and qualitative analysis of media organization and operation; “grand theory” of media effects in which content analysis and survey data are jointly employed to infer the net direction of social influence, and the character of content is related to the way the media are organized; collation of an archive representing time trends in television drama; study of mass media as complex social systems</td>
<td>George Gerbner (Director, Annenberg School of Communications, University of Pennsylvania)</td>
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</table>
In some instances, these perspectives are inherent in or derive largely or entirely from the work of the specific individuals cited. In other instances, the work cited merely represents good examples. In any case, our depictions do not represent the entire research career or range of interests of the persons cited. It is hardly likely that perfect or even approximate identity will exist between an individual's career and interests and a particular perspective on a specific topic whose merit for attention is its individuality and likelihood of influencing future research.\textsuperscript{32}

Micro Social Engineering

Liebert represents the conjunction of laboratory experimentation and the desire to positively affect children's attitudes and behavior. The result is research which amounts to the micro-engineering of television in the interests of benevolent-communicator intent. The principal distinction between Liebert's experimentation and that which would be undertaken to evaluate advertising is the dependent variable, which is not consumer response but "prosocial" behavior.

The underlying assumption—and a reasonable one—is that the same processes which lead to increased aggression subsequent to exposure to violent television may also lead to increases in other, more desirable forms of behavior subsequent to exposure to other kinds of content. In a typical practical application, Liebert constructed a "prosocial" commercial and tested its effect on children's behavior in a standard experimental design. The children who viewed the prosocial commercial subsequently displayed more of the sought-after behavior than children who did not view the commercial. Consequently, the prosocial commercial may be considered "product tested" for wide dissemination.\textsuperscript{33}

The testing of the effectiveness of such small media units as a socially constructive commercial is not the sole expression of interest in engineering specified effects. In Liebert's approach, the media unit itself has been shaped by empirical research. For example, the prosocial commercial itself is the product of careful engineering before it is tested for effectiveness in shaping behavior. Initially, a commercial is made to Liebert's specifications, which themselves are based on prior research. Next, the reactions of children while viewing that commercial on an ordinary television set in the naturalistic circumstance of a waiting room are surreptitiously videotaped. Using a split-screen montage, the children's reactions are followed in conjunction with changes in television content. Because camera angles are carefully taken

\textsuperscript{32} We warn that individuals are identified only in order to make our discussion concrete and to provide the reader with a source for further information; no implication is intended that other researchers are not similarly prominent in regard to these positions. We also emphasize that not all pertinent investigators can be cited here in regard to each perspective and no implication is intended about the relative scientific quality or importance of the work of excluded parties. We also note that although we cite specific studies for illustrative purposes, this volume is in no way intended as a comprehensive bibliographic source. For an extensive bibliography of research on television, see the first volume in this series, \textit{Television and human behavior: A guide to the pertinent scientific literature.} Santa Monica: The Rand Corporation, R-1746-CF, 1975. The reader should also be reminded that when a reference cited here carries the code (TKS) it means that a summary is available in the second volume in this series, \textit{Television and human behavior: The key studies.} Santa Monica: The Rand Corporation, R-1747-CF, 1975.

\textsuperscript{33} For an example, see Rubinstein, E. A., Liebert, R. M., Neale, J. M., and Poulos, R. W., \textit{Assessing television's influence on children's prosocial behavior.} Stony Brook, N.Y.: Brookdale International Institute, 1974. (Occasional paper 74-11.) (TKS)
into account, the rather eerie effect of a telecast of a child viewing another telecast is created. The commercial is then revised on a second-by-second basis in order to achieve maximum possible attention.

In another phase of his research, Liebert has developed a coding scheme for measuring the prosocial content of television drama, analogous to Gerbner's procedures for measuring violent content. The rationale for this enterprise is threefold: the development of a broader inventory of television content than violent interaction, the monitoring of industry behavior on a positive as well as a negative dimension, and the objective measurement of prosocial content so that it can be used as a variable in future research.

Critics hold that the Liebert approach involves an unacceptable tinkering with program content, the development of tools for excessive communicator control, and, in the measurement of prosocial content, the development of a tool which could be used by the government to require the presence of certain kinds of content. Liebert's reply is that the experiment is the soundest method for inferring cause and effect; small units are the meaningful ones in terms of measurable effects; programs have effects, and they might as well be consciously chosen as accidental; and, the provision of additional monitoring criteria—such as content analyses of prosocial as well as violent content—only widens and makes more open and meaningful the debate about broadcaster performance.

Affect as a Mediator and Naive Populations

The research of Ekman is distinguished by two features: (1) the measurement of emotional reaction to television stimuli in conjunction with measurement of effects, and (2) the pursuit of a television-naive population of children for such research. Ekman entered the television field with a study in which children's positive and negative reactions to television violence were related to subsequent aggression against a peer.\(^{34}\) The principal finding was that the aggressive behavior of boys after exposure to television violence was significantly correlated with positive emotional reactions while viewing the violence. Ekman's interpretation of this finding was that identification with the aggressor rather than the victim mediated between violence viewing and subsequent aggression. His current research is being conducted in Micronesia, a remote section of Australia, and South Africa. In each case, television will not have been introduced by the time of the research. In this new research, the independent variables will be "antisocial," "neutral," and "prosocial" television programming, and controlled exposure will involve three hours a day of viewing over several weeks.

From Ekman's perspective, there has been some urgency in undertaking this research because of the steady disappearance of the few remaining television-naive populations in the world. Ekman argues that a long history of exposure to television on the part of the children studied may invalidate inferences about the effects of television. He therefore believes that effects must be tested on television-naive populations. However, from the policy perspective, one may be skeptical because

nonnaive populations are precisely those at whom programming policy in many countries must be directed. Doubts may also be raised about the interpretability of null findings, should they occur. Would they really cast doubt on the many American laboratory findings which indicate that exposure to television violence increases the likelihood of subsequent aggression? Or would they imply that television’s influence is made up of a class of learned responses acquired only after some time is spent with the medium?

In any case, it would be of great interest if the sharp increase in vicarious experience and range of models provided by television were shown to have strong behavioral effects. And, there is clear policy relevance for those nations where television falls very short of saturation or television content is easily controlled, because they have the opportunity to limit its adoption or to restrict programming.

**Differing Perspectives on Television Violence**

This is not the place for a review of the controversy over whether something labeled “television violence” causes something labeled “aggression.” However, four of our perspectives represent differences over the most useful approach to the study of this issue. Each represents a view about the kind of theory most likely to be useful—arousal, social learning, disinhibition, or aggression reduction. Each also represents a perspective with relevance to and implications for the study of television’s effects on a much wider range of behavior than aggressive or antisocial, although that has been the common focus to date.

**Arousal.** Tannenbaum is the leading proponent of the “arousal hypothesis,” which holds that exposure to television violence increases aggression because violence increases excitation, or “arouses” viewers. Increased aggression follows when it is appropriate as a response, which is almost always the case in television-and-aggression experiments. The implications are threefold: (1) television violence may stimulate classes of behavior other than aggression; (2) classes of content other than violence may stimulate aggression; and (3) many effects demonstrated in laboratory experiments and in real life may hinge on the point on the curve of increasing arousal at which the editing of a film sequence leaves the viewer. The hypothesis is supported by studies demonstrating that humorous, erotic, violent, and other classes of content hypothesized to be arousing increase physiological measures of excitation among college-age subjects; that exposure to humorous, erotic, and other classes of arousing visual portrayals lead to greater subsequent aggression on the part of college-age subjects than less excitatory fare; and that both physiological arousal and level of behavior will vary depending on whether a film sequence ends on an exciting note or concludes with blander depictions. Tannenbaum is an advocate of testing hypotheses in order to construct theory, a proponent of rigorous laboratory experimentation in order to infer cause and effect, and a skeptic over whether violent content per se is responsible for the increased aggression observed following the viewing of television violence.  

**Social Learning.** Bandura is the leading proponent of "social learning" theory. His central proposition is that ways of behaving are learned by observing

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others, and that this is a major means by which children acquire unfamiliar behavior, although performance of acquired behavior will depend at least in part on factors other than acquisition. One of the many testable hypotheses derived from this theory is the proposition that children will learn from observing portrayals on television as well as from observing the actions of live persons. Findings from a wide range of laboratory experiments support this proposition. In many of the experiments, the television stimuli have consisted of some form of aggressive behavior, and the dependent variable has been the recording of imitative aggression in play. Subjects typically are young children, often of nursery-school age. What has been clearly demonstrated is that children can acquire aggressive ways of behaving from television and will exhibit these aggressive responses in play behavior. Bandura, like Tannenbaum, believes in the testing of hypotheses in order to construct theory and in rigorous laboratory experimentation in order to infer cause and effect. However, unlike Tannenbaum, his focus has been on the acquisition of behavior.

His social learning theory, which is one of the most refined and well-tested theories in the social sciences, has been one of the two most influential sources of research on television and aggression. It is far from limited to acquisition, but also encompasses the attributes of the individual, the observed stimuli, and the environment likely to facilitate or inhibit performance of observationally acquired responses.36

Disinhibition. Berkowitz has been the leading investigator of the "disinhibition hypothesis," which posits that television violence in certain circumstances will result in increased interpersonal aggression because it weakens inhibitions against such behavior. The findings so far suggest that such circumstances include those in which the television violence is rewarded, those in which cues similar to those in the television portrayal appear in the environment, and those in which the environment contains a target who has previously provoked or harmed the viewer. Findings from a wide range of laboratory experiments typically employing college-age youths as subjects support this viewpoint. Like Tannenbaum and Bandura, Berkowitz believes in testing hypotheses in order to construct theory and in rigorous control in order to infer cause and effect. However, unlike Tannenbaum, he has been interested in the direct contribution of television violence to the performance of acquired behavior. And unlike both Tannenbaum and Bandura, his most recent research has involved naturalistic field experiments on the effects of television violence on subsequent interpersonal aggression.37

Aggression Reduction. Feshbach is conventionally identified as a proponent of the "catharsis hypothesis," but this misstates a complex situation. It would be more accurate to identify him as a proponent of an "aggression reduction hypoth-

esis" which holds that under certain conditions exposure to television violence will reduce subsequent aggression. One such condition is said to occur when viewers are deficient in the ability to invent aggressive fantasies, the entertainment of which Feshbach hypothesizes is helpful in self-control of aggressive impulses. Television violence, it is argued, supplies material for such fantasies, thus reducing aggressive behavior. Another condition is said to occur when the television violence creates aggression anxiety, which leads to the inhibition of aggressive impulses. There is very little support in the scientific literature for the original, pure "catharsis hypothesis" which held that television violence would reduce subsequent aggression by lowering aggressive drive through vicarious participation in aggression. Initial findings which appeared to support such a view have come to be viewed instead as reflecting the effects of aggression anxiety. Feshbach, like the previous three investigators, believes in the testing of hypotheses in order to construct theory and rigorous control in order to infer cause and effect, although he has been involved in at least one naturalistic field experiment. However, quite unlike the previous three, he has focused on the circumstances under which television violence leads to a reduction in subsequent aggression.

Concluding Comment. The differences among these four perspectives are displayed in Table 5. Although each certainly represents a different view about the approach to research on the effects of television violence that is most likely to pay off, the four are complementary rather than in competition. All four phenomena may indeed occur. Arousal may be viewed as enhancing the likelihood of performing responses acquired from television and other sources by observational learning and as increasing the level of aggressive response when circumstances, including television stimuli, favor disinhibition, and by so doing as countering the aggression-reducing tendencies of fantasy enhancement and aggression anxiety. On the other hand, aggression-reducing tendencies can be seen as reducing the likelihood that arousal, observational learning, or disinhibition will occur or will result in aggression.

Ad Hoc Naturalism

Milgram is publicly best known for his studies of antisocial obedience which explore the condition under which persons will inflict harm on others. However, within the scientific community he is equally identified with naturalistic experimentation and the relatively atheoretical examination of "interesting" questions from his own perspective without extensive regard for existing theory. When he conducted a series of such studies on television and antisocial behavior, the consequence was a new perspective within the field.

This position is well described as "ad hoc naturalism."Milgram's television

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<td>Principal proposition(s)</td>
<td>Exciting television content</td>
<td>Responses observed on television are acquired, but performance depends on various attributes of the observer, stimuli, and situation</td>
<td>Television violence reduces inhibitions against aggression, especially when the portrayed aggression is rewarded, similar cues link the portrayal to reality, and there is a real-life target against whom aggression would be justified</td>
<td>For children who are unable to create violent fantasies which help them control aggressive impulses, and when television creates aggression anxiety, television violence reduces the likelihood of aggression</td>
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<td>Implications</td>
<td>Many classes of content may stimulate aggression, and violent content may stimulate many classes of behavior</td>
<td>Television violence leads to the acquisition of aggressive responses, thereby increasing the likelihood of aggression in situations where a response of that class is appropriate</td>
<td>When the required conjunction of circumstances exists, television violence increases likelihood and strength of aggressive response</td>
<td>When the required conjunction of circumstances exists, television violence reduces the likelihood of aggression</td>
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<td>Typical manipulation</td>
<td>Brief films tailored to vary in arousal potential and content (arousing and non-arousing humor film, etc.)</td>
<td>Especially constructed short film sequences, often involving humans performing violent actions upon objects and toys</td>
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<td>Typical dependent variable</td>
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experiments ignore prior theory and focus directly on the question of whether viewing an antisocial act in a television drama affects the likelihood of a viewer subsequently performing a similar act. Despite the obvious relevance to theories of disinhibition and imitation, no hypotheses are derived from these theories and there is no discussion of them in the reporting of the findings. Milgram argues that when he undertook his studies, "existing research lacked a compelling quality." He states his position clearly: 41

Two main principles shape the present inquiry. The first is that we study the effects of television under natural circumstances. This applies both to the viewing situation and to the setting in which the potential influence of the program is assessed. Laboratory studies typically create an aura in which the act of "aggression" loses all socially significant meaning.

The second principle is that logically compelling results can be obtained only by using the experimental design, one in which the investigator varies the value of the suspected cause and notes whether that leads to corresponding variations in the suspected effect.

In Milgram’s television studies, an episode in the network series Medical Center about a theft was prepared in several versions and shown to unsuspecting audiences in a try-out theater and over regular television; effects were then measured on a sample placed in a tempting situation while attempting to pick up a free gift. Although such naturalistic studies are highly desirable, they are likely to be rare because of the high costs and the requirement of broadcaster cooperation. They also are limited because, given the absence of theory, interpretations of results are limited to the specific stimuli used, and the high cost of the manipulation means that any flaws are costly indeed, since replication is generally not feasible.

The Developmental Perspective

The "developmental perspective" in television research represents the confluence of social learning theory, the study of child development, and media-effects research. The preferred methodology is experimentation in the laboratory or field; however, unlike Milgram, proponents of the developmental perspective rely heavily on prior theory. Furthermore, a principal interest is in differences in effects which can be attributed to changes with maturation in factors such as cognitive ability, language skills, reasoning power, attention span, and the like. Typically, such changes are conceptualized in terms of various stages of development (Piaget’s is the best known schema).

Good examples of research based on the developmental perspective are the studies of Stein, Friedrich, Leifer, and Roberts. Usually, experimental designs are employed. A typical design involves the exposure of children of different ages to violent television episodes in which the motivations and the consequences of the violent acts varied, with dependent variables including understanding of the depicted motivations and consequences as well as subsequent inclination to behave aggressively. 42 Another typical design involves the exposure of nursery-school children to


42 In this particular instance, motivations varied as to whether violence could be said to be justified or unjustified, and consequences varied as to whether they were good or bad. See Leifer, A. D., and Roberts, D. P., Children’s responses to television violence. In J. P. Murray, E. A. Rubinstein, and G. A.
violent, neutral, and "prosocial" television programs, followed by measurement of their real-life play during a nine-week experiment in a nursery-school setting. A fifth developmentalist is Ward, who differs from the others in his focus, which is "consumer socialization," or the responses of children and young persons to television commercials, and in his highly eclectic selection of methods.

Survey Research

The survey has always been a popular method for research on the influence of television. However, within the community employing this tool there are a number of widely differing perspectives.

Focus on the Social Environment. Chaffee and McLeod represent both a theoretical and a methodological position. Theoretically, they are interested in the relationships between variables which characterize the individual's social environment and mass-media effects and use. So far, they have concentrated on the family. However, there is nothing which suggests that their approach is limited to this particular social unit. Methodologically, they prefer surveys producing data in quantities rich enough for extensive multivariate regression analysis, exploration for hints at hypotheses to be tested in later research, and the drawing of tentative inferences about the acceptability of hypotheses from patterns of positive and negative correlations.

In their studies of the family, they have developed a two-dimensional model which defines four family types. One dimension is the degree to which the family emphasizes social harmony. The other is the degree to which the family emphasizes personal expression. A family that is high on both is said to be "consensual." Families that are low on harmony but high on expression are said to be "pluralistic." Families that are high on harmony but low on expression are said to be "protective." Those that are low on both are called "laissez faire." In a series of continuing studies, Chaffee and McLeod have demonstrated that mass media use, gratifications, and effects differ among these family types.


Focus on Agenda-Setting. McCombs and colleagues have been conducting research on the degree to which the media define the key political issues—that is, set the agenda—for the nation. Current studies are examining the extent to which this agenda-setting influence of mass media is contingent upon message content, attributes of media technology and styles of presentation, personal characteristics of audience members, and situational constraints on the individual recipient.\textsuperscript{46}

Most audience data for agenda-setting research have been obtained from surveys, but the use of experimental designs to test more precise propositions derived from agenda-setting theory is also planned. While the current focus is on the news and public affairs content of the mass media, the hypothesis of agenda setting has broad implications for the overall role of mass communications in defining social reality.\textsuperscript{47}

Focus on Social Attributes. Greenberg is representative of the study of the role of such major social attributes as socioeconomic status, race, and sex in the consumption and the effects of television and other mass media. Within this perspective, the independent variables are typically these attributes whether the topic is the effects of violence, belief in television's credibility as a news medium, mass media consumption, or something else, and whether the method is experimental or survey. The analytic emphasis is on differences or similarities among persons in the various categories (men vs. women, blacks vs. whites, poor vs. rich, etc.). The consequence of this emphasis is that samples are often purposely drawn from sharply contrasting populations to increase the possibility of finding differences.\textsuperscript{48} Research which focuses specifically on such variables can be considered one of the essential links in developing a full picture of television's role in daily life and its effects, because surveys where such variables are not the focus may provide inadequate representation for between-category comparisons and it is a very rare laboratory experiment which takes into account subject differences other than sex.

Focus on Television's Public Image. Bower's recent research is representative of the body of work concerned with the place of television in the public mind. He focuses on what people think about television and the trend of that thinking over the 1960s.

In 1970, he conducted a national survey intended to represent the American public 18 years of age and older. Many questions were repeated from a similar survey undertaken in 1960. As a result, the 1970 data are not only a contemporary depiction of public attitudes relevant to television, they also permit the analysis of changes over the decade. This is research of a very special kind, because it does not measure effects of any kind but is solely concerned with what people say they view or say they think (although certain of the national survey findings are validated by a smaller-scale study using superior viewing measures). For example, the data focus


\textsuperscript{47} See the work of Gerbner and colleagues described later in this volume.

\textsuperscript{48} For an example, see Greenberg, B. S., and Dervin, B. Use of the mass media by the urban poor. New York: Praeger, 1970. (TKS).
on beliefs about television’s news credibility (but do not report on behavior when reports from different media conflict), and on beliefs about parental control of children’s television use (but do not report on actual parental behavior). 49

**Focus on Media Ecology.** Probably the single most prominent study of the influence of television on American children is Schramm, Lyle, and Parker’s *Television in the lives of our children.* 50 Both Schramm and Lyle since have contributed extensively to the literature on television and human behavior. Their work is distinguished by several features which sum to a well-delineated perspective. The first is the study of media consumption patterns—public use of television, public use of other media—with particular attention to the way such use varies with other attributes, such as beliefs and demographic characteristics. The second is the study of the motives which draw people to the mass media, and especially television, such as the need for fantasy versus the need for information, and the gratifications and uses served by the mass media. The third is a study of the personal attributes, including beliefs and behavior, which typify persons with particular patterns of media use, such as high television and high print use versus high television and low print use. The fourth is a readily detectable concern with measuring the mass media’s contribution to socially valued beliefs and behavior, such as greater knowledge about science and public affairs. The sum is not unfairly described as the study of the media ecology.

**Focus on Change and Fluctuation.** Milavsky is currently engaged in analyzing the data from a panel study of adolescent males in two cities whose behavior and attitudes in regard to television, aggression, and other activities, including drug use and prosocial behavior, were measured at five different points in time over three and a half years. The research is quite eclectic in its drawing upon previous studies for measuring instruments. However, in three ways it represents a significant perspective. The first is its measurement of the sample at more than two points in time in order to trace fluctuations in behavior. Interestingly, this focus has evolved out of the effort to solve problems of longitudinal data analysis and the initial rationale for the panel design was to obtain a superior data base for the making of causal inferences about television’s effects. The second is a painstaking emphasis on the validity of measures which exceeds the usual invoking of face validity or the acceptance of a certain amount of misfire as normal. The third is the measurement of a wide range of behavior and attitudes relevant to television, thereby encompassing the study of television’s effects on aggression, prosocial behavior, and drug use in a single design. Preeminent among these is the first. Milavsky believes that the ability to trace fluctuations is the prime asset of the panel design—which implies that a panel measured at only two points falls short of taking advantage of its data potential. 51

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Macro Holism

Gerbner represents a perspective we designate as “macro holism.” He began with a content analysis of television drama, brought to it a theory of popular drama and a theory of the relationship between media content, media operation, and the structure of society, and has recently added to this the empirical study of audience beliefs derived from the content analysis.

He argues that it is not possible to understand the effects of television without understanding first the nature of television content. His research began with the analysis in 1967 of violence in a fall week of primetime and Saturday morning television drama and cartoons for the National Commission on the Causes and Prevention of Violence. His seventh analysis, based on fall 1974 measurement, is now under way and the undertaking is presently called the “Cultural Indicators Archives.” The focus is less on the quantity of violence than on the relationships between the persons involved and the environments in which violence occurs. Gerbner believes that violence in television drama symbolically represents power relations and anxieties within society, and that dominant trends and significant changes in portrayals bear a definite and interpretable relationship to actual societal conditions. At the same time, he argues that the kind of content broadcast is partly a function of the way the industry is organized, and that differences in industry organization would result in content differences. Furthermore, he argues that television’s effects are best understood as the slow, subtle, but very powerful “cultivation” of beliefs and anxieties. Thus, he rejects the utility of the experimental paradigm for understanding societal impact because the scale of actual effects eludes its time- and stimuli-linked dimensions. In his empirical research on television’s effects, which is just beginning, Gerbner uses his content analyses for a measure of the way television fiction depicts the world. Then, by survey, he measures acceptance of that depiction as truth by various segments of the public. Finally, he analyzes these data in terms of respondents’ quantity of television viewing. The resulting data, which correlate quantity of viewing with believing that real life resembles television fiction, lead to suggestive inferences about television’s impact.

52 In this paradigm, there are three classes of variables. One is amount of exposure to television. Another is the perception of the respondent in regard to various attributes of the world portrayed on television, such as the likelihood of falling victim to violent crime, or the number of women in the labor force. The third is the actual measure of the distribution of the attribute in television content. Thus, persons with greater and lesser television exposure can be compared with regard to the consistency of their beliefs with the portrayal of the world presented by television vs. statistical actuality (in preliminary analyses, exposure to television has been positively correlated with perceiving the world more consistently with television’s depiction).


CHALLENGES POSED BY CHANGING CIRCUMSTANCES OF TELEVISION RESEARCH

The major scientific perspectives on the study of television and human behavior can be roughly characterized in terms of three dimensions:

- *Theory vs. action* in regard to the direct applicability of findings.
- *Micro vs. macro*, in regard to the behavioral, social, or media component examined.
- *Control vs. naturalism*, in regard to the representation of real-world events in the findings.

The major perspectives are located in such a three-dimensional domain in Fig. 2.

This amounts to a mapping of the scientific conflicts which divide the field, since distance between perspectives on any one of the dimensions represents a judgment about the relative merits of various research alternatives. However, such a map ignores the effects of the passage of time. Here, we focus on the shape of future conflict, with particular attention to the challenge posed to conventional paradigms by the growing interest in making television research relevant to programming policy. Such interest is strong. Making behavioral research more relevant to programming and other broadcast policy decisions at present is accorded high priority by the scientific community.

Background

There is a background of mild to severe (if polite) discord. This occurs because the scientific community contains persons drawn from many disciplines and includes persons with widely varying affiliations, including broadcasting industry affiliations.

We found that industry spokesmen believe that academic researchers are primarily interested in "intellectual games" to the detriment of research which might have an impact on industry practice. We found that many academic researchers believe that because the industry's goal is profit maximization the industry would ignore or attempt to discredit any research that is, in the short or long run, inconsistent with that goal. We found that action-oriented researchers often condemn theory-oriented research on the ground that it is of little use. We found that theory-oriented researchers often believed action research to be simplistic. Moreover, we found disagreement over whether the most meaningful focus for theory in regard to television and human behavior was on individual response to television stimuli or on the broad social influence of television, and over whether the most useful course was to demonstrate causal linkages unambiguously and risk ignoring the magnitude and frequency of real-life impact, or to describe impact as it actually occurs and place causal inference at risk.

Nor can these dichotomies be said to be equivalent to self-perceived dichotomies. Many action-oriented researchers believe their work to have theoretical significance, and many theory-oriented researchers believe their work to have important practical implications. In short, many researchers perceive themselves as men of "theory and action." This confusion is the result of differences on precisely the three dimensions we have isolated.
The researchers listed above can be precisely located on each of the three dimensions of our research domain by the reference numbers assigned to them. The first number refers to scale a, the second to scale b, and the third to scale c. The coordinates 1,1,1, for example, would indicate a very strong theoretical orientation, a strong tendency to prefer examining the phenomenon at a micro level, and a preference for highly controlled laboratory situations.

Fig. 2—The three-dimensional domain of television research
One way of characterizing some of the divisions is to collapse these dimensions into an advocate's basic approach to science. Let us look at some typical viewpoints:

Theory, micro, control. This kind of researcher prefers to test hypotheses derived from a theory explaining some component of human behavior, such as heightened activity levels subsequent to exposure to exciting media content or the acquisition of new behaviors by observing behavior portrayed in visual media. He is likely to believe that most problems in television research are attributable to the inability to make precise cause-and-effect statements. He is likely to believe that the measurement of dependent variables is generally weak in terms of reliability and validity, with the result that when "effects" are found there is debate over their magnitude and meaning. He prefers the laboratory experiment because of the control over manipulation and measurement it provides. By testing hypotheses rigorously, he believes that a strong theory can be constructed which can be considered applicable to real life—although not formally tested there—unless its propositions are disconfirmed by everyday observation.

Theory, macro, naturalism. This kind of researcher rejects the search for specific, isolated cause-and-effect relationships as evading the issue of television's social impact. He will employ a theory which relates television as it is to the factors which result in television with such attributes. He will also employ a theory which relates television as it is to various effects. Thus, effects will be linked to television's attributes and the factors behind them. Thus, he will explain content by the sociology and economics of the broadcasting industry, and he will develop testable hypotheses on the basis of television content taken in its entirety, leading to the explanation of effects by actual everyday programming. He shares with the first-mentioned approach great belief in the usefulness of theory but deviates sharply in the emphasis on much larger social units for analysis, and in the interest in representing in the data collected events as they occur naturally.

Action, micro, control. This type of researcher, although unavoidably drawing on various theories, seeks to produce findings with direct, practical applicability. Thus, his hypotheses will be relatively "ad hoc" for the issue at hand. He prefers to study cause-and-effect relationships involving highly specific components of television and behavior. He believes that proof of cause is necessary for practical action, and that such proof is most likely to accrue from highly controlled experimental studies of small units of behavior. He deviates from the previous two approaches in his relative disinterest in theory but shares with the first the focus on delimited components of behavior and meticulous care in the control of manipulations and precision of measurement. He believes television can be changed by specific, conclusive evidence.

Action, macro, naturalism. This type of researcher also seeks to produce findings with direct, practical applicability. His hypotheses also will generally be "ad hoc" to an issue. However, his units of analysis are generally fairly large (typically, a broad segment of the viewing public), and he places great emphasis on naturalistic representation of the real world. His preference for methods is eclectic, but his valuing of naturalism leads him to favor the field experiment, the survey, or the panel study. He, too, believes that television can be changed by conclusive evidence, but he does not believe that such evidence can be produced in the artificial (i.e., laboratory) surroundings associated with control and precise measurement.

It should be noted that in each of these viewpoints there is concern over the
social utility of research. Where the differences lie is in the way to achieve that utility.

**Future Conflict: Policy- Versus Theory-Oriented Research**

Because we found a high and apparently increasing interest within the research community in making research on television relevant to programming policy, we believe that much of the conflict in the future will be over the resolution of the challenge posed to theory-oriented research by the data requirements of policymakers. The conflict is likely to be particularly confused because the television industry is not soliciting guidance and is unlikely to specify data needs.54

We are by no means suggesting that theory-oriented research, which has been the predominant paradigm over the past two-and-a-half decades, has no policy relevance or may not in many instances be the kind of research dictated by policy needs. Theory-oriented research has been highly productive, and many of its findings have had and will have relevance to television policy. A noteworthy example is the growing evidence that the avoidance of gore dictated by network codes increases the likelihood of video violence heightening subsequent viewer aggressiveness, where the hypotheses under test derive from theory which holds that the induction of aggression anxiety leads to the inhibition of aggressive responses.55 Nevertheless, the kind of data often required for policymaking makes demands upon research that are not clearly met by theory-oriented research.

Theory-oriented research is distinguished by the testing of cause-and-effect hypotheses derived from a larger theory. On the basis of the findings, most typically obtained in laboratory experiments, the theory is revised and elaborated. The theories invoked in the case of television research usually deal with isolated components of human behavior and have in common only their capacity for generating hypotheses about television’s effects. Typically such theories deal with cognitive consistency, motivation, perception, observational learning, disinhibition, arousal, social comparison, attitude change, and socialization.

The underlying model, sometimes referred to as “linear causal thinking,” is that of the early physical sciences, and the intent is to formulate “laws” like those of the physical sciences. It is not surprising that television research has imitated this model. It has been predominant in many social sciences, has been part of the scientific culture for several hundred years, and has enjoyed great success if success is measured by quantity of work produced.56

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54 This sets television apart from the usual policy-oriented research milieu in which the policymaker at least identifies the issues and problems with which he is concerned and in which at some point there is a specification of the kind of data required to enable a choice between alternative courses of action.


56 A mechanical conceptualization of phenomena has been developing for at least 700 years. Generally, the origin of the mechanical model is traced to the thirteenth century, when artisans and craftsmen became skilled in the development of clockworks and mechanical pumps. It was astronomers, however, who began to generalize the ideas of mechanism from clockworks and pumps to descriptions of reality. Copernicus’ publication of *On the Revolution of Heavenly Bodies* in 1543 represented a victory in the battle against well-established religious and Aristotelian doctrine. The mechanical principle was extended to almost every field of science. The phenomenon of sound was studied as the motion of molecules in air; Hooke measured the elasticity of solids; Boyle, Mariott, Galileo, Toricelli, and Pascal applied the model to gases and solids; Harvey proved by quantitative arguments that the blood made a complete circuit in the body. At the time of Newton’s death in 1727, the doctrine of mechanism was firmly entrenched in scientific thought.
It is essentially a mechanistic model. Deutsch summarizes its assumptions:

... mechanism implied the notion of a whole which was completely equal to the sum of its parts; which could be run in reverse; and which would behave in exactly identical fashion no matter how often those parts were disassembled and put together again, and irrespective of the sequence in which the disassembling or reassembling would take place. It implied consequently the notion that the parts were never significantly modified by each other, nor by their own past, and that each part once placed into its appropriate position, with its appropriate momentum, would stay exactly there and continue to fulfill its completely and uniquely determined function.

This mechanical model went out of fashion in the physical sciences in the first part of this century, but it remains the ruling model in most of the disciplines relevant to the study of television's effects, although it is inconsistent with at least three demands common to policy-relevant research:

- That the complex interaction of real-life events be reflected. In the kind of theory-oriented cause-and-effect research under discussion, it is the custom to control all variables except one and measure the effects on a single other variable, thereby controlling all the varied complex real-world interactions out of existence in the data.
- That the research not lead to the rejection of social treatments which are having a positive impact (such as educational television programming), or the acceptance of social conditions which may be having a harmful effect (such as television violence). In theory-oriented research, the threshold for the acceptance of a proposition is made very high in order to protect the theory from incorporating and thereby perpetuating error. The application of this criterion to real life means that positive or negative effects may be falsely mistaken for no effect.
- That an index be provided of the real-life social magnitude of a phenomenon. In cause-and-effect laboratory research, the small samples, artificial circumstances, and simulated character of most dependent variables make possible inferences only about the direction of effects. Thus, in the instance of television, the policymaker is left unsure whether evidence of unwelcome effects amounts to serious or trivial detrimental societal impact.

The point we are making is that the way social scientists have been taught to think may inhibit their contribution to television policymaking. Policymakers, while usually also preferring to think in causal terms, have been so immersed in the system that they are very aware of mutual causal and other complex relational patterns. This "awareness" on the part of policymakers may not be verbally expressible; they might describe it as a "feel for the system."

A policymaker is also likely to believe that the process of induction is sound and that reliance on deduction from theory and the testing of hypotheses is a waste of time. He is also likely to distrust the thresholds commonly held by theory-oriented

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58 The conventional criteria are $p < .05$ or $p < .01$, which respectively indicate a probability that a finding in a particular study would be false one time in 20 or one time in 100.
researchers for accepting or rejecting propositions. These thresholds have been developed to fit the special needs of theory construction. The policymaker often will find them inconsistent with the needs of policy construction. Theory-builders have been sensitized to the cardinal sins of "Type I" error (accepting a proposition when it is false), when in the real world "Type II" error (rejecting a proposition when it is true) may be a far greater sin. Consistently inferring "no effect" when in fact there is an effect ("Type II" error) may be worse in the case of real-life good and evil than risking occasional identification of an effect when none exists. Consider a medical example. Which is worse: to say a drug has no side effects when it in fact does ("Type II" error) or to say it does have side effects when it doesn't ("Type I" error)?

Television and Aggression: Strategies Compared

In order to focus on the issues raised by conflicting research approaches, we will use a simplistic causal model and a simple experimental design. Let us hypothesize that four- to twelve-year-olds who view violence on television exhibit increased aggressive behavior.

Theory-Oriented Approach. From a theoretical viewpoint, we would first note that the age range includes several different possible stages of cognitive development, and we might want to hypothesize different effects on the basis of these differences. We would also want to explicate the stimuli so that violent content would be unambiguously distinguishable from nonviolent or neutral content. Aggression would need to be fairly widely explicated, since what is aggression to one child might not be aggression to another. The design would most likely be an experiment with a control group and after-only measurement so that the data could be straight-forwardly subjected to analysis of variance. The laboratory setting naturally would be made as naturalistic and unobtrusive as possible. It would be necessary to either validate some aggression-measuring instrument or to establish validity and reliability of an observer coding scheme. The sample would be as diverse as possible and would permit analysis of effects attributable to socioeconomic status, age, sex, and the like.

In short, the theory-oriented approach would imply a fairly standard laboratory setup. Now let us contrast this with a policy-oriented study.

Policy-Oriented Approach. Here, we would start from the opposite direction. We would want to know what classes of television content might be causing aggressive behavior. Thus, it would be important to explicate the stimulus or causal variable so as to insure it is the same as what is actually shown. We would probably use off-the-air material. The "aggression" variable would be explicated not in general terms variable across children, but in terms of socially undesirable actions.

Also, we would want to know the quantity of children customarily exposed to the classes of television content under examination. If only a few, why try and make a policy change? It would be better to turn social energies, which are not unlimited in supply, to areas where more would be affected—which might cause us to consider other classes of content more widely attended to as an independent variable.

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55 This is especially sad when one considers that it would be often possible to specify "Type II error" probabilities. From power-function charts it can be observed that the probability of finding an effect when one exists is very often .5 or less in many behavioral science studies. If such high probabilities of "Type II error" exist in policy research, then who can blame policy makers for being skeptical about its likely utility?
The next step would be to determine what type of policy impact is possible. Would we want to reduce the amount of violence on television if it affects aggression? Or would we want to substitute something in its place? If the latter is an option, it would be advisable to use this alternative material as a treatment condition in additional research, in order to demonstrate its effectiveness as an alternative. Here, we would be interested not only in whether aggressive effects were reduced, but whether there were any positive or negative side-effects, although of course our prowess to test for these would depend on our prescience in hypothesizing what they might be. The subject population would be composed of children similar to those who are the most exposed in the real world. If children from lower socioeconomic families are higher consumers of television violence, the research would begin with that population. In later studies, the design could be extended to other populations.

Developmental theory surprisingly might not enter into our reasoning at this point because it would be unlikely that a separate policy for different age groups would be established. Up to the present, the television industry, the FCC, and the FTC, have spoken largely in terms of "children's programming;" not "8-year-olds' programming." However, we would wish to use age as a variable in the analysis because, although children of all ages might not be affected, an effect on one age-strata might be sufficient for a policy change. In addition, such age data might contribute to policymaking in the future on the basis of age-related programming and differences in the modal age of the child audience for various programs. 60

Particular attention would be paid to the probability of "Type II" error. The obligation of the researcher in this instance is to recall that "no significant differences will widely be interpreted as meaning that violence has no effect. If effects were found in our naturalistic laboratory setting, we would want to replicate the design in an even more naturalistic field experiment. We would also want to obtain survey data to test whether our experimental findings are consistent with real-world events beyond the inevitably limited scope of experimental designs.

Data analysis would be the same. However, presentation would be altered; percentages would be emphasized, since they are a meaningful metric to a policy-maker; and bar graphs and other visual aids would be utilized. It would be important that an easily read version of the research report be available.

The differences between the approaches are summarized in Table 6. Two points emerge from this summary:

1. Television research which is intended to have policy impact may require a different strategy than research intended to have scientific impact.

2. Approaches to television effects which atomize the complex social system in which effects occur may not always provide useful data for settling questions of television programming policy.

The ambition of the scientific community to be policy relevant will largely depend on the resolution of these differences.

60 There are some signs that in the future, age may become more important. The networks are beginning to aim programs at specific age ranges within the young audience, and research on children's responses to television advertising suggests that age differences are so great that it would be reasonable for policy to be made on the basis of evidence about a narrow age strata—in this instance, very young children.
Table 6
POLICY- VS. THEORY-ORIENTED TELEVISION RESEARCH

<table>
<thead>
<tr>
<th>Policy</th>
<th>Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Determine problem or policy issue.</td>
<td>1. Isolate an insightful, anomalous, or otherwise “interesting” working hypothesis.</td>
</tr>
<tr>
<td>2. Determine whether numbers of persons involved and level of effect are socially significant.</td>
<td>2. Review literature and justify theoretical relevance.</td>
</tr>
<tr>
<td>3. Determine whether policy is changeable and, if so, what changes are possible.</td>
<td>3. Design laboratory experiment.</td>
</tr>
<tr>
<td>4. Pursue possible theoretic justifications for effects.</td>
<td>4. Formally state hypotheses and explicate variables so that hypotheses are empirically testable.</td>
</tr>
<tr>
<td>5. Design naturalistic laboratory experiment with 1 and 3 specifically in mind. Pay particular attention to “Type II” error problems.</td>
<td>5. Run experiment.</td>
</tr>
<tr>
<td>6. Explicate variables so as to be socially relevant.</td>
<td>6. Interpret data causally with protection from “Type II” error</td>
</tr>
<tr>
<td>7. Sample from affected segments of society.</td>
<td>7. Submit article to professional journal.</td>
</tr>
<tr>
<td>8. If “effects” are found, test their real-world relevance by field experiment and consistency with survey data.</td>
<td>8. Go to 1.</td>
</tr>
<tr>
<td>10. Disseminate information to policymakers, interest groups, and others who might not see it in a professional journal.</td>
<td></td>
</tr>
<tr>
<td>11. Go to 1.</td>
<td></td>
</tr>
</tbody>
</table>

Information Needs and Television Research

In evaluating the current state of television research, we concluded that because of the wide diversity of disciplines and institutional loci of the television research community there was particular need for improved dissemination and sharing of research among its members. Industry-based researchers are often unaware of findings that might influence decisions with respect to particular programming content; academia-based researchers are typically unaware of social research conducted by the industry. Often, information and knowledge halt at disciplinary borders. In addition, the time lag between the initiation of a study and its first appearance in print in a professionally available source (if there ever is such an appearance) means that often researchers are engaged in answering already answered questions or in simultaneously attempting to answer the same question and, worse...
doing so without the benefit of mutual experience. The advance warning system provided by the exchange of papers and views at annual professional meetings is ineffective, because different segments of the community belong to different professional organizations. Many findings never reach the public, since academics are not rewarded for publishing in lay journals and there is little tendency to do so. Furthermore, many studies do not receive merited dissemination because of the hard-to-justify but prevalent bias toward statistically significant "positive" findings rather than "null" effects.61

What would make a major contribution is a widely and easily accessible clearinghouse which would collect not only published materials, but also unpublished papers, to-the-client reports, and information about "in progress" and proposed research. No agency or service now performs this function.62

Since the research community is relatively small, if diverse, an up-to-the-minute archive of television research would seem feasible. This service would be invaluable to social scientists, including those affiliated with the broadcasting industry, teachers, students, and others. The creation of such a data base would strengthen the currently loose network of television researchers. It would also provide more channels between academia and the television industry.63

We do not offer this suggestion in behalf of the banal (although true) proposition that information is helpful. We would not want to be mistaken as suggesting something that could be equally said for all areas of scientific endeavor. We make this suggestion because of the particular character of the television research community.

We found this community to be small enough for such a clearinghouse to be effective and thorough in coverage. At the same time, the community is diverse and scattered enough for such a clearinghouse to make a real difference. We believe there is very sincere interest within the community in increased interinvestigator communication. We also believe that this desire is frustrated by the slow and uneven coverage of conventional means, the professional meeting and the journal article.

We have mentioned that such an information service would strengthen present exchange and create channels between the universities and the industry. We also believe it would increase the rate at which the field evolves and matures by speeding up the process by which investigators take advantage of the work of others in shaping their own research and by which feedback is received from other investigators. Presumably, science advances by reacting to what has gone before and by the internal exposure of error. In the case of television and human behavior, there is a good possibility that by the proper intervention the steps can be made to occur at a more rapid rate.

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61 It is inconsistent to argue that there are consensual standards about methodology and to reject studies which report "null" findings because, if the methodology is sound, a "null" finding deserves a place in the scientific catalogue.

62 The industry archive, the Television Information Office in New York, collects only published material except for industry items and cannot be said to be an open resource for the academic community, since users are not allowed to browse through the catalogue but must submit advance appointments in advance. Schools of communication offer only conventional library services. Each of the various information services—ERIC, Smithsonian Science Information Exchange, The National Institute of Mental Health Clearinghouse, and the like—offers only a very limited segment of the relevant information.

63 What is envisaged is not simply a library-like archive, but a continually active collating center with a well-designed computer-based access system. The user could request, in regard to any relevant topic, publications, reports, research in progress, or proposed research, and further browse the archive by seeking material falling between certain dates or involving certain individuals, funding agencies, or investigative methods.
Research and the Production System

Some have argued that the policy relevance of social science could be increased if the decisionmaking process affecting program content were better understood. Industry persons who commented to us on the difficulty of translating findings into program decisions would seem to concur. Industry persons believe that academicians entirely ignore television's economic realities. For example, one network executive candidly stated that if advertising were removed from children's Saturday morning programming, "kidvid" would be over because the industry would program for some population segment for which advertising could be sold. The implication is that research might have more impact if it accepted self-interest as the basis of industry behavior and took that self-interest into account in deciding on research topics. In this respect, those studying prosocial content may be said to be in accord with the industry, because they argue that one of their purposes is to develop nonviolent content of equal audience appeal, thereby permitting the industry to broadcast nonviolent content without economic loss.

Present-Day Research: Unplanned Obsolescence?

Given developing technologies, the possibility that television as we now know it might one day no longer exist is not far-fetched. The vast channel selection offered by cable television and the full development of UHF, along with the possibility of widespread adoption in the home of video playback units, could ultimately diminish the popularity of present-day network broadcasting. It would certainly seem plausible that some—perhaps many—viewers would desert the homogenized programming of the industry for access to the diverse categories they might prefer. At present, programming is designed to attract the widest possible audience, which means that the mix is probably optimal for few. The "Catch 22" is that it is the only mix available. Technology could change that.

A few forecasters see television sets of the future as interactive information utilities rather than mere receivers. With a two-way cable facility with computer capability, it would be technically feasible for a viewer to buy theater tickets, see a map of alternate bus routes, find the last sale price of a stock, take a Spanish course, or otherwise receive personal services.\(^{64}\) The news could be obtained off the AP or UPI wires. Library card catalogues could be browsed. Personal evaluations of products, entertainment, and public issues and figures could be entered by users and aggregated automatically for public self-pulse-taking.\(^{65}\)

A certain amount of uneasiness inevitably accompanies these imaginings of the future because of the increased possibility of authoritarian manipulation and loss of privacy. Central computer banks with trillion-byte and larger capacities will make it possible to keep a large amount of data on each person. For example, with

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\(^{65}\) It should be noted that control of any such information system is crucial, since there are a wide range of alternatives in the kinds of services that could be provided. The precedent now established is to require cable operators to provide certain services. However, should systems ever become capable of a wide range of interactive services, such regulation may be inadequate, since there will be considerably more choice than the present option of dedicating or not dedicating a channel to a particular purpose, and there are many groups likely to feel threatened by certain services (for example, manufacturers might object to the tallying of consumer experience).
a cable television network it would become possible to know what each subscriber is watching, and messages—commercial and otherwise—could be directed to specific viewers. Thus, information and entertainment exposure could be used as a basis for scrutiny or punitive or "remedial" action. Privacy will become a serious policy question.

Another problem may be posed by possible effects on the "knowledge gap" between social strata. Those with more resources will certainly make more and better use of this additional cheap information, accentuating differences between rich and poor.

Television researchers would be properly cautioned that research programs which are highly dependent upon the present system of broadcasting may need to undergo major changes, although probably not in the immediate future. The scientific community will need to select topics and methods relevant to television's new character and its expanded battery of functions. Thus, we conclude this section on a note of change. In answering the question, "What would you advise a person planning to complete a Ph.D. on social effects of television?" Tannenbaum replied, "I'd tell him to plan on changing his career in ten or twenty years."
INTRODUCTION

In this section, we report on contemporary research. Our data source for the more than 50 projects described is a formal survey of the scientific community conducted in the summer and fall of 1974.

Most of these projects are virtually invisible at this writing except, in each instance, to a small coterie of the investigators' colleagues. Our hope is to reduce the gap between the conduct of research and dissemination of information about it within the scientific and other interested communities.¹

The major criterion for inclusion here was that the research truly be "in progress"—that is, still under way at the time of data collection (whether any publications have been issued or not) or completed but not yet published in final or major report form.

Our survey procedure was straightforward. We compiled a file of persons likely to be engaged in television research. We then sent each person a questionnaire for each project in which we had reason to believe he was engaged. Whenever it seemed desirable, we followed up the questionnaire with a telephone interview.

The file itself was assembled by a variety of means. We requested searches of various banks of information about current research, including the major funding sources for communications research. We took advantage of a very extensive search of recent scientific literature to obtain names of persons likely to be active. We drew on a survey of chairpersons of departments and schools of psychology, sociology, and mass communications/journalism which sought names of persons who might be engaged in relevant research. We canvassed colleagues. We received volunteered information from many who simply had heard about our effort. We also included in the questionnaire an item asking for names of other persons engaged in relevant research.² During the effort, the universe of names was constantly expanding. In the end, information was sought from all the persons identified as possibly working on relevant research.

We did not formally search foreign sources for "in progress" foreign research (although we include all non-U.S. projects we learned about), and we excluded research not directly relevant to broadcast television's impact, such as research on psychotherapeutic and other clinical applications of television, the design and effectiveness of instructional applications of television, and the delivery of social services by television.

The list of persons surveyed appears in Appendix B. The questionnaire is reproduced in Appendix C. Mailings took place in three waves as we located possible

¹ As noted earlier, the authors are considering a follow-up study of the "effects" of this venture in intrascience communication upon persons whose studies are catalogued.
² Funding sources queried included the National Institute of Mental Health, The Markle Foundation, and the Office of Child Development. A particularly useful bank was the Smithsonian Science Information Exchange whose computerized file of current research extends across government agencies and can be queried both in regard to topics and investigators, although our own work indicates that it can provide the curious with only the barest sample of the amount of research actually under way on the topic in question. The literature search and the survey of academia are described in the first volume in this series, Television and Human Behavior: A Guide to the Pertinent Scientific Literature (Rand P-1146 CF).
projects. There were major mailings of approximately 70, 90, and 60 questionnaires on July 1, July 15, and August 1, 1974, respectively. Each questionnaire was accompanied by a letter, a project description, and a return envelope.

RESPONSE

Because we had identified "possible" projects, a number of responses indicated that no research was in progress. Another large proportion of responses were from researchers whose studies were classified as completed. These responses often included very welcome preprints, reprints, preliminary drafts, convention papers, and other documents.

We were successful in obtaining descriptions of more than 50 relevant projects. The quickest and most complete responses were often from prominent social scientists who were managing rather large grants or contracts. However, prompt and very complete descriptions were also often returned by persons who had little or no funding.

Despite the fact that we were essentially asking for some time from each respondent, we encountered no voiced refusals. However, we did find the process of canvassing research "in progress" unsettling. There are no conventions for the kind of collection we were attempting, and even with our definition it was not always clear whether a particular undertaking should be considered completed or "in progress." Data, we concluded, die slowly. We also had difficulty with research best described as "continuing." Investigators did not always see themselves as engaged in a singular describable project.

We also became sensitized to other problems in the reconnaissance of current scientific activity. We collected data in pieces by questionnaire, rather than asking for project descriptions, because we wanted to be sure of getting certain details. We are not sure the return is worth the added effort. Especially in the early stages, research is often too uncertain and open to change for the supplying of detail. We also decided not to go beyond a catalogue of projects because of the detail that could be presented for each. In retrospect, we are now less certain that a series of expository reviews of research "in progress" might not have been more informative. However, we believe our highly exploratory effort was worthwhile because we are satisfied that at least this particular scientific community is not adequately served by its communication system and that waiting upon publication or professional meetings for news of new research is simply too slow and uncertain.

The notion of "response rate" is, of course, not really appropriate for a survey of this type, in which the goal is a complete file of all cases rather than the highest return from a sample of a much larger aggregate. Because of the coverage of prominent investigators and the tendency for academicians to desire exposure, we would assume that nonrespondents either had no relevant research or had no research they wished to share. In either case, the net result would be the same whether or not there was a response: No description would be included here. However, to reduce the impact of investigators who might delay replying, we conducted telephone follow-ups whenever there seemed to be a reasonable probability that relevant research was under way. In addition, we also conducted telephone follow-ups when additional information was needed.
Several conventions have been adopted for project descriptions. Projects are cited in a manner similar to the bibliographic citing of documents, with investigators substituted for authors and project titles substituted for document titles. Information about location of the investigators, funding source, funding amount, and project timetable appears in a footnote to the project citation. When a project did not have a title, or a title conveyed little about its nature, we took the liberty of inventing a descriptive title. Quotation marks or indented text identifies direct quotations from responses or from papers sent to us by investigators. When a description is brief, it is because the facts supplied were few.

CONTEMPORARY RESEARCH

Projects are listed alphabetically by the first investigator’s name. (There is a project index on pp. 119-120.)

Anderson, Daniel, and Levin, Stephen. Analysis of preschool children’s attention to television.3

Visual orientation to the television screen was measured as the dependent variable in a laboratory observation setting in order to assess the effects of 48 visual and auditory attributes of television programs. Seventy middle- to upper-middle-class children from the college community of Amherst, Massachusetts, were used as subjects; five males and five females in seven age groups (12, 18, 24, 30, 36, 42, and 48 months) were selected. No a priori hypotheses were generated; rather, the researchers wanted to correlate what was on the television program at the time children were watching. They argue that a first step in determining why children watch television is to determine what specific aspect of program content is being attended to. The investigators were further interested in locating age differences, sex differences, and different television viewing styles which might interact with attention.

Television programs were coded for the presence or absence of the 48 attributes and a method was developed that would allow the researchers to determine whether subjects were attending at the time specific attributes were present (or absent). Major data-analysis methods were correlation, multiple regression, and analysis of variance.

The authors have found that while attention increases with age, there appears to be a transition period at 24-30 months. Below this age children tend to be “captured” by specific television programming; above this transition age children deliberately “watch” television. Older children orient themselves in front of the television in a manner which suggests that their sole intention is to watch television. Younger children, on the other hand, are involved with toys, are playing, etc., until some specific content item “captures” their attention. The younger child’s attention is characterized by relatively few short fixations, while the older child will orient more often and for a longer period of time. No sex differences for viewing style were found.

Several attributes have been found whose presence elevated attention: black woman on the screen, children on the screen, children talking in sound track, eye

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3 The investigators are members of the Department of Psychology, University of Massachusetts. Their research is supported by a two-year NSF grant of $57,000.
contact, puppets, peculiar voice, animation, dancing, music, rhyming and rhythmic speech, auditory changes in sound track. The presence of the following attributes tended to depress attention: adult male, adult male talking, animals, still drawings, and inactivity. About half of these were found to interact with age.

The level of statistical significance is not presently available, nor is any method for determining the magnitude of these effects. These considerations become extremely important, of course, since the possibility of Type I error (inferring an effect where none exists) becomes relatively high in a study of this type which measures so many variables. However, as the authors anticipate a complete report before early 1975, this information is likely to become available.

Arafat, Ibtihaj, and Hulbert, James M. Television viewing and academic achievement.

In a survey of several hundred college students in the New York metropolitan area, convenience samples were obtained to assess the relationship between television viewing and grade point average (GPA). Data analysis is primarily by cross-tabulation and multiple regression.

Preliminary findings are that amount of television viewing is inversely correlated with GPA, but that a number of other factors are more strongly associated with GPA. These include number of units carried, type of major, and religion. Race and sex were not related to GPA. The overall preliminary findings, then, seem to indicate that television viewing plays a relatively insignificant role in overall college achievement.

A final report is expected in early 1975. A related paper is available from the authors: "Academic Achievement and Television Viewing: The Case of the College Student," presented at the meeting of the Southern Sociological Association, April 1974.

Arafat, Ibtihaj, and Hulbert, James M. Television and drug use.

In a study to be completed in mid 1975, Arafat and Hulbert are examining the relationship between television viewing, proprietary drug advertising, and the use of commercial and illegal drugs. A convenience sample of several hundred New Yorkers will be subjected to self-report questionnaires, and the data will be analyzed using cross-tabulation and regression analysis.

Few preliminary findings are as yet present; however, preliminary analysis has failed to locate a relationship between recall of commercials for proprietary drugs and use of illegal drugs. A related article is available: "Applying Buyer Behavior Analysis to Social Problems: The Case of Drug Use," Proceedings of the American Marketing Association, 1974.

Avery, Robert K. A study of selected sociological and psychological effects of a televised community-oriented audience participation program.

This study will assess the "effects" of a televised audience participation program

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4 Ibtihaj Arafat is associated with the Department of Sociology, City College, New York, and James Hulbert is at the Graduate School of Business, Columbia University.

5 Ibtihaj Arafat is associated with the Department of Sociology, City College, New York, and James Hulbert is at the Graduate School of Business, Columbia University. This research was supported in part by the American Association of Advertising Agencies.

6 This research is being conducted at the Department of Communication, University of Utah, and is supported by a faculty research grant of $2,090.
which offers help for personal, community, and family problems. Persons who reside in the Salt Lake City area will serve as subjects and samples will be drawn from the populations of nonviewers, regular viewers, and regular viewers who phone in. Thus one control (nonviewers) and two experimental groups are formed. In the first phase of this study, an attempt will be made to gauge differential changes in "quality of life" for these three groups as measured via a specially developed interview instrument. In the second, a comparison will be made between viewers' personality types and those of their favorite television program hosts. The broad purpose of this investigation is to determine the extent to which local television programming can be utilized to identify community needs and provide solutions to local problems. It is hypothesized that (a) there will be an improvement in quality of life among persons who participate in a community-oriented television show, and (b) a significant relationship exists between personalities of program hosts and those of their regular viewers.

This research was to have begun in late 1974 and a final report is expected by July 1975.

Bandura, Albert. Experimental analysis of vicarious psychological processes. 7

The major objective of the proposed program is to advance understanding of social learning principles with specific emphasis given to the paramount role played by vicarious symbolic, and self-regulatory processes in the development and modification of human behavior. The manner in which symbolic coding, rehearsal, and motivational processes govern observational learning of modeled behavior is examined. A second series of studies is designed to clarify the mechanism through which vicarious reinforcement alters the behavior of observers.

Another aspect of this program of research is concerned with the phenomenon of vicarious emotional learning whereby observers acquire emotional responses by watching the affective expressions of others. This research will examine factors that both enhance vicarious learning and attenuate vicarious emotional arousal. A social learning analysis of aggression is also planned. A series of experiments will investigate the disinhibition of aggression through self-exonerating practices. In prior research a powerful therapeutic process combined modeling with guided participation. Additional studies are planned to extend the applicability of this approach and to identify the process by which these psychological processes are achieved.

A number of preprints are available from the author and a general discussion of many of these concepts can be found in Aggression: A social Learning Analysis (Bandura, 1973). A new publication, Social Learning Theory, will be available in late 1975.

Berkowitz, Leonard. Determinants of aggressive behavior. 8

A series of experiments, including field experiments, are being conducted on the relationship between exposure to television or film violence and subsequent interpersonal aggression. Particular attention is being given to naturalistic viewing condi-

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7 Albert Bandura is a Professor of Psychology at Stanford University. This research is supported by the National Institute of Mental Health with a grant for $41,637 for the years 1974-1979.
8 Leonard Berkowitz is a Professor of Psychology at the University of Wisconsin. This work is financed by a National Institute of Mental Health grant of $46,473.
tions and naturalistic measurement of aggression, such as by observation of actual verbal and physical interpersonal aggression. In addition, attention is being given to increasing experimenter control over variables not under experimental test, such as differences in liking or interest in the media stimuli used in different experimental conditions, and to validating results by using both laboratory-type measures as well as naturalistic measures. Recent work in this continuing program is reported in Parke, R. D., Berkowitz, L., Leyens, J. P., West, S., and Sebastian, R. J., Film violence and aggression: A field experimental analysis. Journal of Social Issues, in press (TKS).

Butler-Paisley, Matilda, Miller, Susan, Nash, Sharon, Samuelsorn, Kris, Shapiro, Karen, Sokolow, Sonya. Women and mass media: Test of a research model for change.9

A six-step model is proposed to investigate treatment of women in television advertising, the factors responsible for the treatment received, and the effects on women of the treatment received. A team of interdisciplinary researchers from education, psychology, law, and communication will undertake content, cultural/social, media management, and effects analyses of the advertisements of the three major networks. The authors contend that while "women represent 38 percent of the work force. . . . the media present women as happy homemakers, concerned only with sweet smelling clothes, clean floors, and germs lurking in the bathroom." They further argue that few systematic studies of women's images have been undertaken and that those which have been conducted fall short of providing useful policy statements with indications for needed action.

This research is in preliminary stages with some results expected in late 1975. A copy of the proposal is available from Butler-Paisley.

Clancy, Kate, Sharaga, Susan, Hickey, A., Nevill, G., Goldberg, H., and Bibby, B. The effects of television advertising on children's food habits.10

Surveys of children and their mothers are being conducted to investigate the relation of television viewing to children's food habits. Four studies have been completed to date and have examined children from the second through the seventh grade. These studies are mainly correlational in nature, with some development of a path analytic model.

A relationship has been found between the attitudes of mother and child toward television advertisements, and a weak relationship between attitudes toward ads and snack food scores is reported. Although several correlations are reported as "significant," many of them account for very little variance—i.e., less than 10 percent.

The investigators are encouraged by these and other preliminary findings and feel that attention must be given to (1) the development of scales to measure health and nutrition attitudes and knowledge, (2) ways of evaluating and scaling feeding practices, (3) measures of the amount of nutritional information provided by television and television ads, and (4) the interaction of these and other factors with such agents as peer groups, etc.

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9 The authors are members of the Department of Communication, Stanford University, with the exceptions of Nash (Psychology) and Sokolow (Education). Funding for the project is provided by Stanford's Center for Research on Women (CROW).

10 The authors are located at Cornell University, with the exceptions of Goldberg (University of Rochester) and Bibby (Eastman Dental Center).
Interested researchers should note a recent article in the *Journal of Nutrition Education*, 1974, 63), and a paper obtainable from Clancy, "Some effects of television advertising on children's nutrition attitudes, nutrition knowledge and eating habits."

Collins, W. Andrew, and Westby, Sally D. Developmental aspects of understanding and evaluating televised social behavior.  

The investigators argue that the usually undifferentiated child audience is in reality composed of children who are "affected" by media in different ways due to children's differing cognitive abilities. Their research represents an interface between cognitive-developmental formulations and observational learning theory, and they are interested in "age related aspects of children's understanding of the elements of a television plot that contribute to their evaluation of a character and the social behavior he engages in."

Thus far 1,200 subjects ranging in age from four to sixteen years have participated in seven experiments in this ongoing series. Typical experiments include white middle-class children of both sexes who are enrolled in the public and parochial schools of the Twin Cities metropolitan area.

Both pre-test/post-test and after-only designs are employed, and they are usually analyzed with analysis of variance and multiple regression. A controlled laboratory setting is usually used; however, a naturalistic setting is stressed. A number of hypotheses have been advanced:

1. What are the age-related factors in children's knowledge about and affective response to (evaluation of) actors and actions they see on television dramas? (Note: The interest here is in television programs produced for adults, not shows made especially for children.)

2. What are the characteristic ways in which children of different ages process (attend to, organize, and recall) the sequentially presented information from audio-visual presentations? How might this affect their understanding of social scenes?

3. What are the age-related aspects between these cognitive and affective states and children's social behaviors? (This is a standard effects question complicated by the developmental dimension and the question of the cognition-behavior relationship. It is the ultimate problem in our research program, but presently concentration is on the cognitive/affective part of it.)

The major dependent variables assessed are comprehension, "behavior potential," and a "help-hurt" measure. Comprehension is measured by raters' judgments of the extent to which children understand aggression and other social acts in terms of both motives of the actor and consequences to him. "Behavior potential" attempts to describe a subject's response hierarchy by asking how he would behave in different real-life situations. Subjects make a choice between pairs of pictures of their preferred behavior. Assessment of both prosocial and aggressive tendencies is possible using this measure after television viewing. The "help-hurt" test measures the

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11 The researchers are located at the Institute of Child Development, University of Minnesota, Minneapolis. This research is supported by the Office of Child Development for the period June 30, 1973 - June 29, 1974 ($26,459), and by the National Institute of Mental Health for the period June 1, 1973 - May 31, 1976 (estimated $56,738).
child's tendency to help or hurt (by pushing the appropriate button) a fictitious child in the other room who is ostensibly engaged in a sound-discrimination task.

Preliminary findings and a general summary of this experimental program are stated by the authors:

We have attempted to assess, from children's post-viewing interview responses, their understanding of social acts like aggression in terms of the motives and consequences associated with it. We have found pronounced age-related differences in their understanding of the motives and consequences scenes, in their grasp of the relationship between these scenes and the focal social act, and in their evaluation of the actor whose motives and consequences are depicted. We have also found dramatic age differences in behavior following exposure to television shows that have been edited to make understanding and evaluation more or less difficult. Although we do not have data from a single study that bears on both of these age-related phenomena, the correspondence between age differences in understanding and evaluation and age differences in post-viewing behaviors is provocative. Furthermore, it squares with our expectations of such differences, based on the linkages we have worked out between theory and evidence from observational-learning and cognitive-developmental theories. As we see it, post-viewing changes in behavior can probably be accounted for by changes in a cognitive/affective state as a result of watching the program. The particular content of that cognitive/affective state is a function of, among other things, age-related capabilities for understanding and evaluating the program. Although we do not expect an isomorphic relationship between understanding of the program per se and later behavior, we do think program comprehension may be an important part of a subject's interpretation of situations in which he subsequently finds himself and may, therefore, strongly influence behavior in that situation.

Our laboratory studies indicated that in addition to the age-related differences in comprehension and understanding of programs, there may also be age-related differences in the extent to which viewing influences behavior. However, this difference does not seem to be as straightforward as the old "adult discount" hypothesis, which suggested that as children grew older they were simply less affected by presentations. Rather, the discount we observe seems to be selective. Social models, such as aggressors, remain somewhat effective; but their motives and consequences become somewhat less influential modifiers as children grow older. In other words, the factors that have been believed to counteract the negative influence and enhance the positive influence of televised models may be less effective with older children. This hypothesis requires further research, but it is indicative of the relevant findings that can come out of a developmental-psychological approach to the social effects of television.

Interested persons may obtain from Collins a copy of the final report to the Office of Child Development for the period ending June 1974. Preprints will also be sent to persons who wish to be placed on a general mailing list.

Corteen, R., Gutman, G., Kimball, M., Little, B. R., Suedfeld, P., Williams, Tannis, and Zabrack, M. The impact of television on human development and community life.\textsuperscript{12}

Three towns which vary naturally in television reception are being studied by a number of methods including surveys, laboratory experiments, and ecological field

\textsuperscript{12} The investigators are members of the Psychology Department, University of British Columbia. Tannis Williams is the project director. This research is supported by a Canada Council grant of $38,583 for 1973-74, $16,397 for 1974-75, and an undetermined amount for 1975-76.
studies to broadly examine television’s impact on individuals and their communities. One town currently has no television reception but will be acquiring it shortly. A second town receives one Canadian network (CBC), and a third town receives CBC, as well as the three major U.S. networks. Within each town respondents have been questioned concerning their viewing habits, and a number of dependent variables have been assessed via cognitive, perceptual, motivational, environmental, and personality measures. A follow-up study will be conducted two years after the first town’s acquisition of television reception. Subjects for the study include school children in all twelve grades and adult members of the communities. Adults were sampled from village and district electoral lists and by door-to-door selection, while the public school system provided the sampling framework for the children.

The wide-ranging nature of this project has led to the testing of few specific hypotheses. The studies have been designed instead to assess general areas in which television effects have been contended elsewhere. Areas include creativity, aggression, etc. Since pre- and post-testing will take place in all three towns, both cross-sectional and longitudinal comparisons will be made. Planned data-analysis methods include analysis of variance, factor analysis, discriminant function analysis, correlation, and cross-tabulations.

No preliminary findings are as yet present and none can be expected until early 1976 due to the longitudinal aspect of the study. Data collection began in October 1973 and will be completed by May 1976. A book or monograph may be expected shortly thereafter.

Denney, Douglas R. Alterations in children’s interrogative strategies, conceptual styles, and cognitive tempos through modeling. 13

A series of four laboratory experiments was begun in 1970 to investigate whether models could have effects upon generalized covert and cognitive behavior in children in addition to the typically modeled overt behaviors. The models in this series of experiments attempted to teach generalized problem-solving skills and strategies which could be applied in situations other than the novel modeling situation. These studies were conducted on children between the ages of 5 and 11, and were guided by the following hypotheses:

1. Exemplary models who illustrate analytic and relational conceptual styles can increase children’s use of analytic and relational concepts on a similar but not identical task.
2. Exemplary models who show reflective or impulsive cognitive tempos can increase or decrease children’s cognitive tempos on similar though not identical tasks.
3. Exemplary models who demonstrate constraint-seeking or hypothesis-seeking interrogative strategies can increase or decrease the percentage of constraint-seeking questions asked by children on similar though not identical tasks and can increase or decrease the efficiency with which the child solves the task as reflected in the number of questions he requires in order to guess the solution.
4. Cognitive models who not only ask constraint-seeking questions but also

13 Douglas Denney is a member of the Psychology Department, University of Kansas, Lawrence. This research was supported by the National Institute of Mental Health and the University of Kansas.
verbalize the underlying strategies upon which such questions are formulated are able to increase the constraint-seeking questioning and enhance the efficiency with which children solve problems on similar though not identical tasks.

5. Cognitive models that verbalize the underlying strategy are superior to exemplary models who only illustrate target behavior.

The general design was a factorial analysis of variance utilizing data from pre-tests and post-tests. Other factors in the analysis of variance were age and the type of model used. Dependent measures for conceptual styles were obtained via the Conceptual Styles Test; reflexive and impulsive cognitive tempos were assessed using the Matching Familiar Figure Test; interrogative strategies were measured using the Twenty Question Procedure.

In general, Denny has found that exemplary models obtain more success in these areas (conceptual styles, cognitive tempos, interrogative strategies) with older and hence developmentally advanced children. Influencing young children has not been very successful; however, when influence in this direction occurs it is likely to be persistent. On the other hand, influencing children toward a less sophisticated developmental position seems to produce less permanent effects. With respect to cognitive vs. exemplary models, cognitive models were found to be significantly more effective at increasing constraint-seeking strategies among young children for whom exemplary models had been unsuccessful. Problem-solving efficiency was, therefore, similarly improved in Twenty Question using cognitive models.

This research is nearing completion and a number of papers are available from the authors. The most recent is "Modeling and Interrogative Strategies," paper presented to the American Psychological Association, 1974. Final reports of all experiments can be expected by early 1975.


The authors write:

The public access channels are said to hold the potential for providing a means for significant community dialog, inter- and intra-community information dissemination, and neighborhood socialization. This descriptive study will determine how well they are fulfilling their potential. . . . This project will be a descriptive study of (1) sources of public access programs and (2) the audience for these programs. Both phases of the study will utilize survey research procedures.

The source analysis will take the form of a survey, in which the following questions will be asked:

1. Why did the individual produce the program?
2. What, specifically, did he or she hope to achieve?
3. What audience was he or she trying to reach?
4. What audience feedback, if any, has he or she received?

14 Both authors are from the Department of Communication Arts and Sciences, Queens College. This research is sponsored by a faculty research award.
5. What modifications, if any, does he or she plan for future programs?
6. What content did the program (or series) cover?

The audience analysis will be completed with the aid of one of the cable companies in New York, which has made available a listing of all the subscribers to the company. Names will be sampled randomly from this list and telephone interviews will be conducted in which the following information will be sought:

1. Awareness of the access channels.
2. Amount of viewing time devoted to the access channels.
3. Evaluation of the access programs.
4. Reasons for watching the access programs.
5. Use of the access channels as a source of local information.

The work is scheduled to be done between July 1, 1974, and June 30, 1975.

Donohue, George A., Tichenor, Philip J., and Olien, Clarice N. An evaluation model for purposive communications: A study of an educational television series on nutrition for nine to twelve year olds.\textsuperscript{15}

The general purpose of this research is to illustrate the use of an evaluation model that allows for analysis of the message as well as key segments of the total system that produced and delivered the message. The researchers hope that such a method will provide a more inclusive analysis of failures to achieve behavioral objectives where such failure occurs. The general questions being addressed are:

1. Which subsystems can most accurately estimate the effectiveness of social cues in the message which will gain attention among receivers?
2. Which subsystems can most accurately estimate receiver learning of message content?
3. To what extent are attention to social cues and perceived realism among actors related to learning of message content?
4. To what extent does the message delivery system reinforce the tendency for increasing gaps in knowledge between lower- and higher-status viewer groups?

The study is a modified field experiment which utilizes students and teachers in Wisconsin and Minnesota who are using the program \textit{Mulligan Stew} at varying levels to increase knowledge of nutrition concepts. Additionally, commercial television personnel from the stations carrying the series, educational television specialists, and nutrition research specialists were questioned. The total number of subjects utilized is as follows:

1. Ten commercial television personnel who reviewed and programmed the series.
2. Eight educational television personnel who helped integrate the series into an educational framework.
3. Thirty-eight nutrition researchers similar to those who provided raw material for the program.

\textsuperscript{15} The investigators are faculty members at the University of Minnesota, St. Paul, Minnesota. This research is supported by the University of Minnesota Agricultural Extension Service.
4. One thousand six students measured on pre- and post-tests in a modified Solomon design with after-only control.
5. Thirty-five teachers in whose classrooms the series is used.

The authors divide variables into two categories: (a) criterion measures, and (b) background and systems variables. The principal criterion measures are gain in nutrition knowledge among students, and extent to which members of other subsystems can predict interest in the series, attention to central message components, and knowledge gain in the receiving student population.

Background and system variables include:

1. Viewers' perception of familiar social behavior, defined operationally as the extent to which viewers perceive actors performing actions which they themselves might perform.
2. Viewers' perception of social familiarity, i.e., the extent to which viewers perceive desirable manners of dress and grooming among actors.
3. The extent to which viewers make positive ratings of actors and institutions on such dimensions of social realism as modernity, believability, and naturalness.
4. The extent to which members of other subsystems are able to estimate viewer reactions to the three variables listed above.

Preliminary data suggest that high viewing levels lead to a marked increase in knowledge about key concepts, and increasing differentials according to learning proficiency levels of students. "Fast learners" tend to show greater increases in knowledge, then, than "slow learners" even when concepts are presented at high levels of repetitiveness. An additional preliminary finding is that knowledge increase within a school appears to be a direct function of the extent to which the school integrates the program in ongoing classroom instruction.

This project began in September 1973 and a final report is expected by early 1975. A related paper was presented to the Association for Education in Journalism, "Research on Purposive Communications: An Evaluation Model" (Olien, Donohue, and Tichenor, 1973). It may be obtained by request to the authors.

Drabman, Ronald S. Children's tolerance of real-life aggression following exposure to television violence.16

The guiding hypothesis of this research is that exposure to fictional violence on television and in other mass media affects the responsiveness of children to real-life aggression by creating a tolerance for aggression. The proposition is also sometimes called the "desensitization" hypothesis.

The investigator is conducting a series of experiments in which the principal independent variable is exposure to television violence and the principal dependent variable is latency of response to the aggressive behavior of others. However, a number of other variables are being encompassed, including exposure to prosocial television content, prosocial behavior, aggressiveness (as contrasted with responsiveness to aggressiveness), age of subjects, degree and type of violence exhibited in

16 The investigator is a member of the Psychology Department, Florida Technological University, Orlando, Florida. The research is financed by a grant from the National Institute of Mental Health for $44,771.
the television sequence, and characteristics of the participants in the real-life aggression.

In one completed experiment, 44 third- and fourth-grade boys and girls who either saw a violent cowboy film or saw no film were later led to believe they were responsible for monitoring the activity by television monitor of two younger children at play, who eventually became aggressive and destructive. As hypothesized, those who saw the violent cowboy film were slower to signal for adult help. In another experiment, children were more imitative of observed filmed aggressiveness when they viewed and were measured in pairs rather than singly, a finding which the investigators interpret as suggesting that social interaction facilitates the performance of observationally learned behaviors, and that previous studies may underestimate the likelihood of performance by measuring behavior where peer support is absent.


Ebbesen, Ebbe B. An examination of the underlying processes of imitation from an information processing viewpoint.17

The overall aim of the proposed research is to investigate the utility of applying cognitive processing (specifically, information processing) procedures and concepts to the phenomenon of imitation. It is expected that an information processing approach will greatly aid in our understanding of how people learn-by-example. More specifically, an information processing approach allows us to divide cognitive processing into a number of subsystems. In our research we hope to determine whether or not the initial encoding of a model's behavior into several types of useful information (e.g., information about the model's motoric activity, information about the effects that model's behavior has on the environment, information about stable characteristics of the model, etc.) can be carried on in parallel. In addition to studying initial encoding processes, we hope to determine how people "search" their memory of a model's performance in order to find the different types of information that they initially abstracted from the model's behavior. Are such memory search processes parallel or serial in nature? How does the search process depend upon the type of information being searched for? Our final aim is to determine how the initial encoding of the model's performance affects how much of the different types of information the subject can retain over long periods of time. Is trait information easier to retain than information about the specific behaviors of the model? Does memory for one depend upon memory for the other? How does the number of categories into which parts of the model's behavior are placed affect memory for the different types of information contained in the model's performance? In short, we hope to determine how learning-by-example is

17 The investigator is a member of the Psychology Department, University of California, San Diego. This research is supported by the National Institute of Mental Health ($123,480 for the three-year period September 1, 1974, to August 31, 1977).
affected by three cognitive processes: initial encoding, working memory, and long-term memory. In so doing, we will also develop a much better understanding of some of the processes which govern imitation.

A series of eight laboratory experiments is proposed:

1. To determine how sets and rate-of-exposure interact to determine immediate memory for information contained in a model’s behavior.
2. Similar to Experiment 1 but looking at how accurately subjects answer questions about behavioral sequences rather than how well they reproduce the sequences.
3. This is a visual search experiment which attempts to obtain converging information about the way in which encoding processes work.
4. In order to determine how sets affect the way in which subjects will define “meaningful units,” subjects will be asked to divide behavioral sequences into meaningful units.
5. The encoding (division into units) of behavioral sequences will be examined to determine whether or not the units are related to breaks in cognitive processing.
6. This experiment is designed to determine how short-term memory “search” processes are affected by the type of target, the number of targets, and the length of the “list” being searched.
7. This is an extension of Number 6 to long-term retrieval systems, involving a 24-hour delay between exposure and retrieval.
8. Designed to determine how sets affect long-term memory for the information contained in a model’s behavior and to explore the effect of direct manipulations of unit size and category size on long-term retention processes.

Ekman, Paul. Affect, altruism, aggression, and television violence.18

This research is designed to test a series of competing hypotheses (including the “catharsis” hypothesis, the “reinforcement theory” hypothesis, an “identification theory” hypothesis, an “indexing” hypothesis, a “generalized emotional arousal theory” hypothesis, an “instigation” hypothesis, an “enduring predisposition” hypothesis, and a “transitory reaction” hypothesis) derived from conflicting theories of mass-media effects.

Very briefly, we propose to measure specific affective responses: happiness, sadness, surprise, fear, disgust, pain, arousal, interest, and anger. These affects will be elicited by symbolic inputs, such as: (a) a chase and shooting; (b) pain and death; and (c) a rousing fist-fight. The affects elicited in response to these inputs will, in turn, be related to measures of social behavior: (a) acts of “helping”; (b) acts of “hurting”; (c) intensity of helping and hurting; and (c) latency of helping and hurting.

Specific affective responses, measured moment-by-moment, provide a means of testing a series of interrelated hypotheses about the psychological processes involved in seeing, interpreting, and acting upon symbolic inputs.

The basic rationale behind their approach argues that the specific affective response to symbolic violence may be an important intervening variable in predict-

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18 The investigator is a member of the University of California Medical School, San Francisco. This research is supported by the Department of Health, Education and Welfare, Public Health Service, for the period of September 1, 1973, to August 31, 1975.
ing the effects of that input on subsequent social behavior. They stress the importance of emotion and argue that it is not only generalized arousal, but the specific affect which is important.

In brief, our theory and past research leads us to believe that we can measure specific affective states by examining the facial expressions of viewers. Further, the previous Ekman-Friesen-Harrison research leads us to believe that we can obtain useful facial affect measures from young children as they respond to television; and we can do this using our Judge Method of facial affect scoring.

They offer four major hypotheses to be tested in this work:

1. Affects in response to symbolic violence relate to subsequent social behavior.
2. Identification with a model will lead to affective responses to the acts of that model which, in turn, will relate to subsequent social behavior.
3. The affective responses to violence facilitate subsequent aggression and altruism.
4. The affective responses to violence, and the relationships to subsequent social behavior, are stable over time.

The research will proceed in two phases: First, the record collection in which subjects are shown television, their facial expressions are videotaped, and they respond to behavioral tasks; and second, the "judge study" in which excerpts from facial expression videotape are scored by groups of judges.

The study began in September 1973 and will end in August 1975.

Ekman, Paul, Harrison, Randall P., and Liebert, Robert M. The effects of television on children: A field experiment in Micronesia using special prosocial, aggressive, and neutral television programming with replications in Australia and South Africa.¹⁹

In western societies, such as the United States, the potential importance of television was not fully recognized at the time of its introduction. However, research on the effects of television is extremely difficult and costly when the medium is diffused throughout society, and certain key questions may become very difficult or impossible to answer in the context of such television-saturated societies as our own.

The magnitude and duration of the long-term impact of television programming is difficult to determine because (a) it is almost impossible to untangle the influence of television from other factors in a child’s development; (b) by the time a child is old enough to respond to appropriate verbal and behavioral testing he or she usually will have seen thousands of hours of television; and (c) it is impossible to control the television diet except with populations who are peculiar (i.e., institutionalized patients, delinquents, etc.).

Our primary objective then is to determine the magnitude and duration of the effects of television on the aggressive and prosocial behavior of children. We will accomplish this by conducting an experimental field study in a culture in which television has not yet been introduced (Micronesia) where we can:

¹⁹ Paul Ekman is a member of the University of California Medical School, San Francisco; Randall Harrison is currently at the University of California, San Francisco, and is a Professor of Communication at Michigan State University; Robert Liebert is a Professor of Psychology at the State University of New York, Stony Brook. This research is supported by the National Institute of Mental Health and The Marjorie Foundation.
- study children with no prior television exposure
- obtain pre-television exposure baseline measures of social behavior
- control the television diet over a four to six week period
- compare the impact of different types of programming (aggressive, prosocial, and a control diet)

In brief overview, the proposed Micronesian research will expose television diets of aggressive, prosocial, and neutral programming to children of an early adolescent age. A battery of dependent measures will probe possible effects. While the primary focus will be on social behavior, other indicators of television influence will be examined.

The study will be conducted on Jaluit in the Marshalls. At a residential high school, children, most of whom have seen few motion picture films, will be exposed to three hours of television seven days a week for a period of four weeks.

The core experiment of this proposal is cast as a 2 (sex) × 3 (treatments: aggressive, neutral, or prosocial television) × 5 (measurement periods: pretest and at least four subsequent periods during treatment) factorial design.

All participants will be observed during the early part of the school year to obtain baseline data on measures of aggressive and prosocial behavior. During the treatment period, they will first be exposed to two days (i.e., six hours) of neutral programming to accommodate them to the new medium. They will then be split into three groups and receive the initial treatments of prosocial, aggressive, and neutral programming. Post-measures will be obtained, and the three groups will then be sub-divided for two additional weeks of exposure.

Detailed planning for the experiment and logistical arrangements will begin in April of 1974. Recording, content analysis, and selection of the television diets will be accomplished in the summer of 1974. During fall 1974, measures will be tested in the United States and at different high schools in the Marshall District of Micronesia. The television exposure and collection of data will be accomplished in the January to March period with at least two of the three principal investigators in Micronesia for this period. Data analysis and write-up will occur from April to December 1975.

Fletcher, James E. Positive-going skin potential as an indicator of aversive reaction to broadcast material. 20

Lower-division students listened to two commercials in a controlled laboratory setting. Subjects' skin potential, skin conductance, and forehead skin potential were measured during the presentation; afterwards subjects completed retention and attitude questionnaires. The design was a repeated measure analysis of variance. Reasoning that since earlier research had shown a tendency for forehead skin potential to be positive-going in response to an aversive stimulus, Fletcher hypothesized:

1. Forehead skin potential will be positive-going.
2. Forehead skin potential will be negatively correlated with favorable attitude.
3. Forehead skin potential will be negatively correlated with retention.
4. Forehead skin potential will be negatively correlated with skin conductance.

20 James Fletcher is located at the University of Georgia. This research was conducted in 1973 and supported by the University of Kentucky.
This study was begun in December 1973 and will be completed by early 1975. No preliminary findings are as yet available. The probability of meaningful findings seems, however, somewhat remote in light of lack of useful results from more sophisticated and less reactive attempts to isolate physiological correlates and bases of attitude.

Frank, Robert S. Home-school differences in political learning: Television's impact on school children's perception of national needs. 21

A number of agents associated with news watching and student activities after news watching were found to predict students' attitude toward news and their frequency of watching news. The investigator utilized interviews of 356 fourth-through sixth-graders and their teachers and parents to examine this relationship more carefully. In conjunction with these interviews, a content analysis of television news and the Weekly Reader were obtained. The main television-related findings were:

1. The amount of students' news watching, while predicting significantly the amount of general political discussion, does not appear to be as strong a determining factor as are the situations and the amount of discussion of the news that occurs.

2. In short, many children learn about the news by viewing, but learning about the news does not predict the amount of current-events discussions the children will engage in. Likewise, children who like to talk about the news and current events with their teacher and with friends do not necessarily know more about what is happening in the real world than their more silent classmates.

3. There were no sex differences as to why the students like to watch the news and no sex differences as to why the children like to read the Weekly Reader. There were striking grade differences, however. The younger children (fourth grade) liked to watch the news for "social value," to have something to talk about with parents, teachers, and friends, and to a surprising extent primarily to learn about other people with whom they could personally identify (26 percent). As the children go to fifth and to sixth grades, both of these reasons drop off and the "adult response," to be informed about what is actually happening in the world, increases.

4. Students who report high amounts of news watching had a statistically significant lower evaluation of the effectiveness of Congress than did those students who did not watch as many news programs. Students who reported a great deal of news watching had a statistically significant higher evaluation of cabinet officers ("like the Attorney General and the Secretary of State") than did infrequent news watchers.

5. The more children watch television in general (self-report), the greater the frequency with which these children will accept or legitimize "marginally moral" modes of problem solving (specifically, adopting deceitful or lying behavior if that deceit is perceived by the child as leading to some ultimate good).

21 This study was funded by the National Institute of Education for the time period August 1973 - May 1974 for $10,000. The investigator is associated with the Center for Social Development, Philadelphia.
6. Males who report watching television to identify with the hero and to see these heroes do things they (the students) would like to do but are not allowed to do are more likely to legitimize deceitful behavior than children who watch television for other reasons.

7. There appear to be socioeconomic status differences in the relationship between television viewing and willingness to legitimize deceit. For upper-middle-class children, those who watch for vicarious identification are most likely to legitimize deceitful behavior. For middle- to lower-middle-class children, those who watch television to reality test are most likely to legitimize deceit.

8. Children who identify with television heroes and who feel they are much like their favorite television heroes view themselves as more intelligent and as more helpful than do children who feel they are not like their favorite television heroes. Moreover, children who feel they are much like their favorite television heroes believe the police are smarter than do those who do not identify with heroes.

The study is nearing completion, and a report of findings can be obtained from the National Institute of Education.

Gans, Herbert J. The national news media and the depiction of American society. 72

This series of studies of the content and organization of the American news media, begun over two years ago, seeks to provide answers to five major questions:

1. What events and social processes are chosen for coverage by the news media and, once chosen, what aspects of these events and processes are reported and from what perspectives?

2. To what extent can the resulting news output be considered as distorted?

3. Why do news media choose the events and processes—and the aspects they report—that they do? What institutional routines, pressures and incentives, technical considerations, professional and personal values, and assumptions about the audience are involved in their selection decisions?

4. What is the audience's use of and interest in various kinds of news?

5. What are the policy implications of the analysis?

The methodology of the study is based on the questions I am attempting to answer. The first two questions are being studied through quantitative and qualitative content analysis; the third through observation of newspeople (a generic term which includes reporters as well as editors and news executives) as they work in selecting, reporting, and editing news. The fourth question has been investigated through a sample survey of a sample of the New York City news audience and audience studies conducted by others; the final question is being answered through analyses of existing and proposed news policies.

Because I am interested in news about the society, my research has been limited to the national news media and, specifically, to the major news programs and documentaries of the two largest television networks, and to the news sections of the two most widely read national news magazines. My previous research took place between 1964 and 1969; this proposal requests funds to update the content analyses and field observations in 1971 and 1972.

72 Herbert Gans is conducting this research at the Center for Policy Research, Inc., New York.
As of early September 1974, the study was still in progress. The author hopes to have a book on the study finished sometime this year.

Gerbner, George, and Gross, Larry. Cultural indicators: The social reality of television drama.23

A systematic research program is being undertaken at the University of Pennsylvania under the direction of George Gerbner. The focus is on the broad social effects of television. As articulated by Gerbner:

Basically, we believe we have found a new and promising way of tracking mass-produced cultural output, with television drama as its central manifestation, and the conceptions of social reality sustained and cultivated by this output. The key to the project is that intensive and long-range message system analysis (now in its 7th year) is necessary to establish the specific lines of investigation into the specific conceptions of social reality that these message systems might cultivate. We believe that the effect of television is primarily the cultivation of stable systems of assumptions and definitions that tend to maintain the social order. Of course, how people feel about these assumptions and definitions and what they do with them depends on their social and personal characteristics and interests. In this way, we envisage a level of common cultivation to which all members of a community are exposed, and which establishes the bases for interaction among people who never meet face-to-face, as well as the level of differential effects and uses, recognizing different and even conflicting interests in society.

These studies are centered around four basic aims:

1. Annual recording and message system analysis of prime-time and Saturday network television drama will follow methods and procedures developed in the pilot study.
2. Semi-projective picture tests and survey instruments developed in the pilot study will be completed and annually applied to various purposive samples of children and adults. An attempt will be made not only to relate the tests to aspects of the world of television drama but also to indicate changes through repeated testing and panel studies.
3. The comparative dimension of Cultural Indicators will be developed by utilizing existing contacts and arrangements for the parallel conduct of studies by identical methods in other countries to supplement and illuminate the U.S. findings. (Foreign research teams will finance their own studies. The proposed budget is intended to cover only the costs of communication and coordination.)
4. Comprehensive Cultural Indicators will combine message system and cultivation measures to present annual, cumulative, and comparative indicators of dominant cultural configurations, common conceptions, and trends relevant to issues of social health and public policy.

23 Also involved with this project are Michael Eleye, James Murphy, and Nancy Tedesco. Support for this continuing project, under way at the Annenberg School of Communications, University of Pennsylvania, has included funding from the U.S. Office of Education, the National Science Foundation, the National Institute of Mental Health, the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the International Sociological Association, National Commission for the Causes and Prevention of Violence, and the Surgeon General's Scientific Advisory Committee.
A number of publications and reports have emanated from this research. A recent grant renewal proposal entitled "Cultural Indicators: The Social Reality of Television Drama" is also available from the authors.

Gorney, Roderic, Loye, David, and Steele, Gary. Mass entertainment and human survival. 24

A series of surveys and field experiments with husband and wife participant-observer research teams are planned to assess a research area which the investigators feel has been neglected in research on social effects of television, i.e., the effects of television on adults per se. The research design consists of pre-test, concurrent testing, and post-test, results of which will be submitted to correlation, factor analysis, cluster analysis, and analysis of variance.

A sample will be selected from persons who have responded to broadcasts and mailings addressed to subscribers of a California cable television network. Some monetary incentives will be offered for participation. Subjects will respond to several questionnaires and then will take turns acting as subject and as observer in their own homes viewing treatments provided by the cable television facility. In general the researchers hope to see how television affects adults' moods, values, attitudes, and behavior. A further goal is the determination of the extent to which television may tend to enhance or endanger species survival. The authors state their research questions as follows:

1. Does television have measurable antisocial effects on adults?
2. Does television have measurable positive or prosocial effects on adults?
3. What constitutes antisocial programming or effects?
4. What constitutes prosocial programming or effects?

This program began in January 1974 and the first pilot experiment was begun in October. The first annual report is due early in 1975. Presently a paper by Loye entitled "A Review of the Research Bearing on the Impact of Television and Motion Pictures and Designs for First Survey and Experimental Studies" is available upon request.

Heller, Melvin, Polsky, Samuel, and Lieberman, Seymour. Studies of children and television. 25

The American Broadcasting Company is engaged in a highly varied five-year program of research on the effects of television on children and youth, and in particular on the possible contribution of television violence to aggression or antisocial behavior. However, although the research enters its fourth year in 1975, no detailed accounts of completed or planned activities are available. For example, in one summary, the following is encountered, "A violent program shown without commercial interruptions produces more aggression than the same program with commercial interruptions." This is a plausible inference concisely stated. Unfortunately, it is not accompanied by information on how "violent program" was defined.

24 This project, which is being conducted at the University of California, Los Angeles, School of Medicine, Department of Psychiatry, is funded by the Lilly Endowment for approximately $200,000. A special program has been created entitled Psychosocial Adaptation and the Future (PSAF).
25 The authors have been engaged by the American Broadcasting Company as private consultants. A total of $1,000,000 will be spent by ABC from 1972 through 1976.
the quantity and nature of "aggression," or the statistical analyses on which the inference is based.

Seymour Amlen and Herman Keld of ABC stated in an interview that the details of the research are confidential and will not be released until all research is complete, although many facets of it are complete. The rationale is that ABC does not want controversy over the research prior to completion.

At present the best summary is that offered in testimony at the 1974 Senate hearings by an ABC vice president (a circumstance which creates the paradox of presenting scientific findings to a Senate body whose bases are not available for scrutiny by the public or the scientific community). On the basis of the comments made there, the following unpublished studies can be said to constitute the ABC research to date:

Henderson, Ronald W., Swanson, Rosemary, Zimmerman, Barry J., and Bergan, John R. Televised cognitive skill instruction for Papago Native American children. 27

The authors contend that the fragmented, mosaic format used in Sesame Street—while appropriate for teaching simple associative learning—is inappropriate for teaching complex rule-governed behavior. As a result, they have undertaken a number of investigations which test the effectiveness of television sequences based on social learning principles in teaching such behavior. The goal of this series of investigations is to identify programming procedures which will teach complex skills which Sesame Street has not been successful in teaching.

Subjects are native Americans ranging in age from three to five, who live on the Papago Indian Reservation and who attend Head Start Centers. The studies relate to "social effects" of television indirectly, since the major dependent variable is verbal learning and the independent variables are methods of "teaching." However, an attempt is being made here to find specific effects for different programming strategies. Thus the results may provide very useful information for explaining social "effects."

Experiments in this series typically involve about 40 children; half usually serve as controls. Typically, all children are given a pre-test, a post-test, and a delayed post-test. Experimental treatment consists of viewing a 15- to 20-minute video portrayal; controls are shown an irrelevant video portrayal. Research hypotheses are formulated as follows:

1. Children exposed to television models demonstrating numerical operations will display greater proficiency in these skills than children in an untreated control group.
2. Children exposed to television models demonstrating conservation behavior will display greater proficiency in conservation skills than children in an untreated control group.
3. Children exposed to television models demonstrating seriation behavior will display greater proficiency in seriation skills than children in an untreated control group.
4. Children exposed to television models demonstrating question-asking behavior will display greater proficiency in question-asking skills than children in an untreated group.

Several hypotheses have been supported. When support was not found it tentatively has been attributed to poor experimental video portrayals. Techniques used in the design of the television stimuli have been improved as the experiments have progressed. The authors conclude:

These results show very clearly that carefully sequenced instruction in a rule-governed intellectual skill can be taught effectively by depicting the requisite skills and rule statements through the behavior of televised models, and that the effects are maintained for a period of at least one to two weeks. The fact that these results were obtained with a preschool population of children who are relatively isolated from the direct influence of the mainstream culture gives cause for optimism that similar results could be obtained with other populations of young children.

27 The investigators can be contacted through the College of Education, University of Arizona, Tucson. Support for this study is provided by the Office of Child Development for three years, beginning July 1, 1973. Total funding for the three years is approximately $450,000.
A report for the period ending June 30, 1974, which provides a thorough discussion of this research and the first-year findings, is available from the principal investigator (Henderson).

**Keating, John P.** The effects of television and other media on attitude change.  

A series of laboratory studies have tested the attitudinal and behavioral effects of anti-alcohol commercials presented by four media—television, audio, written, and live. The primary measures have been attitude change and amount of alcohol consumed following presentation of various anti-alcohol advertisements. Students in psychology classes provide subjects for the experiments in a number of pre-test/post-test and after-only designs. Factor analysis, analysis of variance, and correlation analysis have been used to analyze data. The author tentatively concludes that the manipulations fail to produce effect and that television can enhance the "image" of a communicator more than other media. A preliminary manuscript is now available and the remaining studies should be completed by June 1975.

**Kippax, Susan, and Murray, John P.** Functions of mass media: Australian and Israeli comparisons.  

A stratified/random sample of Sydney, Australia, will be surveyed to evaluate the functions that media serve in Australia. A parallel study has been completed in Israel, which will permit cross-cultural comparisons. A number of items will be analyzed in a factor-analysis format to determine:

1. What needs do Australians consider important?
2. What roles do the mass media play in gratifying these needs?
3. What is the relationship between media use and need gratification?
4. What is the role of cultural setting in determining need and gratification strategies?

A pilot study of 62 persons was conducted to modify the "needs" list used in the Israeli study. Results of the pilot study seem to indicate that (a) Australians' important needs differ from those of Israelis, (b) Australians place more emphasis on personal needs, and (c) a slight but meaningful relation exists between media use and gratification.

A final report of this study should be available in early 1975. The parallel Israeli study is:


**Kline, F. Gerald, Miller, Peter V., and Morrison, Andrew J.** Social context of media use.  

Citing the "necessity for mass communication research to take the audience member's social context into account when assessing effects," and arguing that there

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*John Keating is a member of the Department of Psychology, University of Washington. This research was supported by a $6,000 grant from the Alcohol Institute of the University of Washington.*  
*This research is being conducted at MacQuarie University, New South Wales, Australia, and is supported by a university research fund.*  
*This research is supported by The Markle Foundation, the National Institute of Drug Abuse, the National Institute on Alcohol Abuse and Alcoholism, and the Ford Foundation, and is being conducted at the University of Michigan, Department of Journalism.*
are shortcomings in laboratory experiments (their artificiality) and surveys (cross-sectional nature and lack of control), the investigators employ different methodological strategies. A major focus has been audience needs. In this context, they conducted both field experiments and content analyses to allow them to relate mass-media stimuli to audience members on the members' evaluations of the stimuli. In the experiment, they used pre-test/post-test differences, together with short- vs. long-term effects analysis. The particular content areas being examined are family-planning knowledge and drug-abuse knowledge. Preliminary results indicate strong support for their basic hypothesis that audience context influences audience perceptions and interpretations of media content, as well as audience exposure to the media content.

Krull, Robert, and Watt, James H. Program complexity and aggregate television viewership.31

With this survey of television viewers between the ages of two and fifty, the authors hope to determine answers to four research questions:

1. Is there an optimum level of program complexity in terms of aggregate viewership?
2. Does the optimum level of program complexity vary with the age of viewers?
3. Are commercial programs higher in form complexity than noncommercial programs?
4. How are ratings and complexity related for noncommercial programs?

Program sampling included all primetime series shows with the exception of sports, movies, and specials. Principal data analysis is by regression. Preliminary findings indicate that:

Middle values of program complexity seem to have high aggregate viewers (commercial programs only).

Commercial and noncommercial programs are different on variables of program complexity. There is variation in this difference for the several indicators of program complexity.

Noncommercial programs' ratings are affected by program complexity. (The strength of this effect is dependent on the indicator of complexity chosen. Where the indicator points to a substantial difference between commercial and noncommercial programs, the relationship between complexity and ratings is stronger. In other words, where noncommercial programs are well below the optimum in complexity for viewers, increases in complexity are strongly related to increases in aggregate viewership.)

Leifer, Aimee D. Encouraging social competence with television.32

Ways in which television programs can increase children's social competence are being investigated in a pre-test/post-test field study. Three kinds of video por-

31 Robert Krull is with the Department of Language, Literature, and Communication at the Rensselaer Polytechnic Institute; James Watt is with the Communication Division of the University of Connecticut.
32 Aimee Leifer is a faculty member of Harvard University. This research was supported by the Children's Television Workshop.
trayals have been created by editing materials from *Sesame Street*. They differ in how much exposure humans are given as opposed to animals or puppets, how much clear rewards for positive social behavior are shown, how the portrayals are described, and how much conflict is presented as antecedent to positive social behavior. Each portrayal could be expected to help children develop social skills by showing them how to share resources, combine skills, take turns, resolve conflicts, respect similarities and differences, etc. However, it is expected that some portrayals may be more effective than others, and that perhaps differential effects can be located for children at different stages of cognitive development. For example, more mature children may benefit most from more complex abstract programs, whereas younger children may respond to more direct messages. The intent is to learn how to produce television programming which both appeals to and influences young children.

In a specific experiment, the following hypotheses were tested, using 45 subjects of both sexes ranging in age from three-and-one-half to five-and-one-half years:

1. Television material that is designed more nearly along principles of social learning will be more effective in encouraging socially valued behavior.
2. There will be an interaction between the cognitive ability of a child and the effect of the television material on him or her.
3. There will be an interaction between the social behavior of a child and the effect of the television material on him or her.

Major independent variables were sex, type of television content exposed to, cognitive ability, initial social behavior, and attention to the television segments. Effects are being assessed via the dependent variables of social behavior and attention to the television sequences.

This project was begun in March 1973, and a final report should be available in early 1975.

Leifer, Aimee D., Graves, Sherry B., and Gordon, Neal J. Children's critical evaluation of television content.\(^{33}\)

This large-scale multifaceted study will investigate the processes by which children accept or reject television's messages, and the means by which parents might be more effective in improving children's critical and discriminatory abilities in regard to television. There will be particular attention to analyzing results in terms of a wide range of ethnic groups and ages. Black, Puerto Rican, native American, Chinese, and white samples will be obtained. Age-group studies will include four-, eight-, twelve-year-olds, thirteen-year-olds, sixteen-year-olds, twenty-five- to forty-five-year-olds, and parents of the children ages four, eight, and twelve. The dependent measures being assessed include attitude change and evidence of having skills for evaluating applicability of television content to one's own life.

Research questions to be answered and the broad purposes of the project are:

1. To discover the processes children use, or could be taught to use, to discriminate the applicability to their own lives of varieties of television content.

\(^{33}\) This research is being conducted at the Center for Research in Children's Television, Harvard University. Support is being provided by the Office of Child Development for the period July 1, 1974 - June 30, 1977 (approximately $250,000 for the three-year period).
2. To develop techniques which allow parents to teach their young children to use the processes identified in the first objective.

3. To demonstrate that children who have been taught these processes will use them to discriminate which television content is applicable to their lives, resulting in changes in the extent to which television content influences them.

This study will utilize a number of methodologies, i.e., clinical interviews, structured interviews, laboratory experiments, and field studies.

This three-year study began July 1, 1974; no preliminary findings are currently available. The authors provided the following abstract of their proposal:

The goals of this three-year research project are to identify the processes children use to evaluate the applicability of diverse television content to their lives, to discover if parents can teach these processes, and to discern if children who are taught these processes are less affected by the television they watch.

In the first year, processes which children and adults use, or could use to evaluate television content will be identified, measures of attitudes in three issue areas (social interaction, focusing on aggressive and prosocial behaviors, concepts of racial and ethnic groups and concepts of appropriate sex roles for men and women) will be devised, and videotapes of television programs presenting influential content about each of these three issue areas (as well as neutral programs) will be collected. In the second year we will teach children the processes identified in the first year and will examine the extent to which children with these skills resist the influence of televised messages. In the third year we will motivate and train parents to teach their children these processes and examine the effectiveness of such parental intervention. Throughout the three years we will focus on boys and girls between the ages of four and twelve with half of the children at each age belonging to the various minority groups within the Boston area (i.e., Blacks, Puerto Ricans, native Americans, and Chinese-Americans).

Leifer, Aimee D., and Lesser, Gerald S. The development of career awareness in children. 34

While most studies of career awareness have focused on adolescents and young adults who are about to choose a career, this study will focus on children between the ages of four and ten. The authors argue that although young children need not make meaningful choices concerning careers, they are developing attitudinal and informational structures which will certainly influence later choices. For this reason it is important to understand “how children acquire an awareness of the world of work and of the places which they may hold in it.”

The final product will be a working paper which summarizes existing literature, describes career-education programs available for children, and specifies viable intervention programs and investigations needed to develop such programs. Coverage will be made of topics such as influence of parents, peers, schools and media on career awareness; the impact of various combinations of influence; and the development of certain personality characteristics and conceptions of sex roles and race roles. An effort will be made, then, to understand the current patterns of career

34 This study is supported by the National Institute of Education for the time period June 15, 1974 - March 31, 1975 for $56,108, and is being conducted at Harvard University where the investigators are faculty members.
awareness in young children and to suggest ways to influence the development of these patterns.

Begun in June 1974, this project is expected to be completed by mid 1975.

Liebert, Robert M., and Poulos, Rita W. Children's television spot campaign: Three 30-second television spots for use on public service time. 35

Three public service television spots are being produced which present positive models of conflict resolution. Actual production of the films is accomplished through a professional Hollywood agency; however, research and testing for effectiveness of the prosocial message have been incorporated as an integral aspect of the production. Two major concerns generated interest in this project: (a) that most television solutions to conflict involve physical violence, and (b) that most assumptions of attracting and holding a child's attention are results of adult assumptions. The goal of these spots is, then, to provide children with an alternative method for conflict resolution, i.e., cooperation, and to do so in a highly effective and efficient manner. The target audience is children four to ten years old.

Each spot is subjected to three evaluation procedures which test for comprehension, attention, and acceptance or incorporation. To evaluate comprehension the spot is shown to children who are then interviewed to determine comprehension of the prosocial message and recall. Attention is tested by using a hidden video camera to record children's faces as they watch regular entertainment programming into which the test spot and other commercial spots have been inserted. A simultaneous recording is made of the child's face and the program being shown so that coders can precisely determine points of high and low attention in the program. Incorporation or acceptance is tested via an electronic comprehension game in which more points are achieved in a cooperation mode than in competition. Results of all three testing operations are used to produce improved versions of the spots, and thus a truly formative evaluation strategy is in operation.

This procedure has been found to be highly successful in production of the first spot, *The Swing*. Two others are scheduled for completion by January 1975. A description of *The Swing* and a summary of the research procedures are available from the authors.

Liebert, Robert M., and Poulos, Rita W. A method for prosocial content analysis of television programming. 36

A manual which consists of instructions for observing and quantifying various types of socially relevant actions which can be found on television is being developed by the authors. Additionally, several hundred videotapes have been recorded from live television and coded using these categories. A library of these videotapes will then be available to researchers who need specific types of prosocial or antisocial programs for research purposes.

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35 Robert Liebert and Rita Poulos are Director and Associate Director, respectively, of the Media Action Research Center, East Setauket, New York, and members of the Psychology Department, State University of New York, Stony Brook. This research was supported by the Lilly Endowment, United Methodists Communications, the Episcopal Church, the United Presbyterian Church, and the Christian Church (Disciples of Christ).

36 Robert Liebert and Rita Poulos are Director and Associate Director, respectively, of the Media Action Research Center and members of the Psychology Department, State University of New York, Stony Brook.
The manual is quite comprehensive and contains a section on rater training, viewing methods, reliability, and category definition as well as examples and counterexamples of correct coding. With the use of this method, one should be able to conduct content analyses of socially relevant television cues quickly and efficiently.

The manual is currently in rough draft form, but should be available soon from the authors.

Lynn, Jerry R. Audience exposure to televised public service announcements. 37

After several years of inquiry into the use and effects of public service announcements, the author "found a great disparity between effective communications theory and the actual conduct of public service announcements." This study attempts to test the hypothesis that public service announcements are not broadcast during peak viewing periods and to investigate the type of audience that is likely to see the public service announcements that are broadcast. The data, to be obtained from television station logs and American Research Bureau (ARB) reports on audience size/composition, will be analyzed in two phases:

Phase 1: Factor analysis of public service announcement placement by time period
Phase 2: Multiple regression using factor scores for each factor as dependent variables and audience size by composition as independent variables

The work is scheduled to begin in January 1975 and end in June 1975. The project is unsponsored; the results will be submitted for journal publication.

McArthur, Leslie Z. Children's play preferences as a function of the sex of the televised models. 38

In a laboratory experiment utilizing an after-only design, 30 boys and 30 girls served as subjects to determine "(a) whether a stereotyped portrayal of the sexes on television would foster sex-stereotyped behavior on the part of children viewers, and (b) whether a non-stereotyped portrayal would encourage non sex-stereotyped behavior. . . ." Ages for subjects ranged from 35 to 63 months, with a mean of 48.8. The investigator's two basic hypotheses were that:

1. Children would express a greater verbal preference for those activities which they had seen a same-sex model perform on television than those which they had seen an opposite-sex model perform.
2. When given the freedom to engage in a variety of activities, children would choose those which they had seen a same-sex television model perform over those which they had seen an opposite-sex model perform.

Three video portrayals were prepared. The first was a stereotyped vignette in which adult models engaged in activities typical of their sex. Second, a reverse vignette in which the same adult models performed the opposite activity was devel-

37 Jerry Lynn is Chairman, Graduate Studies, College of Communications, University of Tennessee.
38 Leslie McArthur is a member of the Psychology Department, Brandeis University. This research was supported by the Ford Foundation and the National Institute of Mental Health.
A final control treatment showed only the props for the vignettes, with no models present.

The effects of these independent variables were measured by noting the order in which subjects engaged in modeled activities, the duration of time spent in each activity, and the expressed verbal preference for each activity.

This project was initiated in the summer of 1973; all data have now been collected and a report is expected to be available in early 1975.

McArthur, Leslie Z., and Eisen, Susan V. The portrayal of males and females in children's television programming.39

A cross-sectional content analysis was conducted of Saturday morning (8 a.m. to noon) television programs of the three major networks in the summer of 1974. Additionally, commercials for those programs during the same time period were sampled as were several children's educational series, i.e., Sesame Street, Mister Rogers' Neighborhood, and Electric Company. The investigators coded differential treatment for male and female characters in terms of:

1. Proportion of central characters depicted
2. Social behaviors manifested
3. Intellectual and leisure activities engaged in
4. Emotions manifested
5. Physical states manifested
6. Roles cast
7. Rewards received
8. Locations in which depicted
9. The basis for credibility of the males and females depicted in commercials and the types of arguments they give for using the product they are advertising

The general hypotheses being tested are (1) males will appear more frequently, and (2) differences in behavior will be manifest for males and females. A report is expected to be available in early 1975.

Maccoby, Nathan, and Breitrose, Henry. Mass media and heart disease prevention.40

The authors believe that the results of this study will provide useful information in determining whether community media campaigns are likely to significantly reduce the coronary risk factor of an entire community. Measuring techniques include pre- and post-tests or surveys which include comprehensive behavioral and attitudinal questionnaires as well as medical diagnostic tests such as body weight, plasma lipids, electrocardiograms, etc. As summarized by the investigators:

The major thrust of the Stanford SCOR program has resulted from an interdisciplinary fusion of the interests of at least three groups: the epidemiological and lipid metabolic interests of Drs. Farquhar, Haskell, Stern, and Wood (Medicine); the behavioral and media production interests of Drs. Nathan Maccoby and Henry Breitrose, and Ms. Janet Alexander (Communi-

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39 The investigators are members of the Department of Psychology, Brandeis University. The research was supported by the Ford Foundation and the National Institute of Mental Health.
40 The authors are on the staff of the Stanford Heart Disease Prevention Program and Stanford Specialized Center of Research (SCOR). Stanford has been awarded $1,412,419 by the National Heart and Lung Institute for the period 1971-1976.
cation); and the biostatistical and systems analysis interests of Drs. Bill Brown and Edward Sondik (Community & Preventive Medicine and Engineering-Economic Systems). This team is now engaged in an extensive behavioral study of heart disease risk factors in the three California communities of Watsonville, Gilroy, and Tracy. Brief details are as follows. An initial medical and behavioral survey of a carefully chosen random sample of about 550 men and women from each community, aged 35-59, was conducted successfully in September-December 1972, with an overall response rate of about 80 percent. In the following nine months, no activity has occurred in the control community of Tracy; however, a media campaign aimed at reduction of coronary risk factors, and employing television spot announcements produced at the Communication Department, radio announcements, newspaper columns and messages, direct mailings, etc., has been directed in as balanced a fashion as possible at both Gilroy and Watsonville. In addition, a group of about 120 relatively high-risk volunteers, identified at the initial survey, is being “triggered” at Watsonville, by attendance at a series of intensive instruction classes designed to help participants reduce their heart disease risk by improved diet, increased exercise, and (where necessary) weight reduction and cessation of cigarette smoking. A second medical and behavioral survey will be conducted among the original random sample, and also an “after only” sample, at all three communities during September-December 1973.

Maple, Marilyn. Television: Its effects on the neuromuscular system and in particular the fixed behavior patterns. 41

Using the methods of behavioral charting and myographic measurement, Maple is investigating (1) whether the neuromuscular system and other internal systems can be affected by television, and (2) whether fixed behavior patterns can be modified or magnified by television. Subjects included children at ages 11, 13, 15, and 17 and nursing mothers. Preliminary findings indicate the possibility of systemic overstimulation and hypertension, and the possibility that fixed behavior patterns are magnified to provide a release for this overstimulation. This project was begun in 1972 and has no specific termination date.

Mendelsohn, Harold A., and O’Keefe, Garrett J., Jr. The people choose a President: A study of voter decision in the making. 42

A broad interest in voters’ uses of and the effects of mass media during a Presidential campaign resulted in a large-scale panel survey of adults in Summit County, Ohio. The survey consisted of five waves conducted from June 1972 to November 1972, and subjects for the sample were selected using a multistage area-sampling method. Some 1,965 interviewees were contacted, but most of the data analysis is based on 618 adults who comprised the final panel and who participated in the Presidential election. Some additional analyses were conducted on nonvoters. Data analysis consists of cross-tabulation, correlations, regression analysis, analysis of variance, and path analysis.

A large number of variables were assessed including demographic variables, sociological variables, political behavior, and interpersonal and mass communication variables. The authors break variables down according to (1) antecedents of

41 The investigator is conducting this research at the University of Florida, Gainesville.
42 The authors are members of the Department of Mass Communication, the University of Denver. This research was supported by Columbia Broadcasting System for $146,000 for the time period June 1972 to August 1975.
communication behavior; (2) political communication, e.g., exposure, attention; (3) functions, e.g., agenda setting, anticipatory influence; and (4) effects of communication behaviors, e.g., opinion change, influence on decision, etc.

From preliminary analysis, it appears that political influence resulting from exposure to mass communication is a function of anticipation of influence as well as actual communication exposure rates. The authors expect to have a book in manuscript form by August 1975. In the meantime, several papers for the American Association for Public Opinion Research Convention and an article for *Public Opinion Quarterly* are in preparation and should be available June 1.

Milavsky, J. Ronald, Pekowsky, Berton, and Stipp, Horst. Television and antisocial aggression.43

In a panel study of males, a consistent correlation of between .1 and .2 has been found between the measures of aggression and exposure to television violence. Although this relationship persists under a number of controls, a further examination is under way to determine what factors contribute to or detract from this relationship (if indeed it is a valid relationship). A second expected product of this research is a better understanding of other factors related to or causing aggression. Finally, the investigators are attempting to find out if exposure to television drug advertising is related to use of illegal drugs.

The basic design is a three-year longitudinal panel with measurement of principal television, behavioral, and attitudinal variables at five points in time. Two separate samples have been involved: (1) a grade-school sample of boys in the second through sixth grades, (2) a teenage sample of seventh, eighth, and ninth graders. The samples were approximately one-half lower and one-half middle class, with a 20-percent black representation. A total of over 2,000 boys were interviewed at least once during the study, as subjects dropped out and were added over time. Interviews have also been conducted with over 700 mothers, and information has been obtained from over 400 fathers.

The young respondents were asked to indicate frequency of exposure to a wide range of television programs, and a violence viewing score was established by weighting exposure with violence ratings of the programs. Principal measures of aggressive behavior are peer report and self-report. In the teenage sample, measurement was also made of exposure to television drug advertising, and the use of proprietary and illegal drugs.

The investigators advance the following preliminary findings:

1. We have consistently found a cross-sectional relationship between .1 and .2 between our measures of aggression and violent television exposure. This relationship appears to persist under a number of controls. There are, however, many additional controls not yet examined.

2. Limited over-time analysis has shown some evidence for a preservation effect (the tendency for television violent exposure to help maintain aggressiveness among those high in aggression), and some evidence for what we call a reversion effect (the tendency for television violent exposure to contribute to aggressive behavior among those who are really highly aggressive but who have temporarily become

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43 The authors are employed by the National Broadcasting Company, New York. Upon completion of this study, NBC will have provided approximately $1 million of support.
relatively unaggressive). These findings are very tentative and important methodological questions have been raised about their validity.

3. No generation effects (the tendency for violent television exposure to cause aggression among those low in aggression) were found.

4. We have also found a number of correlates of aggression and several mutual correlates of both aggression and violent television exposure.

5. Many important methodological problems have arisen. Some of these are the validity of television reporting by certain children, and the use of appropriate statistical methods for J-curved variables.

6. Exposure to drug advertising on television is negatively related to illegal drug use. The more drug advertising seen, the less likely to use marijuana or other hard drugs.

7. There is a small positive relationship between exposure to drug advertising on television and use of proprietary drugs.

This research project was begun in 1969 and fieldwork was initiated in April 1970. Data collection was completed in December 1973. Analysis of the data from this project is expected to continue until 1976 at which time a book or book-length manuscript will be completed. Several journal articles will likely be forthcoming in 1975. At present two papers have been completed; the first was presented to the American Sociological Association in 1972, and the second to the American Association for Public Opinion Research.

Moore, Roy L., and Stephens, Lownder F. A cross-sectional analysis of adolescent consumer learning.44

A self-administered questionnaire was completed by 312 students in grades six through twelve in a Wisconsin farming community. Data on subjects' IQ, socioeconomic status, grade-point average, sex, amount of weekly spending, motivation for advertising exposure (i.e., social utility, communication utility, and vicarious consumption), family communication about consumption, and media exposure were recorded as independent variables. Price accuracy, slogan recall, brand specification, and attitude toward advertising were considered dependent variables.

The investigator advanced the following hypotheses:

1. Older adolescents have acquired complex consumer learning skills to a significantly greater degree than younger adolescents.

2. Older adolescents hold significantly more negative general attitudes toward advertising than younger adolescents.

3. Consumer learning skills are well integrated (i.e., moderately correlated and at fairly high levels of proficiency) among older adolescents but not among younger adolescents.

4. Different learning processes of consumer skills are associated with older vs. younger adolescents.

5. As sources of influence prior to purchase, family members (i.e., parents and siblings) play a significantly greater role in adolescent consumer decisionmaking than other sources such as peers and mass media.

The authors believe considerable support has been found for hypotheses 1, 2, and 44 Roy Moore is a member of the School of Journalism, University of North Carolina, Chapel Hill, and Lownder Stephens is in the Department of Journalism at the University of North Dakota, Grand Forks. This research was partially supported by a computer time grant from the University of Wisconsin.
4, but not 3 and 5. A preliminary report has been prepared, and the authors have begun work on a more comprehensive, larger study of the same type.

Murray, John P., and Ahamner, Inge. Prosocial behavior and altruistic behavior in preschool children.\textsuperscript{45} And: Ahamner, Inge, Murray, John P., and Van Leeuwen, T. Persuasive communication and parent-child interaction.

Murray and Ahamner are attempting to evaluate the relative effectiveness of a variety of strategies designed to produce altruistic behavior in children.

Ahamner, Murray, and Van Leeuwen are conducting a field experiment in which they will videotape parent-child interaction following presentation of a videotaped commercial in a shopping center. Attempts will be made to delineate which child strategies are more effective in achieving parental compliance.

Murray, John P., and Goodnow, J. P. Media literacy and cognitive skills.\textsuperscript{46}

This research is concerned with visual communication in terms of the relationship between children's acquisition of specific skills or competencies in organizing information and the process of communication. Initial studies have been conducted in Israel and Australia, and a number of measures of media literacy have been developed. Currently, groups of children with different media exposure are being located, with the intent of obtaining data on the relation between media use and cognitive skills.

Murray, John P., and Kippax, S. Television transmission in transition: Impact of differential media diffusion in three isolated communities.\textsuperscript{47}

This study will assess a broad range of television effects, patterns of use, need gratification strategies of viewers, attitudes toward the medium, and the relation of these factors to the diffusion of television. A random sample of families with children twelve or younger has been drawn from three rural communities. Independent variables being considered are television diffusion—i.e., amount of time television has been present in the community (0, 1, or 5 years)—and a number of demographic items. Dependent variables are media use, leisure activities, program preference, perceived functions of media, and media skills.

The basic research design is a time-series study using interviews to collect cross-sectional and longitudinal data. The first stage of interviewing is now complete and a second wave is scheduled for 1975, approximately one year after the acquisition of television reception in the town with no reception. A final report can be expected in late 1975.

Rao, T. Television advertising and its effects on children.\textsuperscript{48}

The feasibility of various techniques for studying the effects of television advertising on children are being examined in two experiments. They are termed "pilot"
experiments because they are intended to provide the foundation for more extensive research.

In one experiment, 5- to 7-year-old boys are exposed to cartoon and noncartoon commercials, and their information-processing behavior is measured in regard to level of attention, affective response, message recall, product comprehension, and message evaluation. The first two factors (attention and affective response) are measured by time-sampled observation; the remainder, by interviews, which are coded from tape recordings. The intent of the pilot study is to test the feasibility of the measuring techniques, and in particular the relative effectiveness of Piagetian-type clinical interviews and structured interviews. The age range was specifically selected because it is one where particular difficulty can be expected with structured techniques; thus, it provides a sensitive test for the structured approach.

In the other experiment, 8- to 10-year-old boys are exposed to commercials for products with which they are unfamiliar. In one condition, contrary advice is received from parents, who have been trained in such countercommercial advocacy. In another condition, no such contrary advice is received. The principal dependent variable is the child's actual choice behavior in a store, particularly such aspects as delay before deciding upon a purchase, switching to other items, declaring a disinterest in the purchase, or other unusual behavior. In addition, data are being obtained from mothers and children. Methodological aspects given particular attention include the training of mothers in delivering the countercommercial message in order to minimize biasing aspects, such as inflection, forcefulness of tone, and unique vocabulary, and the obtaining of data from the mothers before they learn of the child's actual in-store behavior. The intent of the pilot study is to test the feasibility of the paradigm, which hopefully can be later modified for wider application, including use of younger children as subjects.

Ray, Michael; Ward, Scott; and Lesser, Gerald S. Development of communications campaign pretesting methods for public service applications.49

Desiring to apply concepts and methods from communication, psychology, and advertising research to contemporary problems, the authors formulated hypotheses about communications effectiveness on the basis of prior research and theory regarding differential effects of distraction depending on audience characteristics and message content. They then tested the hypotheses in both laboratory and field experiments. Subjects for the laboratory study were a convenience sample; those for the field experiment were randomly selected high-school students. Principal variables were televised and other public service communications intended to reduce drug abuse, distraction, and responses to the communications, including knowledge, attitudes, and desire for further information. A principal mediating variable was certain audience characteristics on which the precise influence of distraction was expected to depend. Results were reported in a paper submitted to the theory and methodology division of the Association for Education in Journalism entitled "Cognitive Responses to Mass Communication: Results from Laboratory Studies and a Field Experiment." In addition, a book is expected to be in manuscript form by early 1975.

49 Michael Ray is at the Institute for Communication Research at Stanford; Scott Ward and Gerald Lesser are affiliated with the Business School at Harvard. The study was funded by the National Institute of Mental Health (Special Action Office for Drug Abuse Prevention) for $95,000.
Roberts, Donald F., Hawkins, Robert P., and Pingree Hawkins, Susanne. Mass media use and political behavior.50

The focus of this research is the political socialization of young persons. The principal dependent variables are children’s mass media use, political behavior, and political ideology. The principal independent variables are parents’ political behavior and beliefs, family communication structure, advent of a national political campaign, and respondent’s age. Data were collected from 1,200 children and 50 percent of their parents in a panel survey design. The authors write that:

Preliminary analyses indicate that attention to public affairs media (by children) is positively related to knowledge of parental political beliefs, to engaging in intra-family political discussion, and to acceptance of inter-party conflict (although the relationships are modified by age and by whether children were responding prior to or after the campaign). There is also an indication of a variety of more complex relationships as a function of family communication structure, age, and the point in the political campaign at which the questionnaire was administered.

Roberts, Donald F., and Silverman, L. Theresa. Effects of logo on evaluation of a media presentation.51

The authors used two treatments to assess the effects of logo on the evaluation of videotaped messages directed to children. Subjects were 40 undergraduates enrolled in classes at Stanford University. Experimental treatments consisted of one version in which International Telephone and Telegraph was displayed in the logo as sponsor and another in which ITT was not so identified. Preliminary analyses indicate that the logo version was evaluated as more influential, more ideological, and more biased.

Robertson, Thomas, and Rossiter, John R. The impact of television commercials on children.52

A combination of experimental and survey designs using children in a number of school systems will be used to assess aspects of commercial message structure and content and the resultant effects on children of varying ages, races, and socioeconomic levels. The research questions serving as guidelines for this inquiry are:

1. The general effects of fantasy vs. reality themes in commercials
2. The effects of child actors vs. adult actors in children’s commercials
3. The effects of celebrity endorsement
4. The impact of cartoon characters
5. The general effects of exposure levels to a given commercial—single exposure vs. mass repetition
6. The general effects of clustering commercials into one or two time blocks vs. the usual procedure of frequent program interruptions
7. The meaning to the child of disclaimers (such as, batteries not included)

50 The authors are located at the Institute for Communication Research, Stanford University.
51 The authors are located at the Institute for Communication Research, Stanford University.
52 Thomas Robertson is Director of the Center for Research on Children, The Wharton School, University of Pennsylvania, Philadelphia. This information was provided by John Rossiter, Assistant Professor.
8. The use of premiums (especially in cereals) and their impact in selling the product
9. The effects of role models in commercials representing different races

A number of articles and papers have emanated from this research and are available from Rossiter.

Salomon, Gavriel. The effects of television on children’s cognitive skills.53

The author describes his work as follows:

The major purpose of the work is to investigate the effects which media, and particularly television, have on cognitive skills of youngsters. Of the media it is their coding formats (or "language") which we have identified as the possible source of such effects. In the case of television, it is claimed that content maps upon structures of knowledge. But it is the unique formats of presentation (e.g., the zoom on the level of the shot, the spatial gap on the level of the sequence, or the rapid variability on the level of the program) which effect mastery of cognitive skills. Such effects, as it was investigated in a series of experiments, come about either because particular formats call upon specific mental skills, or because they model (supplant) them explicitly and allow the child to initiate and internalize them as novel mental tools.

It is particularly the latter mode of affecting mental skills which we have now reason to believe to be unique to television and film.

Experiments have supported the hypotheses and have shown that mode of influence on the mastery of cognitive skills, and individual differences, interact disorderly. Then came the opportunity to study the cognitive effects of Sesame Street on Israeli children. The original hypotheses were upheld again. Presently we’re engaged in a three-phase project. The first phase is experimental. We examine the relationships between television formats and the mental skills needed for their processing.

The second phase is a cross-cultural study in which we expect to find that, other things made equal, variations in exposure to television are correlated with variations in the mastery of mental skills previously identified. The third phase is a field experiment in which we examine whether learning to encode ideas into the "language" of television won’t have a stronger effect on the mastery of cognitive skills than decoding television messages. This, we expect, would be most emphasized in educationally disadvantaged [children] with poor verbal mastery.

There are three kinds of potential implications from this research:

1. Television may affect children’s mental skills apart from its effects on attitudes, knowledge, aggression, and the like. Thus, the cross-cultural distribution of sophisticated television shows may entail more than expected.
2. The capacity of television to cultivate mental skills may have important educational implications, as demonstrated in the experiments. It may provide us with a way to cultivate desirable skills, not easily modifiable otherwise.
3. Having children “talk” through television-making may be not only motivating and instructive, but also a way to acquire new modes of cognitive representation of the world.

53 The investigator is a senior lecturer in the School of Education, The Hebrew University of Jerusalem, Israel.
Support for the hypotheses that children's viewing of prosocial television content will produce changes in their social behavior is offered by the results of a series of three experiments. A naturalistic field study and two laboratory experiments assessed behaviors of 102 three- to six-year-olds on such dimensions as sharing, cooperation, and aggression. The experimental stimuli were either half-hour or seven-minute versions of *Mister Rogers' Neighborhood*. Control groups were established by presentation of "neutral" television fare or no television.

In the field study, children's free-play activities were observed for a 28-day period which included an 8-day baseline period, a 13-day treatment period, and a 15-day post-test period. Two experimental groups were created by providing accompanying adult approval in one viewing situation and no adult approval for the second viewing group. A significant effect for sharing was found from baseline to treatment for the combined *Mister Rogers' Neighborhood* television group as compared to the combined control group. Also, a significant decrease in aggression from baseline to post-test was found for *Mister Rogers* groups as compared to controls.

In the second and third experiments, the same-sex pairs of children were either exposed to a seven-minute segment of *Mister Rogers' Neighborhood* or allowed to color before being presented with opportunities to share. A significant association was found between prosocial treatment and willingness to share.

Silverman, L. Theresa. The effects of *Sesame Street* programming on cooperation between preschool children.  

Thirty pairs of three-, five-, and seven-year-olds (180 children: half of them female, half male) were subjected to one of three treatments. All groups viewed 15-minute segments of *Sesame Street* which differed in prosocial content and the presence or absence of conflict. One segment presented a prosocial message with conflict present, another showed a prosocial message with no conflict, and a third served as a neutral control with no prosocial message and no conflict. Immediately after viewing the videotapes, subjects were induced to play a marble-pull game, in which cooperation is necessary to obtain points (marbles). Preliminary analyses indicate that reasoning from a developmental perspective, the investigator expected to find different effects for the different-age children.

The video portrayals did not affect cooperation as measured by marble acquisition, although there is some evidence of age differences for "gaming behavior." This study was begun in January of 1974, data were collected in March-June 1974, and completion is expected in early 1975.

Singer, Jerome, and Singer, Dorothy. Imaginative play on television.  

"How does television work its way into the fantasy patterns of children? To what extent does it influence prosocial as well as overt aggressive behaviors? To what
extent can its effect be moderated by availability of adults and by pretraining of children in imaginative play as a buffer for the more negative consequences of viewing?” These are the questions the investigators attempt to answer with this study, which stems from a long-standing research program on the psychology of daydreaming and imagination and their origins in childhood. The study will include both laboratory experiments (comparisons of viewing behavior for Sesame Street and Mister Rogers’ Neighborhood and their subsequent effects on spontaneous imaginative play of children) and a panel survey of selected participating families on family viewing habits in relation to the spontaneous imaginative play for children. Experiments will include both pre- and post-test design as well as possible time-series studies. Analysis of variance and correlational methods will be employed. Subjects will be preschool children from three to five years of age. “Independent variables will include measures of intelligence, reflectivity, impulsivity, internal-external reinforcement, imaginative play pre-disposition. Dependent variables will include ongoing ratings of spontaneous play according to dimensions of imaginativeness of play, concentration, positive emotionality, a series of mood ratings, aggressive behavior, prosocial behaviors, etc.” The authors report that “this is an ongoing project, degree to which it can be carried further depends on specific funding opportunities. At least two publications are expected to be generated from this work, in addition to a book on training children in imaginative play which will include advice to parents on viewing television with their children.”

Social Science Research Council. Committee on Television and Social Behavior. Stephen B. Withey, Chairman. The place of a violence profile in future research on television and children. 87

The Committee, which will have a life span of three years, began activity in 1973 with the following objectives:

1. Examine and clarify the major theoretical models underlying research on the long- and short-term effects of television on children.
2. Examine methodological issues involved in this research, including the linkage between laboratory and field research, the study of long-term effects, and the design of interpretable cross-national comparisons.
3. Plan and stimulate needed research on the short- and long-term effects of televised violence on children, following upon the work of the Surgeon General’s Advisory Committee.
4. Conceptualize and give scientific overview to the research required for the development of a multidimensional profile of violence in television programming.
5. Plan and stimulate needed research on socially and behaviorally important effects of television viewing on children, other than the linkage of televised violence and children’s aggression.

87 Social Science Research Council, 605 Third Avenue, New York, New York. In addition to Chairman Withey, Committee members include Leo Bogart (American Newspaper Publishers Association), Herbert Gans (Center for Policy Research, New York), Hilde Himmelweit (London School of Economics), Irving Janis (Yale University), Jack McLeod (University of Wisconsin), Chester Pierce (Harvard University), and Percy Tannenbaum (University of California, Berkeley). Ronald Abeles, of the SSRC Staff, is also participating in the study. The Committee is supported by the National Institute of Mental Health for three years beginning September 1973, at a funding level of $50,000 a year.
6. Explore the feasibility of stimulating research on the institutional context in which the content of television programming is determined.

7. Under the guidance of the Committee, the planning and organization of exploratory working conferences and of continuing work groups, based upon the Committee's own work sessions and of indications of interest by qualified research workers who wish to address themselves to problems of strategic importance within the Committee's area. Careful attention will be given to assuring adequate liaison between the Committee and these subsidiary enterprises, through overlapping membership or other means.

The SSRC proposal which resulted in the establishment of the Committee declared that, "A major result to be hoped for is an improvement in the quality, quantity, and cumulativeness of research related to the Committee's objectives. The Committee would incur a special responsibility for the development of a multidimensional profile of television violence."

Between its inauguration in 1973 and the end of 1974, the Committee held four meetings. At the first meeting, in October 1973, the Committee discussed long-range goals. At the second meeting, in February 1974, the problem of constructing a violence profile was discussed. It was concluded that a principal difficulty was the diversity of views on what constitutes violence on television, and the likelihood that a given class of violence might be interpreted differently as a function of the social and personal attributes of viewers. In addition, questions were raised about the desirability and long-term impact of such a profile. The Committee decided "that it is not appropriate for it to devise a violence measure itself," but that it would "sponsor a carefully structured meeting in the fall of 1974 with a number of interested researchers to review the technical difficulties and clarify the theoretical and value laden aspects. A thorough report of such a meeting, if successful, should enable appropriate industry and governmental bodies to proceed with a violence measure if they so decide." At a third meeting, in June 1974, the Committee decided to commission papers on various aspects of television and social behavior in which various authors would "organize and conceptualize in terms of underlying theories, needed research, and research design problems" on specific topics. At the fourth meeting, in October 1974, the Committee reviewed the alternative approaches to a violence profile and began work on a statement of the options for future research on this topic.

The Committee's interest in a violence profile grows out of the 1972 hearings held by Senator Pastore on the report of the Surgeon General's Scientific Advisory Committee on Television and Social Behavior, Growing Up With Television: The Impact of Televised Violence. At those hearings, one suggestion which gained Senator Pastore's favor was for a violence profile to monitor broadcaster performance. As a consequence of his interest, a special workshop involving a number of social scientists was held in mid-1972 at the National Institute of Mental Health. When Senator Pastore later inquired about progress on the profile, the Secretary of HEW replied on the basis of the workshop, "Our staff and consultants feel strongly that a simple index of the incidence of TV violence is of only limited usefulness. A more constructive profile of TV violence could be developed, made up of indices of a number of significant dimensions—level, frequency, characteristics of those involved, their motivations, whether the violence is explained or not, audience perception of the violence, and its short- and long-term effects on various kinds of behav-
ior.” He added, “Upon development of the profile, it would be disseminated periodically to the Congress, the Federal Communications Commission, this Department, and other interested organizations, thus helping government and industry to fulfill their responsibilities to the American people.” Earlier, the Secretary had written Senator Pastore that support for the content-analysis research of George Gerbner (see Gerbner and Gross, op. cit.) at the University of Pennsylvania was directly related to the development of a violence profile. Later, in August 1972, the Secretary informed the Senator that the development of a violence profile would take from two to four years. In November 1973, in response to Senator Pastore’s request for a status report, the Secretary of HEW replied that the SSRC Committee had been formed and, “The planning and instigation of research leading to the development of a multidimensional profile would be a special responsibility” of the Committee. He added that the development of a profile would “require a minimum of two to three additional years,” and that the work of Gerbner could be considered a “pilot” effort. A Committee violence profile report is expected by fall 1975.

Stein, Aletha H., and Friedrich, Lynette K. Television and prosocial behavior.\textsuperscript{58}

The focus of the research is the degree to which television can facilitate prosocial behavior in preschool children, and the conditions on which such facilitation are contingent. Both laboratory and field experiments are being employed. Typically, a major independent variable has been exposure to \textit{Mister Rogers’ Neighborhood}. Contingent conditions, which constitute other major independent variables, include real-life physical clues similar to elements of the television portrayal, verbal labeling of behavior, rehearsal of such labels, role-taking, and training of adults in principles congruent with the prosocial content. For example, a recently completed experiment in a nursery school setting in which subjects were 73 five- and six-year-old boys and girls compared the effects on prosocial behavior and knowledge of program content of exposure to a \textit{Mister Rogers’ Neighborhood} episode, and the influence on any effects of verbal labeling and role-taking, both independently and jointly.

Stipp, Horst. Validity in social research: Measuring children’s television exposure.\textsuperscript{59}

The author feels that most past academic research, including parts of the Surgeon General’s studies, used “poor measures of children’s television exposure.” The present study was designed to study the contention that “measures of children’s television exposure usually overlook that many (especially young/lower class) children have a hard time remembering what they watched. Mothers are invalid reporters of children’s television behavior.” To this end, the author analyzed past research data and NBC data to determine whether the errors resulted in random error or bias. His main hypothesis was that the results would indicate that these kinds of measurement error would lead to biased data. Previous research data, together with data from NBC’s files, were compared with commercial ratings. Preliminary findings indicate that:

1. Mothers are invalid reporters of children’s television viewing.

\textsuperscript{58} The authors are located at the College of Human Development, Pennsylvania State University. The research is being funded by the Office of Child Development. Support for the year ending September 1, 1974, was $91,975.

\textsuperscript{59} This study is the investigator’s doctoral dissertation at Columbia University.
2. General time estimates are likely to be inaccurate or even completely invalid for many children.
3. The most bias is observed with the young, the black, the poor, or the low-IQ.
4. Commercial ratings for children are relatively inaccurate but can be corrected to yield data of high aggregate validity.
5. Favorite show measures "cannot be used as substitutes for exposure measures."
6. Because of their use of poor measures, many conclusions of the Surgeon General studies must be questioned.

Tannenbaum, Percy H. Emotional arousal as a factor in film- and television-aggression. 60

Using standardized experimental techniques, the author has completed a series of studies testing the implications of a theory of emotional arousal as a mediator of behavioral consequences of observing emotional content. Male subjects in his experiments would first be angered, either by electric shocks or by insulting remarks. In the second phase, subjects would be exposed to one of several experimental films or videotapes, while a variety of physiological measures of emotional arousal were completed. These measures included blood pressure, heart rate, skin temperature, respiration rate, and galvanic skin response. In the third phase, the subjects would have a chance to respond to the person who had earlier insulted them. The main dependent variable was amount of aggression exhibited in the response. The project is "essentially completed," and the results will appear in Berkowitz' Advances in Experimental Social Psychology, as well as in a number of journals. A subsequent chapter in Berkowitz will examine policy implications and is based on a somewhat different set of interrelated hypotheses focusing on the proposition that the mode and method of presentation, rather than the intrinsic content per se, influences the consequences of exposure to communication "entertainment" content.

Ward, Scott, and Wackman, Daniel B. Studies of consumer socialization. 61

In this survey study of a random sample of 615 kindergarten, third-grade, and sixth-grade children, the authors attempted to:

1. Address policy issues relevant to regulations of advertising for children
2. Provide information useful to consumer educators
3. Better understand processes by which children develop consumer-related skills, knowledge, and attitudes

They will use cross-sectional studies of differently aged children, together with their parents. Their independent variables include stages in cognitive development, family interaction variables, parent consumer variables (both behavioral and attitudinal), and demographics. Primary dependent variables include brand awareness and discrimination ability, price accuracy, awareness, explanations, and judgments of marketing stimuli, and a number of other product/consumer-related items.

60 The author is at the Graduate School of Public Policy at the University of California, Berkeley. Support for this work came mostly from National Institute of Mental Health grants, but there was also local support from various universities.
61 Scott Ward is at Harvard University; Daniel Wackman is at the University of Minnesota. The study was funded by the Office of Child Development (Department of Health, Education and Welfare) for $90,000 from September 1, 1972 until September 1, 1973.
Their plans called for a preliminary report to the Office of Child Development in September 1973, with a book in manuscript by early 1975.

Watt, James H., and Krull, Robert. Arousal model components in television programming: Form activity and violent content.62

Seeking to determine whether arousal is generated by viewing violent acts or by the effort of decoding complex stimuli, the investigators designed this time-series experiment in which they showed violent television episodes to college sophomores and freshmen. Continuous measures of the dependent variables—galvanic skin response, heart rate, and heart-rate variability—were made during exposure and were analyzed with multiple linear regression, multiple polynomial regression, analysis of variance, and canonical correlation. The investigators state that "arousal effects from both violent content and form complexity were found. They appear to be highly covariant (probably due to film editor's intuitive understanding of the role of arousal in generating excitement by manipulating the program form). They also are somewhat independent, and possibly interactive (analysis is not yet complete)." They also state that "this is the first of a projected series of similar experiments, which will systematically vary the program attributes (variables) and the audience (subject) composition."

Zanna, Mark P. The causes and consequences of credibility in television news.63

Two principal questions are being addressed: What are the factors which influence the degree of credibility attributed by viewers to television news reports? What are the effects on attitudes and beliefs of perceiving television news reports as more or less credible?

To answer these questions, both surveys and experiments are being employed. In one survey, a sample of 113 selected for political diversity was measured in regard to political allegiance and the appropriateness for inclusion in newscasts of both broad content categories and very specific politically relevant items. One finding is that liberals and conservatives largely agree on the broad categories of content appropriate for newscasts, but disagree on specific items, with each tending to reject unfavorable items. In an experiment with college student and nonstudent adult subjects, the same television film of a student riot was interpreted by the newscaster as either the fault of the police or of the students. When the newscaster's interpretation was counter to the subjects' initial inclination (propolice or prostudent), there was a tendency to rate the newscast as less objective, the newscaster as less credible and as engaged in persuasion, and the newscast and newscaster as more extreme in regard to the position favored.


62 James Watt is from the Communication Division, University of Connecticut; Robert Krull is at the Department of Language, Literature, and Communication, Rensselaer Polytechnic Institute. The work was supported by the University of Connecticut Research Foundation.

63 The investigator is a member of the Psychology Department, Princeton University. The research is supported by a grant from the National Institute of Mental Health of $29,232. Additional research on the same topic by the investigator has been supported by the U.S. Public Health Service.
IV. CURRENT PUBLICATIONS

INTRODUCTION

This section presents a catalogue of current selected journal articles, unpublished papers, books, and other available material pertinent to the scientific literature on television and human behavior. Each citation is accompanied by a brief description of the contents. Most of the persons cited have a continuing interest in the topic and a reasonable likelihood of being future research contributors, as well.¹

SELECTED PUBLICATIONS—1973, 1974, 1975, AND "IN PRESS"

Armor, D. J. Measuring the effects of television on aggressive behavior. Santa Monica, Ca.: The Rand Corporation, in press, R-1759-MF.

When the data from three field experiments and a 10-year longitudinal study concerned with the effects of television violence on young persons' aggressiveness are subjected to careful scrutiny, the conclusions of the original investigators are not invariably supported. Both methods—the field experiment and the longitudinal study—have inherent appeal because they evade some of the artificiality of the laboratory experiment, but the field experiment encounters severe problems in creating a naturalistic situation because of the need to create an abnormal and uncustomary viewing diet for a control or treatment group, which introduces the risk of an intervention effect.


Prior and recent survey evidence and the findings of a recent experiment are interpreted as inconsistent with the hypothesis that de facto selective exposure can be explained by unbalanced availability of information or audience education. Instead, the weight of evidence favors the hypothesis that people seek information consistent with their beliefs and avoid discrepant information.


In 1970 election surveys in two states, voters who made up their minds during a campaign cited televised political spots for both chosen and unchosen candidates as helping them reach a decision. Spots overcame predispositional selectivity; only

¹ The citations are drawn from the second volume in this series, The Key Studies, where far more detailed annotations may be found. In some instances, several independent items are treated together in a citation because of their strong interrelationship. When that occurs, the set of citations are repeated here just as they appear in The Key Studies, even though not all of the items in the set meet the admissions criteria of bearing 1973, 1974, 1975 or "in press" labels. Because the criterion for inclusion is date of publication, some of the entries are republished older studies or recent analyses of long-ago-completed studies. In addition, it should be realized that as the date becomes more current, coverage of the literature naturally becomes less complete. This is particularly true of "in press" items, where we were dependent on advance knowledge and cooperation of the author in sending us the item.
a small minority give closer attention to their candidate's ads or avoided the opponent's.


A wide range of experiments are interpreted as indicating that aggressive behavior may be learned from observing others, and such observation may be of real life or of behavior in films or on television, as well as through direct, personal experience. However, later performance of what has been learned is said to depend on many factors, including frustration or emotional arousal, the characteristics of persons and other stimuli in the environment, and the expected consequences.


In two laboratory experiments, the meaning attributed to an observed violent event affected the subsequent aggressive reactions of college-age viewers. When the observed event was depicted as realistic or malevolent, aggressive reaction was greater.


A reanalysis of 1973 Nielsen data indicated that when television offered a choice across networks of the Watergate hearings and soap operas, the addition of the public affairs content increased the total viewing audience.


In a laboratory experiment, high-fantasy children given an opportunity to fantasize showed significant decreases in levels of behavioral aggression when presented with either aggressive or nonaggressive films, while low-fantasy children and high-fantasy children not allowed to fantasize were unaffected in behavioral aggression.


Research on media management in the near future is likely to arise from various unresolved policy issues which confront managements with "interesting dilemmas, decisions, or strategic planning problems," such as the need for print to shift costs from advertisers to readers and the means by which the media can avoid external censorship.


The comparison of 1970 and 1960 national surveys indicates that the public's expressed satisfaction with television as a medium declined over the decade. However, the level of satisfaction remained high and viewing itself increased.

An analysis of the Surgeon General's study of the effects on young persons of television violence and subsequent events leads the authors to conclude that the study had little impact. There has been only hesitant activity by either government or the broadcasting industry, and objective content analyses indicate that television continues to be very violent.


In a survey, adolescents from families that emphasized self-expression but not social conformity reported greater preference for television public affairs content, although they watched less total television and read a wider range of newspapers regularly than adolescents whose families emphasized either social conformity but not self-expression, or both, or neither.


On the basis of a review of prior research and new analyses of survey data, it is concluded that some variation in young persons' use and reaction to television is attributable to primary group interaction, that interpersonal relationships may modify viewing's effects on attitudes and behavior, and that the range of what is learned from television may be very broad and may include much that is relevant to interpersonal relationships.


In a laboratory experiment, seventh-grade children were found to have greater unaided recall of televised news items when the items were emotion-arousing and when they were repeated.


In a laboratory experiment, third-graders exposed to a half-hour television drama in which all aggressive behavior was negatively motivated and punished subsequently aggressed more when the depictions of negative motive and negative consequences were separated in time from the act of aggression.


In three experiments, grade-school and high-school children showed increased helpful and supportive behavior after viewing television sequences in which such behavior was portrayed.

In a survey, 9 out of 10 children from seven to eleven years of age interviewed in three cities—Cleveland, Memphis, and Philadelphia—received one or more prosocial messages from an episode of *Fat Albert and the Cosby Kids*.


When the data from the two *Sesame Street* evaluations are subjected to careful scrutiny, Cook *et al.* conclude that viewing of the program resulted in gains by children in some skills, but the range of skills for which there were gains was far wider for children whose viewing was associated with outside encouragement to view. The conclusion is far more conservative than that reached by Ball and Bogatz, who express their disagreements directly in an addendum to Cook *et al.*; they argue for different interpretations of the data and the use of different analytic tools, and dissent from the appropriateness of effects on the achievement gap between children of the rich and the poor as a legitimate criterion for judging *Sesame Street*’s impact on society.


Content analyses indicate that network news and primetime drama present very different pictures of the political and criminal justice systems. Network news was much more cosmopolitan, giving much more attention to national and international leaders and to figures representing advocacy and social change than did drama.


A content analysis of crimes portrayed on primetime television showed that 64 percent of all shows portrayed at least one crime, while 42 percent portrayed more than one, and that the portrayals of crime gave a distorted view of real-life crime.

Dominick, J. R. *Children’s viewing of crime shows and attitudes on law enforcement.* *Journalism Quarterly,* 1974, 51, 5-12.

In a survey, the viewing of crime shows by boys and girls was positively correlated with identification with a television character associated with law enforcement, belief that criminals usually get caught, and knowledge of civil rights when arrested.

Donnerstein, E., Lipton, S., and Evans, R. *Erotic stimuli and aggression: Facilitation or inhibition.* Unpublished manuscript, Southern Illinois University, 1974.

In a laboratory experiment, erotic stimuli were found to have both an inhibiting and facilitating effect on aggressive behavior, depending on the arousal level of the stimuli and the placement in time of the instigation to aggression.
In a laboratory experiment, undergraduates rated political advertisements filmed in color more pleasing aesthetically than those filmed in black-and-white, but color affected the judgments of female subjects more than those of males.


In one experiment, students who had been frustrated or who watched a violent film subsequently performed better on a task than students who had neither been frustrated nor had seen the film, or who had experienced both. In another experiment, physiological measurements indicated that the greatest degree of arousal occurred for students who had been frustrated and who also watched the violent film.


In a laboratory experiment, third- and fourth-grade children who saw an aggressive film waited longer to seek adult help and were more likely to tolerate all but violent physical aggression and destruction before seeking help than were children who did not see the film.


In a survey of adolescent males and females, low self-esteem was related to greater television viewing and greater movie attendance. In an experiment, low self-esteem was associated with being reminded of something personal in a film.


As the result of a case study of the making of an educational television series, it is concluded that the professional communicators who staff the mass media are not accurately conceived of as "gatekeepers," since they do not simply accept or reject a flow of information reflecting the world as it is, or as "persuaders," since they often do not have strong pursuasive motives.


In the course of analyzing television news during the 1972 Presidential campaign, a variety of dimensions on which the transmittal of political messages to the public may vary were found. There was "wide news reporting diversity, both among and within networks over different message dimensions and news topics," but the television data, taken in entirety, "do not demonstrate bias existing uniformly across all message dimensions."


In a field experiment, preschool children who saw violent television cartoons during the middle four weeks of a nine-week nursery-school term subsequently displayed greater interpersonal aggression and reduced rule obedience and tolerance of delay.


In a laboratory experiment, kindergarten children were found to learn the prosocial content of television programs such as *Mister Rogers' Neighborhood* and to generalize that learning to other situations.


An analysis of national print news media indicates that the relationship of real events and news coverage was tenuous during the 1960s: "Media attention fell while events were increasing, rose while they were declining, or was concentrated at times when events were no different than at other times."


In a laboratory experiment, previously angered college-age subjects who had been exposed to a violent fight sequence administered more intense electric shocks in a bogus learning experiment when the film violence was presented as vengeful than when it was presented as coolly professional, but nonangered subjects reacted most aggressively when the violence was described as professional.


In a laboratory experiment, college-age subjects who viewed a violent film and were not reminded that the film was fictitious, who heard a person express suffering when they delivered electric shocks, rated the film as less violent than those who did not hear suffering. Subjects who were reminded of the film's fictitiousness and who also heard suffering rated the film as more violent than those who did not hear suffering.


Annual content analyses of primetime and Saturday network television indicate that in the 1973-74 television season, killers and other violent characters appeared less frequently in dramatic content than in previous years, but about three-fourths of the programs still contained some violence, and the rate of victimization—the ratio of those who commit violent acts to those suffering from them—was up. In a survey of viewers, amount of exposure to television was correlated positively with the holding of a belief about the likelihood of being involved in violence which was more in accord with the depiction of the world in television drama than with statistical fact.


In a laboratory experiment, female college-age subjects who were exposed to a jet of compressed air but were told it was a chemical gas that might make them feel anxious reported feeling less anxious while viewing a highly gruesome film than subjects who were not told about the false side effects or who were given no gas at all.


In a series of surveys, children and teenagers from lower-income families and from black families reported devoting more time to television and receiving less guidance about viewing from parents and they expressed greater belief that television accurately portrays real life; lower-income adults reported greater dependence on television as a source of stimulation and information and greater viewing of television.


In a survey, the attribution by children of reality to television portrayals was strongly related to the child's perception of the views of friends and family. The attribution of reality also was inversely related to intelligence and school grade and positively related to amount of television viewing.

In a survey, women's perceptions of themselves and of what would constitute an ideal self differed for heavy and light television viewers. Heavy viewers emphasized social interaction; light viewers, physical activity.


Public service drug-abuse spots were found not to be presented during times of high youthful viewing; generally presented were nonspecific messages.


In a laboratory experiment, learning of content incidental to the plot of a film among third-, fifth-, seventh-, and ninth-grade children declined at grade nine for an adult film but increased for a children's film, suggesting that the decline in peripheral learning found in previous studies is not a general phenomenon.


A theoretical analysis suggests that television and other mass media may play an important role in socialization by encouraging the sentiment of pity and concern for human suffering, and that even if the numbers affected are small, the social impact may be great.


In a survey of high-school seniors, no support was found for the hypotheses which hold that increased availability of political information leads to increased politicization. Instead, the basis of interest appears to rest on primary social relationships, particularly the family.


This review concludes that although laboratory experiments have demonstrated that television violence under certain circumstances may increase subsequent immediate nonimitative aggression by children and older youths, the evidence does not clearly link television violence with crime or antisocial behavior in real life.


This review concludes that television and other mass media may serve needs and gratifications in three ways: by their content, by exposure to the media per se, and by the social situation in which the media are consumed; that research on uses and gratifications need not serve the status quo; and that research priorities include the development of new typologies of audience gratifications and the development of a theory of audience needs.

In a large sample in Israel, the use of the mass media to serve various needs varied depending on the medium and the need. Compared to radio, newspapers, books, and movies, television was the least specialized of media, with people who cited it as helpful for one need tending to cite it also as helpful for others.


In a laboratory experiment, groups of children viewing a film in which aggressive behavior was portrayed displayed a wider range of imitative aggressive acts and more total aggression than did a control group who did not see the film.


In laboratory experimentation, susceptibility to imitating the actions of filmed models appeared to be an enduring individual characteristic on the part of nursery-school-age children.


Survey data are analyzed in terms of three models of television and aggression: reduction of aggression through vicarious participation in violence (catharsis); legitimization or learning (facilitation model); and generation of a predisposition to varied action (arousal). No support was found for the catharsis model, but both the facilitation and arousal models were supported.


After analysis of various alternatives for the Office of Child Development, six areas are recommended for future activity: (1) diversity of portrayals, (2) communication of socially valued behaviors, (3) modification of the impact of current programming, (4) formation of a "Television Information Center", (5) television viewing as an activity, and (6) the meaning of new technologies for child development.


It is argued that television influences children's behavior and attitudes and should be regarded as an agent of socialization; that the nature of the broadcasting industry encourages conflict, violence, examples of antisocial behavior, and reliance on stereotypes in programming; that mechanisms must be found to increase the diversity of programming available to children; and that one possibility is increased government regulation.

It is argued that *Sesame Street* illustrates that children can and will learn cognitive material from television; that such television can be highly popular and entertaining; and that empirical research can increase the instructional effectiveness of such television.


In a 1973 analysis of Saturday morning cartoons, male characters outnumbered females three to one and were shown in a greater number and variety of occupational roles. Adult women were rarely portrayed and careers in which females did appear were limited.


It is concluded that there is a great deal of violence in television entertainment which has not appreciably decreased over the years despite network promises; that experiments and survey data converge—the viewing of violence on television by children and young people increases the likelihood of subsequent aggressive behavior; and that it is highly probable that television has the capability to increase the likelihood of more desirable kinds of behavior.


It is argued that although survey and experimental research indicates that television can be a powerful moral teacher, its moral effect is essentially adverse because of the surfeit of violence and other antisocial behavior portrayed on contemporary television.


In an analysis of 22 children- and family-oriented programs, women were portrayed primarily in comic roles or as supportive wives and mothers, no married women worked outside the homes, and of the single and widowed who did, only two occupied positions of prestige—and even these were portrayed as subservient, dependent, and less rational than males.


In an analysis of 1972 network election coverage, verbal and visual bias differed. More total time and news items were devoted to Nixon than to McGovern. Visually, more camera time was given to pro-McGovern speakers than to pro-Nixon speakers.

In an analysis of 1971 network television commercials, men had more central and dominant roles than women and were more often portrayed as experts about products, even when the product was to be used by women.


A combination of content analysis and a panel survey indicated that exposure to television network news had only minimal impact on voters' awareness of the issue positions of candidates in the 1972 Presidential campaign.


In two studies, news coverage affected the salience of issues and topics for the audience. In one study, frequent readers of the New York Times emphasized the same issues as the Times coverage. In the other, airline ticket sales dipped when news focused on the dangers of flying.


In a month-long experiment, the viewing of erotic films had increasingly less effect on the sexual activities of married couples, indicating a satiation effect, although sexual activity was increased on movie nights.


In a laboratory experiment, the emotional response of hostility was reduced among male college students by exposure to a brief violent film sequence, and aggressive behavior was not stimulated by such exposure.


An analysis of 1972 election coverage shows that the most striking pattern was the uniformity of political coverage across network television and several major newspapers.


It is concluded that in regard to children's advertising, inaction by the Federal Communications Commission was itself a form of policy that influenced the nature of public debate on children's television and, along with aggressive strategic action by the advertising and broadcasting industries, removed from consideration policy options involving structural change.

In a laboratory experiment, lengthy exposure to televised violence increased favorable attitudes toward aggression among a population with a history of antisocial behavior, prison inmates.


A majority of elementary school children interviewed indicated that television provided socially desirable models. Most children admired favorite characters because they were “fun to watch,” and perceived them as likely to behave in a socially desirable way when presented with a conflict situation. A sizable minority of males had favorites that provided undesirable models.


In a multiwave panel study of adolescent boys, both aggressiveness and violence viewing fluctuated considerably; boys high in violence viewing and aggressiveness differed from other boys in a number of ways; aggressiveness and violence viewing were modestly but positively correlated; and there was some evidence of a significant correlation between earlier violence viewing and later aggressiveness.


Rubens, W. S. Camouflage can be made to do double work. Journal of Marketing, 1975, 39, 81-92.

In a multiwave panel study of adolescent boys, exposure to television advertising of proprietary drugs was positively correlated with proprietary drug use but was negatively correlated with use of illicit drugs.


In a series of field experiments, portrayal of a specific antisocial act—stealing from charity donation boxes—in a primetime television drama did not lead to delayed imitation, and portrayal of another specific antisocial act—making an abusive telephone call in response to a televised charity solicitation—in the same prime-time television drama did not lead to immediate imitation.


In one experiment, first- and second-grade girls who witnessed a video portrayal of a peer being punished for refusing to share shared more. In a second experiment, girls who viewed a video portrayal of noncontingent punishment of a peer subsequently helped the experimenter more.

In a laboratory experiment, male college students, when shown two pornographic films portraying face-to-face intercourse and oral-genital sex, were more sexually aroused than females by the depiction of oral-genital sex.


In a panel study, the media habits of manufacturing employees who shifted from a five-day to a four-day workweek were influenced by the restructuring of work and leisure time: Weekend television exposure increased; viewing shifted toward leisure-oriented shows; magazine reading gained, while newspaper reading did not change.


In a laboratory experiment, preschool black children presented with televised black and white models who were either rewarded or punished imitated the white more than the black model and the rewarded more than the punished model.


In an analysis of station performance in 18 markets, independent television stations spent less time on local news coverage than did network affiliates.


In a laboratory experiment, children played significantly less constructively after viewing realistically rather than stylistically filmed aggression and after seeing aggression filmed so that they could see the victim.


In three field experiments, two in the United States and one in Europe, adolescent boys who viewed films for five successive weeknights engaged in greater subsequent real-life aggressiveness than those who viewed nonviolent films, and the effect was greater for boys initially high in aggressiveness.

In a laboratory experiment, subjects classified as highly hostile were found to be more vigilant for violent or aggressive visual stimuli than were subjects relatively low in hostility.


In a survey of a college town, students and residents were much more willing to agree to statements that placed television commercials and television advertisers in a bad light than they were willing to agree to statements placing them in a good light.


In a laboratory experiment, children who viewed a children's program in which 30-second spots stressing sharing behavior had been substituted for the usual commercials were more likely to play a game cooperatively.


In an analysis of 1968-70 news coverage, the three networks did not cover racial relations uniformly, with NBC giving significantly more play to the topic.


In a survey of adolescents, images of actual police and of police portrayed on television were found to be divergent, and delinquents and nondelinquents did not differ in their perceptions of either television or real police.


It is argued that television and other mass media are among the sources of information available to children and youth, who are in a period of very rapid change and development during which they are likely to be seeking information, but that the nature of this change and development must be taken into account in assessing the effects of mass media on children.


In three surveys conducted at different points of the Vietnam war, a television network's news programming was generally rated by the public as the most credible of four possible sources—the network, the White House, Stanford students, and the Stanford University news service.

In a survey of first-, third-, and fifth-grade children, the perception of television commercials as designed to induce purchases was positively related to age and parental educational levels. Children who recognized commercials as persuasive messages tended to be able to distinguish commercials from programming; to recognize the existence of a sponsor; and to perceive the idea of an intended audience.

Rogers, R. W. An analysis of fear appeals and attitude change. Final report, August 1973, University of South Carolina, Grant No. 1 R03 MH22157-01 MSM, National Institute of Mental Health.

In three laboratory experiments, public health films dealing with cigarette smoking, safe driving, and venereal disease resulted in increased intentions to adopt preventive measures when the recommended practices were presented as efficacious, and a fear-arousing appeal enhanced attitude change only when the remedy was presented as efficacious.


Eight national samples over a 13-year period indicate that television has become increasingly cited as the major source of news and as the most credible of the news media. There has been general satisfaction with television’s performance, and with television programming, although commercials draw considerable criticism.


In a laboratory experiment, third- and fourth-grade subjects who observed a model yielding to temptation also yielded to the temptation of leaving a task to watch a cartoon more than did subjects who saw no model.


In a survey, children’s cognitive and attitudinal defenses against advertising were found to be operative at the beginning of the peak Christmas toy and game advertising period but were neutralized by its conclusion.


In a laboratory experiment, children who saw a Lassie episode involving an instance of helping later engaged in greater analogous helping behavior than those who did not view such an episode.


In a field experiment, preschool children who viewed violent television daily for four weeks in a nursery school did not display greater harmful aggression against persons or objects than those who saw nonviolent situation comedies.

In an analysis of television occupational portrayals, the representation of various population groups deviated from their proportion in the national population. There was gross underrepresentation of females, and professional and managerial roles were overrepresented.


After reviewing research on the effects of television commercials on children, it is concluded that the topic has been neglected in favor of research on the effects of televised violence, on political socialization through television, and on the instructional uses of television because advertising is not sufficiently respectable in academic circles, and there is skepticism about such research having any influence.


It is argued that a wide variety of behaviors, both desirable and undesirable, are learned by children from the observation of social models; that this occurs whether contact with the model is face-to-face or via film or television; and that the evidence is particularly strong in the case of the effects of televised violence.


In probing interviews, about three-fourths of a sample of preadolescents described violent behavior in cartoons as not "violent," all described violent behavior in newscasts of the Vietnam war as "violent," and about two-thirds described violent behavior in westerns as "violent." The most common explanation of those not describing behaviors as "violent" was that it was funny or make-believe.


In a laboratory experiment, first-grade children exposed to a dramatic example of a boy helping a dog on the *Lassie* series chose to help puppies in distress rather than continue playing a game for self-gain more often than did children shown another sequence from the *Lassie* series or a program from the family situation comedy, *The Brady Bunch*.


In these studies, markedly different results were obtained when the same CBS newscasts covering the 1968 Presidential campaign were analyzed by different persons and methods. The analysis by Stevenson et al., which catalogued content as favorable, unfavorable, or neutral, does not lead to the conclusion that CBS coverage was biased; Efron, whose method was more subjective and weighed only favorable and unfavorable content, concludes that coverage by CBS and the other two networks was biased, on the basis of her own tabulations.
Tannenbaum, P. H., and Zillmann, D. Emotional arousal in the facilitation of aggression through communication. In L. Berkowitz (Ed.), Advances in experimental social psychology, in press.

In a number of experiments, it was demonstrated that subsequent aggressiveness will be increased by exposure to emotionally arousing stimuli, such as noise or television programs. It is concluded that mass media, such as television, may increase subsequent aggressiveness on the part of viewers as the consequence of emotionally arousing them, whether or not the arousing content is itself violent.


In a laboratory experiment, children who viewed a film portraying a rewarded adult model performed more spontaneous imitative responses than did children who observed a film portraying an unrewarded adult model, but model reward had no effect on performance when the children's imitative behavior was specifically rewarded.


In surveys of 14 schools, children seven to fifteen years of age reported learning more about the Vietnam war from television than from any other source. However, attitudes were largely unaffected either by television news watching or newspaper reading, while parents appeared to have a strong influence on children's opinions and on their amount of knowledge about the war.


Since the first hearing by a House committee on the subject in 1952, Congress has expressed concern over the effects of violent television entertainment on children. At hearings prior to 1972, broadcasting industry spokesmen generally expressed doubt that there was any sound scientific evidence that television violence increased children's aggressiveness or had any unintended antisocial effects. The 1972 hearings represent a shift: Here, the center of attention was the report of the Surgeon General's Scientific Advisory Committee on Television and Social Behavior which, on the basis of prior research and $1 million in new research, concluded that there was "...a preliminary and tentative indication of a causal relation between viewing violence on television and aggressive behavior..." In the 1974 hearings, industry spokesmen reported on the social research undertaken by the industry and the industry's efforts to reduce violence. However, objective content analyses indicated that through the 1973-74 season, while violence had changed somewhat in character, it did not seem to be markedly reduced.


In an American adolescent sample, *All in the Family* was found to appeal more to highly prejudiced than to less prejudiced American adolescents. However, a similar relationship was not found among a sample of Canadian adults.

Ward, S., and Ray, M. L. *Cognitive responses to mass communication: Results from laboratory studies and a field experiment.* Paper presented at the meeting of the Association for Education in Journalism, San Diego, August 1974.

In three studies of junior- and senior-high-school students and adults—two laboratory experiments and a split-cable field experiment—anti-drug-abuse television commercials varied in effectiveness as a function of the specific commercial content and the specific audience, and distraction during viewing also affected responses differentially for various audiences.


In a study of children and mothers, comprehension by children of the nature, motive, and reason for commercials on television increased with age; belief in the truthfulness of commercials declined with age; and belief that commercials display the "best" products or that quality can be inferred from commercials declined with age.

In a youth survey, involvement with television—as measured by amount of viewing and perceived importance and influence of television—was positively correlated with conventionality in regard to values, attitudes, and behavior for both high-school and college students.


In two field experiments among boys of lower socioeconomic status, exposure to a diet of nonviolent television was associated with increased verbal aggression against peers.


In an analysis of 56 primetime dramatic programs dealing with drug use in 1970-71 and 1971-72, law enforcement was emphasized over treatment, although a sizable minority focused on treatment, and treatment was uniformly treated as an effective, appropriate response to drug use; drug use was uniformly portrayed as socially and personally undesirable; and law enforcement was portrayed as successful.


In a laboratory experiment, first- and second-grade boys who viewed televised portrayals of deviant peer models deviated more quickly and for a longer period of time than children exposed to models who displayed no behavior, and boys exposed to conforming verbal models deviated for a shorter period of time than subjects exposed to models who displayed no verbal behavior.


In a laboratory experiment, nine-year-old children who viewed a simulated television newscast in which delayed gratification was advocated by word, demonstrated by deed, or both, themselves displayed greater tendencies to delay gratification than children who viewed a simulated newscast without such content, and the differences were present both immediately after viewing and four weeks later, although at a reduced level after the four-week interval.


In a laboratory experiment, male college students who viewed an erotic film before seeing a noninvolving film delivered a higher level of noxious noise than those who had seen a violent film, an aggressive film, or a neutral film, and those seeing the latter three did not differ in noxious noise delivery.

In a laboratory experiment, when male college students were only mildly provoked, exposure to neutral or violent films did not result in increases or reductions in interpersonal aggression. However, when male college students were strongly provoked, the neutral film reduced aggression.


In a laboratory experiment, college students who viewed a violent film sequence with a happy ending subsequently delivered a lower level of electric shocks to a person who had previously provoked them than college students who viewed the violent sequence without a happy ending.
Appendix A

QUESTIONS EMPLOYED IN INTERVIEWS

1. How useful are results from "naive audience" studies? Are results from foreign audiences where television has just been introduced generalizable to this country? Are lab studies in general generalizable considering interacting variables such as home viewing situation, selective exposure, distraction, etc.?

2. Do field experiments provide sufficiently rich data to justify the problems associated with their administration, e.g., lack of control, tremendous expense?

3. What sorts of problems require longitudinal study? How useful are these results? How long is long for a longitudinal study?

4. Do you see any trends (fads) emerging methodologically? Is work needed in any particular methodological area? What sorts of methodological breakthroughs are needed?

5. Is "the effects of violence on later behavior" an alive or dead issue? Has it been resolved or have people become tired of it?

6. Should the effects of violence on adults be researched more? That is, we study kids with the assumption that they will become adults; however, it is also possible to directly observe "effects" on adults. Should this now become a priority area?

7. Why has research on the "effects" of TV moved to "prosocial effects"? A fad or a good move?

8. Have we now completely abandoned the notion of "attitude" or is the relationship between attitudes and behavior still a live issue?

9. Much of the current research on TV's effects is based upon observational learning. Is observational learning sufficiently justified theoretically? Would it be more proper to view the medium's effects as mediating? Does the information processing paradigm offer a good alternative paradigm for explaining TV's effects?

10. Does the present organization of television research hinder the growth of knowledge? Presently agencies fund individuals with good ideas and good reputations. Should funding be rather more programmatic applying a number of different approaches, people, and methods to a particular social problem?

11. Can social science research have an "effect?" How? In what areas? Under what conditions?
12. Is network programming the primary area to impact? How? Is more research needed on specific program content?

13. Is any particular legislation needed? Legislation for TV advertising?

14. Should social scientists take an advocacy position in "effects" research, or is the neutral observer role appropriate?

15. Is it possible or desirable for social scientists to collaborate with networks for specific research programs? What would bring about a cooperative research mode between networks and social scientists (is it possible or are the goals too far apart)?

16. In order to have an impact on policy will it become necessary to quantify the amount of harm done, e.g., produces how many crimes? Can violence research be put into dollar cost terms? Can prosocial research?

17. Is research which is structured around social goals better for changing policy than theory oriented research?

18. Can you summarize the areas which you would consider high priority for television research?

19. What sort of training is needed for researchers in the area of social effects of television? What general areas of competency are needed, e.g., economics, statistics?
## Appendix B

### PERSONS FORMALLY QUERIED IN REGARD TO RESEARCH "IN PROGRESS"

<table>
<thead>
<tr>
<th>Name</th>
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Appendix C

QUESTIONNAIRE ELICITING INFORMATION ABOUT RESEARCH "IN PROGRESS"

ONGOING RESEARCH QUESTIONNAIRE
SOCIAL EFFECTS OF TELEVISION PROJECT

Direction: Please complete a separate questionnaire for each project you describe. If a sufficient number of questionnaires have not been included, please use separate sheets of paper or photocopy this form.

1. Investigator(s). Please list name and institution for each person centrally involved with project. Names should be listed in order of senior responsibility as they would be for authorship.

2. Project Title. This should represent your preferred title, not necessarily the title used at your institution or by the sponsoring agency.

3. General Methodological Approach. Please indicate whether study is laboratory experiment, survey, panel study, field experiment, etc.

4. Design. Indicate whether project is pretest-posttest, after-only, time-series, etc. Also please indicate probable method of data analysis, e.g., analysis of variance, factor analysis, correlation, cross-tabulation.

5. Sample. Provide a description of the subjects or respondents used in the study. Please include the respondents age and sex, the number of respondents, and the population from which the respondents were selected.

6. Principal Measures. Please include the major dependent and independent variables you measured and how you measured or manipulated them.

7. Broad Purpose. What do you hope to find out? What generated your interest in this area?

8. Hypotheses Being Tested. Indicate your major hypotheses or research questions.

9. Preliminary Findings. Describe findings, observations, insights, problems, etc., or use this section as a general description.

10. Project Timetable. Specify the dates of initiation and expected end of project. If there is a specific date for a report or publication, please indicate it.

11. Funding Source. Specify the particular government agency or foundation. If the amount of the funding is public information, please provide the amount of funding and the specific time period.
12. **Current Publications.** Please indicate whatever information would be necessary to obtain publications NOW, such as proposals, papers, preliminary reports, etc.

13. **Anticipated Publications.** Indicate your general expectations, e.g., journal article, professional publication, and specify the date you anticipate completion.

14. **Locator.** Include name, address, telephone number, and/or special information we may not have about persons to contact in the future about this project. If thesis, indicate thesis advisor.

15. **Other Ongoing Research.** Do you know of any current research of which we should be aware? If so, please list name(s) and address(es).

16. **General Comments.**

**Thank You Very Much.** Please return in enclosed envelope along with any documents relating to this project which we might find useful to:

Georg Lindsey,
Institute for Communication Research,
Stanford University,
Stanford, California 94305.
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