Television's Contribution to Public Understanding of Science; a Pilot Project

George Gerbner and Nancy Signorielli

Annenberg School of Communications
University of Pennsylvania
Philadelphia, Pennsylvania 19104

Television is probably the largest single common contributor to young -- and most other -- people's ideas about life-goals and vocations. This pilot project will take the first major step toward ascertaining television's contributions to ideas about science, technology, innovation, and the people associated with these endeavors.

A number of studies* including some related to this project** have found stable and forceful messages about various types of activities and occupations in television "entertainment" programming. Our studies have also found that regular exposure to these messages is closely related to viewer's conceptions of social reality and to certain behaviors based upon these conceptions. For example, when asked about the percentage of men employed in law enforcement and crime detection, significantly more heavy viewers than light viewers of otherwise similar social characteristics respond in terms more typical of the television world than of the real world. And, far more heavy than light viewers of police and crime programs report that they "bought a dog for pur-

---

* Melvin L. DeFleur, "Occupational roles as portrayed on Television," Public Opinion Quarterly, 1964, 28, p. 57-74 and Melvin L. DeFleur and Lois DeFleur, "The Relative Contribution of Television as a Learning Source for Children's Occupational Knowledge," American Sociological Review, 1967, p. 777-789.

** Suzanne Jeffries-Fox and Nancy Signorielli, "Television and Children's Conceptions of Occupations," paper presented at the Sixth Annual Telecommunications Policy Research Conference, Airlie, Virginia, May, 1978.

poses of protection," "put new locks on windows or doors for purposes of protection," and "kept a gun for purposes of protection."*

But no study has yet investigated the nature of televised messages and their effects upon interest, understanding, and aspirations relevant to science, technology, and those who portray roles related to these activities. We propose to take the first major step toward such a research undertaking.

The proposed analysis is based upon a unique data bank and research design called Cultural Indicators.** This research began with the investigation of violence in network television drama in 1967-1968 for the National Commission on the Causes and Prevention of Violence. It continued under the sponsorship of the Surgeon General's Scientific Advisory Committee on Television and Social Behavior, the National Institute of Mental Health, the American Medical Association, the Office of Telecommunications Policy, and the Administration on Aging. Although violence-related findings and indicators have been published most widely, the approach was broadly based from the beginning to collect observations on the role and symbolic functions of several specific aspects of life -- including science and technology -- presented in television drama.

The research design consists of two interrelated parts: (1) Message System Analysis -- monitoring the world of television, and (2) Cultivation Analysis -- determining the conceptions of social reality that television tends to cultivate in different groups of child and adult viewers. This pilot project will be a preliminary analysis of available data focusing upon a few major dimensions of the "world of science" in television drama.

---

* George Gerbner, Larry Gross, Marilyn Jackson-Beeck, Suzanne Jeffries-Fox, and Nancy Signorielli, "Cultural Indicators: Violence Profile No. 9," Journal of Communication, 1978, 28:3, p. 176-207.

** Ibid.

Message System Analysis is designed to investigate the aggregate and collective premises defining life and its issues in representative samples of mass-produced symbolic material. Such analysis rests on the reliable determination of unambiguously perceived elements of communications. Its data base is not what any individual would select but what an entire national community absorbs.

The proposed study will isolate the image of science, technology, and scientists in prime-time and weekend-daytime (children's) dramatic network television programming. The study will use archived data from the Message System Analysis of annual samples of network dramatic programming broadcast between 1969 and 1978.

The analysis will isolate and describe the programs in which science and technology are important. The description of characters who portray scientists will form an important and detailed segment of the research. This part of the research will use the following content items: sex, race, marital status, nationality, socio-economic status, role (comic-serious), character type ("good"-"bad"), success, committing violence and victimization. Personality trait profiles* will also be generated for all scientists as well as male and female scientists who portray major roles in the dramas. The following personality trait scales will be included: attractiveness, fairness, sociability, warmth, power, stature, smartness, stability, efficiency, sex appeal, youthfulness, affluence, and violence. Only those content items meeting acceptable levels of reliability will be included in the proposed analysis.

The result of this pilot project will be presented in tabular form with some interpretation of the findings. The tables will include an analysis of programs in which science and technology are an important theme as com-

---

* The mean score on each five-point personality trait scale.

pared to programs without this theme. Findings on the portrayal of scientists will be presented in tabular form including the distribution of all males and females in science-related occupations on the above described content items. Separate analyses and tables will be prepared for characters who populate prime-time and weekend-daytime (children's) programming. This analysis will provide preliminary information about the portrayal of science, technology, innovation and scientists in television drama. It will be used to develop a proposal for a more detailed study of science, technology, and innovation in television content, and of the contributions of exposure to that content to viewer's conceptions and choices relating to these areas.

1-31-79