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AUTHOR Roberts, Churchill L.
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ABSTRACT

A study was conducted to explore the hypothesis that heavy television viewing, particularly the viewing of a great deal of violence, cultivates certain misconceptions about social reality. Four counties in Florida were selected for the study on the basis of geographical location and amount of violent crime. Survey questionnaires were administered to 524 adolescents in their classrooms in May 1984, and to 507 adults via telephone interviews during the summer of 1984. The findings for the adolescent sample provided only scant evidence that television might alter perceptions of social reality in a way that is consistent with its content. However, adults who watch a great deal of television or regularly view programs containing a great deal of violence expressed a heightened sense of danger and selfishness. Even when such factors as education and income are taken into account, the relationship between television viewing or the viewing of violence programs and fear of violence remains significant. Further research should seek to determine more precisely the processes by which cultivation takes place or by which psychological and sociological factors affect both television viewing and perceptions of reality. (DF)

THE CULTIVATION EFFECTS OF TELEVISION VIOLENCE: FURTHER TESTING

Churchill L. Roberts
Professor of Communication Arts

The University of West Florida
Pensacola, Florida
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ABSTRACT

The purpose of this study was to test further the cultivation effects hypothesis--that is, the notion that heavy television viewing, and presumably, the viewing of a great deal of violence, cultivates certain misconceptions about social reality. According to Gerbner et al., adolescents and adults who are heavy viewers tend to overestimate the amount of violence in the real world and to have greater fear for their personal safety than those who are light viewers. The heavy viewers also tend to be more distrustful of other people and more likely to believe that most people are just looking out for themselves. Even when other factors are controlled, these findings persist.

Respondents for the study were adolescents and adults from four counties in Florida. The counties were chosen on the basis of geographical location and amount of violent crime. Survey questionnaires were administered to 524 adolescents in their classrooms in May, 1984; the adult questionnaires were administered via telephone interviews during the Summer of 1984. A total of 507 adults participated in the study.

The results of the study seemed to both disclaim and confirm the cultivation effects hypothesis. The findings for the adolescent sample, for example, provided only scant evidence that television might alter perceptions of social reality in a way that is consistent with its content. While those who are most fearful, etc., watch a greater number of violence programs, there is little evidence to suggest a pattern of fear or mistrust which might be traced to television viewing. At the same time, there is no conclusive evidence that the relationship between television and perceptions of social reality is simply random.

For adults the picture is quite different. Adults who watch a great deal of television or regularly view programs containing a great deal of violence express a heightened sense of danger and selfishness. Even when other factors such as education and income are taken into account, the relationship between television viewing or the viewing of violence programs and fear of violence, etc., remains fairly strong and significant.

Further research should seek to determine more precisely the process by which cultivation takes place or, if such a relationship is merely artifactual, the process by which psychological and sociological factors affect both television viewing and perceptions of social reality.

In the mid-to-late 1970s the notion that television viewing affected perceptions of social reality went virtually unchallenged.[1] Year after year Gerbner and his colleagues at the Annenberg School of Communication reported that television programming was saturated with violence and that people who watched a great deal of television and presumably saw a great deal of violence were likely to be more fearful for their personal safety and more apprehensive of the world around them than were those who spent fewer hours in front of their television sets. The so-called heavy viewers feared walking alone near their homes at night, overestimated the amount of violence in the real world, and even displayed a sense of distrust of or alienation from society.[2]

Other researchers also found support for the idea that television cultivates a particular view of the world, one which coincides with its own synthetic reality.[3]

Even when factors such as age, race, or education were controlled, the relationship between television viewing and the perception of a "scary world" persisted.

At the end of the decade, however, one study sought to explain the Gerbner et al. findings by taking into account the actual amount of violence which occurred in the neighborhood.[4] The thinking was that people who watched a great deal of television-- the same ones who expressed a great deal of fear-- may have done so because it was unsafe to venture outside. Thus, the correlation between television viewing and fear of

personal safety may have been artifactually created. The findings of the study supported this idea. The ones who viewed television more frequently and were more likely to fear for their own safety tended to be those who lived in high-crime urban areas.

A more serious challenge to the cultivation effects hypothesis came in the form of a reanalysis of the Gerbner et al. data.[5] When multiple controls such as age, sex, education, and race were simultaneously employed, the relationship between television viewing and perceptions of social reality became negligible. Equally important, those who watched the greatest amounts of television--extreme viewers omitted from the Gerbner et al. analyses--exhibited the least amount of fear.

A similar study reached the same conclusion.[6] In this case, however, additional variables such as the number of hours worked each week, church attendance, and the number of memberships in voluntary associations--all of which were likely to be related to television viewing--were included in the analyses. Again, multiple controls eliminated for the most part the low but significant correlations between the number of hours spent watching television and beliefs about a "mean and selfish world."

Despite attempts by Gerbner et al. to explain the apparently contradictory findings, there have been few attempts to gather fresh data which might address some of the questions

raised by critics of the cultivation hypothesis.[7] Some of those questions have to do with the types of analyses performed on the data, the measures of television viewing and especially the viewing of violence, the addition of other demographic variables which might be related to both television viewing and beliefs about violence--such as the amount of crime in the community, and the kinds of people who are likely to be affected by the viewing of violent programming. Each of these factors was incorporated into the design of the present study, the purpose of which was to test further the notion that heavy television viewing results in a "heightened and unequal sense of danger in a mean and selfish world."[8]

The cultural effects hypothesis had its origins in a long-term study of television content. Beginning in the late 1960s, Gerbner et al. began to chronicle the amount of violence found in network prime-time and weekend-daytime children's television programming.[9] They also noted the kinds of people who committed violent acts as well as the victims of such acts. The results of their yearly "violence profiles" suggested a television world which was far different from the real world. Violence was prevalent in more than half the programs analyzed; approximately two-thirds of the male characters and almost half of the female characters engaged in some form of violence. Victims of violence were disproportionately women--especially those cast as young adult or elderly women.

In the mid-1970s the Gerbner group began linking the content analyses to audience surveys to determine the extent to which television may have contributed to or cultivated a kind of distorted worldview. For the questions concerning violence there were usually two types of response, one of which coincided with the pattern of violence on television, the other with real-life violence. What Gerbner et al. found was that heavy television viewers were much more likely than light viewers to furnish the "television" response, in other words to overestimate the amount of violence in the real world and also to overestimate their own chances of becoming involved in a violent crime.[10] Further testing indicated that heavy television viewing was also related to feelings of distrust and selfishness and to a sense of alienation. The findings seemed to hold for adolescents as well as adults and for national probability samples as well as local non-probability ones. And equally important, they seemed to hold when a third variable--usually a demographic characteristic such as sex or age--was controlled.[11]

After reviewing the literature which had direct bearing on the cultivation effects hypothesis, Hawkins and Pingree concluded that the "evidence is relatively supportive of television's influence on some aspects of social reality, especially in areas related to violence and for the demographic measures on prevalence of violence and the value-system

measures on interpersonal mistrust."[12] This view, however, is not shared by a number of researchers who have either conducted independent studies and found no evidence of cultivation, or reanalyzed the Gerbner et al. data and found their conclusions unwarranted or misleading.

A study by two Canadian researchers, Doob and Macdonald, suggested that the basic Gerbner et al. findings--i.e., a significant correlation between television viewing and perceptions of social reality--could be obtained but that they were artifactually created by collapsing into a single group two very different kinds of individuals, adults from high-crime areas, especially the inner city, and adults from low-crime areas.[13] When the two groups were analyzed separately, the heavy viewers from the low-crime areas showed no tendency toward excessive fears or unrealistic beliefs about violence. The ones from the high-crime areas, on the other hand, were significantly more fearful and watched significantly greater amounts of television. The researchers concluded that the findings from the high-crime areas resulted from realistic fears of violence and that staying home and watching television was a means of avoiding violent crime. In another analysis, Doob and Macdonald tested the extent to which television viewing predicted fear of violence after neighborhood, sex, and age had been taken into account. They found that viewing added little to the explanation of variance. The ones who were most

fearful were females, older persons, and those living in a high-crime area.[14]

Roberts surveyed fourth, fifth, and sixth grade children in Northwest Florida and found that females and younger children were more fearful for their personal safety and more apt to condone the use of violence.[15] Television viewing had little to do with their beliefs about social reality. Nor did it have much to do with the beliefs of their parents. Again, age and sex were the best predictors of perceptions of violence.

O'Keefe analyzed data collected by the Roper Organization in order to determine the relationship between television viewing and concerns about crime.[16] Television viewing consisted of overall exposure, exposure to crime entertainment programs, and exposure to crime news. Other measures tapped the perceived credibility of television programming. The questions about personal safety and the likelihood of being a victim of crime were much the same as the ones used by Gerbner et al. O'Keefe found "no support for the proposition that total time spent viewing television has an impact on public perceptions and attitudes regarding crime, or that television viewing per se increases feelings of fearfulness among citizens."[17] In some cases, however, the amount of crime news watched and also the perceived credibility of crime news and crime entertainment programs were related to crime orientations--but not always in the manner one would expect.

Unexpected findings were also noted by Slater and Elliott in their study of high school students' use of television and beliefs about law enforcement.[18] When asked about their impressions of societal safety, estimates of the number of policemen in the work-force, the number killed the past year in the line of duty, and chances of personal involvement in crime, students who were frequent viewers of "law enforcement" programs such as "Baretta," "Charlie's Angels," or "Hawaii Five-O" were more likely to exhibit higher levels of societal safety than were infrequent viewers. Conversely, students who perceived the law enforcement programs as more realistic were the ones more likely to have a fearful view of society.

Perhaps the greatest challenge to the cultivation effects hypothesis has been the reanalysis of the Gerbner et al. work. Using data collected by the National Opinion Research Center in 1975, 1977, and 1978, and used by Gerbner et al. in reaching their conclusions, Hirsch found no evidence to support the Gerbner et al. claim of an association between television viewing and perceptions of social reality.[19] When sex, age, and education were simultaneously controlled, the bivariate relationships between the amount of television watched and the likelihood of giving the television response virtually disappeared. Moreover, the individuals most likely to perceive a "mean and scary" world were non-viewers, a category merged with light viewers in the Gerbner et al. analyses.

Similar findings were made by Hughes who also analyzed National Opinion Research Center data.[20] Hughes found that in most cases simultaneous controls either eliminated or reversed relationships between television viewing and the social reality items.

Both Hughes and Hirsch tested additional items in the data sets which were either ignored or unreported by Gerbner et al. but which related to the cultivation perspective.[21] In each instance the findings ran counter to what one might expect. Those who watched television most often were least likely to condone the use of violence and least likely to keep a gun in their home.

In response to the contradictory findings and to criticisms regarding both methodology and interpretation, Gerbner et al. sought to refine the cultivation hypothesis by introducing new concepts which might account for the discrepancies between their work and that of other researchers. One term which they have introduced is called mainstreaming, the process by which heavy viewers within various subgroups develop common outlooks which are different from those of light viewers of the same subgroup.[22] As an example, they cite the relationship between television viewing and concern about crime across various income subgroups. For low income individuals, amount of viewing has nothing to do with beliefs about crime. Both heavy and light viewers evidence a high level of concern. But for

high and medium income individuals, heavy viewers are more concerned about crime than light viewers. According to Gerbner et al., this finding suggests a kind of mainstreaming--pulling the high and medium income heavy viewers closer to the widespread image of social reality cultivated by television.

The problem with the mainstreaming concept, as pointed out by Hirsch, is that it allows for an explanation of findings regardless of their outcome.[23] If heavy viewers in any two or more subgroups appear less fearful than light viewers of the same subgroup, then television's reality has moderated their extreme views and brought them more in line with the mainstream. By the same token, if heavy viewers appear more fearful than their light-viewing counterparts in a given subcategory-- sex (females) or residence (those who live in the city)--then television and its preoccupation with violence, along with real-world experiences, has delivered a double dose of violent images. This latter process has been characterized by Gerbner et al. as resonance. Like mainstreaming, it provides a rationale for within subgroup variations in levels of television viewing and perceptions of social reality.[24]

PROCEDURE

The current study provides an opportunity to test the cultivation effects hypothesis in light of contradictory findings and, in some cases, methodological shortcomings of previous studies. The major factors which have been

incorporated into the present work include: determination of the amount of violent crime in the county; sampling which takes into consideration adolescents as well as adults--as heavy viewers in both groups have on occasion exhibited higher levels of fear, alienation, etc.; development of a more comprehensive measure of television viewing and especially the viewing of violence; and finally, employment of more sophisticated statistical techniques which would likely provide a better understanding of the relationship between television viewing and perceptions of social reality.

Selection of Respondents

Respondents, residents of the State of Florida, were selected according to two criteria: the amount of violent crime in the area, and geographical location in the state. Although crime no doubt varies from one neighborhood to another, it also varies from one county to the next. Those with large urban populations tend to have much higher crime rates than those located in rural parts of the state. Also, differences in crime rates are no doubt reflected in the amount of crime news appearing in the local press and in the public's general perception of the relative amount of crime in the community.

The Florida Department of Law Enforcement groups counties into five levels of violent crime, ranging from less than 300 for every 100,000 inhabitants to more than 1,900.[25] These

levels were used in determining the selection of counties in the present study. For administrative purposes, the Florida State Department of Education divides the state into five geographical regions.[26] These regions were used to group counties a second way, thereby ensuring a selection of counties from different parts of the state. Once the counties had been grouped according to level of crime and geographical region, a selection was made of one county from each region to represent each of the five levels of crime. Dade County, which includes the city of Miami, was automatically selected as it was the only county in the highest crime category. The other counties included Duval, Pinellas, Indian River, and Holmes. As one might expect, the high crime counties were the ones with large urban populations, whereas the counties with low crime rates were located in rural areas of the state.

School administrators in each of the five counties were contacted and asked to participate in the study. Only one county, Dade, declined to do so. The other four furnished the names of middle schools or high schools which had a good cross-section of students. The students were selected from sixth, seventh, eighth, and ninth grade classes. In some counties, all the students (and grade levels) were housed in one school; in others they were housed in two or even three schools.

The adult sample was chosen randomly from telephone directories of the metro areas in each of the four counties. An effort was made to select approximately the same number of male and female adults and to have an overall number which coincided with that of the adolescent sample.

Construction of Questionnaires

The questionnaire for the adolescent sample was designed to be administered in the classroom. It contained two measures of television viewing--the overall amount of time spent viewing television each week and the viewing of programs containing a great deal of violence. The overall viewing measure was similar to one used by Bower.[27] Respondents first checked weekday hours during which they would likely be watching television. Next, they checked the hours they would normally be watching on Saturday and then on Sunday. The measure of violent viewing was constructed from a list of programs compiled by the National Coalition of Television Violence. The list contained the eleven most violent programs presented in prime-time in 1983-84.[28] The actual measure was the number of programs viewed on a regular basis.

The questions concerning perceptions of violence were drawn from previous Gerbner et al. studies. They included estimates of the amount of violence taking place and the likelihood of being involved in a violent crime, fear of walking alone at night, the usefulness of parents keeping a gun for protection,

and a number of other related questions also taken from the Gerbner et al. surveys.

Several new items were developed to gain a better overall picture of attitudes toward television and the general lifestyle of adolescent students. These items had to do with such things as satisfaction with television, the truthfulness of television commercials, sociability, and attitude toward reading. They were presented in the form of statements which were responded to along a six-point scale from strongly agree to strongly disagree.

Finally, students were asked to indicate their age, sex, grade level, race, perceived academic standing, and amount of time they spent reading the newspaper.

The adult questionnaire was shorter than the one developed for adolescents and was administered via telephone interviews. For the measures of television viewing and the viewing of violence, adult respondents were asked to estimate the amount of time they spent watching television on weekdays (none, up to a half hour, a half hour to an hour, etc.), Saturdays and Sundays, and the individual programs (such as "Magnum P.I." and "The Fall Guy") that they watched on a regular basis.

For the most part, the Gerbner-type questions concerning perceptions of social reality were identical to the ones in the adolescent questionnaire. Other kinds of data which were obtained included education, age, income, sex, race, and the amount of time spent reading the newspaper.

The adolescent questionnaire was administered to students in their classrooms in May, 1984. The telephone survey of adult respondents was conducted in the Summer of 1984.

RESULTS

The adolescent sample consisted of 524 students ranging in age from 11 to 16 (Table 1). The average age was 13. They were fairly evenly divided among the counties and grade levels, although a smaller proportion of students came from ninth grade classes. The sample was roughly half male and half female and 14 percent non-white.

(Place Table 1 about here.)

Table 2 describes the adult sample, 25 percent of whom came from each of the four counties. There is a fairly normal distribution of respondents in the categories of education, age, and income, and an even distribution of males and females. Non-whites comprised 12 percent of the adult sample.

(Place Table 2 about here.)

The major analyses were carried out in four stages. First, simple correlations were obtained between television viewing or the viewing of violence and all other measures. The purpose

was to determine whether relationships found in past Gerbner et al. studies would exist in the present one. Next, forced-entry regression analyses were performed to gauge the extent to which television viewing or the viewing of violent programs added to an explanation of variance of social reality measures after other independent variables such as income and education had been entered into the regression equation. To obtain a somewhat different perspective, four levels of viewing were established and multiple classification analyses were performed to see whether perceptions of social reality varied according to level of viewing after controlling for demographic characteristics such as race, income, and education. Finally, respondents were grouped according to their overall social reality item scores, and one-way analyses of variance were used to determine the kinds of adolescents or adults who were most likely to express fear or distrust or to overestimate the amount of violence taking place.

Tables 3 and 4 show the variables which correlated significantly with overall viewing and the viewing of violence programs by adolescents. The one which had the highest correlation with overall viewing was the statement, "Watching television is a great way to spend time" (.36). Responses to another statement, "The television stays on in my house all the time," also produced a fairly high and significant correlation with overall viewing (.25). As one might expect, overall

viewing also correlated significantly with the number of violence programs viewed regularly.

(Place Table 3 about here.)

(Place Table 4 about here.)

The first table of correlations suggests too that heavy viewers tend to live in counties with high crime rates (.20), prefer staying at home and watching television to going out with friends (-.18), occasionally enjoy witnessing a good fight (.18), and like movies in which someone gets killed (-.12). Very few of the Gerbner et al. social reality items correlated significantly with overall viewing, and the ones that did were quite low, ranging from .07 to .10.

For the most part, the pattern of results in Table 2 resembles that of the first table. Adolescents who watch more of the violence programs report that watching television is a great way to spend time (.24)-- even better than going out with friends (-.14), and that a good fight is sometimes enjoyable to see (.18).

The ones who watch more of the violence programs also tend to be afraid to walk alone in their neighborhoods at night (.20) and to be less trustful of other people (.20).

Television tends to be more honest and realistic to heavy viewers who believe that television commercials usually tell the truth (.17) and that people they see on television are much like the ones they know in real life (.10). Unlike the results in the previous table, the results in Table 4 indicate that adolescents who watch more of the violence programs live in low rather than high crime counties. Finally, viewing tends to vary with both grade level and sex. The ones who view violence programs more frequently are like to be in the lower grade levels (-.13) and also likely to be male (.12).

The results of the correlations presented in Table 5 suggest that adults who watch television more frequently tend to be less educated (-.18), have less income (-.16), and spend less time reading the newspaper (-.10). They are much more likely than light viewers to watch the violence programs (.49). In marked contrast to the adolescents, adult heavy viewers express a rather consistent pattern of fear, sense of selfishness, and overestimation of violence. Five of the ten correlations between overall television viewing and perceptions of social reality are .20 or above. Heavy viewers are more likely than light viewers to overestimate their chances of becoming involved in some kind of violence (.24) and of becoming the victim of a violent crime if they walked alone in their neighborhood each night for a week (.22), to overestimate the number of people involved in violence each week (.21), to

believe that most people are just looking out for themselves (.21), and to believe that crime is a serious problem in their community (.20).

(Place Table 5 about here.)

Although the results in Table 6 mirror those of the previous table, correlations were even higher when the viewing of violence programs rather than overall viewing was used as the measure of the amount of violence seen on television. Again, heavy viewers tended to be less educated (-.29), have less income (-.21), and spend less time reading the newspaper (-.29). They were also more likely to overestimate their chances of becoming the victim of a violent crime if they walked alone in their neighborhood each night for a week (.31), to overestimate the number of people involved in violence in a given week (.26), to express a fear of walking alone at night (.20), to overestimate their personal chances of being involved in violence (.25), and to believe that people tend to just look out for themselves (.24). In all, nine of the ten correlations between the viewing of violence programs and perceptions of social reality were significant and in a direction consistent with the cultivation effects hypothesis.

(Place Table 6 about here.)

The next set of analyses tested the extent to which television viewing or the viewing of violence programs added to an explanation of variance in responses to the social reality questions. A forced-entry regression procedure was used, and the last variable entered was viewing.[29] Admittedly, in the absence of a sound rationale which would govern the order of entry of variables, these analyses were exploratory--determining simply the unique contribution of viewing.

Tables 7 and 8 show the results of the regression analyses for the adolescent sample after county, age, sex, race, and newspaper reading have been entered into the equation. They indicate that, for the most part, neither overall viewing nor the viewing of violence programs adds much to an explanation of variance. When overall viewing is the last independent variable entered into the equation, the additional variance accounted for is less than one percent in thirteen of the fourteen analyses. In only one case, when the dependent variable had to do with parents keeping a gun for protection, did the regression coefficient for overall viewing reach significance in the final equation. When the viewing of violence programs is the final independent variable entered (Table 8), a similar pattern emerges. In only three instances did the amount of variance accounted for exceed one percent. The greatest increases (.042, .027, and .021) occurred when the

dependent variables had to do with trust in other people, the usefulness of parents keeping a gun for protection, and the chances of being the victim of a serious crime when walking alone in the neighborhood at night for a week.

(Place Table 7 about here.)

(Place Table 8 about here.)

Tables 9 and 10, which present the analyses of the adult sample, reveal a quite different picture. Although the amount of additional variance accounted for by overall viewing or the viewing of violence programs is relatively low (in only one of the twenty analyses did it exceed five percent) the regression coefficients for viewing are significant in fifteen of the twenty equations. These findings suggest that while viewing may not provide much in the way of a unique contribution to the explanation of variance in responses to the social reality items, it is nevertheless a significant predictor of those responses. When overall viewing is the independent variable, the greatest increase in the multiple R (.10) occurs when the dependent variable is the question, "During any given week, what do you think your chances are of being involved in some kind of violence?" The same question accounts for the greatest increase in the multiple R (.11) when the viewing of violence programs is the last independent variable entered into the regression equation.

(Place Table 9 about here.)

(Place Table 10 about here.)

Another way to analyze the data, one which was used by Hirsch and Hughes in their reanalyses of the Gerbner et al. findings, is to use the technique of multiple classification analysis.[30] This statistical treatment tests the strength of a relationship before and after controls have been introduced, but unlike regression analysis, shows the effects on the dependent variable at each level of the independent one. Despite the fact that the creation of viewing levels (the independent variable) reduces the precision of the viewing measure, the multiple classification analysis seemed particularly worthwhile as it provided a means of comparing current results to those of previous studies.

For both the adolescent and adult samples, the raw scores for overall viewing were rank-ordered and divided at each quartile, thereby creating four levels of viewing. A similar procedure was used to create the levels for the viewing of violence programs. The dependent and covariate measures in the multiple classification analyses were the same as the dependent and independent measures (other than viewing) in the regression analyses.

Table 11 shows the unadjusted and adjusted means (that is, adjusted for covariates) of each dependent variable at each of the four levels of overall viewing. The eta statistic is the simple correlation between viewing level and the dependent variable; beta is the standardized regression coefficient or the strength of the relationship between viewing level and the dependent variable after adjusting for covariates. An asterisk indicates whether the mean scores on the social reality measures differ significantly after the control variables have been taken into account. For all but the last analysis, the higher the mean score the greater the level of fear or mistrust or overestimation of violence.

(Place Table 11 above here.)

In three of the fourteen analyses the results suggested a cultivation effect consistent with the Gerbner et al. hypothesis, but in only one instance were differences in mean scores significant. When the dependent variable had to do with whether parents should keep a gun for protection, the overall F was significant after adjusting for covariates. In this case, however, the group most likely to agree with the statement was not just the one comprised of viewers in the highest (fourth) quartile but also the more moderate viewers in the second quartile of viewing level.

Results were somewhat indicative of a cultivation effect when the independent variable was the number of violence programs watched by adolescents (Table 12). In eight of the fourteen analyses, heavy viewers were more likely to give the cultivation effects response; however, in only four of these analyses were mean scores significantly different from one another. As in the previous table, adolescents who were heavy viewers were much more likely than those in the light viewing groups to agree that it was useful for their parents to keep a gun for protection. Differences in the responses of heavy and light viewers were even more pronounced before the control variables were included. Another significant difference between heavy and light viewers was found when adolescents estimated their chances of being the victim of a crime if they walked alone in their neighborhood each night for a week. The ones who were in the top quartile of viewing were much more likely than those of other viewing levels to believe they had a good chance of being the victim of a crime. Likewise, viewers in the top quartile were more likely to believe you can't trust most people and less likely to believe that crime is not a serious problem in the neighborhood.

(Place Table 12 about here.)

Table 13 shows the results of the multiple classification analyses for the adult sample. For these analyses the independent variable was the number of hours spent watching television. Despite the addition of control variables which reduced to some extent the relationship between the amount of television viewing and perceptions of social reality, there is clear support for the cultivation effects hypothesis. In fact, in every single analysis the groups which seemed more fearful or more inclined to overestimate the likelihood of violence were the ones representing the third or fourth quartiles of viewing level--in other words, the heavy viewers. By contrast, those in the bottom quartile, the light viewers, expressed the least amount of fear, etc., in seven of the ten analyses. The greatest differences between heavy and light viewers (the top and bottom quartile) occurred on the questions dealing with the chances of being involved in some kind of violence and the belief that crime is a serious problem in the community.

(Place Table 13 about here.)

Even stronger relationships between viewing and perceptions of social reality can be seen when the number of violence programs watched was the independent variable (Table 14). When adults were asked to estimate their chances of being involved in some kind of violence in any given week, a much higher

proportion of the ones in the high viewing groups thought there was such a chance. Beta was .32, the highest regression coefficient of any of the analyses presented in Tables 13 and 14. In only one instance did adults in the lowest viewing group provide answers to suggest that they were more likely than adults in the highest viewing group to overestimate the use of violence. When asked how often a policeman pulls his gun in the course of the day, the lightest viewers tended to be the ones to overestimate the number of times it occurs. Differences among the four groups of viewers, however, were not significant. Again, control variables seemed to reduce considerably the relationships between the number of violence programs viewed and responses to the social reality items; but even so the relationships for the most part remained significant and in the direction predicted by the cultivation effects hypothesis.

(Place Table 14 about here.)

The final set of analyses involved the construction of a social reality index. Although separate factor analyses of the adolescent and adult data failed to uncover a meaningful factor structure, it seemed worthwhile for exploratory purposes to determine the kinds of individuals who were most likely to express fear or distrust or to overestimate the likelihood of

violence in the society.[31] Scores on the fourteen social reality items used in the adolescents' analyses and the ten items used in the adults' analyses were each combined to form a raw score.[32] These scores were then rank-ordered and divided into three groups. Although it may seem somewhat unorthodox to treat traits such as sex or race as dependent variables, the purpose was simply to determine whether a group of adolescents or adults characterized as exhibiting a high level of fear, etc., might differ significantly from those expressing less fear or apprehension.

Table 15 shows the results of one-way analyses of variance for the adolescent sample. They suggest that individuals who are most fearful differ from other individuals in two respects-- they are more likely to be female and more likely to watch programs containing violence. Differences in overall television viewing, while not significant, nevertheless parallel those for the viewing of violence programs.

(Place Table 15 about here.)

Table 16 shows the results for the adult sample. The group which expressed the greatest amount of fear, etc., had significantly lower incomes and lower levels of education than the other two groups. Individuals in the high fear group also spent significantly less time reading the newspaper, watched

significantly more television, and saw a significantly greater number of violence programs. This last finding holds for adolescents as well as adults and suggests that regardless of the direction of causality, the individuals who express the greatest amount of fear, etc., also see the greatest amount of violence in prime-time television programming.

(Place Table 16 about here.)

Finally, although they are not presented in table form, various combinations of three-way analyses of variance were carried out with the adolescent data to detect possible interactions between viewing and other demographic variables on the social reality items. Such interactions would provide evidence of the differential subgroups effects proposed by Gerbner et al.[33] Of the ten three-way analyses of variance performed, only one indicated a significant interaction involving viewing. When adolescents were asked whether women or men were more likely to be the victims of crime, the ones who chose women tended to be eighth and ninth grade moderate viewers, whereas the ones who chose men were sixth and seventh graders in the same viewing category.

DISCUSSION

The results of the various analyses suggest two quite different conclusions concerning the cultural effects hypothesis. For adolescents there seemed to be little evidence of an across-the-board relationship between television viewing and perceptions of social reality. In some

instances the ones who were heavy viewers--who spent a great deal of time watching television or watching prime-time programs containing a great deal of violence--tended to think it's a good idea for their parents to keep a gun for protection, to overestimate how often a policeman draws his gun, to believe they might be the victim of a serious crime if they walked alone in their neighborhood at night--and likewise, to believe that crime is a serious problem where they live, or to believe that most people are distrustful. But for the most part, there seemed to be no systematic relationship between viewing and perceptions of an overly violent world. Viewing added little or nothing at all to an explanation of variance of responses to the Gerbner-type social reality questions or statements, and it failed to discriminate between group responses when it (viewing) was collapsed into levels. On the other hand, when adolescents were grouped according to their level of fear, distrust, etc., the ones who were most fearful watched the greatest number of programs containing violence.

In contrast to the responses of the adolescent sample, responses of the adult sample were quite consistent with what one would expect to follow from the cultivation effects hypothesis. Adults who were heavy viewers of television or heavy viewers of violence programs tended to be the ones to overestimate the extent of violence in society and to be more fearful for their personal safety and to believe that people

are just looking out for themselves. Although the addition of control variables such as education or income reduced the strength of the relationship between viewing and perceptions of social reality, it did not eliminate it. In fact, in most cases the relationship remained significant after controls were employed.

Differences in the responses of adolescents and adults can perhaps be attributed to a number of factors, some of which have to do with the manner in which the data were gathered, others with underlying assumptions of the cultivation hypothesis. In the first place, it must be remembered that while the adolescent and adult samples were drawn from the same counties, the former involved personal contact in the classroom whereas the latter involved telephone interviews. The differences in data gathering techniques resulted in the construction of somewhat different questionnaires, and in one instance, a different measure of television viewing. For example, for the measure of overall viewing, adolescents filled out a diary which consisted of an hour-by-hour check of viewing for weekdays, Saturdays, and Sundays. Adults, on the other hand, were simply offered various categories of viewing (up to a half hour, a half hour to an hour, etc.) for weekdays and weekends. The adolescent questionnaire also provided a better opportunity to look at and think through the individual items. While these differences might suggest a greater likelihood of

reliable responses from the adolescent sample--the sample which exhibited hardly any cultivation effect--there is also the possibility that adolescents had a more difficult time comprehending the social reality questions.[34]

The different means by which the samples were drawn might also account for the differing results. Although an effort was made to obtain a representative sample of adolescents and adults after counties were stratified according to geographical location and amount of violent crime, the actual selection of participants was much more random in the case of adults. Systematic sampling of telephone directories of the metropolitan areas of the four counties produced the list of prospective adult participants, while adolescents were selected on the basis of recommendations from county school officials and school principals.

From a theoretical standpoint, it stands to reason that adult heavy viewers have been exposed to violence on television over a longer period of time than their adolescent counterparts, and to the extent that repetition of violent imagery must reach a certain saturation point before it alters perceptions of social reality, adult heavy viewers would seem the ones most susceptible to television's influence. This implied interaction between age and amount of viewing is what in effect occurred in the present study. Adolescent viewers, whether they watched a great amount of television or hardly

any, along with adult light viewers, exhibited few cultivation effects. Adult heavy viewers, on the other hand, were the ones most likely to exhibit higher levels of fear or perceive higher levels of crime. To some degree, this notion of a different effect for adolescents and adults supports the Gerbner et al. claim of likely differences among subgroups, although the Gerbner et al. findings have shown that adolescent and adult heavy viewers are equally fearful.

The reason that adolescents and adults may respond differently to statements and questions about social reality is that they bring to bear different experiences on the viewing situation. As Hawkins and Pingree point out, whatever influence television might have occurs in the context of other life experiences, including one's own personal beliefs, the use of other media, and, of course, contact with other people.[35] In fact, much of the response to criticism of the cultivation effects hypothesis has been an attempt to show that while overall relationships between viewing and perceptions of social reality may be inconsequential, relationships for particular subgroups--presumably those individuals for whom violence has a special or different meaning-- are not. The problem with this explanation, as both Hirsch and Hawkins and Pingree note, is that it is always made on a post-hoc basis.[36] Neither the Gerbner et al. group nor anyone else who holds this view has specified the conditions under which cultivation might occur

for one subgroup and not another. Hirsch argues that if any subgroups are likely to be affected by television's violent portrayals, it should be those most often depicted as the victims of crime. Yet heavy viewers in these subgroups--such as women, especially elderly or black women-- showed no greater concern for their personal safety than light viewers.[37]

Although endless combinations of variables might be used to test notions about differential subgroup effects, the ones tested for adolescents in the present study provided no indication that such effects existed. In the one instance in which an interaction occurred between viewing and grade level, the results showed that the ones most likely to believe that women were the victims of crime were eighth and ninth grade moderate viewers, while the ones least likely to hold such views were sixth and seventh grade moderate viewers.

Despite the marked contrast between the Gerbner et al. findings on adolescents reported in Violence Profile No. 10 and the ones reported in this study, there is no indication of an opposite effect--that is to say, that the heaviest viewers might be the least fearful, etc.[38] In the present study, adolescent high-level viewers gave the so-called television response more often than low-level viewers. For instance, the multiple classification analyses (Tables 11 and 12) show that in 21 of the 28 analyses adolescents in the highest viewing level expressed a greater sense of fear, apprehension, or

mistrust than adolescents in the lowest viewing level. Still, differences were not likely to be significant as they were for the adult sample.

Another possible explanation for differences in the results of the two samples is that for adults the relationship between viewing and perceptions of social reality may have been artifactual, and that other variables which relate to both television viewing and a sense of fear or apprehensiveness may have simply been omitted. Level of crime in the county, for example, did not account for much of the variance in responses to the social reality items. It did not even correlate significantly with the statements about whether crime was perceived as a serious problem in one's own neighborhood. A more precise measure, such as the actual amount of crime in the neighborhood or personal involvement in violent crime, might have provided a better indication of the extent to which notions about violence are based on real-world experience.

Another indication that adults' perceptions of social reality might be based on factors other than television viewing comes from the results presented in Table 16. The one-way analyses of variance suggest that those who are most fearful, most apt to overestimate the prevalence of violence, and most likely to believe that people are just looking out for themselves, are--in addition to being heavy viewers of television (and television violence)--from the lower education

and lower incomes strata of society. They are also less likely to spend time reading the newspaper. And while education, income, and newspaper use do not eliminate the effects of television viewing, they nevertheless hint at social conditions which may give rise to both increased television viewing and increased levels of fear or apprehension.

CONCLUSIONS

The various analyses presented in this study seem to both disclaim and confirm the cultivation effects hypothesis. The findings for the adolescent sample, for example, provide only scant evidence that television might alter perceptions of social reality in a way that is consistent with its content. While those who are most fearful, etc., watch a greater number of violence programs, there is little evidence to suggest a pattern of fear or mistrust which might be traced to television viewing. At the same time, there is no conclusive evidence that the relationship between television viewing and perceptions of social reality is simply random.

For adults the picture is quite different. Adults who watch a great deal of television or regularly view programs containing a great deal of violence express a heightened sense of danger and selfishness. Even when other factors such as education and income are taken into account, the relationship between television viewing or the viewing of violence programs and fear of violence, etc., remains fairly strong and significant.

Further research should seek to determine more precisely the process by which cultivation takes place or, if such a relationship is merely artifactual, the process by which psychological and sociological factors affect both television viewing and perceptions of social reality. The fact that adolescents who like movies in which a person gets killed, or who occasionally like to see a good fight, or who would rather stay at home and watch television than go out with their friends, are the ones who watch the most television and see the most violence suggests a possible predisposition to seek out programming containing violence. Likewise, the fact that adults who sense a great deal of danger and selfishness in the world tend to be members of the lower socioeconomic class points to possible environmental conditions which may lead to greater amounts of television viewing, and hence, a greater consumption of violence. Although the direction of causality remains debatable, there can be no doubt that the results of the present study indicate-- at least for adults--a positive and significant relationship between the amount of time spent watching television (or the frequency of viewing programs containing violence) and perceptions of a selfish and violent world.

FOOTNOTES

1. Paul M. Hirsch, "The 'Scary World' of the Nonviewer and Other Anomalies: A Reanalysis of Gerbner et al.'s Findings on Cultivation Analysis, Part I," Communication Research 7 (October, 1980), pp. 405-407.

2. See, for example, George Gerbner and Larry Gross, "Living with Television: The Violence Profile," Journal of Communication 26 (Spring, 1976), pp. 173-194; George Gerbner, Larry Gross, Michael F. Eleey, Marilyn Jackson-Beech, Suzanne Jeffries-Fox, and Nancy Signorielli, "TV Violence Profile No. 8: The Highlights," Journal of Communication 27 (Spring, 1977), pp. 171-180; George Gerbner, Larry Gross, Marilyn Jackson-Beech, Suzanne Jeffries-Fox, and Nancy Signorielli, "Cultural Indicators: Violence Profile No. 9," Journal of Communication 28 (Summer, 1978), pp. 176-207; George Gerbner, Larry Gross, Nancy Signorielli, Michael Morgan, and Marilyn Jackson-Beech, "The Demonstration of Power: Violence Profile No. 10," Journal of Communication 29 (Summer, 1979), pp. 177-196; George Gerbner, Larry Gross, Michael Morgan and Nancy Signorielli, "The 'Mainstreaming' of America: Violence Profile No. 11," Journal of Communication 30 (Summer, 1980), pp. 10-29.

3. A review of these studies and others is found in Robert P. Hawkins and Suzanne Pingree, "Using Television to Construct Social Reality," Journal of Broadcasting 25 (Fall, 1981), pp. 347-64; see also Robert P. Hawkins and Suzanne Pingree, "Television's Influence on Social Reality," in Mass Communication Review Yearbook: Volume 4, eds. Ellen Wartella and D. Charles Whitney (Beverly Hills, California: Sage Publications, 1983), p.53-76.

4. Anthony N. Doob and Glenn E. Macdonald, "Television Viewing and Fear of Victimization: Is the Relationship Causal?," Journal of Personality and Social Psychology 37, (February, 1979), pp. 170-79.

5. Hirsch, "The Scary World"; also Paul M. Hirsch, "On Not Learning from One's Own Mistakes: A Reanalysis of Gerbner et. al.'s Findings on Cultivation Analysis, Part II," Communication Research 8 (January, 1981), pp. 3-37.

6. Michael Hughes, "The Fruits of Cultivation Analysis: A Reexamination of Some Effects of Television Watching," Public Opinion Quarterly 44 (Fall, 1980), pp. 287-302.

7. George Gerbner, Larry Gross, Michael Morgan, and Nancy Signoriella, "A Curious Journey into the Scary World of Paul Hirsch," Communication Research 8 (January, 1981), pp. 39-72. See also George Gerbner, Larry Gross, Michael Morgan and Nancy Signorielli, "Some Additional Comments on Cultivation Analysis," Public Opinion Quarterly 4 (Fall, 1980), pp. 408-10.

8. Gerbner et al., "The Demonstration of Power," p. 196.

9. The first of the violence profiles appeared in 1969. George Gerbner, "Dimensions of Violence in Television Drama," in Violence in the Media, eds. Robert K. Baker and Sandra J. Ball (Washington: U.S. Government Printing Office, 1969), pp. 313-39.

10. See, for example, Gerbner et al., "Living with Television," pp. 191-94.

11. Gerbner et. al., "Cultural Indicators," pp. 195-204.

12. Hawkins and Pingree, "Using Television to Construct Social Reality," p. 361.

13. Doob and Macdonald, pp. 170-79.

14. Ibid., p. 175.

15. Churchill Roberts, "Children's and Parents' Television Viewing and Perceptions of Violence," Journalism Quarterly 58 (Winter, 1981), pp. 556-64; p. 581.

16. Garrett J. O'Keefe, "Public Views on Crime: Television Exposure and Media Credibility," in Communication Yearbook 8, ed. Robert N. Bostrom (Beverly Hills: Sage Publications, 1984), pp. 514-35.

17. Ibid., p. 532.

18. Dan Slater and William R. Elliott, "Television's Influence on Social Reality," 68 (February, 1982), pp. 69-79.

19. Hirsch, "The Scary World," pp. 403-56; Hirsch, "On Not Learning From One's Own Mistakes," pp. 3-37.

20. Hughes, pp. 287-302.

21. See Hirsch, "The Scary World," pp. 417-18; Hughes, pp. 296-98.

22. Mainstreaming is discussed in Gerbner et al., "The 'Mainstreaming' of America," pp. 10-29.

23. Hirsch, "On Not Learning From One's Own Mistakes," pp. 18-31.

24. Gerbner et al., "The 'Mainstreaming' of America," pp. 15-23.

25. These statistics are reported in Edward A. Fernald, ed., Atlas of Florida (Tallahassee, Florida: Rose Printing, 1981), p. 112.

26. See The Florida Education Directory, 1983-84 (Tallahassee: State of Florida Department of Education, 1983).

27. Robert T. Bower, Television and the Public (New York: Holt, Rinehart and Winston, 1973), p. 30.

28. The programs included "The A-Team," "The Fall Guy," "Matt Houston," "T. J. Hooker," "Knight Rider," "Magnum P.I.," "Scarecrow and Mrs. King," and "Simon and Simon."

29. The regression procedure is described in the SPSSX User's Guide (New York: McGraw-Hill, 1983), pp. 604-05.

30. The multiple classification procedure is also described in the SPSSX User's Guide, pp. 449-50.

31. The factor analysis of the adult data produced three factors, while the factor analysis for adolescents yielded ten factors. None of the varimax rotations resulted in high and distinct loadings.

32. In order to add the variables to form a single index, four of them-- the probability of being involved in violence in a given week, the necessity of locking windows and doors, trust in other people, and belief that crime is a serious problem-- had to be collapsed into two categories. Also, the latter measure had to be reversed. An alternative procedure for forming the index would have been to normalize each measure.

33. Gerbner et al., "The 'Mainstreaming' of America," pp. 10-29.

34. Adolescents were guided step by step through the questionnaire and were asked to raise their hand for help if they could not understand a question. The ones who required the greatest amount of attention were the sixth graders, the grade level which contained the youngest students.

35. Hawkins and Pingree, "Using Television to Construct Social Reality," p. 355.

36. See Hirsch, "On Not Learning From One's Own Mistakes," pp. 21-31; Hawkins and Pingree, "Using Television to Construct Social Reality," p. 357.

37. Hirsch, "On Not Learning From One's Own Mistakes," pp. 11-18.

38. Ibid.

TABLE 1

Characteristics of Adolescent Sample

N=524

COUNTY	PERCENT OF SAMPLE
Holmes	25
Indian River	24
Pinellas	22
Duval	30
GRADE	
Sixth	29
Seventh	28
Eighth	29
Ninth	15
AGE	
11	11
12	27
13	26
14	23
15	11
16	2
SEX	
Male	49
Female	51
RACE	
White	86
Black	10
Hispanic	1
Other	3

TABLE 2

Characteristics of Adult Sample

N=507

	PERCENT OF SAMPLE
COUNTY	
Holmes	25
Indian River	25
Pinellas	25
Duval	25
EDUCATION	
0-6 years of education	6
7-11 years	13
high school graduate	36
some college	24
college graduate	15
post graduate education	5
AGE	
18-24	10
25-34	21
35-44	22
45-54	12
55-64	15
65 or older	19
FAMILY INCOME	
Under $10,000 a year	21
11 to 15 thousand	19
16 to 20 thousand	19
21 to 25 thousand	13
26 to 30 thousand	9
31 to 35 thousand	6
36 to 40 thousand	5
over 40 thousand	7
SEX	
Male	51
Female	49
RACE	
White	88
Black	10
Hispanic	1
Other	1

TABLE 3

Variables which Correlate Significantly with Overall Television Viewing: Adolescents (N=524)

Variable	r with overall viewing	P <
County	.20	.001
Grade	-.09	.017
Age	-.09	.015
Race	.08	.041
Viewing of violence programs	.29	.001
Estimate of number of people involved in violence in a week	.09	.018
How often a policeman pulls his gun	.10	.010
Usefulness of parents keeping a gun for protection	.07	.048
Responses to the following statements:		
I do not like movies in which a person gets killed.	-.12	.003
Watching television is a great way to spend time.	.36	.001
I have a lot of friends.	.08	.040
People I see on television are a lot like the people I know in real life.	.08	.027
Sometimes I like to see a good fight.	.18	.001
The television stays on in my house all the time.	.25	.001
Most of the time I would rather go out with my friends than stay home and watch television.	-.18	.001

TABLE 4

Variables which Correlate Significantly with Viewing of Programs Containing Violence: Adolescents (N=524)

Variable	with viewing of programs containing violence	P <
County	-.14	.001
Grade	-.13	.001
Sex	.12	.003
Overall television viewing	.29	.001
How often a policeman pulls out his gun	.07	.050
Chances you would be the victim of a serious crime if you walked alone in your neighborhood at night for a week	.20	.001
Student's assessment of grade point average	-.08	.030
Responses to the following statements:		
Watching television is a great way to spend time.	.24	.001
I have a lot of friends.	.09	.018
You can't trust most people.	.20	.001
Television commercials usually tell the truth.	.17	.004
People I see on television are a lot like the people I know in real life.	.10	.015

Table 4 (cont'd)

Variable	r with viewing of programs containing violence	P<
Sometimes I like to see a good fight.	.18	.000
Crime is not a serious problem where I live.	-.08	.040
The television stays on in my house all the time.	.10	.014
Most of the time I would rather go out my friends than stay at home and watch television.	-.14	.001

TABLE 5
Variables Which Correlate
Significantly with Overall
Television Viewing: Adults
(N=507)

Variable	r with overall viewing	P<
Time spent reading the newspaper	-.10	.012
Viewing of violence programs	.49	.001
Chances of being involved in violence	.24	.001
Fear of walking alone at night	.18	.001
Estimate of number of people involved in violence each year	.11	.007
Estimate of number of people involved in violence each week	.21	.001
How often a policeman pulls his gun	.11	.007
Whether people tend to just look out for themselves	.21	.001
Chances you would be the victim of a serious crime if you walked alone in your neighborhood at night for a week	.22	.001
Usefulness of keeping a gun for protection	.09	.023
Belief that women are more likely than men to be victims of crime	.09	.025
Belief that crime is a serious problem in the community	.20	.001
Education	-.18	.001
Income	-.16	.001

TABLE 6

Variables Which Correlate Significantly with Viewing of Programs Containing Violence: Adults (N=507)

Variable	r with overall viewing	P<
Time spent reading the newspaper	-.29	.001
Overall television viewing	.49	.001
Chances of being involved in violence	.25	.001
Fear of walking along at night	.26	.001
Estimate of number of people involved in violence each week	.26	.001
How often a policeman pulls his gun	.16	.001
Whether people tend to just look out for themselves	.24	.001
Chances you would be the victim of a serious crime if you walked alone in your neighborhood at night for a week	.31	.001
Usefulness of keeping a gun for protection	.17	.001
Belief that women are more likely than men to be victims of crime	.14	.001
Belief that crime is a serious problem in the community	-.19	.001
Education	-.29	.001
Income	-.21	.001
Sex	-.09	.025

TABLE 7

Contribution of Overall Television Viewing to the Explanation of Variance After Other Variables Have Been Entered: Adolescents (N=524)

Variables Previously Entered: County, Age, Sex, Race, Newspaper Reading

Dependent Variable	Multiple R prior to entering overall television viewing	Multiple R after entering overall television viewing	Additional variance accounted for
Chances of being involved in violence	.22	.24	.007
Fear of walking alone at night	.41	.42	.006
Estimate of number of people involved in violence each year	.17	.17	----
Estimate of number of people involved in violence each week	.09	.14	.010
How often a policeman pulls his gun	.25	.26	.007
Whether people tend to just look out for themselves	.13	.14	.001
Chances you would be the victim of a serious crime if you walked alone in your neighborhood at night for a week	.19	.19	.003
Usefulness for parents to keep a gun for protection	.23	.26	.013*

*Beta for overall television viewing is significant beyond the .05 level of confidence in the final equation.

Table 7 (cont'd).

Dependent Variable	Multiple R prior to entering overall television viewing	Multiple R after entering overall television viewing	Additional variance accounted for
Belief that women (girls) are more likely than men (boys) to be the victims of crime	.08	.08	----
Whether it is all right to hit someone when you are made at them	.12	.12	.001
Belief that crime is getting worse	.14	.14	.001
Whether it is necessary to keep windows and doors locked at night	.18	.18	.001
Whether you can trust most people	.15	.16	.003
Belief that crime is not a serious problem in the community	.13	.14	.003

TABLE 8

Contribution of Viewing of Violence Programs
to the Explanation of Variance After
Other Variables Have Been
Entered: Adolescents
(N=524)

Variables Previously entered: County, Age, Sex, Race, Newspaper Reading

Dependent Variable	Multiple R prior to entering viewing of violence programs	Multiple R after entering viewing of violence programs	Additional variance accounted for
Chances of being involved in violence	.22	.22	----
Fear of walking alone at night	.41	.41	.001
Estimate of number of people involved in violence each year	.17	.17	----
Estimate of number of people involved in violence each week	.09	.12	.005
How often a policeman pulls his gun	.25	.27	.008*
Whether people tend to just look out for themselves	.13	.13	----
Chances you would be the victim of a serious crime if you walked alone in your neighborhood at night for a week	.19	.24	.021*
Usefulness for parents to keep a gun for protection	.23	.29	.027*

*Beta is significant beyond the .05 level of confidence in the final equation.

Table 8 (cont'd)

Dependent Variable	Multiple R prior to entering viewing of violence programs	Multiple R after entering viewing of violence programs	Additional variance accounted for
Belief that women (girls) are more likely than men (boys) to be the victims of crime	.08	.09	.001
Whether it is all right to hit someone when you are made at them	.12	.12	.001
Belief that crime is getting worse	.14	.14	----
Whether it is necessary to keep window and doors locked at night	.18	.19	.005
Whether you can trust most people	.15	.26	.042*
Belief that crime is not a serious problem in the community	.13	.15	.006

*Beta is significant beyond the .05 level of confidence in the final equation.

TABLE 9

Contribution of Overall Television Viewing to the Explanation of Variance After Other Variables Have Been Entered: Adults (N=507)

Variables Previously Entered: County, Education, Age, Income, Sex, Race, Newspaper Reading

Dependent Variable	Multiple R prior to entering overall television viewing	Multiple R after entering overall television viewing	Additional variance accounted for
Chances of being involved in violence	.17	.27	.046*
Fear of walking alone at night	.44	.46	.021*
Estimate of number of people involved in violence each year	.19	.23	.019*
Estimate of number of people involved in violence each week	.34	.37	.024*
How often a policeman pulls his gun	.29	.30	.008
Whether people tend to just look out for themselves	.39	.42	.022*
Chances you would be victim of a serious crime if you walked alone in your neighborhood at night for a week	.4[illegible]	.47	.025*
Usefulness of keeping a gun for protection	.31	.32	.004
Belief that women are more likely than men to be victims of crime	.17	.19	.007
Belief that crime is a serious problem in the community	.28	.32	.023*

*Beta is significant beyond the .05 level of confidence in the final equation.

TABLE 10

Contribution of Viewing of Violence Programs
to the Explanation of Variance After
Other Variables Have Been
Entered: Adults
(N=507)

Variables Previously Entered: County, Newspaper Reading, Education, Age, Income, Sex, Race

Dependent Variable	Multiple R prior to entering viewing of violence programs	Multiple R after entering viewing of violence programs	Additional variance accounted for
Chances of being involved in violence	.17	.28	.051*
Fear of walking alone at night	.44	.47	.033*
Estimate of number of people involved in violence each year	.19	.19	.001
Estimate of number of people involved in violence each week	.34	.38	.033*
How often a policeman pulls his gun	.29	.29	.001
Whether people tend to just look out for themselves	.39	.41	.019*
Chances you would be the victim of a serious crime if you walked alone in your neighborhood at night for a week	.44	.47	.030*
Usefulness of keeping a gun for protection	.31	.33	.011*
Belief that women are more likely than men to be victims of crime	.17	.23	.025*
Belief that crime is a serious problem in the community	.28	.30	.013*

*Beta is significant beyond the .05 level of confidence in the final equation.

TABLE 11

Mean Scores of Social Reality Items According to Adolescents' Overall Television Viewing, Unadjusted and Adjusted for Covariates +

Dependent Variable		Level of Viewing lowest 1 (n=126)	2 (n=135)	3 (n=122)	highest 4 (n=129)	eta beta
Chances of being involved in some kind of violence	unad.	1.64	1.59	1.80	1.67	.08
	adj.	1.60	1.57	1.80	1.70	.08
Fear of walking alone at night	unad.	1.25	1.28	1.19	1.18	.09
	adj.	1.25	1.29	1.21	1.11	.10
Estimate of number of people involved in violence each year	unad.	1.92	1.94	1.87	1.90	.05
	adj.	1.92	1.94	1.86	1.88	.05
Estimate of number of people involved in violence each week	unad.	1.62	1.70	1.77	1.79	.08
	adj.	1.60	1.72	1.77	1.79	.09
How often a policeman pulls his gun	unad.	1.20	1.26	1.23	1.33	.08
	adj.	1.18	1.26	1.24	1.31	.09
Whether people are mostly just looking out for themselves	unad.	1.59	1.49	1.64	1.64	.08
	adj.	1.57	1.49	1.64	1.64	.08
Chances of being the victim of a serious crime if you walked alone in your neighborhood at night for a week	unad.	1.21	1.26	1.33	1.28	.08
	adj.	1.21	1.27	1.35	1.27	.09
Usefulness of parents keeping a gun for protection	unad.	1.62	1.84	1.67	1.75	.11
	adj.	1.58	1.81	1.67	1.81	.13*

Table 11 (cont'd)

Dependent Variable		Level of Viewing: lowest 1 (n=126)	2 (n=135)	3 (n=122)	highest 4 (n=129)	eta beta
Belief that women (girls) are more likely than men (boys) to be victims of crime	unad.	1.80	1.72	1.75	1.73	.05
	adj.	1.80	1.72	1.75	1.73	.04
Whether it is alright to hit someone when you are mad at them	unad.	1.14	1.14	1.09	1.19	.08
	adj.	1.14	1.14	1.09	1.19	.09
Belief that crime is getting worse	unad.	1.87	1.94	1.83	1.83	.07
	adj.	1.87	1.93	1.83	1.85	.06
Whether it is necessary to keep windows and doors locked at night	unad.	3.84	3.42	4.68	3.49	.09
	adj.	4.07	3.42	4.68	3.30	.10
Whether most people cannot be trusted	unad.	3.29	3.86	3.89	4.04	.05
	adj.	3.33	3.89	3.97	3.93	.05
Belief that crime is not a serious problem in the community	unad.	4.61	4.53	3.77	3.85	.06
	adj.	4.48	4.57	3.77	3.94	.05

+Covariates are county, age, sex, race, and newspaper readings.

*After adjusting for covariates, the main effect for overall viewing is significant beyond the .05 level of confidence.

TABLE 12

Mean Scores of Social Reality Items According to Adolescents' Viewing of Violence Programs, Unadjusted and Adjusted for Covariates +

Dependent Variable		Level of Viewing: Lowest 1 (n=96)	2 (n=138)	3 (n=144)	highest 4 (n=134)	eta beta
Chances of being involved in some kind of violence	unad.	1.64	1.67	1.72	1.64	.04
	adj.	1.72	1.65	1.67	1.64	.03
Fear of walking alone at night	unad.	1.30	1.23	1.16	1.25	.10
	adj.	1.25	1.25	1.19	1.23	.05
Estimate of number of people involved in violence each year	unad.	1.88	2.00	1.84	1.88	.10
	adj.	1.86	2.00	1.84	1.88	.10
Estimate of number of people involved in violence each week	unad.	1.63	1.74	1.69	1.79	.07
	adj.	1.63	1.74	1.69	1.79	.08
How often a policeman pulls his gun	unad.	1.25	1.19	1.23	1.35	.12
	adj.	1.21	1.19	1.24	1.35	.11
Whether people are mostly just looking out for themselves	unad.	1.56	1.59	1.61	1.59	.02
	adj.	1.57	1.57	1.61	1.61	.02
Chances of being the victim of a serious crime if you walked alone in your neighborhood at night for a week	unad.	1.21	1.19	1.22	1.45	.18
	adj.	1.19	1.21	1.23	1.44	.17*
Usefulness of parents keeping a gun for protection	unad.	1.44	1.67	1.77	1.89	.19
	adj.	1.55	1.69	1.74	1.87	.14*

Table 12 (cont'd)

Dependent Variable		Level of Viewing lowest 1 (n=96)	2 (n=138)	3 n=144)	highest 4 (n=134)	eta beta
Belief that women (girls) are more likely than men (boys) to be victims of crime	unad.	1.66	1.86	1.72	1.73	.09
	adj.	1.68	1.86	1.72	1.73	.09
Whether it is all right to hit someone when you are mad at them	unad.	1.11	1.14	1.17	1.13	.06
	adj.	1.12	1.13	1.16	1.13	.04
Belief that crime is getting worse	unad.	1.87	1.85	1.87	1.89	.03
	adj.	1.87	1.85	1.87	1.89	.02
Whether it is necessary to keep windows and doors lock at night	unad.	3.96	3.69	3.03	4.76	.12
	adj.	3.76	3.80	3.19	4.61	.10
Whether most people cannot be trusted	unad.	2.78	2.31	4.46	5.18	.23
	adj.	2.78	2.31	4.50	5.14	.23*
Belief that crime is not a serious problem in the community	unad.	3.94	4.86	4.94	2.85	.14
	adj.	4.02	4.77	4.86	2.97	.13*

+Covariates are county, age, sex, race, and newspaper reading.

*After adjusting for covariates, the main effect for the viewing of violence programs is significant beyond the .05 level of confidence.

TABLE 13

Mean Scores of Social Reality Items According to Adults' Overall Television Viewing, Unadjusted and Adjusted for Covariates +

Dependent Variable		Level of Viewing: lowest 1 (n=94)	2 (n=119)	3 (n=109)	highest 4 (n=129)	eta beta
Chances of being involved in some kind of violence	unad.	1.20	1.64	1.87	1.79	.25
	adj.	1.21	1.64	1.89	1.74	.24*
Fear of walking alone at night	unad.	1.10	1.15	1.20	1.44	.24
	adj.	1.12	1.18	1.22	1.39	.20*
Estimate of number of people involved in violence each year	unad.	1.69	1.77	1.97	1.90	.15
	adj.	1.69	1.78	1.97	1.88	.14*
Estimate of number of people involved in violence each week	unad.	1.45	1.53	1.85	1.90	.25
	adj.	1.51	1.55	1.85	1.82	.20*
How often a policeman pulls his gun	unad.	1.13	1.08	1.16	1.28	.17
	adj.	1.17	1.09	1.15	1.25	.14*
Whether people are mostly just looking out for themselves	unad.	1.21	1.44	1.65	1.73	.25
	adj.	1.32	1.47	1.65	1.64	.17*
Chances of being the victim of a serious crime if you walked alone in your neighborhood at night for a week	unad.	1.11	1.11	1.24	1.41	.26
	adj.	1.14	1.13	1.24	1.37	.18*
Usefulness of keeping a gun for protection	unad.	1.37	1.64	1.57	1.70	.16
	adj.	1.42	1.65	1.54	1.70	.14*

Table 13 (cont'd)

Dependent Variable		Level of Viewing lowest 1 (n=94)	2 (n=119)	3 (n=109)	highest 4 (n=129)	eta beta
Belief that women are more likely than men to be victims of crime	unad.	1.72	1.74	1.90	1.94	.14
	adj.	1.74	1.74	1.90	1.90	.12
Belief that crime is a serious problem in the community	unad.	1.37	1.51	1.92	2.02	.22
	adj.	1.45	1.56	1.92	1.92	.17*

+Covariates are county, education, age, income, sex, race, and newspaper reading.

*After adjusting for covariates, the main effect for overall viewing is significant beyond the .05 level.

TABLE 14

Mean Scores of Social Reality Items According to Adults Viewing of Violence Programs, Unadjusted and Adjusted for Covariates +

Dependent Variable		Level of Viewing lowest 1 (n=113)	2 (n=96)	3 (n=116)	highest 4 (n=102)	eta beta
Chances of being involved in some kind of violence	unad.	1.23	1.56	1.96	1.91	.31
	adj.	1.21	1.54	1.98	1.91	.32*
Fear of walking alone at night	unad.	1.07	1.17	1.26	1.48	.28
	adj.	1.10	1.18	1.24	1.44	.23*
Estimate of number of people involved in violence each year	unad.	1.71	1.75	2.01	1.86	.17
	adj.	1.77	1.77	1.99	1.82	.14
Estimate of number of people involved in violence each week	unad.	1.36	1.56	1.96	1.92	.33
	adj.	1.45	1.60	1.90	1.85	.25*
How often a policeman pulls his gun	unad.	1.12	1.13	1.22	1.21	.09
	adj.	1.19	1.17	1.17	1.15	.05
Whether people are mostly just looking out for themselves	unad.	1.32	1.18	1.79	1.81	.36
	adj.	1.45	1.21	1.73	1.70	.26*
Chances of being the victim of a serious crime if you walked along at night in your neighborhood for a week	unad.	1.06	1.13	1.28	1.46	.30
	adj.	1.14	1.17	1.23	1.38	.17*
Usefulness of keeping a gun for protection	unad.	1.38	1.45	1.75	1.76	.22
	adj.	1.46	1.48	1.71	1.71	.16*

Table 14 (cont'd)

Dependent Variable		Level of Viewing lowest 1 (n=113)	2 (n=96)	3 (n=116)	highest 4 (n=102)	eta beta
Belief that women are more likely than men to be victims of crime	unad.	1.68	1.72	1.99	1.92	.20
	adj.	1.67	1.72	2.01	1.92	.21*
Belief that crime is a serious problem in the community	unad.	2.27	1.70	2.05	1.83	.23
	adj.	1.47	1.75	2.01	1.71	.16*

+Covariates are county, education, age, income, sex, race, and newspaper reading.

*After adjusting for covariates, the main effect for the viewing of violence programs is significant beyond the .05 level of confidence.

TABLE 15

Analyses of Variance Based on Overall Social Reality Item Scores: Adolescents

Dependent Variable	Level of Fear, Mistrust, etc. low (n=144)	moderate (n=199)	high (n=155)	F (2,495)	P<
County (1-4)	2.62	2.52	2.48	.55	NS
Age	13.03	13.04	13.00	.05	NS
Sex (female=1)	1.48	1.58	1.39	6.31	.002
Race (white=1, nonwhite=2)	1.09	1.13	1.17	1.98	NS
Overall Television Viewing	35.42	37.34	39.83	2.37	NS
Viewing of Violence Programs	4.36	4.76	5.11	3.43	.033
Time Spent Reading the Newspaper (0-4)	1.45	1.32	1.37	.40	NS

TABLE 16
Analyses of Variance Based on
Overall Social Reality
Item Scores: Adults

Dependent Variable	Level of Fear, Estimation of Prevalence of Violence, etc.				
	low (n=177)	moderate (n=125)	high (n=144)	F (2,443)	P<
County (1-4)	2.46	2.53	2.54	.24	NS
Time Spent Reading the Newspaper (1-5)	2.67	2.52	1.79	21.87	.001
Overall Television Viewing	25.54	29.10	33.05	26.27	.001
Viewing of Violent Programs	2.43	3.55	4.86	40.11	.001
Education (1-6)	3.81	3.58	2.93	24.14	.001
Age (1-6)	3.48	3.33	3.56	.61	NS
Income (1-8)	4.06	3.[illegible]	2.61	20.67	.001
Sex (female=1)	1.61	1.51	1.48	2.69	NS
Race (white=1, nonwhite=2)	1.12	1.13	1.23	2.46	NS