CULTIVATION IN THE NEWER MEDIA ENVIRONMENT

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Abstract

Researchers who study television's cultivation effects believe that heavy television viewing exposes people to consistent messages that lead them to be more fearful and mistrustful of others. The widespread adoption and use of new television technologies, such as cable, VCR, and remote control devices (RCDs), however, have the potential to alter cultivation effects, because new television technologies allow for greater programming diversity and greater viewer control. We conducted two studies to test the impact of cable, VCRs, and RCDs on fear of crime and interpersonal mistrust. Both studies were random-digit-dialed telephone surveys of adults in two U.S. cities (Study 1, $\underline{N}$ = 152; Study 2, $\underline{N}$ = 615). We found mixed support for our hypotheses. Cable television had a differential impact on cultivation effects. Increased exposure to broadcast-type channels was linked to greater cultivation. But, increased exposure to more specialized and diverse cable channels was negatively related to cultivation perceptions. VCR ownership also was linked to less cultivation. The discussion suggests that mass communication researchers continue to explore the impact of new television technologies on traditional media effects.

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The Cultural Indicators group holds that content analyses of television reveal that television's depiction of the world differs from reality (see Gerbner, Gross, Morgan, & Signorielli, 1986, for a summary). There is more crime on television than in real life; women are underrepresented in television, as are the elderly and racial minorities. Yet, these groups are more likely to be victims of television crime. Building on these analyses, the Cultural Indicators group argues that television "cultivates" an image of social reality congruent with television's images in heavy viewers of television. Television has this effect because television content consistently deviates from reality and because television viewers are nonselective and uncritical (Gerbner & Gross, 1976).

There is wide support for cultivation. Heavy television viewers are more likely to express alienation and fear of crime (Gerbner & Gross, 1976; Gerbner, Gross, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1978; Gerbner, Gross, Signorielli, Morgan, & Jackson-Beeck, 1979). Cultivation effects have been observed in other areas connected to television content. Heavy viewers are more likely to describe their lives as less satisfying (Morgan, 1984), see the elderly as feeble and ineffectual (Gerbner, Gross, Morgan, & Signorielli, 1980), and express more sex-stereotyped beliefs (Morgan & Rothschild, 1983).

Several scholars have criticized the cultivation approach for methodological reasons and have argued that the research neglects the influence of several intervening variables (see Rubin, Perse, & Taylor, 1988, for a summary of those criticisms). Other researchers have questioned the Cultural Indicator's assumption that television viewing is nonselective (Hawkins & Pingree, 1981; Potter & Chang, 1990; Rubin et al., 1988). In general, incorporating selective exposure to television content increases the

connection between television exposure and cultivated perceptions about the real world.

This study focused on how television selectivity influences cultivation effects. Specifically, this study examined the impact of television exposure on fear of crime and interpersonal mistrust in viewers who subscribe to cable, own videocassette recorders, and use remote control devices. These newer television technologies allow for greater television selectivity for two reasons. First, they increase the programming options available to viewers. Second, they increase the ease with which viewers can selectively exposure themselves to television content. We expected that greater use of these newer television technologies would decrease cultivation effects.

Assumptions about Television Selectivity

A first assumption of cultivation scholars is that television content is relatively consistent (Gerbner & Gross, 1976). There is a "pattern of settings, casting, social typing, actions, and related outcomes that cuts across most program types and defines the world of television" (Gerbner, Gross, Morgan, & Signorielli, 1986, p. 19). Scholars, though, have located content and thematic differences across program types and dayparts (Gerbner et al., 1979; Greenberg, 1980; Potter & Ware, 1987).

A second assumption of cultivation is that television viewing is nonselective and ritualistic (Gerbner & Gross, 1976). People watch "by the clock" and watch "whatever is offered to them" (Gerbner, 1990, p. 254). There have been several challenges to this assumption. Studies have observed that exposure to different program types better explains cultivation effects than overall television exposure (Hawkins & Pingree, 1981; Potter & Chang, 1990; Rubin et al., 1988). Cultivation of different perceptions and attitudes in

people appears to be related to exposure to specific television program genres, rather than to undifferentiated television exposure.

Cultivation and Newer Television Technologies

The Cultural Indicators group formulated their approach and observed most support for cultivation when 90% of all television viewing centered on network primetime programming. The introduction and widespread adoption of cable television, videocassette recorders (VCR), and remote control devices (RCD) have dramatically changed the U.S. media environment. Between 1980 and 1990, cable subscription increased from 22% of the U.S. population to 61.2%; VCR ownership increased from 1% to 73%; and remote control penetration increased from 18% to 77% (Gross, 1992; "In Brief," 1991; Shagrin, 1990; Sheridan, 1991). Now, network primetime programs are no longer a dominant part of television viewers' total exposure. The average primetime program rating is declining (Atkin & Litman, 1986). And, the networks' share of the audience has declined from 93% in 1975 to 64% in 1990 (Setzer & Levy, 1991). People are no longer television viewers; they are video users with more programming options and greater opportunity for viewing selectivity (Bryant, 1986).

There are two perspectives to the impact of new video technologies on cultivation's trust. On one hand, Gerbner (1990) and Morgan, Shanahan, and Harris (1990) argue that the new television environment will have little impact on cultivation effects. New television technologies are better viewed as changes in delivery systems, rather than real changes in content. These technologies do not necessarily replace television exposure, but add to it. So, these new technologies may even increase cultivation effects because they increase the availability of "network-type" programming to times when they were not typically available before.

There is support for this view. Adolescents whose families subscribed to cable showed stronger cross-time associations between television viewing levels and sexist beliefs about appropriate chores for boys and girls than adolescents without cable (Morgan & Rothschild, 1983). And, Morgan and his colleagues (1990) observed a relationship between VCR use and believing women are happier raising children and caring for the home. The researchers concluded that cable and VCR intensify television's cultivation potential.

Reports of the uses of the newer television technologies, however, contradict the assumption of continued cultivation effects. Cable, VCRs, and RCDs can increase the diversity of programming available to viewers and allow people to be more selective.

Cable. Morgan and Rothschild (1983) argued that cable television's increased channel offerings do not necessarily mean that subscribers are exposed to different programming. Cable television can deliver "more of the same." Indeed, several cable systems fill their channels with independents and "super stations" that run off-network and syndicated programming created in the mold of network television. And, cable subscription might increase cultivation effects because subscription is related to increased television viewing. Basic cable subscribers watch more television than nonsubscribers; pay-cable subscribers watch the most television (Garay, 1988).

On the other hand, cable television increases the capacity for audience selectivity because cable television increases the programming options available to viewers. Cable makes available some very specialized content, such as news, weather, shopping, public affairs. Some subscribers make use of increased program variety. Cable subscribers have higher channel repertoires, that is, they watch more different channels than nonsubscribers (Ainslie, 1988; Ferguson, 1992a; Heeter, D'Alessio, Greenberg, & McVoy, 1988). Cable

subscribers also are aware of and value the specialized programming offered by cable (Sparkes & Kang, 1986). Most valued cable channels are those that provide content not duplicated by broadcast television: CNN, ESPN, FNN, MTV, TNN, Nickelodeon, and The Weather Channel (Garay, 1988). Webster (1986) observed that some cable subscribers concentrate their viewing on those specialized channels. Ratings data showed that cable subscribers spend less time watching over-the-air television (Webster, 1986).

Cable subscribers may also be more active television viewers. Cable subscribers are more likely to use program guides (Greenberg, Heeter, D'Alessio, & Sipes, 1988; Heeter & Baldwin, 1988). Cable subscribers are also more likely to sample channels in orienting searches (Heeter & Greenberg, 1988).

Cable subscription, then, may be differentially related to cultivation effects. If viewers concentrate their viewing on channels that carry content similar to the broadcast networks (broadcast channel repertoire), they may be more likely to acquire cultivated perceptions about the world. If viewers watch more of the special channels that cable television offers (cable channel repertoire), they view more diverse messages, and be less likely to be cultivated.

H1: Greater viewing of "broadcast-type" channels (higher broadcast channel repertoire) will be associated with greater cultivation effects.

H2: Greater viewing of cable's specialized channels (higher cable channel repertoire) will be associated with fewer cultivation effects.

Videocassette recorders. Videocassette recorders may enhance cultivation effects for several reasons. First, purchasing and using a VCR

may reflect a stronger commitment to television viewing. Second, VCRs allow people to watch "more of the same" type of content because of time-shifting. Further, the apparent diversity of content available on video may be an illusion, because of concentrated ownership of production facilities (Morgan et al., 1990). Dobrow (1990) observed that heavy television viewers used VCRs more for time-shifting network programs. She concluded that heavy television viewers used VCRs to avoid diverse programming and concentrate on their favorite program types. Cultivation effects, then, might increase for heavy VCR users because it exposes them to even more mainstream television content (Dobrow, 1990; Morgan et al., 1990).

There is, however, evidence that VCRs increase program diversity. Adolescents in households with VCRs use the machines to watch new types of programs, such as late-night television, soap operas, and videos (Morgan et al., 1990). Over 90% of the adolescents reported that the VCR increased their viewing diversity. And, although VCRs allow people to tape network programs for more convenient viewing, many time-shifted programs are never watched (Levy & Fink, 1984; Lin, 1990). Because of low cost and greater availability, the dominant use of VCR is viewing rented tapes (Komiya & Litman, 1990; Lin, 1990) and special interest videos (Rubin & Bantz, 1987).

Use of the VCR for viewing rented videos should reduce cultivation for two reasons. Viewing rented videos displaces television content and increases the likelihood that the viewers will be exposed to different themes and images. Adolescents who rented videos were less likely to endorse sexist attitudes (Morgan et al., 1990).

VCRs may also be associated with fewer cultivation effects because VCRs lead people to be more active in the use of television content. VCR users

plan their viewing more and make greater use of program guides (Lin, 1990). VCR owners are more active before, during, and after exposure (Levy, 1987).

VCR ownership and use, then, should be differentially related to cultivation effects. Because VCR ownership increases the possibility of exposure to a greater variety of video programming:

H3: VCR ownership will be negatively related to cultivation effects.

But, evidence suggests that heavy use of VCRs to time-shift television content exposes viewers to more of television's content. Thus,

H4: Use of the VCR for time-shifting will be positively related to cultivation effects.

Because the use of VCRs to rent and view content that differs from that available on television:

H5: Use of the VCR for video rental will be negatively related to cultivation effects.

Remote control devices. Remote control devices (RCD) are an important part of the new media environment (Walker & Bellamy, 1991). A major use of RCDs is grazing, or changing channels frequently to sample television's offerings (Ainslie, 1988). The remote control increases audience selectivity because viewers can change channels more easily, that is, without having to move to the television set. Remote control device owners do change channels more. They are more likely to scan channels to look for something to watch (Heeter & Greenberg, 1988). Remote controls have been associated with greater channel changing in the middle of television programs (Heeter, 1985; Heeter & Baldwin, 1988) and more extensive reevaluation (Heeter, 1985). The remote control device also increases exposure to a wider range of television programs. Remote control device owners have higher channel repertoires (Ainslie, 1988; Ferguson, 1992a).

Thus, RCDs may reduce cultivation effects from television viewing for two reasons. First, because RCDs increase ease in sampling different television programs, RCD owners are more likely to watch channels that may present themes and images that differ from network television. Second, because RCD owners search for specific content and reevaluate what they watch, they may be viewing television more critically, and be less susceptible to cultivation effects.

H6: Remote control device ownership will be negatively related to cultivation effects.

H7: Remote control device use will be negatively related to cultivation effects.

We conducted two studies, in two different geographical regions, to test the impact of cable television, videocassette recorders, and remote control devices on cultivation effects of television viewing. We focused specifically on cultivation of two sets of beliefs that research has found to be related consistently to television content and to increased television viewing: fear of crime and interpersonal mistrust.

Study 1

Method

Procedure and sample. A random-digit-dialing telephone survey was conducted in Fall 1990 among adults in one county of a mid-Atlantic state. The county includes a small urban area, suburban communities, small towns, and rural areas. Out of the 219 valid attempts (excluding business numbers and no-answers), there were 152 completions and 67 refusals, for a 69.4% completion rate.

The sample was 39.5% male and ranged in age from 17 - 87 (M = 42.20, SD = 16.02). Completed educational level ranged from 1 (less than high school

graduate) to 6 (graduate degree). Most respondents (36.2%) were high school graduates (coded 2, M = 3.14, SD = 1.35). Income level ranged from 0 (less than $10,000) to 8 (more than $80,000). Most respondents (15.8%) reported earning more than $30,000 and less than $40,000 (coded 3). Of the sample, 11.8% reported earning more than $20,000 and less than $30,000. And, 11.8% reported earning more than $50,000 and less than $60,000 (coded 5). In all, averaged income was between $40,000 and $50,000 (M = 3.83, SD = 2.08).

Television exposure. Respondents indicated how many hours they viewed "yesterday" and "on a typical day." Averaged television exposure ranged from 0 to 9 hours a day (M = 2.67, SD = 1.78).

New technology use. Because the focus of the study was on the impact of new television technology use on cultivation effects of television, we considered several new technology variables in this study: Cable subscription, VCR ownership and use, and RCD ownership and use.

Of the sample, 83.6% subscribed to cable television. This is above the national average of 59% at the time of the survey, but this county has a much higher cable subscription rate because of weak broadcast television reception.[1]

Most of the sample (87.5%) lived in households that owned a VCR (compared to the national average of 73% at the time of the survey). Respondents reported the percentage of time they spent watching time-shifted and rented tapes. Time shifting ranged from 0 - 99% (M = 26.45, SD = 31.90). Rented video viewing ranged from 0 - 99% (M = 53.36, SD = 39.71).

Of the sample, 87.5% owned a RCD (compared to the national average of 77% at the time of the survey. Respondents indicated how often (5 = always, 1 = never) they changed channels during commercials (M = 2.95, SD = 1.38) and in the middle of shows, even when commercials were not on (M = 2.35,

SD = 0.98). These two measures were averaged to create a channel changing scores. Channel changing scores ranged from 1 - 5 (M = 2.65, SD = 1.06).

Cultivation measures. Respondents indicated their agreement (1 = strongly disagree, 5 = strongly agree) with four statement concerning mistrust/anomie and two statements about fear of crime. These statements were similar to those used in earlier cultivation studies (Gerbner et al., 1978; Gerbner et al., 1979).[2] Item responses were summed to create scale scores. Mistrust/anomie scores ranged from 7 - 20 (M = 12.60, SD = 2.99, alpha = .72). Fear of crime scores ranged from 3 - 10 (M = 7.13, SD = 1.45, alpha = .36). The low reliability of the fear of crime scale limits the utility of the measure.

Statistical analysis. Pearson correlations were computed to test the hypotheses predicting relationships between new technology use and cultivation measures. Partial correlations, controlling for demographic variables (age, sex, education, and income) and new technology use were used to explore the overall relationship between television exposure and cultivation in a media environment with wide use of newer technologies. Results using the fear of crime scale are presented as tentative findings only, because of the low reliability of the measure.

Results

Pearson correlations provided partial support for only one of the study's hypotheses (H3). There was no support for hypotheses 4, 5, 6, or 7. Hypotheses 1 and 2 were not tested in Study 1. The bivariate relationships are presented in Table 1.

Table 1 about here

Fear of crime was related only to cable subscription (r = .18, p < .05), supporting none of the hypotheses. Mistrust/anomie was negatively linked to VCR ownership (r = -.20, p < .05), partially supporting hypothesis 3.

Fear of crime (r = .26, p < .01) and mistrust/anomie (r = .41, p < .001) were both positively related to television viewing. This relationship remained significant for mistrust (r = .27, p =.01), after controlling for new technology use (cable subscription, VCR ownership, RCD ownership, time spent watching rented videos, time shifting, and channel changing). The 6th-order partial correlation between television viewing and fear of crime (r = .14, p = .06) was nonsignificant. The relationship between television viewing and mistrust/anomie (r = .26, p < .05) was maintained when further controlling for age, sex, education, and income. The 10th-order partial correlation between television viewing and fear of crime (r = .15, p = .09) was nonsignificant.

Study 2

Method

Procedure and sample. A random-digit-dialing telephone survey was conducted in Spring 1991 among adults living off-campus in a university town in the Midwest. Out of the 813 valid attempts (excluding business numbers and no answers), there were 615 completions and 198 refusals, for a 75.6% completion rate. The sample was 45.1% male and ranged in age from 17 - 93 (M = 36.27, SD = 17.01). The average respondent had completed 14.45 years of education (ranging from 8 - 20 years, SD = 2.45). Hollingshead's two-factor social position index (Miller, 1983) measured occupational level (lower scores reflect higher occupational levels) and ranged from 11 - 73 (M = 46.50, SD = 18.52).

Television exposure. Respondents indicated how many hours they viewed "yesterday" and "on a typical day." Averaged television exposure ranged from 0 to 17 hours a day (M = 2.98, SD = 2.24).

New technology use. Because the focus of this second study was on the impact of new television technology use and channel repertoire on cultivation effects of television, we considered six media use variables in this study: Cable subscription, VCR ownership, RCD ownership, channel changing, and two types of channel repertoire.

Of the sample, 68.7% subscribed to cable television (comparable to national figures of 59%). More than three-quarters of the sample (76.9%) had access to a VCR where they lived (comparable to the national average of 73%). Of the sample, 73.5% had access to a RCD where they lived (once again, comparable to the national average of 77%).

Channel repertoire (CR) is defined as the number of channels that a respondent typically watches (Heeter, 1985; Ferguson, 1992a). For this study, we created two CR measures. Broadcast channel repertoire (BCR) was defined as the sum of the broadcast channels and the cable channels that are nearly identical to broadcast channels for which at least some response (in hours) was given using unaided recall (Ferguson, 1992a; Ferguson & Perse, 1992). These included network affiliates, independent stations, superstations (e.g., WTBS), and cable networks (e.g., USA Network). Broadcast channel repertoire represents exposure to channels that offer much the same content as network programming ("more of the same"). Broadcast channel repertoire had a possible range of 0 to 9 channels, given the capacity of the only cable system in the sampling area during the survey. Broadcast channel repertoire ranged from 0 - 8 channels (M = 3.59, SD = 1.22).

Cable channel repertoire (CCR), on the other hand, was operationalized as the sum of all cable networks for which at least some response (in hours) was given using unaided recall (Ferguson, 1992a; Ferguson & Perse, 1992). Cable channel repertoire reflects exposure to channels that offer more specialized content that differs from network programming (e.g., FNN, The Weather Channel, CNN, MTV, etc.). The possible range was from 0 to 31 channels, given the capacity of the only cable system in the sampling area during the survey. Cable channel repertoire ranged from 0 - 20 ($\underline{M}$ = 2.76, $\underline{SD}$ = 2.36).

Channel changing. Ferguson (1992b) reported on the unreliability of asking respondents to indicate how many times per hour they change channels. Such mundane behavior is difficult to recall precisely. Instead, respondents with RCDs described their frequency (1 = never, 2 = seldom, 3 = often, 4 = very often) to the question "How often do you flip channels?" The mean score was 2.37 (SD = 0.81).

Cultivation measures. Respondents indicated their agreement (1 = strongly disagree, 4 = strongly agree) with three statements about their fear of crime and three statements concerning interpersonal mistrust.[3] These items were drawn from earlier cultivation analyses (Gerbner et al., 1978; Gerbner et al., 1979). Item responses were summed to create scale scores. Fear scores ranged from 3 - 12 ($\underline{M}$ = 7.62, $\underline{SD}$ = 1.80, alpha = .78). Mistrust scores ranged from 3 - 12 ($\underline{M}$ = 7.06, $\underline{SD}$ = 1.15, alpha = .60).

Statistical analysis. There were two stages to data analysis. First, Pearson correlations were computed to explore the bivariate relationships between the variables of study. Then, hierarchical multiple regression was used to test the hypotheses of the study. In all cases, demographics were entered on the first step to control for any variance they might contribute to

the equation. Television exposure was entered on the second step, followed by the new technology use variables entered on the third step.

Results

Bivariate Relationships. Pearson correlations provided partial support for hypotheses 1, 2, and 3. There was no support for hypotheses 6 or 7. Hypotheses 4 and 5, concerning the impact of VCR time-shifting and rental, were not tested in Study 2.

Table 2 about here

Fear of crime was positively related to broadcast channel repertoire (r = .09, p < .05), consistent with hypothesis 1. Fear of crime was negatively related to cable channel repertoire (r = -.20, p < .001) and VCR ownership (r = -.12, p < .01), as predicted by hypothesis 2 and 3, respectively.

Mistrust was linked to broadcast channel repertoire (r = .10, p < .01), consistent with the hypothesis 1. Mistrust was not related to cable channel repertoire or VCR ownership, failing to support to hypothesis 2 and 3. The Pearson correlations also found no support for hypothesis 6 or 7. There was no relationship between RCD ownership and use and fear of crime or mistrust.

Fear of crime (r = .18, p < .001), but not mistrust (r = .04, p = .19), was related to the amount of television viewing. The relationships between television viewing and fear of crime (r = .17, p < .001) and mistrust (r = .01, p = .43) were reduced somewhat after controlling for new technology use (cable subscription, VCR ownership, RCD ownership, broadcast and cable channel repertoires, and channel changing). The relationships between television viewing and fear of crime (r = .09, p < .05) and mistrust

(r = -.02, p = .34) were also reduced by further controlling for age, sex, education, and occupational level.

Predicting fear of crime. The hypotheses in this study are based on the idea that new television technology ownership and use would differentially affect cultivation effects beyond the influence of television viewing. Hierarchical multiple regression was used to test hypotheses derived from this reasoning. Demographic variables (age, sex, education, and occupational level) were entered on the first step to control for any variance they might contribute to cultivation effects. The regression is summarized in Table 3.

Table 3 about here

The demographics accounted for 24.9% ($p < .001$) of the variance on the first step. At this step, sex (female), age, and occupational level were significant positive predictors. At the second step, amount of exposure to television accounted for a significant increase of 0.7% ($p < .05$) of the variance. Amount of television viewing was a significant positive predictor of fear. At this stage, occupational level was no longer a significant predictor in the equation. The new technology variables, entered at the third step, added an additional 2.5% ($p < .01$) to the variance.

The final equation accounted for 28.2% of the variance in fear of crime (R = .53, adjusted R^2 = 26.3%). Cable channel repertoire (ß = -.11, $p < .05$) and VCR ownership (ß = -.09, $p < .05$) were significant negative predictors, supporting the second and third hypotheses. Sex (female) (ß = .42, $p < .001$), age (ß = .08, $p < .05$), and amount of television exposure (ß = .10, p = .01) remained significant positive contributors. Broadcast channel

repertoire, RCD ownership, and channel changing were not significant predictors of fear; there was no support for hypothesis 1, 6, or 7.[4]

Predicting mistrust. It was anticipated that mistrust would also be explained by differential use of new television technologies. Hierarchical multiple regression tested the study's hypotheses. Once again, demographics were entered on the first step. The regression is summarized in Table 3.

Age, sex, education, and occupational level accounted for 6.3% ($p < .001$) in the variance in mistrust. Sex (male) and education were significant negative predictors at this stage. At step two, amount of television exposure failed to account for any additional variance. The new television technology variables, entered at step three, added 2.4% to the variance ($p < .05$).

The final equation accounted for 8.7% of the variance in mistrust ($R = .29$, adjusted $R^2 = 6.7\%$). Sex (male, $ß = -.14$, $p < .01$) and education ($ß = -.15$, $p < .01$) remained significant, negative predictors. Cable subscription ($ß = .13$, $p < .05$) was a significant, positive predictor. Broadcast channel repertoire ($ß = .10$, $p < .05$) was also a significant, positive predictor, supporting hypothesis 1. Cable channel repertoire ($ß = -.13$, $p < .05$) was a significant, negative predictor, supporting hypothesis 2. VCR ownership, RCD ownership, and channel changing were not significant predictors of mistrust. There was no support for hypothesis 3, 6, or 7.[5]

Discussion

The results of this study have an important implication for cultivation research. The changing television environment has an impact on the cultivation process. As Bryant (1986) pointed out, new television technologies offer increased program diversity and audience selectivity.

These newer technologies do not reinforce cultivation effects; they modify them. When new television technologies replace typical broadcast content, cultivation effects are reduced.

Our studies' findings suggest that cable television has the strongest impact on the relationship between television exposure and cultivation effects. Cable subscription itself is positively related to some cultivation perceptions. In both Study 1 and 2, was cable subscription linked to stronger feelings of interpersonal mistrust. But, channel repertoire, or the channels that viewers typically watch, was a stronger predictor of both fear of crime and interpersonal mistrust. Consistent with our hypotheses, broadcast channel repertoire, or watching channels that present programming most like that traditionally carried by the television networks, was a positive, significant predictor of interpersonal mistrust. When viewers are exposure to "more of the same" programming, cultivation relationships are consistent with previous research.

But, cable television does not carry only broadcast-type channels. Cable offers new sorts of channels that present specialized and alternative programming. Consistent with expectations, higher cable channel repertoire, or watching channels that carry diverse programming, was related to negatively to cultivation perceptions. In study 2, higher cable channel repertoire was a significant, negative predictors of fear of crime and mistrust.

These findings suggest that cable might change the traditional effects of television. Cable's specialized programming appears to reduce the impact of broadcast television's consistent messages. Over time, cable's impact might become even stronger. There is evidence that as people become more familiar with cable, they watch more of the specialized programming (Webster, 1986), place greater value those specialized channels (Sparkes & Kang, 1986),

and find viewing them to be more satisfying than "traditional" channels (Garay, 1988).

It is clear that channel repertoire should be an important element of media uses and effect research. Research should work to conceptualize and measure channel repertoire and understand the implications of different types of channel repertoires. The results of this study point out that it is useful to consider broadcast and cable repertoires as signals of exposure to different types of programs. Future research should explore additional meanings to channel repertoires (Ferguson & Perse, 1992).

Because exposure to a wider range of diverse cable channels was associated with resistance to cultivation effects, future research should examine influences on channel repertoire. Earlier studies suggested that media environment, types of audience activity, and the reasons people watch television affect the range of channels watched (Ferguson, 1992a; Ferguson & Perse, 1992; Heeter et al., 1988). Research should explore how to increase channel repertoires and how to encourage viewers to sample new types of programs and channels.

Videocassette recorders also seem to affect cultivation effects. This study found partial support for the hypothesized relationships between VCR ownership and reduced cultivation effects. VCR ownership was linked to lower perceptions of mistrust/anomie in Study 1 and to less fear of crime in Study 2. While VCR ownership may reflect a greater commitment to video entertainment (Morgan et al., 1990), it may also signal a more selective use of time-shifted and rented content (Lin, 1990).

Although we found no support for hypotheses 4 and 5 in Study 1, the relationships between video rental, time-shifting, and cultivation perceptions were negative, suggesting that renting and time-shifting may also reduce

cultivation effects. Future research should explore the "repertoires" of video rentals and time-shifted viewing. Levy and Fink (1984) observed that people tend to specialize in time-shifted content. Perhaps some VCR users rent and time-shift programming that reinforces the dominant messages of broadcast television while others specialize in more diverse content. Studies should examine whether VCR selectivity may have differential effects on the cultivation process.

Contrary to our hypotheses, ownership and use of the remote control device were unrelated to cultivation effects. Remote control devices and channel changing may have their biggest impact on media effects through their impact on channel repertoire. Higher levels of channel changing have been related to higher channel repertoires (Ferguson, 1992a; Heeter, 1985). Future research should examine the role of the RCD as a facilitator of broadcast and cable channel repertoires.

These null findings also point out the ambiguity in explaining the use of the RCD (Ferguson, 1992a; Perse, 1990; Walker & Bellamy, 1991). On one hand, channel changing can be interpreted as a selective search for or avoidance of specific content. On the other hand, channel changing has been linked to a less attentive use of television (Perse, 1990). Several researchers have argued that understanding the reasons why people change channels provides a better explanation of channel changing and other related viewing outcomes (Ferguson, 1992a; Ferguson & Perse, 1992; Walker & Bellamy, 1991). Future studies might explore whether different reasons for changing channels influence cultivation and other media effects.

The results of this study support scholars who argue that cultivation is best explained by selective exposure to specific television content (Hawkins & Pingree, 1981; Potter & Chang, 1990; Rubin et al., 1988). The widespread

adoption and use of newer television technologies require that mass communication researchers reevaluate traditional media effects. With cable, VCRs, and RCDs, television content is less likely to be uniform and viewing is less likely to be habitual. Cable television, VCRs, and RCDs allow people to construct their own media environment and leads to greater audience fragmentation and polarization (Webster, 1989). Television's traditional impact via cultivation, and other traditional media effects, may be slowly, but dramatically altered.

Notes

[1]The largest cable system in the county has a subscription rate of 70% (personal communication, Eric Trefz, sales manager, Heritage Cablevision, March 27, 1992).

[2]The four mistrust/anomie statements were: "Most people are just looking out for themselves," "You can't be too careful in dealing with people," "In spite of what people say, life for the average person is getting worse," and "It's hardly fair to bring a child into the world the way things look for the future."

The two fear items were: "Crime is rising" and "I have a good chance of becoming a crime victim."

[3]The three fear items were: "It is dangerous to walk alone in a city at night, "I am afraid to walk alone in a city at night," and "I am afraid to walk alone in my own neighborhood at night."

The three mistrust items were: "Most of the time, people are just looking out for themselves," "Generally speaking, most people can be trusted," and "Most of the time, people try to be helpful." The last two items were recoded in reverse to make them measures of mistrust.

[4]Because Morgan's earlier work (Morgan & Rothschild, 1983; Morgan et al., 1990) suggests that new technology use interacts with television viewing in the cultivation process, we created interaction terms (cable subscription, VCR ownership, and RCD ownership and television exposure) and conducted an additional regression analysis. Demographics were entered on the first step, new technology variables (channel changing, cable CR, and broadcast CR) were entered at the second step, and the interaction terms entered on the third step of the equation. The interaction terms contributed significantly to the variance (R^2 change = .012, $p < .05$). Cable CR (ß = -.13, $p < .01$), sex (female, ß = .42, $p < .001$), and the interaction between RCD ownership and television viewing (ß = .17, $p < .05$) were significant predictors of fear of crime.

[5]Once again we tested the impact of cable-, VCR-, and RCD-television viewing interaction terms on mistrust. The three interaction terms added only 1.0% to the variance ($p = .13$). Sex (male, ß = -.13, $p < .01$), education (ß = -.15, $p < .01$), cable CR (ß = -.12, $p < .05$) and the interaction between cable subscription and television exposure significantly predicted mistrust (ß = .16, $p < .05$).

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Table 1

Pearson and Partial Correlations

	Fear	Mistrust	TV	CAB	VCR	VID	TSV	RCD	CC
Mistrust	.39	--							
TV Viewing	.26	.41	--						
Cable Subscription	.18	.17	.11	--					
VCR Ownership	-.16	-.20	-.24	.13	--				
Watch Rented Videos	-.15	-.12	-.22	.08	.33	--			
Time-shift Viewing	-.15	-.08	-.07	.02	.19	-.35	--		
RCD Ownership	.08	.10	.02	.56	.35	.22	.09	--	
Channel Changing	.03	.08	.23	.29	.06	-.13	.10	.35	--
Age	-.12	-.16	-.12	-.11	.20	.02	-.12	-.18	-.19
Sex	.03	-.20	-.11	-.22	.11	.01	.02	-.19	-.42
Educ	-.31	-.22	-.23	-.23	.08	.15	.10	-.11	-.14
Income	-.19	-.35	-.35	.08	.09	.18	.10	.21	.04
TV Viewing (6th-order partial)	.14	.27							
TV Viewing (10th-order partial)	.15	.26							

Note. $r = .18$, $p < .05$; $r = .24$, $p < .01$; $r = .35$, $p < .001$.

6th-order partials control for cable subscription, channel changing, VCR ownership, time-shifting, and tape renting. 10th-order partials also control for age, sex, educational level, and income.

Table 2

Pearson and Partial Correlations

	Fear	Mistrust	TV	CAB	VCR	RCD	CC	CCR	BCR
Mistrust	.04	--							
TV Viewing	.18	.04	--						
Cable Subscription	-.08	.03	.12	--					
VCR Ownership	-.12	-.07	-.01	.21	--				
RCD Ownership	.02	.00	.13	.30	.28	--			
Channel Changing	-.01	.06	.08	.24	.17	.81			
Cable Channel Repertoire	-.20	-.06	.07	.53	.15	.21	.22	--	
Broadcast Channel Repertoire	.09	.10	.28	.10	.07	.16	.12	.19	--
Age	.11	.14	-.01	.11	.09	-.08	-.05	.12	.02
Sex	.10	-.06	-.08	-.03	-.24	-.12	.03	.48	.03
Education	-.22	.08	.12	.01	.19	-.05	-.13	-.16	-.15
Occupation	.19	.16	.25	-.16	-.23	-.07	.09	-.19	.11
TV Viewing (6th-order)	.17	.01							
TV Viewing (10th-order)	.09	-.02							

Note. $r = .08$, $p < .05$; $r = .11$, $p < .01$; $r = .14$, $p < .001$. 6th-order partials control for cable subscription, VCR ownership, RCD ownership, channel changing, broadcast and cable channel repertoires. 10th-order partials also control for age, sex, educational level, and occupation.

Table 3

Hierarchical Multiple Regression Summary:

Regressing Cultivation Effects

		Fear				Mistrust			
	Step Entered	R^2	R^2 Change	Final ß	p	R^2	R^2 Change	Final ß	p
Demographics	1	.25	.25		.000	.06	.06		.000
Age				.08	.043			-.06	.188
Sex				.42	.000			-.13	.004
Education				.00	.929			-.15	.007
Occupation				.09	.235			.06	.323
Viewing Behavior	2	.25	.01		.265	.06	.00		.537
TV Exposure				.08	.037			-.03	.913
Technology	3	.28	.03		.008	.09	.02		.043
Cable Subscription				-.03	.539			.12	.019
VCR Ownership				-.09	.032			-.06	.170
RCD Ownership				.06	.300			-.01	.893
Channel Changing				.04	.489			.04	.503
Cable Channel Repertoire				-.11	.019			-.14	.012
Broadcast Channel Repertoire				.06	.128			.10	.036

Note. Step 1: $F(4, 516) = 42.45$, $p < .001$. $F(4, 517) = 8.69$, $p < .001$.
Step 2: $F(5, 515) = 35.22$, $p < .001$. $F(5, 516) = 6.94$, $p < .001$.
Step 3: $F(11, 507) = 18.08$, $p < .001$. $F(11, 510) = 4.39$, $p < .001$