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Religiosity, Repression, and Cultivation: Different Patterns of TV Viewing Effects on Crime Prevalence Estimates and Personal Victimization Likelihood Assessment

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This study asks if and to what extent religiosity and repression moderate the effect of TV viewing on crime prevalence estimates and personal victimization likelihood assessments. Taking place in Israel, the study used a content analysis of a representative sample of TV programming (56 hours of prime-time shows) to identify the most common crimes depicted on the small screen, followed by a survey of a representative sample of the adult public in a large urban district (778 respondents). Participants were asked to estimate the prevalence of these crimes and assess their personal victimization likelihood. Nonreligious people increased their estimates of crime prevalence for crimes that are often depicted on TV as they devoted more time to watching TV (ordinary cultivation), whereas the estimates of crime prevalence and personal victimization likelihood assessments of religious respondents became lower in correspondence with the increase in the amount of time they devoted to television viewing (counter-cultivation). Repression had a small negative effect on crime assessment that was more consistent among nonreligious people, where it also decreased the size of the cultivation effect. The effect of demographic factors was less robust. Overall, religiosity comes out as a potent attenuator of TV viewing effects on estimates concerning crime and personal safety.

This study examines the ability of religiosity and repression to moderate the impact of TV viewing on the estimation of one's likelihood of personal victimization and on the perception of one's nearby surroundings as abundant with crime. The correlation of such estimation and perception with the amount of time devoted routinely to TV viewing is commonly known as the *cultivation effect* (Gerbner, Gross, Morgan, Signorielli, & Shanahan, 2002). We will, therefore, examine the extent to which the cultivation effect is extended, devalued, or even annulled by religiosity and repression. Discovering whether religious people differ from nonreligious people in the effect cast on their worldview by the modern media would constitute a considerable contribution to media effects scholarship. From the perspectives of public opinion

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and public policy, knowing what contributes to unrealistic estimates of crime prevalence is important because these unrealistic perceptions are associated with stricter punitive attitudes and tend to lead to support for proposals to divert additional public resources to combat crime (Dowler, 2003).

Cultivation, TV Viewing, and Criminality Estimates

Cultivation theory proposes that watching television is correlated with a distorted evaluation of social reality in a way that internalizes its presentation on the small screen (Gerbner & Gross, 1976; Gerbner, Gross, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1978; Gerbner et al., 2002). This theory is supported by a meta-analysis of more than 80 studies that confirmed the existence of a consistent—although small (r = .1)—effect of routine exposure to television on viewers' reality perception (Shanahan & Morgan, 1999).[1]

This effect is particularly robust when the dependent variable is crime prevalence estimation or personal victimization likelihood assessment (Gerbner & Gross, 1976; Gerbner et al., 1978; Romer, Jamieson, & Aday, 2003; Smolej & Kivivuori, 2006), most likely because popular programming is abundant with crime exemplars, which appear in news magazines and prevail in dramatic series and are—sometimes consciously but more often unconsciously—used as sources of knowledge about criminality by spectators who lack tools to appraise their truthfulness (Zillmann, 2002). One has to recall that in the real world few people encounter criminals and fewer still encounter violent felons on a daily basis, but watching TV exposes large publics continuously to plentiful law offenders (Heath & Gilbert, 1996; Heath & Petraitis, 1987; Sorenson, Peterson, & Berk, 1998; Tyler & Cook, 1984). For example, in Israel—the country where the current study takes place—only 2% of the citizens have a criminal record (Israeli Police, 2009), whereas more than 10% of the characters who appear in programs broadcast by the two most watched channels during prime time are criminals (Hetsroni & Tukachinsky, 2006). Televised depictions of criminality emphasize violent crime and—to a lesser extent—depict property crime, but they underrepresent other common criminal activities such as traffic offenses and illegal construction (Altheide, 2003; Surette, 2002).

In a series of experiments, Shrum and his colleagues have shown that excessive exposure to dramatic representation of criminality on television prioritizes *heuristic processing of information* about crime (Shrum, Burroughs, & Rindfleisch, 2004). The information is stored while watching the shows and is retrieved—due to its salience and vividness—when there is a need to estimate the prevalence of crime (Shrum, 1995). Naturally, such information is more accessible to heavy TV viewers (Shrum et al., 2004). This is why heavy viewers, more so than light viewers, are afraid of crime and believe that their nearby surroundings are abundant with crime (Romer et al., 2003; Gerbner & Gross, 1976).

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[1] Hawkins and Pingree (1982) suggested that the cultivation effect should be divided into two types (later called by Gerbner and his associates as first- and second-order effects). *First-order effects* denote the correlation between television viewing and distorted estimates of the likelihood of occurrences in the real world. *Second-order effects* describe the contribution of television viewing to the formation of a suspicious outlook at the world in line with "mean world" messages that are embedded in the programming. Our study deals with first-order indicators.

However, studies remain divided over the purity of the effect. While most reports demonstrate that the correlation of TV viewing on the one hand and victimization anxiety and personal safety assessment on the other hand remains significant even when demographic indicators are kept under control (Heath & Petraitis, 1987; Smolej & Kivivuori, 2006; Sorenson et al., 1998; Tyler & Cook, 1984), a few works indicate that the cultivation effect almost completely disappears when demographic variables and economic conditions are taken into consideration (Doob & MacDonald, 1979; Hirsch, 1981; Hughes, 1980).

Little attention has been given to the impact of personality factors on the cultivation effect, even though it makes sense that personality traits may tunnel the influence of TV viewing in different directions (Nabi & Riddle, 2008). Our work addresses this lacuna and concentrates on two such variables: *repression*, which is a common ego defense mechanism (American Psychiatric Association, 2000; Pauls & Stemmler, 2003), and *religious faith*, which provides the believer with a sense of meaning and confidence in life along with social support (Batson & Stocks, 2004; Fletcher, 2004; Park, 2005; Silberman, 2005).

Religiosity, Crime Prevalence Estimates, and Fear of Personal Victimization

Religion is an integral part of how we define ourselves. Religious affiliation (e.g., Christian, Jewish, Muslim) is one of the five most often mentioned ways people describe themselves in a nutshell (Hood, Hill, & Spilka, 2009, p. 10). The concept of religion has several social and spiritual aspects. In this study we focus on religiosity, literally denoting the level of faith and practically translated into participation in rites and adherence to religious rules and restrictions (Paloutzian & Park, 2005). A meta-analysis of more than 700 studies reported statistically significant associations between religiosity and positive thinking, optimism, and other indicators of mental health in two-thirds of the works (Koenig, 2009). This finding suggests that religious involvement is related to better coping with stress (Koenig, McCullough, & Larson, 2001). Yet we should not forget that more than 200 works failed to detect such a positive relationship and that the research so far has not delved into the impact of religiosity on having a more (or less) realistic estimation of crime prevalence, nor has it examined religiosity's contribution to establishing a stronger or a weaker fear of crime. We assume that since fear is a response to a threatening situation, or, inter alia, a lack of stability (Janiszewska et al., 2008), people who possess a sense of confidence, which can be granted by religious faith, are better able to alleviate the state of uncertainty and cope better with fear (Antonovsky, 1979). The more people are convinced of their power to take control over their lives, or at least the more they believe that their fate is bound to be positive because they follow God's orders, the less likely they are to be overwhelmed with fears (Wilkinson, 2001, p. 68). Religious belief provides the believer with a certain assurance of protection through trust in divine powers (Koenig, 2009, p. 285). In that way, religiosity can make difficult circumstances seem more bearable (Pargament, 1997). In addition, religiosity often involves membership in congregations, such as churches and synagogues, which provide a network of social support that can make the member feel loved, cared for, highly valued, well integrated, and—as a result—less fearful (Ellison, 1998). Since religiosity correlates with safety feelings (Wilkinson, 2001), it may moderate the cultivation effect that boosts personal victimization likelihood assessment and increases crime prevalence estimation (Romer et al., 2003; Van den Bulck, 2004).

Religion provides not only a set of orders and social support but also a coherent *message system*. Religious orders and ceremonies and the stories behind them constitute a repository of images, narratives, and conceptions that can be used as a cultural indicator (Koenig, 2009). Similar to television that serves as a symbolic environment wherein values about everyday life are reflected and lessons about right and wrong are taught (Gerbner, 1973; Morgan, Shanahan, & Signorielli, 2012), so does religion convey power structures (e.g., God is stronger than mankind), transmits a homogeneous simplistic presentation of the world (e.g., the people of Israel are the chosen nation), and offers easily implantable solutions to problems (e.g., the pope's advice can't be wrong). This symbolic similarity brought Gerbner, Gross, Hoover, Morgan, and Signorielli (1984, p. 61) to suggest that "television seems to displace, if not replace, religion as an important part of life." Their claim was supported by cross-sectional evidence from the United States that religious people identify themselves as less religious when their viewing increases (Gerbner, 1987). Another study that examined the cultivation effect in a U.S. Mennonite community found that the heavier TV viewers in this devout community were less restrictive than their light- or nonviewing counterparts in attitudes toward smoking, drinking, premarital sex, and abortion (Umble, 1990). These are the only two works that examined cultivation in a religious context. They are not recent; nor do they use cultivation's most prominent measures: fear of crime and estimation of crime prevalence.

In light of that, our study is well-timed, but some background about the nature of religiosity among Israeli Jews, who form the study population, is needed. In Israel, Orthodox Jewry, which exhibits the least flexible implementation of ancient biblical orders (e.g., ban on operating any machine on Saturday), enjoys an overwhelming majority, mainly because non-Orthodox sects have long avoided establishing communities in the country. Yet the fact that 80% of Israeli Jews declare that they believe in God, trust in the existence of an afterlife, and are convinced of posthumous reward and punishment does not mean that all of these people conduct a strictly Orthodox religious lifestyle. In fact, different levels of religiosity among Israeli Jews express acute differences in religious observance—namely, practicing versus not practicing religious orders such as avoiding eating pork (Levy, Levinsohn, & Katz, 2002), which are not only routine customs but also cultural indicators. According to a recent survey (Arian & Kaiser-Sugarman, 2009), Israeli Jews who define themselves as ultrareligious (*Haredi* in Hebrew) keep on average 19.2 of the 20 most important Jewish orders (e.g., fasting on certain holidays such as Tisha'a Be-Av, attending a sermon at the synagogue on Friday evening). Israeli Jews who define themselves as religious (*Dati*) keep on average 16.5 of these orders. Israeli Jews who identify as traditional (*Masorti*) keep on average 7.4 orders. Finally, Israeli Jews who consider themselves secular (*Hiloni*) keep on average only 5.3 orders. The study population is roughly divided into two groups: *religious* (comprised of religious and ultrareligious) and *nonreligious* (composed of traditional and secular). While there are internal differences within the two groups (e.g., the ultrareligious dress code is more modest than that of the religious), these differences are small compared to the abyss in lifestyle between religious Jews, whose day-to-day schedule revolves significantly around practicing and observance (e.g., three prayers per day), and nonreligious Jews, whose daily activities are typically devoid of religious matters.

Repression, Crime Prevalence Estimates, and Fear of Personal Victimization

Another way of coping with menace and fear is resorting to ego defense mechanisms. These psychological strategies are employed by people who search for ways to maintain a solid, positive self-

image amid threatening circumstances. The most common among these mechanisms is *repression*. The repressive person ignores threatening information (Baumeister & Cairns, 1992) to avoid confrontation with negative thoughts and feelings (Szentagotai & Onea, 2007). When ideas or memories produce fear and anxiety, the repressive individual suppresses this information from his or her consciousness to alleviate the negative feelings (David, Miclea, & Opre, 2004). In other words, repression involves cognitive avoidance and leads to a loss of part of the accessible memory (Erdelyi, 2006). This quality of repression may have a special significance from the perspective of cultivation theory, since the cultivation effect probably stems from greater accessibility of TV content to heavy viewers, who acquire this information through heuristic processing while they watch TV and treat it, often unconsciously, as a true reflection of the real world (Shrum et al., 2004). Hence, it is reasonable to assume that heavy television viewing is less likely to enhance fear of victimization and abundant assessment of crime prevalence in the nearby surroundings among highly repressive people. In other words, we expect people who are higher in repression to be lower in cultivation because the repression mechanism may prevent the crime-abundant programming from diffusing into their repository of images.

Social Estimates Versus Personal Estimates in the Cultivation of Crime Prevalence

Assessment

The impact of media consumption on estimations of victimization likelihood depends not only on audience characteristics but also on the type of the required estimation. The major distinction is between *estimates made at the personal level* (i.e., assessing one's chances of being a victim of a crime) and *estimates concerning the society at large or a notable part of it* (e.g., crime prevalence in the country/county/city). The *impersonal impact hypothesis* (Tyler & Cook, 1984, pp. 693–694) suggests that TV viewing mainly influences assessments made at the society level, because these estimates are made about people with whom the average person has very little personal acquaintance. Tyler and Cook's hypothesis was confirmed in a number of studies, where the cultivation effect was found to be significantly lower for personal victimization likelihood than for crime prevalence estimates at the country level (Nabi & Sullivan, 2001), the county level (Wåhlberg & Sjöberg, 2000), and even the neighborhood level (Coleman, 1993; Heath & Petraitis, 1987). This phenomenon may be the outcome of different coding techniques and retrieval strategies: When we think about our own lives, we go through *experiential closeness* and attentively encode facts in solid memory traces. Both the information and the source are recalled during the process, and facts that originate in television programs are frequently discarded because of the unreliable nature of their source (Shapiro, 1991). On the other hand, when the question pertains to issues and people with whom we are not personally acquainted, we go through *experiential remoteness*, which initiates the activation of cognitive shortcuts and the retrieval of TV exemplars without reference to their source (Bilandzic, 2006). *Optimistic bias*, which is a basic misperception according to which bad things are more likely to happen to others than to oneself (Weinstein, 1980), may also play a role in expanding the cultivation effect in judgments made about the likelihood of negative developments in other people's lives.

Research Hypotheses and Rationale

As a cultivation study, our work is composed of four phases (see Morgan & Signorielli, 1990). First, a content analysis quantifies the world of TV content (in terms of crime) to which viewers are exposed. Second, the findings of the content analysis are used to identify the most often represented crimes on television. We formulate questions about the personal chances of being victims of these crimes and about the estimation of their prevalence in the society. Third, a survey poses these questions to a representative sample of viewers. The survey also collects information on the amount of time devoted routinely to TV viewing and on other pertinent factors such as religiosity, repression, and demographics. Fourth and finally, we assess the cultivation effect—that is, the tendency of heavy TV viewers to give higher prevalence estimates and assume greater victimization likelihood when it comes to crimes that are overrepresented in TV content more frequently than light viewers. We will examine the cultivation effect separately for religious and nonreligious people, as cultivation studies often do with *distinct groups of viewers*.[2]

Religion scholars often make the claim that being religious is not only a matter of *believing in divine providence* but also a case of *adhering to a set of customs* (see, for review, Koenig et al., 2001). These two distinctive qualities may explain why some psychological factors and cultural agents would have a different impact on religious and nonreligious people. The lifestyle aspect of religion as a message system can make religious respondents less susceptible than their nonreligious counterparts to the effect of television. In contrast, the tendency of TV viewing to cast a stronger influence on crime prevalence estimates made at the society level and to leave a weaker impact on personal victimization likelihood assessment (Coleman, 1993; Heath & Petraitis, 1987; Nabi & Sullivan, 2001; Wåhlberg & Sjöberg, 2000) is expected to cross over religiosity lines because experiential closeness/remoteness and optimistic bias that partly shape such judgments are not highly impacted by the level of religiosity (Weinstein & Klein, 1996). Repression may not be as potent among religious persons, who can lean on their faith as a defense mechanism that blocks problematic information from consideration (Antonovsky, 1979). Therefore, the attenuating impact of repression on cultivation may apply mainly, or even solely, to nonreligious viewers. The specific research hypotheses are:

H1: *The cultivation effect would be weaker among religious people than among nonreligious people.*

H2: *Repression would bring about a decrease in the size of the cultivation effect among nonreligious people but not among religious people.*

H3: *The cultivation effect would be stronger for crime prevalence estimates about the surroundings (i.e., society level) than it would be for personal victimization likelihood assessments (i.e., personal level) among nonreligious people than it would be among religious people.*

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[2] See the works of Doob and Macdonald (1979) and Gerbner, Gross, Morgan, and Signorielli (1980) for residents of districts with different crime levels and Harmon (2006) for people who belong to different economic strata.

Method

We will first describe the content analysis from which we determined the most often represented crimes on television. Then we will review the survey that asked viewers to estimate the prevalence of these crimes and assess their own chances of being victims of these crimes in conjunction with control variables.

Content Analysis

A representative sample consisting of 56 hours of prime-time programming (9:00 p.m. to 11:00 p.m.) broadcast in Israel over 2 weeks between November 2009 and January 2010 in the two most watched Israeli terrestrial stations (Channel 2, Channel 10) were coded for the presence of crime. Together, these stations attract 60% of prime-time viewers. No other station's share exceeds 5% (Eurodata TV, 2010). The *constructed weeks* method, wherein days are randomly selected across a period of time (3 months in our case) until complete 2 weeks per channel of broadcasts emerge, was used to compose the sample. This method was developed in the National Television Violence Study (1998) and was found to be a reliable way of representing TV content across time.

The coding was performed by two students who were asked to identify criminal acts. The coders, who were trained for 4 hours each and were not privy to the goals of the research, worked alone to ensure coding independence. Each hour of programming was coded by the two coders. Intercoder reliability for crime identification was computed for the overall sample and was measured through Krippendorff's coding agreement coefficient whose value ($\alpha = 0.809$) indicates adequate reliability.

Altogether, 182 acts of crime were identified—a frequency of 3.25 crimes per hour. The most frequent crimes were violent robbery (46.5%) and nonviolent property crime (15.0%).[3] These crimes were the topic of survey items because they represent offenses that are most often depicted in TV programming.

Survey

Sample and Instrument

The respondents ($n = 778$) constitute a representative sample of the Israeli Jewish adult population (ages 18 to 75) who live in the Haifa district of Israel, home to nearly one million residents and the country's third largest urban center. The survey was administered in March 2010 via telephone. A random-digit dialing technique was used to collect data, and multiple callbacks over 3 weeks were made to secure the representativeness of the sample. The eventual response rate was 55%. The demographic makeup of the sample accurately reflects the target population, with just a slight overrepresentation of women (who comprise 52.8% of the sample). The respondents' median age was 47. Two-fifths of the

3 Crimes depicted less frequently included blackmail (7.9%), white-collar crime (5.5%), traffic offenses (3.8%), torture (3.8%), sex crimes (3.3%), kidnapping (2.2%), drug offenses (2.2%), illegal construction (2.7%), arson (2.2%), terrorism (1.1%), and unidentified crime (3.8%).

respondents described their religiosity level as ultrareligious (6%) or religious (33.5%). The rest described themselves as secular (22%) or traditional (38.5%). These numbers are quite similar to what a previous study of the population in the same district found (Katz-Gerro, Raz, & Yaish, 2009). Of the respondents, 86% were married, and 45% had an academic degree.

In addition to demographics, our questionnaire presented the respondents with a repression scale and a religiosity scale along with items that measure the amount of time devoted daily to television viewing.

Repression Scale

We used a scale that was employed by Stein (1994) to measure the level of repression among Israelis. The scale is an abridged translated form of Byrne's (1964) repression-sensitization questionnaire consisting of eight statements with which the respondent is requested to mark the level of agreement on a range from 1 (*totally disagree*) to 5 (*totally agree*). Sample items include "I think that life is good" and "I am often afraid that something bad will happen to me." Stein (1994) reported Cronbach's α = .850 for the scale calculated in a sample of 500 Israeli adults and r = .899 correlation between the abridged version and Byrne's full scale, which is internationally accepted as a valid measure of repression. The reliability level of the abridged form in our data was Cronbach's α = .801.

Religiosity Scale

A four-item dichotomous scale, where each item refers to a specific Jewish religious order (e.g., "Will you agree to eat non-Kosher food?"), was administered. This scale was developed to measure the level of religiosity of the Jewish population in Israel (Levy et al., 2002). The level of Cronbach's α indicates high consistency (α = .805). We also used a single four-point self-report item that asked respondents to define themselves as secular, traditional, religious, or ultrareligious. The product moment coefficient between the aggregated score on the four-item religiosity scale and the self-report item was r = .883. Therefore, the single item provides a close approximation of the longer religiosity scale and a convenient way of differentiating religious from nonreligious respondents (see also Katz-Gerro et al., 2009, p. 10). We used the self-report item to divide the sample into subsamples of religious, consisting of ultrareligious and religious (n = 308), and nonreligious, consisting of secular and traditional (n = 470). The religious group was slightly younger (M = 43 years old) than the nonreligious group (M = 49 years old) and had a somewhat higher representation of women (56.5% vs. 50.5%), but in general the two groups were not radically different demographically.

Crime Prevalence Estimates and Personal Victimization Assessments

To measure personal victimization assessment, the respondents were asked to estimate the chances—from 1% to 100%—that they will be victims of violent robbery and nonviolent property crime over the next year. To measure crime prevalence assessment, the questions were repeated with a request to estimate the percentage of people who live in the respondents' vicinity who, over the next year, will be victims of these crimes.

Television Viewing

Each respondent was asked, "On an average *week* day, how many hours do you personally watch TV?" and "On an average *weekend* day, how many hours do you personally watch TV?" The figures that pertain to different parts of the week were weighted to create a measure of weekly TV viewing. This measure has been used in cultivation studies in different countries, including Israel (see, e.g., Gerbner et al., 1978; Hetsroni, 2008; Hetsroni & Tukachinsky, 2006; Morgan, 1984; Signorielli, 1990; Tan, 1982) to assess the level of routine exposure to the general programming and is considered a robust indicator. On average, the time devoted weekly to TV viewing was 15.5 hours among nonreligious respondents and 11.5 hours among religious respondents. The difference between the two groups in the amount of viewing partly reflects the fact that Jewish religion bans TV viewing on Saturday. The significant difference in weekly viewing time between nonreligious and religious respondents ($T_{(776)} = 3.5$, $p < .001$) becomes insignificant ($T_{(776)} = 1.6$, $p > .1$) when Saturday viewing is not included in the analysis.[4]

Results

This section starts with a review of crime prevalence and personal risk estimates among nonreligious and religious respondents, proceeds with the presentation of a multiple regression model that assesses the combined impact of all the study variables on these estimates, and terminates with a concrete testing of the research hypotheses.

Descriptive Statistics for Crime Prevalence and Personal Risk Estimates

Table 1 provides religious and nonreligious respondents' estimates of annual crime prevalence and personal risk concerning violent robbery and nonviolent property crime.

Table 1. Crime Prevalence Estimates and Personal Risk Assessment Among Religious and Nonreligious Respondents.

	Religious (n= 308)	Nonreligious (n = 470)
Personal risk assessment for violent robbery	13.6%	22.3%
Personal risk assessment for nonviolent property crime	19.3%	28.6%
Prevalence estimate for violent robbery	16.3%	24.2%
Prevalence estimate for nonviolent property crime	21.8%	30.5%

[4] In the regression models that are used to test the research hypotheses, weekday viewing time is used as a measure of TV viewing for religious as well as nonreligious respondents. While it is not entirely out of the question that viewers who differ in terms of their religiosity also selectively prefer to watch different programs or genres, official figures published by the Israeli Audience Research Board (2011) confirm that the genre mix of religious and nonreligious viewers in Israel is quite similar. The genre mix of religious adults consists of 45% news, 36% drama and action-adventure, and 19% reality and comedy. The genre mix of nonreligious adults consists of 44% news, 29% drama and action-adventure, and 27% reality and comedy.

Across the board, an 8% to 9% differential exists between the higher estimates provided by nonreligious respondents and the lower estimates given by religious respondents. This difference is significant for all four estimates: $F_{(1,776)} = 20.2$, $p < .001$, $\dot{\eta}^2 = .033$ for estimating personal victimization likelihood in violent robbery; $F_{(1,776)} = 20.4$, $p < .001$, $\dot{\eta}^2 = .028$ for estimating personal victimization likelihood in nonviolent property crime; $F_{(1,776)} = 17.1$, $p < .001$, $\dot{\eta}^2 = .025$ for estimating violent robbery prevalence; $F_{(1,776)} = 16.7$, $p < .001$, $\dot{\eta}^2 = .024$ for estimating nonviolent property crime prevalence.

Another differential, ranging from 2% to 3% and robust across religiosity lines, exists between the lower estimates of personal risk and the higher estimates of crime prevalence. This typical optimistic bias is significant in all the groups: $F_{(1,306)} = 19.27$, $\dot{\eta}^2 = .07$, $p < .001$ for violent robbery among religious respondents; $F_{(1, 306)} = 7.89$, $\dot{\eta}^2 = .029$, $p = .005$ for nonviolent property crime among religious respondents; $F_{(1,468)} = 8.7$, $\dot{\eta}^2 = .02$, $p = .003$ for violent robbery among nonreligious respondents; $F_{(1,468)} = 7.34$, $\dot{\eta}^2 = .01$, $p = .007$ for nonviolent property crime among nonreligious respondents.

Multiple Regression Model

To obtain a comprehensive picture of the combined and discrete impact of television viewing, repression, and the other control variables on the estimates of crime prevalence and personal risk assessment, and to detect different patterns among religious and nonreligious respondents, we ran two sets of hierarchical multiple linear regression models—one for nonreligious respondents and one for religious respondents. In both models, crime prevalence estimates (nonviolent property crime and violent robbery) and personal risk estimation for the same crimes served as the dependent variables. The predictors were entered in blocks in the following order: age, gender, education level (academic vs. nonacademic), and family status (married vs. unmarried) (block 1, demographics), repression (block 2), and television viewing (block 3). The predictors' β coefficients and their significance levels, partial correlations, incremental adjusted R^2 for each block, and the models' adjusted R^2 appear in Table 2.

Table 2. Hierarchical Multiple Linear Regression for Crime Prevalence Estimates Among Religious and Nonreligious Respondents.

			Religious (n = 308)				Nonreligious (n = 470)			
			Violent robbery		Nonviolent property crime		Violent robbery		Nonviolent property crime	
			β	Partial correlation	β	Partial correlation	β	Partial correlation	β	Partial correlation
Block 1	Demographics									
		Sex (1 = male; 2 = female)	0.282***	0.283	0.119	0.118	0.134**	0.139	0.144***	0.15
		Age	–0.019	–0.017	–0.138	–0.121	–0.128	–0.119	–0.036	–0.034
		Academic status (0 = nonacademic; 1 =academic)	–0.074	–0.075	–0.032	–0.03	–0.068	–0.069	–0.023	–0.023
		Marital status (0 = unmarried; 1 =married)	–0.172**	–0.152	–0.065	–0.055	–0.057	–0.054	–0.029	–0.028
Δ R^2			.024***		.014		.045***		.016***	
Block 2	Repression		–0.127	–0.125	–0.241**	–0.233	–0.121*	–0.112	–0.105*	–0.097
Δ R^2			.001		.013**		.010*		.010*	
Block 3	TV viewing		–0.174**	–0.158	–0.142*	–0.124	0.067	0.061	0.099	0.092
Δ R^2			.023**		.014*		.003		.007	
Adjusted Model R^2			.047****		.041****		.037***		.033***	

* p<.05 ** p<.01 *** p<.005 **** p<.001

			Religious (n = 308)				Nonreligious (n = 470)			
			Violent robbery		Nonviolent property crime		Violent robbery		Nonviolent property crime	
			β	Partial correlation	β	Partial correlation	β	Partial correlation	β	Partial correlation
Block 1	Demographics									
		Sex (1 = male; 2 = female)	0.271***	0.270	0.222*	0.225	0.128*	0.130	0.180***	0.176
		Age	–0.044	–0.04	–0.176**	–0.158	–0.134*	–0.111	–0.060	–0.053
		Academic status (0 = non-academic; 1 =academic)	–0.091	–0.088	–0.088	–0.087	–0.006	–0.006	0.003	0.002
		Marital status (0 = unmarried; 1 = married)	–0.144	–0.125	–0.116	–0.102	–0.101	–0.096	–0.092	–0.082
Δ R^2			.018***		.023***		.037***		.022***	
Block 2	Repression		–0.144	–0.141	–0.091	–0.087	–0.157***	–0.142	–0.117*	–0.109
Δ R^2			.003		.001		.017***		.010*	
Block 3	TV viewing		–0.241**	–0.213	–0.156*	–0.142	0.147*	0.134	0.201***	0.183
Δ R^2			.045**		.018*		.016*		.033***	
Adjusted Model R^2			.066****		.042**		.070****		.065****	

* p<.05 ** p<.01 *** p<.005 **** p<.001

Across the board, a number of trends are notable. Sex predicts crime prevalence estimation and personal risk assessment in all the items with the exception of nonviolent property crime personal victimization assessment among religious respondents. This means that in most cases women estimate the prevalence of crimes and their own risk of being victims of crime as higher than men do. Age predicts estimates of nonviolent property crime among religious respondents and violent robbery estimates among nonreligious respondents. Younger people tend to give higher estimates in these cases. Marital status predicts violent robbery personal victimization estimates among religious respondents (married people give lower estimates). In all the other cases, demographic variables do not predict crime prevalence estimates or personal risk assessment.

Television viewing predicts crime prevalence estimates and personal risk assessment among religious respondents. It also predicts crime prevalence estimates—but not personal risk assessment—among nonreligious respondents. However, the direction of the association between television viewing and crime estimates differs according to religiosity: TV viewing is significantly negatively associated with higher crime prevalence and personal victimization estimates among religious respondents and positively associated with higher crime prevalence estimates among nonreligious respondents. Repression has a small effect that lowers all the estimates, although this effect is not significant for religious respondents (with the exception of nonviolent property crime personal victimization assessment).

Testing the Research Hypotheses

H1 predicted that the cultivation effect would be lower among religious people than among nonreligious people (but retain the same direction). As shown in Table 2, the relationship between TV viewing and estimating crime prevalence as well as personal risk likelihood is negative and significant among religious respondents and positive among nonreligious respondents (passing the significance threshold in crime prevalence estimates). *H1 is not confirmed* because, among nonreligious respondents, the relationship between TV viewing and crime prevalence estimates and personal victimization likelihood assessments deviate from ordinary cultivation patterns. However, the data do indicate that TV viewing has an entirely different impact across religiosity levels.

H2 predicted that repression would significantly decrease the cultivation effect among nonreligious people but would have no such effect on religious people. From the data presented in Table 2 we learned that repression lowers the crime estimation of all the respondents, but its effect is not always significant with religious respondents, and that heavy TV viewing is associated with lower crime prevalence estimates and personal victimization likelihood assessments among religious respondents and with higher crime prevalence estimates among nonreligious respondents. However, to specifically test H2, we need to ascertain that repression significantly reduces the effect of TV viewing among nonreligious respondents and does not do so among religious respondents. To check this, we split the two subsamples (religious and nonreligious respondents) according to the level of repression and compared the effect of TV viewing in the two halves. The median of the repression scale (M = 2.7 for religious respondents and M = 2.8 for nonreligious respondents, both on a 1 to 5 scale where 1 denotes minimal repression and 5 denotes a high level of repression) was used as a cutoff point. The cultivation differential, which is the difference between the estimate given by heavy TV viewers (respondents in the upper 50% of the

subsample in terms of viewing time) and the estimate given by light viewers (respondents in the lower 50% of the subsample in terms of viewing time) was operationalized as a measure of the cultivation effect (see Shanahan & Morgan, 1999, p. 26). Among nonreligious viewers, the cultivation differential for the combined personal-society estimate of violent robbery among low-repressive respondents (13%) was significantly ($F_{(1,467)}$ = 6.45, η^2 = .011, p = .01) higher than the cultivation differential for the same estimate among high-repressive individuals (1%). A similar pattern was detected in nonviolent property crime estimates, where the cultivation differential among low-repressive respondents (15%) was significantly ($F_{(1,467)}$ = 5.05, η^2 = .009, p = .03) higher than among high-repressive respondents (3%). Among religious respondents, none of the recently noted differences was significant ($F_{(1,305)}$ = 1.50, p > .05 for violent robbery; $F_{(1,305)}$ = 1.85, p > .05 for nonviolent property crime). Since repression decreases the effect of TV viewing only among nonreligious respondents, *H2 is supported*.

H3 predicted that the cultivation effect would be stronger for crime prevalence estimation (society level) than for assessment of personal victimization likelihood (personal level) among both religious and nonreligious respondents. Even though the regression coefficients of TV viewing are larger in absolute value in both groups, when the estimates are made about crime prevalence when they concern personal risk (see Table 2), a finding that is generally supportive of H3, the hypothesis *cannot be fully confirmed*, because the impact of TV viewing among religious respondents is not in the predicted direction (see also the testing of H1). However, regardless of the direction of the association, we can still examine whether TV viewing is more highly correlated with estimates of crime prevalence than with assessment of personal victimization likelihood by investigating the interaction between estimate type (personal/society) and TV viewing. This interaction has a significant effect in estimates of violent robbery ($F_{(1,777)}$ = 6.1, η^2 = .021 p = .003). It is also significant in estimates of nonviolent property crime ($F_{(1,777)}$ = 9.8, η^2 = .034 p < .001). Interestingly, the three-way interaction (estimate type × TV viewing × religiosity) is not significant in nonviolent property crime ($F_{(2,776)}$ = 0.95, p > .05), nor is it significant in violent robbery ($F_{(2,776)}$ = 2.1, p > .1). The conclusion is that the larger effect of TV viewing on crime prevalence estimates (compared to personal victimization likelihood assessments) remains a stable pattern across religiosity levels, but the direction of this effect is different; that is, TV viewing boosts crime prevalence estimates among nonreligious respondents and decreases them among religious respondents.

Discussion

The most notable finding of this study is the sign change of the correlation between TV viewing on the one hand and crime prevalence estimates and personal victimization likelihood assessments on the other hand across religiosity lines. While nonreligious persons' estimates of crime prevalence increase as they devote more time to watching TV, the estimates of crime prevalence and personal victimization likelihood assessments among religious respondents decrease in direct correspondence with the more time they devote to television viewing. This pattern establishes religiosity as a prime attenuator of the cultivation effect in the context of crime: TV viewing is associated with higher risk assessment, which may boost fears and contribute to overly protective behavior among nonreligious people, but it leads to lower risk assessment, which may reduce fears among religious persons (Dowler, 2003).

Nonreligious viewers exhibit a familiar cultivation effect, wherein heavy television viewing carries with it higher estimates of crimes that are often presented in the programming (Hetsroni & Tukachnisky, 2006). The effect is restricted to estimates made about the social surroundings, falling far short of significance in personal victimization likelihood assessments. The reason for this could be that nonreligious viewers are probably less likely to retrieve information that originates in TV programming and treat this information as a viable source (even unconsciously) when they are asked about risks that pertain to their own –lives—compared to a situation where the question is about crime prevalence in general. Such general questions about issues with which the typical TV viewer has very little personal acquaintance initiate what Bilandzic (2006) calls *experiential remoteness*, which facilities the retrieval of TV exemplars without reference to their source.

When it comes to religious people, the mechanism through which TV viewing affects crime prevalence assessment and personal risk likelihood is probably different. Religious Israelis may feel alienated and estranged by the depictions of life in popular TV shows, because this depiction is entirely different from what they experience in their own lives. The representation of religious people in the programming of Channel 2 and Channel 10 (the two most successful commercial stations whose programming content was analyzed in this study) is approximately 200% lower than their representation in the population (Leor, Elephant-Loffler & Lankri, 2006). If we add to this the lack of religious themes in the programming (Gerbner et al., 1984; Hoover, 1990; Skill, Lyons & Larson, 1991) and the abundance of immodest attire and nontraditional families (Hetsroni, 2008), the inevitable conclusion is that religious Jews would find it hard to see the Israeli TV world as a reflection of their lives or the lives of people in their close surroundings. Religious Israelis may find the popular TV fare attractive in its foreignness but lacking in the "make-believe" quality that is required for a cultivation effect to develop in the expected direction (Fisher, 1984; Weimann, 2000). In fact, excessive exposure to television may even create a feeling of estrangement among religious viewers. Their reaction to this estrangement might be termed *counter-cultivation*, denoting the negative correlation that we found between TV viewing and reality perception that is in line with the TV world.[5]

Counter-cultivation may also be interpreted as the opposite of *resonance*. While resonance, an amplified ordinary cultivation effect, is found among groups of people whose life experiences closely resemble the world as shown in popular TV programming—that is, higher crime prevalence estimates among heavy TV viewers who also reside in crime-abundant neighborhoods (Gerbner, Gross, Morgan & Signorielli, 1982)—counter-cultivation, specifically lower crime prevalence estimates among heavy viewers, typifies (according to our data) a sector whose lifestyle stands in sharp contrast to the

[5] The term counter-cultivation was chosen because the sign of the correlation in this case is opposite to that of ordinary cultivation. By all means, we do not suggest that the cultivation effect, which has been confirmed by numerous studies in different populations around the world and across many topics, stands at the same level with a phenomenon detected in one investigation of a certain topic in a specific population in one country. Furthermore, the fact that the nonreligious viewers in our study are undoubtedly cultivated is congruent with a recognized pattern of research conducted in heterogeneous populations of detecting the ordinary cultivation effect only in subgroups (see Morgan et al., 2012, p. 8).

representation of life in TV land.[6] Interestingly, while ordinary cultivation is concentrated mainly on social estimates (see Tyler & Cook, 1984, and the figures that relate to nonreligious respondents in Table 2), counter-cultivation among religious viewers applies significantly to personal estimates as well (see the results that pertain to religious viewers in Table 2). This means that—at least in Israel—the impact of TV viewing on religious viewers might be more comprehensive than it is on nonreligious viewers.

Repression has a small negative effect on crime assessment that is more consistently significant among nonreligious people. It also decreases the cultivation effect among these viewers (but has no impact on counter-cultivation among religious viewers). We suggest the following explanation for these findings: In the lives of nonreligious people, repression serves as a psychological mechanism that helps them handle different worries, including fear that results from TV exposure and stems from high estimation of crime prevalence. By suppressing the accessibility of unwanted thoughts that might induce fear, repression may partly limit the heuristic processing of scary information that originates in TV programming and brings nonreligious viewers to develop cultivation (Shrum et al., 2004). However, religious persons—or at least Orthodox Jews in Israel—react to the programming in a different way because they find it less similar and less relevant to their lives. Their crime prevalence estimates are, to begin with, lower than the estimates made by nonreligious people (see Table 1). Since they estimate crime to be less prevalent, they are less fearful and less in need of a mechanism that would lower their fear. Furthermore, religious belief fills, to an extent, the role of repression in blocking the fair consideration of bits of information that do not come to terms with this belief (Adams Leeming, Wood & Stanton, 2009, p. 810). Religion provides a sense of meaning even to scary events (Koenig, 2009), which may decrease the need to repress among believers. To sum up, the absence of ordinary cultivation together with the low level of crime prevalence estimation and the high level of religious belief reduce fears and make the use of repression less necessary and less significant among Orthodox Jews.

The distinction between estimate types—that is, crime prevalence in the social surroundings versus personal victimization—produces the expected trend: that estimates of crime prevalence are higher than assessments of the likelihood of personal victimization (see Tyler & Cook, 1984, for past findings). The mechanism here can be an optimistic bias. People expect that unpleasant events will happen to other people more than they expect to experience such events themselves (Weinstein, 1980; Weinstein & Klein, 1996). This illusion of personal invulnerability constitutes a basic psychological effect that crosses religiosity lines and is not strongly shaped by TV viewing (the relevant interaction is not significant).[7]

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[6] Compared to cultivation, counter-cultivation is not characterized by lower levels of TV viewing. Religious people do not differ much from their nonreligious counterparts in the amount of time they spend watching TV or in their genre mix (see footnote 3 and Israeli Audience Research Board, 2011).

[7] The annual personal victimization likelihood assessments of all the viewers, which top 50% for the combined figure of violent robbery and nonviolent property crime among nonreligious respondents and come close to 35% among religious respondents (see Table 1), are much higher than the actual percentage of victims who, according to official anonymous surveys, barely reaches 10% per annum, including crimes that are not dealt with in this study such as sex offenses (Central Bureau of Statistics, 2002, p. 8). The tendency to overestimate one's chances of personal victimization is not restricted to Israel (Roberts, 1992) and is beyond the scope of the current investigation.

General Conclusions, Study Limitations, and Suggestions for Future Research

According to our data (which are limited to Israeli Jews), religiosity sets the direction of the effect of television viewing: Television viewing is associated with higher estimates of crime prevalence among nonreligious viewers (*ordinary cultivation*), but it is correlated with lower estimates of crime prevalence and lower assessments of victimization likelihood among religious viewers (*counter-cultivation*). In both variants, the effect is not very large (2.5% of the variance among nonreligious viewers and 4% of the variance among religious viewers at the most). It is tempting to dismiss such small effects, but before we do that, let us pay attention to three factors. First, even though popular programming seldom features persuasive material, it is still capable of shaping part of our reality perception. Second, as even cultivation proponents admit:

> Cultivation theory certainly accepts, and common sense predicts, that TV viewing will play a smaller statistical role than major demographic and educational variables. However, small correlations can be important when they result from phenomena which work consistently over time. Exposure to television messages can be seen as such phenomenon. If one percent of the variance in various dependent variables is consistently associated with TV viewing, that means that there is a chance for the meaning of messages to sink in slowly and in the background. (Shanahan & Morgan, 1999, p. 121)

The effect of TV viewing on religious people is not fully congruent with the *mainstreaming* trend that is sometimes ascribed to cultivation and even negates the results of U.S. research from the late 1980s, which found that heavier television viewing closes attitudinal gaps between religious and nonreligious viewers (Gerbner et al., 1984; Umble, 1990).

To demonstrate this finding, Figures 1 through 4 depict the means of crime prevalence estimation and personal victimization likelihood assessment of religious and nonreligious respondents, when the two groups are dichotomized into heavy versus low viewers using the median value of weekday viewing (2 hours and 15 minutes) as a cutoff point.

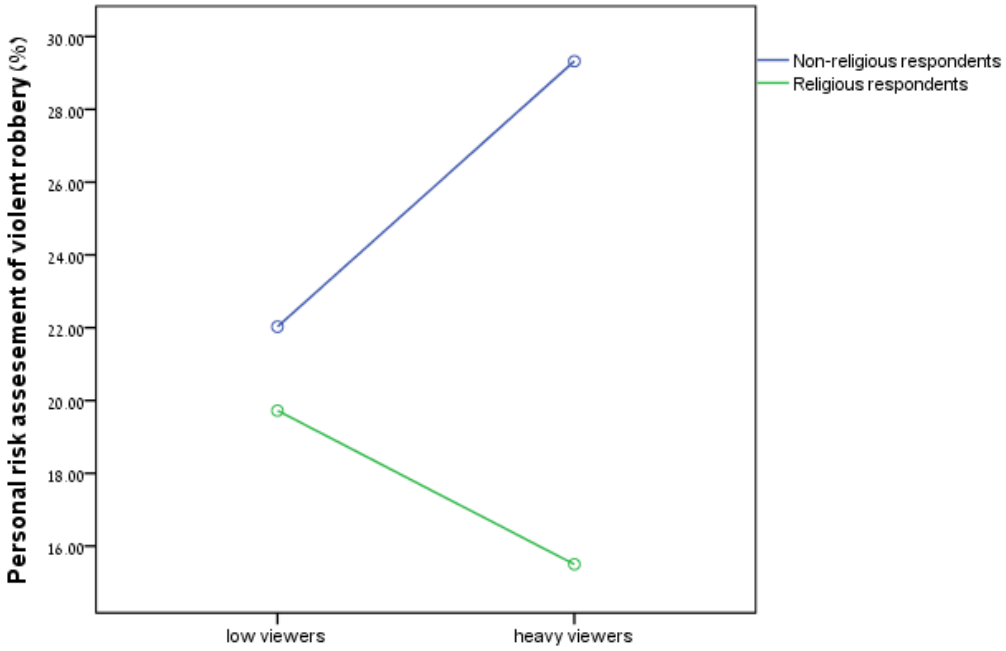

Figure 1. Heavy- and low-viewing religious and nonreligious respondents' personal risk assessment of violent robbery.

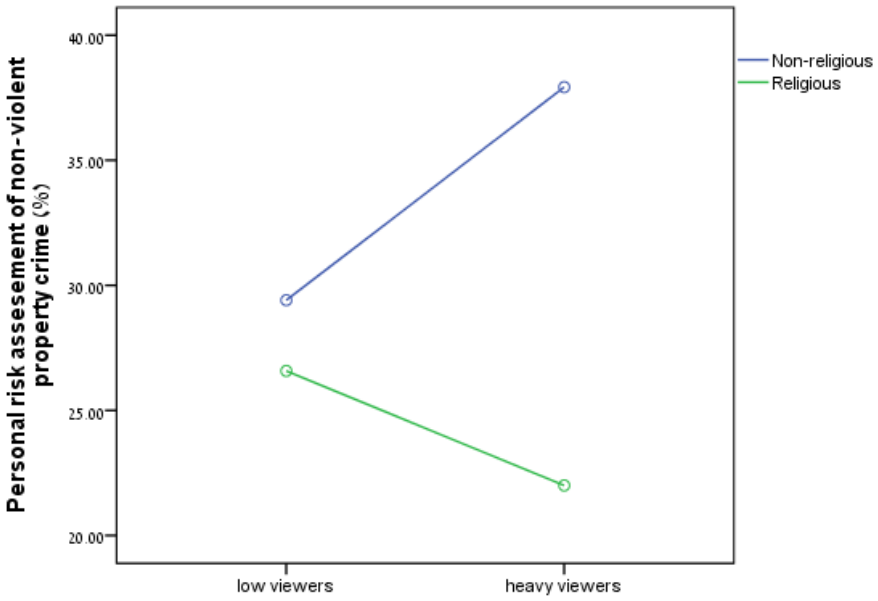

Figure 2. Heavy- and low-viewing religious and nonreligious respondents' personal risk assessment of non-violent robbery.

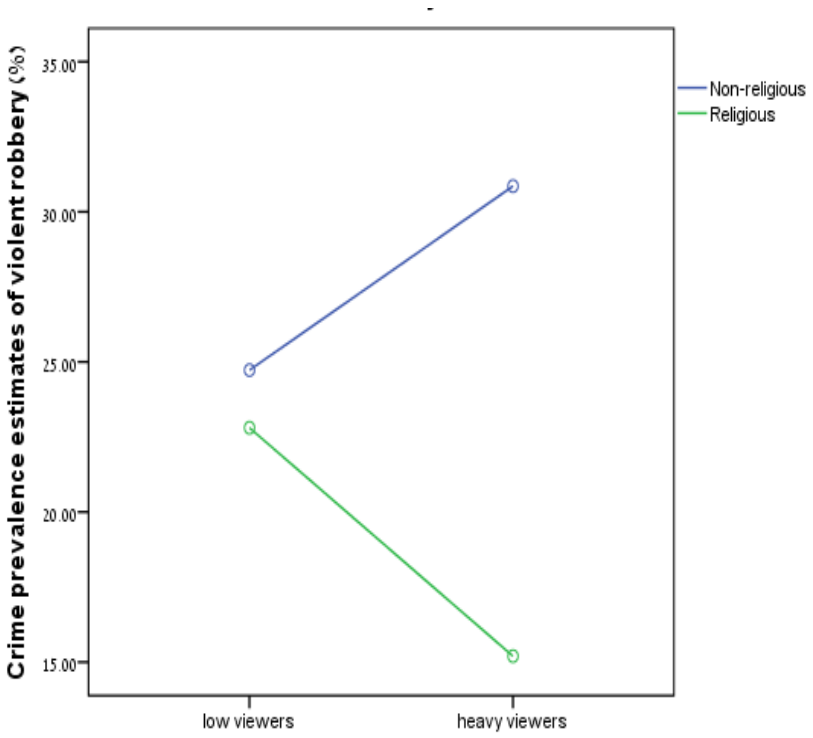

Figure 3. Heavy- and low-viewing religious and nonreligious respondents' crime prevalence estimates of violent robbery.

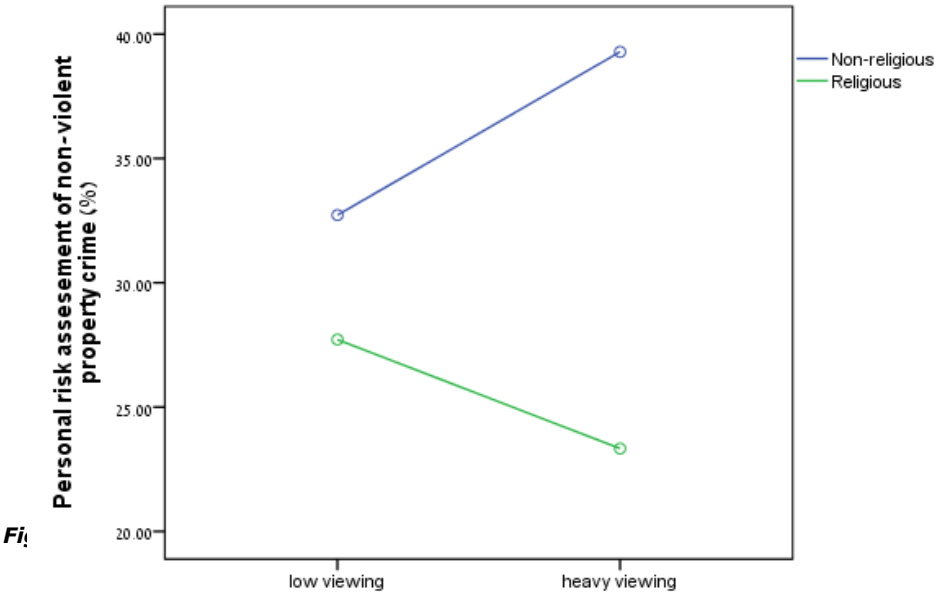

Figure 4. Heavy- and low-viewing religious and nonreligious respondents' crime prevalence estimates of nonviolent property crime.

As shown in the figures, the gaps between estimations made by nonreligious people and those made by religious people are larger among heavy TV viewers. There is no evidence that television viewing brings religious Jews closer to nonreligious Jews in their crime estimations or vice versa.

Why do Orthodox Jews living in Israel in the second decade of the 21st century exhibit different cultivation patterns from those exhibited by devout American Christians three decades ago? First, let us not forget that the U.S. studies were concerned with the cultivation of morals (acceptance of premarital sex, legitimization of extramarital sex), whereas we used crime prevalence estimation and personal victimization likelihood assessment as dependent measures. Messages concerning criminality that are featured in popular programming might seem entirely unrelated to Orthodox lifestyle. Therefore, these messages may lack the minimal credibility that is necessary not to be classified as proof that "life is not like that." Second, and more generally, the differences in lifestyle between religious and nonreligious people might be more profound in Israel than in the United States because of the lifestyle prohibitions of

Jewish religion (e.g., bans on certain kinds of food, on operating electrical appliances, and on shopping on Saturday). While the current study cannot fully determine which of the aforementioned factors might lead the heavy viewers among Orthodox Jews in Israel to react in an idiosyncratic way to routine exposure to popular programming (or whether there is another reason for their reaction), we should be aware that counter-cultivation may not characterize religious people of other denominations in different countries. Cross-cultural replications are always advised, particularly when the findings indicate an unexpected trend.

Future research should attempt to deal with the scope of topics where religiosity sets the direction of the cultivation effect. Our dependent variables were restricted to crime, which is the most often investigated domain in cultivation research (Shanahan & Morgan, 1999), but additional variables must be examined to determine whether TV viewing indeed sets the reality perception of religious viewers apart from nonreligious viewers.

Finally, in cross-sectional studies, it is difficult to determine causality in the relationship between the variables. Indeed, a few researchers have preferred to place crime prevalence estimates in the position of independent variable and treat television viewing as a dependent variable. Such works take a *selective exposure* approach and claim that people who are afraid of crime and believe that crime is highly prevalent in their surroundings prefer to watch TV shows about crime that guide them, even if indirectly, in how to deal with criminals (Minnebo, 2000). However, when competing models regarding the independent and dependent variables were tested in the context of crime prevalence estimation, cultivation received more support than selective exposure (Van den Bulck, 2004). The addition of religiosity to the model makes the task of determining casualty relatively easier, since it is clear that—with the exception of born-again Jews, who comprise just 3% of the religious sector in Israel (Levy et al., 2002)—religiosity is a component of identity that exists in people's lives before their exposure to current TV programming.

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