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FULL PAPER

The impact of personal experience in cultivation

Der Einfluss von persönlicher Erfahrung im Kultivierungsprozess

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Abstract: People's perception of reality is essentially based on two different sources: Personal experience and mass media content. This paper contributes to the understanding of how these two sources are related when shaping reality estimations (demographic fact knowledge) and attitudes (victimization fears and mean world attitudes). Drawing on a cultivation study based on quotas representative for the German population aged 18 and above (n = 236), three different patterns are identified with respect to violence-related reality perceptions: Demographic fact knowledge (first-order) was solely influenced by television (as one major source of mass media content). Personal experience moderated the cultivation effect for victimization fears (second-order): Mainly those with fewer/more distant personal experience were influenced by television, indicating that mass media is important especially when the level of personal experience is low. Mean world attitudes (second order) – which may be considered a broader, more general concept – were influenced by personal experience and television independently.

Keywords: Cultivation research, personal experience, quantitative survey

Zusammenfassung: Es gibt im Wesentlichen zwei verschiedene Wege, die Welt wahrzunehmen: über persönliche Erfahrung und Massenmedien. Die vorliegende Studie untersucht, wie diese beiden Quellen der Wahrnehmung im Verhältnis zueinander stehen, wenn Einschätzungen demografischer Fakten und persönlicher Einstellungen (Viktimisierungsangst, Mean-World-Wahrnehmungen) vorgenommen werden. In einer Kultivierungsstudie (n = 236) wurden drei verschiedene Zusammenhänge für Einschätzungen in Bezug auf Kriminalität und Gewalt gefunden. Demografische Einschätzungen (Kultivierungsmaße 1. Ordnung) wurden lediglich vom Fernsehen beeinflusst. Persönliche Erfahrung moderiert den Kultivierungseffekt in Bezug auf Viktimisierungsangst (Kultivierungsmaß 2. Ordnung): Vor allem diejenigen mit geringer/weiter zurück liegender persönlicher Erfahrung wurden vom Fernsehen beeinflusst. Massenmedien sind in diesem Fall für die Realitätskonstruktion also besonders dann wichtig, wenn wenig persönliche Erfahrung vorliegt. Mean-World-Wahrnehmungen (Kultivierungsmaß 2. Ordnung) – die im Vergleich zu Viktimisierungsangst als breiteres Konzept verstanden werden können – wurden von persönlicher Erfahrung und Fernsehen unabhängig voneinander beeinflusst.

Schlagwörter: Kultivierungsforschung, persönliche Erfahrung, quantitative Befragung

1. Introduction

One major field of media effect research, cultivation, deals with the influence of media use and especially television viewing on recipients' perception of reality (for a recent overview, see e.g., Morgan & Shanahan, 2010). The cultivation hypothesis states that particularly heavy television viewers have a biased perception of reality as in various areas the world portrayed on television differs from the real world (Gerbner & Gross, 1976). The primary source of information an individual may use to construct reality, however, is personal experience. On one hand, it is plausible that personal experience is more important for reality construction than media-related information: "It seems likely that instances of directly experienced crime may be more vivid, thought about more often, and elaborated upon to a greater degree, all of which enhance the accessibility of information" (Shrum & Bischak, 2001, p. 191; see also Pfau, Mullen, Deirdrich, & Garrow, 1995; Weaver & Wakshlag, 1986). On the other hand, cultivation postulates long-term socialization effects: Television as a 'symbolic cultural environment' shapes recipients' perceptions and evaluations of their surroundings from an early age (Morgan, 2009). Television examples of violence and crime are more present and more numerous than potential personal experiences (Diefenbach & West, 2001; Gerbner, 1969; Gerbner & Gross, 1976; Krüger, 2011a, Krüger, 2011b; Schramm, Lyle, & Parker, 1961).

How are these two sources of information – television and personal experience – related concerning cultivation effects? Research shows mixed evidence. It is possible that (a) personal experience boosts cultivation, (b) personal experience diminishes cultivation, and (c) both have independent effects (Shrum & Bischak, 2001). We aim at clarifying this relation for one of the most central and well-validated topics of cultivation research, namely crime and violence perception (Nabi & Sullivan, 2001). In doing so, we first review existing literature on the relation between cultivation effects and personal experience, focusing on differences and similarities in the operationalization of television viewing and personal experience. Based on this, we designed and conducted a study which is presented in the second part of this paper. Finally, implications of the current study are discussed.

2. Two sources to form a picture of reality: Personal experience and media use

Individuals learn about the world in essentially two different ways: through (direct and indirect) personal experience and through mass media. Direct personal experience is obtained by the person her-/himself. Indirect personal experience is mediated by interpersonal communication through friends/relatives who have themselves experienced the respective event (Gross & Aday, 2003; van den Bulck, 2004; Weaver & Wakshlag, 1986). Direct personal experiences are more vivid and salient than media experiences (Fazio, Zanna, & Cooper, 1978). Particularly experiences concerning crime and victimization are very intense and memorable, possibly even traumatizing and therefore strongly affect fear of crime victimization (Chockalingam & Srinivasan, 2009; Pain, 1997; Rountree & Land, 1996). Indirect personal experience falls somewhat in between direct experience and

mass media. Yet, we argue that indirect personal experience is more closely related to direct experiences than simply watching – especially fictional – crime on television. Furthermore, our research interest is the difference between real life and mass media as sources of information. For this reason, we combine direct and indirect personal experience as 'non-media experience' on one hand and media use on the other.

Personal experience may be seen as the primary source for forming a picture of reality (Doob & Macdonald, 1979; Hirsch, 1980; Hughes, 1980; Morgan & Signorielli, 1990; Pfau et al., 1995; Weaver & Wakshlag, 1986). However, mass media plays an important role in areas where no personal experience exists, but may also interact with present personal experience (see below). Television viewing is the central independent variable in cultivation research. Cultivation theory states that information seen on television – fictional as well as non-fictional – is used to construct viewers' own social reality. The world portrayed on television differs from the real world in certain aspects. Especially concerning violence, "television continues to be a place that is overly dangerous and aggressive" (Oliver, Bae, Ash, & Chung, 2012, p. 19; see also Diefenbach & West, 2001; Gerbner, 1969; Gerbner & Gross, 1976; Krüger, 2011a, Krüger, 2011b; Schramm et al., 1961). Thus, cultivation theory postulates that especially heavy television viewers have a biased perception of reality: They perceive the world as it is displayed on television, which has been proven by numerous studies (for a summary see Morgan & Shanahan, 1997). It has been shown that heavy television viewing cultivates exaggerated perceptions of crime and violence along with fear and mistrust (e.g., Custers & van den Bulck, 2013; Gerbner & Gross, 1976).

Differentiation is made between two forms of cultivation measures: First-order cultivation judgments refer to biased frequency estimations of demographic facts such as the amount of violent crime or the percentage of police officers of all workforce, mainly measured on the societal level. Second-order cultivation judgments address more fundamental perceptions on a personal level, for example attitudes, beliefs, and values (Hawkins, Pingree, & Adler, 1987). The most prominent perception is the so-called 'mean world syndrome' (e.g., Gerbner, Gross, Morgan, & Signorielli, 1994).

When looking at the independent variable of television viewing, researchers often differentiate between the effect of overall television viewing and genre-specific viewing (Hawkins & Pingree, 1981; 1982). Originally, Gerbner and colleagues used overall television exposure because they believed that television provides a coherent set of messages (Gerbner, Gross, Morgan, & Signorielli, 1986). Due to the increased number of channels and thereby augmented possibility for recipients to select only certain types of content, scholars criticized the unspecific measurement of television viewing (e.g., Hughes, 1980). They argue that genres provide different and sometimes even conflicting information and that overall exposure may dilute cultivation effects (Potter, 1993). Empirical evidence, however, is less clear especially for crime and violence. In some cases, overall television viewing is not a predictor of cultivation effects at all (e.g., Custers & van den Bulck, 2013); in others, it predicts cultivation effects better than genre-specific measures (e.g., Bilandzic, 2002; Gross & Aday, 2003).

3. Possible relationships between personal experience and media use in cultivation analysis

One very early critique of cultivation analysis was that it only looked at television viewing, but ignored personal experience in the process. Doob and Macdonald (1979) introduced personal experience as an important variable in cultivation research. They argued that the relation between television viewing and fear of crime is a spurious correlation: Both depend on the actual crime rate in the recipient's direct environment. As a reaction, Gerbner and his colleagues presented two different concepts related to the role of personal experience in cultivation, namely *resonance* and *mainstreaming* (Gerbner, Gross, Morgan, & Signorielli 1980a).

R*esonance* states that those with personal experiences *congruent* to the television world will be most affected by television messages. As crime and violence are consistently overrepresented on television (e.g., Krüger, 2011a, Krüger, 2011b for Germany), resonance should mainly apply to individuals *with personal experience* in these areas. People will interpret crime-related episodes they see on television in terms of a representation of the real world (Shrum & Bischak, 2001). Gerbner called this a 'double dose', which boosts the impact of television (Gerbner et al., 1980a).

Mainstreaming, on the other hand, is based on the assumption that different parts of the population hold different views of reality. This, however, is 'evened out' by heavy television viewing: "By 'mainstreaming' we mean the sharing of that commonality among heavy viewers in those demographic groups whose light viewers hold divergent views" (Gerbner et al., 1980a, p. 15). This implies that television mainly cultivates reality perceptions for those "who are 'out' of the mainstream" (Gerbner et al., 1980a, p. 15), leading to the convergence of different groups in society among heavy television viewers. Gerbner and colleagues empirically tested mainstreaming by comparing different socio-demographic groups (e.g., race and income). These socio-demographics, however, are not only meaningful in themselves, but are strongly related to differences in personal experiences; they are "surrogate measures for direct experience" (Shrum & Bischak, 2001, p. 190, see also Gerbner et al., 1980a, p. 15). Shrum and Bischak (2001) specifically applied mainstreaming to personal experience with crime. Following their definition, mainstreaming implies that television mainly influences recipients with *low levels of personal experience* while those with high levels are less affected. They rely on their own, more present, vivid and accessible direct experience which is 'overwhelming' compared to television information. "In terms of perceptions of risk of crime victimization, those who have less direct experience with crime should be more affected by television viewing than those who have more direct experience with crime. Direct experience is a moderating factor in the cultivation effect in this perspective" (Shrum & Bischak, 2001, p. 190). Although basically compatible with Gerbner's definition, the authors hereby slightly diverge from the original idea of mainstreaming. For Gerbner and colleagues, mainstreaming is a possible consequence of cultivation that can occur *in spite of* different personal experience: Depending on the quality of this experience – consonant or dissonant with televi-

sion content – it interacts with television viewing, influencing different groups in different ways. Following Shrum and Bischak's line of argument, heavy television viewers hold similar points of view as well. The reason, however, is not that all are influenced by television, but especially those *without* personal experience. Thereby, television functions as a 'substitute' for real world experiences. We follow Shrum and Bischak's definition as it is specifically focused on our research topic, crime, which diverges from other topics (see below).

When looking at other areas of research regarding media effects, similar relationships between the influence of media and personal experience are discussed. For example, dependency theory postulates that the less personal experience recipients have with a certain topic, the more they have to rely on mass media (Ball-Rokeach & DeFleur, 1976), resembling a mainstreaming effect as described by Shrum and Bischak (2001). Connecting mediated and interpersonal communication, Chaffee and Mutz (1988) added a different perspective to the interaction between media influence and personal experience. They distinguish between the competitive, complementary, and reinforcing influence of mass media and interpersonal communication. Interpreting interpersonal communication in terms of personal experience, the former could lead to mainstreaming; the latter can be applied to the concept of resonance. A complementary relation would indicate an independent influence of the two sources. A third similar perspective stems from agenda-setting research. It deals with the construct of obtrusiveness (for a review see e.g., Lee, 2004): 'Obtrusive contingency' postulates that for issues distant from the recipient media has an influence. For close issues which can be directly experienced the impact is diminished. On the other hand, 'cognitive priming' postulates the opposite, namely that personal experience rather enhances media effects. The former approach postulates a relation analogous to mainstreaming, the latter to resonance. There is empirical evidence for both relationships: Some researchers found evidence for stronger agenda-setting effects when obtrusiveness was lower (e.g., Atwater, Salwen, & Anderson, 1985; Smith, 1987; Winter, 1981) meanwhile others found that obtrusiveness of issues leads to stronger agenda-setting effects (Demers, Craff, Choi, & Pessin, 1989; Erbring, Goldenberg, & Miller, 1980).

Studies in cultivation investigating real life experience as an intervening variable show mixed evidence as well. Some reveal independent effects of television viewing and personal experience (Aubrey et al., 2003; Romer, Jamieson, & Aday, 2003; Rossmann & Brosius, 2005; van den Bulck, 2004); only few results point to resonance (Shrum & Bischak, 2001), and Gerbner and colleagues find empirical evidence for both (Gerbner et al., 1980a). Most, however, can be interpreted as mainstreaming (Chory-Assad & Tamborini, 2003; Custers & van den Bulck, 2013; Gerbner, Gross, Signorielli, Morgan, & Jackson-Beeck, 1979; Gross & Aday, 2003; Nabi & Sullivan, 2001; Pfau et al., 1995; Sparks, Nelson, & Campbell, 1997; Weaver & Wakshlag, 1986; Woo & Dominick, 2001).

To sum up, we find two crucial points important for the interaction between personal experience and television viewing: Is personal experience present at all, and, if it is, is it rather similar or dissimilar to the world portrayed in television?

Shrum and Bischak (2001) suggest that this is a function of the *topic under investigation* and the respective dependent variables. Depending on the topic,

similarity is simply determined by whether or not someone has experience. This is the case for crime and violence: Experience always has a negative valence, which is mirrored by the overrepresentation of crime and violence on television. There are, however, topics where experience does not necessarily correspond with the television world. For example, a person's experience with a doctor can be positive or negative (or ambivalent). The picture on television, at least in medical series, is foremost positive. Therefore, resonance could only be expected for those with positive experiences. For those with negative experiences, television provides conflicting messages. Mingling recipients with qualitatively different personal experiences may result in spurious interaction effects and account for the divergent research results reported above. This stresses the importance to not only assess whether or not someone has experience but also the quality of the experiences with such topics, as this determines whether the world portrayed on television is similar or dissimilar.

When looking at the different studies, comparison seems problematic. For one, the studies were conducted on *different topics* ranging from sexual relationships (Aubrey et al., 2003) to paranormal beliefs (Sparks et al., 1997), talk shows (Woo & Dominick, 2001), aging (Gerbner, Gross, Signorielli, & Morgan, 1980b), plastic surgery (Rossmann & Brosius, 2005), the perception of professions (Chory-Assad & Tamborini, 2003; Pfau et al., 1995), or were multi-thematic (Romer et al., 2003). Most studies, however, were conducted on violence and crime (Custers & van den Bulck, 2013; Gerbner et al., 1980a; Gerbner et al., 1979; Gross & Aday, 2003; Nabi & Sullivan, 2001; Romer et al., 2003; Shrum & Bischak, 2001; van den Bulck, 2004; Weaver & Wakshlag, 1986).

As argued above, the topic is strongly related to the issue of quality of experience. Thus, we now focus only on studies conducted on violence and crime and therefore per se on negative personal experiences. These studies differ in *the way personal experience was measured*. Gerbner and colleagues (1980a) as well as Romer and colleagues (2003) assessed personal victimization experience via city-wide crime rates. This approach does not necessarily allow a safe conclusion on respondents' personal experiences as it is not measured on an individual level. Gross and Aday (2003) measured personal experience more directly on two levels: First, they assessed the individual's direct and indirect crime experiences. Second, they included the crime rates of their neighborhood instead of the crime rates of the entire city. In doing so, they were able to more accurately measure personal experience with crime. Furthermore, several studies did not take into account that personal experience has a *time component*. It is likely that experiences made recently have a stronger impact on the perception of reality than experiences made in the past (Shrum, 2009). For example, Shrum and Bischak (2001) measured personal experiences made within the past five years while Gross and Aday (2003) even limited this period to the past year. Others did not include a time component (Custers & van den Bulck, 2013). Finally, *the kind of crime-related experience* was not measured in the same manner. Whereas Gerbner and colleagues (1980a) only mention 'high crime' and 'low crime' distinctions, other authors specify as follows: Gross and Aday (2003) asked for violent crimes only, Shrum and Bischak (2001) assessed different types of experiences (respondents

were asked if they had ever been victim of a violent crime, witnessed a police officer draw a gun, or witnessed a violent crime) and Custers and van den Bulck (2013) listed 13 different types of crime experience. Thus, even if personal experiences were assessed, their comparability is limited.

In summary, the evidence on the influence of personal experience within the cultivation process is mixed and a clear pattern is not discernable. Concerning crime and violence, most studies find an interaction between television viewing and personal experience, either in the direction of mainstreaming (Custers & van den Bulck, 2013; Gerbner et al., 1979; Nabi & Sullivan, 2001; Weaver & Wakshlag, 1986) or resonance (Gerbner et al., 1980a, Shrum & Bischak, 2001). Only two discovered independent effects (Romer et al., 2003; van den Bulck, 2004). From the mere empirical evidence, we can only conclude that moderation is very likely, yet its direction is less clear. Thus, we hypothesize:

H1: Personal experience moderates cultivation effects.

To clarify the nature of the moderation, we ask:

RQ1: Which group shows stronger cultivation effects: those with personal experience (resonance) or those without personal experience (mainstreaming)?

The majority of studies looking at the relationship between personal experience and television consumption have focused on (rather) evaluative judgments such as fear of violence or victimization (Custers & van den Bulck, 2013; Gerbner et al., 1980a; Gross & Aday, 2003; Weaver & Wakshlag, 1986). These types of judgment are typically associated with second-order cultivation judgments. Other studies have focused on risk-estimations of becoming a victim (Custers & van den Bulck, 2013; Gross & Aday, 2003; Shrum & Bischak, 2001) but none of the studies has yet dealt with 'typical' first-order estimations of frequency and probability of demographic distributions in relation with personal experience.

We endeavor to clarify the role of personal experience in cultivation exploring the influence on demographic estimations (first-order cultivation judgments) and personal attitudes and fear (second-order cultivation judgments). Predominately the work of Shrum and his colleagues suggest that first- and second-order cultivation judgments are related to different types of cognitive processing strategies (for a review see e.g., Shrum & Lee, 2012). In short, they believe that first-order judgments are typically made memory-based, at the time the judgment is required, whereas second-order judgments are made on-line, during message decoding (Hastie & Park, 1986). When forming a memory-based judgment, personal experience can be seen as an additional source of relevant examples an individual draws on. In case of on-line judgments, personal experience may influence involvement during reception and therefore affect how the messages are processed (see e.g., the closeness concept in cultivation, Bilandzic, 2006). Thus, it is possible that personal experience has a different moderating effect in the cultivation process: Therefore, we ask:

RQ2: Does personal experience moderate first- and second-order cultivation effects in different manners?

4. Method and data

4.1 Participants and procedure

In total, 236 respondents participated in a face-to-face survey. The sample was based on quotas on age, gender, and education representative for the German population aged 18 and above. As can be seen in Table 1, the quotas were followed closely. Thus, the sample correctly represents the population distribution. Interviews were mainly conducted in the Rhine-Main region in Germany. Field period was June/July 2013.

Table 1: Characteristics of the sample compared to the general population

	Sample (n = 236)	German population
	%	%
Gender		
Male	48	49
Female	52	52
Age		
18-29	15	15
30-59	53	53
60 or older	33	33
Education level		
Low[a]	44	43
Medium[b]	28	29
High[c]	29	27

Note: [a] "Hauptschule", nine years of education; [b] "Mittlere Reife", ten years of education; [c] "(Fach-)Abitur", 12 to 13 years of education. Source for population parameters: Statistisches Bundesamt (2012). Sums higher or lower than 100%: Rounding errors.

4.2 Questionnaire

Questions measuring *first- and second-order cultivation* judgments were taken from earlier cultivation studies. In open-ended questions, respondents estimated the percentage of (a) criminal offenses involving weapons (similar to Hawkins & Pingree, 1980; Nabi & Sullivan, 2001), (b) violent crimes (Cohen & Weimann, 2000; Gross & Aday, 2003; Hawkins et al., 1987; Nabi & Sullivan, 2001) and (c) homicide and murder of all registered crimes (Nabi & Sullivan, 2001) in Germany. The three estimations were combined into a composite index (M = 31.57, SD = 17.54; Cronbach's α = .71), representing the *first-order cultivation index*. Two measures served as *second-order cultivation judgments*: Respondents rated five items on *victimization fears* on a five-point agreement scale (M = 3.09, SD = 0.80; Cronbach's α = .63;[1] e.g., 'I'm scared to use public transportation alone at night'; Bilandzic, 2002; Gerbner, Gross, Jackson-Beeck, Jeffries-Fox, & Signorielli,

1 Further exclusion of items did not result in a higher Cronbach's α.

1978). On the same scale, they rated three items taken from the *mean world index* (M = 3.10, SD = 0.82; Cronbach's α = .62;[2] e.g., 'Most people would take advantage of you if they got a chance'; Bilandzic, 2002; Gerbner et al., 1978; Gerbner et al., 1980a; Nabi & Sullivan, 2001). Cultivation questions were placed right at the beginning of the questionnaire before television viewing was assessed to avoid source priming of television (Shrum, Wyer, & O'Guinn, 1998).

Respondents estimated their *total amount of television viewing* in hours per day separately for weekdays and the weekend. The two estimations were combined into one score ((hours $_{\text{weekdays}}$*5 + hours $_{\text{weekend}}$*2)/7) indicating the average television viewing per day (Potter & Chang, 1990; M = 2.40, SD = 1.51). Furthermore, the questionnaire contained *genre-specific viewing* measures: In a card-sorting game, respondents selected those crime shows and news broadcasts they watched regularly (at least every second episode). All crime series (30) as well as the main news (15) broadcasted on the eight most-watched television channels in Germany at the time of the interview were included. Two indices were computed counting the number of (a) *crime series* (M = 2.35, SD = 2.10) and (b) *news broadcasts* (M = 1.80, SD = 2.11) a respondent watched regularly. This measure of genre-specific viewing, however, may have little predictive power since it is dependent on the overall amount of television use: People who generally watch more television are more likely to watch more crime series and news broadcasts. Therefore, we corrected the number of shows watched by the amount of overall television viewing (number of shows watched / total television viewing).

Direct and indirect personal experience with violence was measured by four items ('(a) I, myself / (b) One of my close friends/family members experienced physical violence' and '(c) I, myself / (d) One of my close friends/family members was threatened or attacked with a weapon'). Based on the assumption that recent events have a higher impact on the accessibility of information, we decided against a frequency and in favor of a recency measure (Shrum & Bischak, 2001). Therefore, respondents rated each statement on a six-point scale from 'never' (0), 'a long time ago' (1) to 'recently' (5). The four items were combined in a composite index (Gross & Aday, 2003).[3] In total, 24 percent reported no direct or indirect personal experience with crime, M = 0.76 and SD = 0.75.

Finally, gender, age, education level, occupational status, and marital status of respondents were assessed.

5. Results

To analyze the relation between television viewing and personal experience in cultivation, we conducted three hierarchical multiple regression analyses. The dependent variables were (a) the first-order cultivation index, (b) the victimization

2 Further exclusion of items did not result in a higher Cronbach's α.

3 Personal experience qualifies as a formative measurement model: The presence (or absence) of the measured variables define/are causal for the level of personal experience; they are not caused by an underlying dimension of 'personal experience' as in reflective measurement models. Therefore, Cronbach's α or comparable indicators of internal consistency are not applicable to testing the structure of this index of personal experience.

fears index (second-order cultivation judgment), and (c) the mean world index (second-order cultivation judgment). The independent variables were the same for all regression analyses: The socio-demographic variables of gender, age, and education, total television viewing as well as genre-specific television viewing corrected by overall television viewing, and personal experience with violence were included. Table 2 contains the zero order correlations between all variables.

Table 2: Zero order correlations

		1	2	3	4	5	6	7	8	9	10
1.	Gender (0 = male)	-	.11	.00	.01	-.05	.03	-.14*	.15*	.18**	-.06
2.	Age	-	-	-.33***	.29***	.10	-.04	-.35***	.06	.24***	-.02
3.	Education	-	-	-	-.20**	.08	.04	.05	-.21**	-.22**	-.25***
4.	Total TV viewing	-	-	-	-	-.25***	-.16*	.04	.14*	.28***	.24***
5.	News broadcast watching	-	-	-	-	-	.30***	-.12	-.15*	-.06	-.18**
6.	Crime show watching	-	-	-	-	-	-	.15*	-.04	-.06	-.03
7.	Personal experience	-	-	-	-	-	-	-	.00	-.02	.20**
8.	1st order cultivation index	-	-	-	-	-	-	-	-	.23***	.25***
9.	Victimization fears	-	-	-	-	-	-	-	-	-	.46***
10.	Mean world perception	-	-	-	-	-	-	-	-	-	-

Note: $n = 236$; * $p < .05$; ** $p < .01$ *** $p < .001$.

As the genre-specific viewing measures (crime series and news broadcasts) did not have a significant influence on any of the three dependent variables,[4] they were excluded from the final analyses to keep the models as parsimonious as possible. Additionally, a model including the interaction between total television viewing and personal experience with violence was estimated. Tables 3 and 4 summarize the results.[5]

4 Unstandardized regression coefficients: First-order cultivation index: $b_{crime} = -0.21$, $t_{crime} = -0.22$; $b_{news} = -1.18$, $t_{news} = -1.18$; victimization fears: $b_{crime} = -0.01$, $t_{crime} = -0.33$; $b_{news} = 0.00$, $t_{news} = 0.05$; mean world perception: $b_{crime} = 0.02$; $t_{crime} = 0.50$; $b_{news} = -0.06$, $t_{news} = -1.30$.

5 In accordance with the interpretations below, Table 3 contains the unconditional effects of the independent variables (Block 1 without interaction terms) and not the conditional effects of the total model (including Block 2).

Table 3: Hierarchical multiple regression analyses predicting the cultivation judgments from socio-demographics, television viewing, and personal experience with violence

	First-order cultivation index		Second-order judgment: victimization fears		Second-order judgment: mean world perception	
	b	t	b	t	b	t
Gender (0 = male)	5.19*	2.27	0.28**	2.79	-0.04	-0.37
Age	-0.06	-0.85	0.01†	1.83	-0.01	-1.39
Education	-4.55**	-3.16	-0.12†	-1.95	-0.24***	-3.69
Total television viewing	1.40†	1.73	0.11**	3.01	0.12**	3.16
Personal experience with violence	0.21	0.13	0.05	0.72	0.18*	2.48
Total R^2_{korr}	**.06****		**.12*****		**.13*****	

Note: Unstandardized regression coefficients; $n = 236$; † $p < .10$; * $p < .05$; ** $p < .01$ *** $p < .001$.

Table 4: Interaction effects of television viewing and personal experience

	First-order cultivation index		Second-order judgment: victimization fears		Second-order judgment: mean world perception	
	b	T	b	t	b	t
Block 1: **R^2_{korr}**	**.06****		**.12*****		**.13*****	
Block 2						
Interaction: Total television viewing X personal experience with violence	0.53	0.67	-0.06†	-1.70	0.01	0.31
$\triangle R^2_{korr}$	**.00**		**.01†**		**.00**	
Total R^2_{korr}	**.06****		**.13*****		**.13*****	

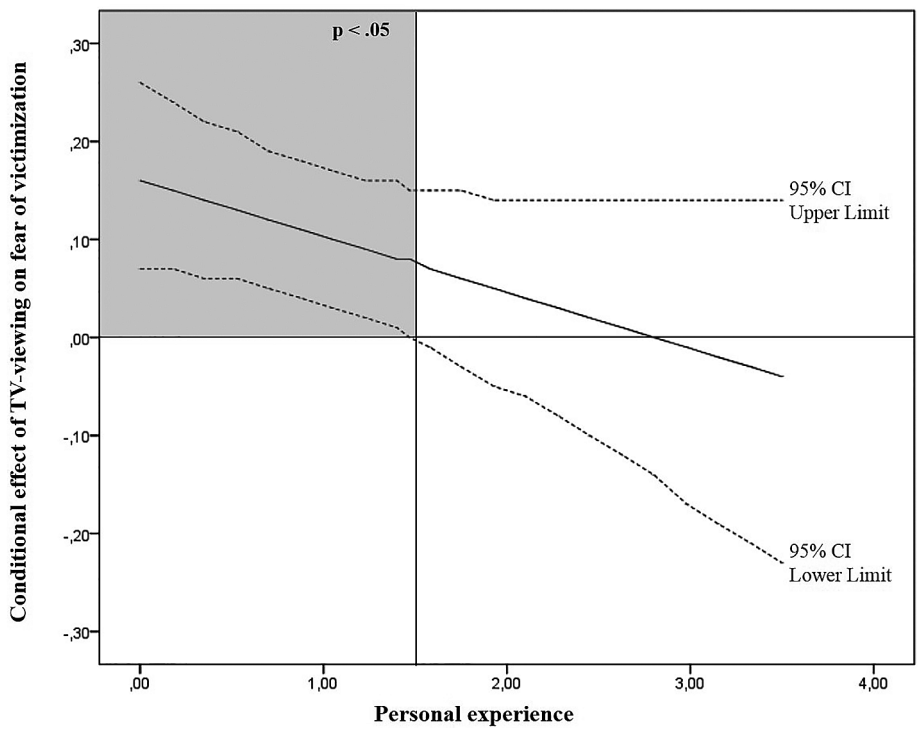
Note: Unstandardized regression coefficients; $n = 236$; prior block includes gender, age, education, total television viewing, and personal experience with violence. † $p < .10$; * $p < .05$; ** $p < .01$ *** $p < .001$.

For the *first-order cultivation* index, television viewing has a marginally significant influence ($b = 1.40$, $t = 1.73$; $p < .10$). Thus, a higher amount of television viewing (in tendency) leads to an overestimation of violent crime incidents in reality. Personal experience does not have a significant influence ($b = 0.21$, $t = 0.13$; p = n.s.). There is no interaction between television viewing and personal experience ($b = 0.53$, $t = 0.67$; p = n.s.). Thus, H1 is not supported for first-order cultivation judgments.

Whereas *victimization fears* are significantly influenced by the amount of television viewing ($b = 0.11$, $t = 3.01$; $p < .01$), this is not the case for personal experience ($b = 0.05$, $t = 0.72$; p = n.s.). Here again, a higher amount of television viewing results in a higher level of fear in everyday life. The interaction between the two variables is marginally significant ($b = -0.06$, $t = -1.70$; $p < .10$; H1 supported). To decompose the conditional effect of television viewing on victimization fears, the Johnson-Neyman technique (JN technique) was used (Bauer & Curran, 2005; Hayes & Matthes, 2009; Johnson & Neyman, 1936). The JN technique

identifies regions of significance for the conditional effect of the independent variable (television viewing) as a function of the moderator (personal experience). Unlike the common pick-a-point-approach, it does not require arbitrary choices of specific values of the moderator to estimate the conditional effect. "Rather than finding *p* for a given value of *t*, the JN technique derives the values of *M* [the moderator variable] such that the ratio of the conditional effect to its standard error is exactly equal to t_{crit}, the critical *t* value associated with $p = \alpha$, where α is the level of significance chosen for the inference" (Hayes, 2013, pp. 239–240). Applying $\alpha = .05$, one value was identified (software used: PROCESS v211 for SPSS, Hayes, 2013): Below 1.47 on the personal experience index, the influence of television viewing is significant and positive (Figure 1). Thus, for those with few/more distant personal experience with violence, a cultivation effect is measurable. This applies to 82 percent of the sample. Conversely, no significant effect of television viewing was found for 18 percent (approximately 43 respondents): Those with higher levels of/more recent personal experience with violence do not show cultivation effects. Due to the only marginally significant interaction term and the low number of respondents above the value identified by the JN technique, results have to be interpreted with caution. The tendency, however, leans toward mainstreaming.

Figure 1: Conditional effect of television viewing on fear of victimization as a function of personal experience with violence



Note: y-axis: conditional effect of television viewing on fear of victimization; x-axis: personal experience, scale from 0 = no personal experience to 5 = high levels of/more recent experiences.

Both, the amount of television viewing ($b = 0.12$, $t = 3.16$; $p < .01$) as well as personal experience ($b = 0.18$, $t = 2.48$; $p < .05$) influence the *mean world perception*. Hence, besides the cultivation effect, higher levels of/more recent personal experiences independently contribute to perceiving the world as a mean and dangerous place. The interaction between the two variables is not significant ($b = 0.01$, $t = 0.31$; p = n.s.). Therefore, the two variables influence the mean world perception independently, H1 is not supported.

6. Discussion

Our results show that the relation between *cultivation* and *personal experience* depends on the type of cultivation judgment: We find different patterns for first- and second-order judgments. Only television viewing (in tendency) has an impact on demographic estimations (*first-order cultivation judgments*). This may be explained by the 'level' of judgment: First-order judgments are mere societal estimations; there is no direct relation to the personal level. Research on risk perceptions shows that respondents rely more heavily on media information than on personal experience for risk judgments on a societal level (e.g., Tyler, 1980; Tyler & Cook, 1984). This rationale can be transferred to our results and indicates that individuals do not seem to derive the distributions of crime and violence on the societal level from their personal experiences but from what they see on television as a more general source of information.

In contrast, second-order cultivation judgments were measured on the personal level. The impact of personal experience however, differs between the two *second-order cultivation judgments*: Television's influence on *victimization fears* depends on personal experience. Individuals with few/more distant personal experience show cultivation effects. To them, television is an important source of information when making judgments about their fears. The higher the level of television viewing, the higher the level of victimization fears. Television does not influence victimization fears for respondents with higher levels of/more recent personal experience. As the results are based on only marginally significant coefficients, they have to be interpreted with caution. However, in line with the majority of research results on various topics, a mainstreaming effect can be found in our data. Only those with few/distant personal experience are influenced by television in their fears of becoming a victim of crime. *Mean world perceptions*, on the other hand, are influenced independently by television viewing and personal experience. Both, the socialization effect of television as well as the (potentially) traumatizing personal experiences with violence increase general mistrust in other people. The mean world syndrome is a very broad concept, referring to general mistrust in society, which is influenced by different areas of everyday life. Obviously, such general attitudes are built on diverse sources, television being only one of them. Compared to mean world perceptions, victimization fears are a narrower concept which is closely related to individual risk estimations. It may be assumed that due to the higher relevance and obtrusiveness of these personal experiences the impact of television is diminished if they are present. This, however, only applies to a small share of our sample. As Germany is a rather save country – only three percent of all (registered) crimes can be

categorized as violent (Bundeskriminalamt, 2008) – a low level of personal experience can be assumed for the general population.

All of the above described results are based on the total amount of television viewing and not on genre-specific viewing measures (crime series and news broadcasts). This supports results from other authors who did not find genre-specific cultivation effects from crime series (Bilandzic, 2002) or news broadcasts (Gross & Aday, 2003) and speaks for the traditional assumption of cultivation research that television as a whole creates a symbolic cultural environment which influences the way we think and perceive the world around us (Morgan, 2009). This may be specific for violence and crime which is consistently overrepresented in different genres on television (Diefenbach & West, 2001; Gerbner, 1969; Krüger, 2011a, Krüger, 2011b; Schramm et al., 1961). For other topics, genre-specific cultivation may be of higher relevance, especially if different genres contain conflicting messages about the subject (Rossmann, 2008). Aside from these theoretical explanations, the way genre-specific viewing was assessed may be the reason for the lack of genre-specific cultivation in our study, especially concerning crime series. Although we covered all crime shows broadcasted on the eight most-watched television channels in Germany at the time of the interview, the measurement did not cover all relevant genre-specific programs, for example series watched on DVD, via the Internet, or shows currently not running that have been watched regularly. Especially the latter neglects the long-term perspective of cultivation. The very small regression coefficients for crime-show-watching, however, indicate that our results may withstand other operationalizations of crime show watching.

Further limitations to be addressed and taken into account in future studies is firstly the cross-sectional data. Thus, the results are merely correlational, not causal. In cultivation research, causal study designs are, however, difficult to administer, as cultivation is a long-term socialization effect starting in early childhood. Yet, there is empirical support for the assumed causality. For instance, when comparing the cultivation hypothesis with other possible causal models relating television viewing to fear of crime (mood management and withdrawal hypothesis) within structural equation models, van den Bulck (2004) found evidence for the cultivation hypothesis but not for the other two. Secondly, the sample is based on quotas and is not regionally representative as all interviews were conducted in the Rhine-Main region. Especially the latter may lead to biased results depending on the general crime level in the respective region. According to the official German Police Crime Statistics (Federal Criminal Police Office, 2012), the Rhine-Main region accommodates Germany's second safest (Wiesbaden) as well as the most unsafe city (Frankfurt a. M.). Therefore, different potential crime risk levels are represented within our sample. Nevertheless, a replication with a random sampling procedure and regional representativeness is needed to support the relations found in this study. Thirdly, a larger sample size would be needed to increase statistical power, to analyze subgroups, and to get a better understanding of other known intervening variables in the cultivation process, for example information processing strategy (Shrum & Lee, 2012). Fourthly, future studies should aim at including different topics to validate the relation found for violence. For topics where existing personal experience can be either congruent or

incongruent with television content, the assessment of the quality of personal experience (positive, negative, or ambivalent) and not only its mere presence or proximity is crucial: Similarity determines whether resonance is detectable at all.

7. Implications

Overall, the present study demonstrates that television influences recipients' perceptions of the real world on all levels with respect to crime and violence, starting from demographic fact knowledge on a societal level to attitudes and beliefs on a personal level. By replicating the cultivation effect for first- as well as second-order judgments, the importance of cultivation research in general is strengthened. Furthermore, we show that overall television viewing – providing a coherent set of messages – is still important and worth looking at for essential beliefs even about 50 years after Gerbner's first cultivation study.

Compared to the replication of a general cultivation effect, the intervening role of personal experience is less well researched and (therefore) less clear. Our study provides yet another piece of evidence on the importance of this variable in the cultivation process. Unlike other studies on crime and violence, we assessed typical first-order judgments and were therefore able to show that the impact of personal experience varies between the different cultivation judgments and mainly influences second-order beliefs. Heavy television viewing primarily affects the fear level of individuals with few/more distant personal experience with violence. In this case, television seems to be a substitute for real world experiences. This may result in different consequences for people's everyday lives. One positive aspect of this could be that television sensitizes its viewers for potential real dangers and leads to an adequate level of precaution. At the same time, this effect may result in overcautious behavior and exaggerated constraints in social activities and well-being.

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