

Predicting Exposure to and Liking of Media Violence: A Uses and Gratifications Approach

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The uses and gratifications tradition posits individual needs for stimulation, for information, vary systematically. These needs may, in turn, affect what media sources, and other stimuli, various individuals access. This study used a survey design (N = 610) to examine the relationship between several key personality factors, media exposure and liking, and risk-taking behavior. Overall, it was found that sensation seeking, verbal aggressiveness, argumentativeness, and instrumental androgyny were positively associated with exposure to violent films and horror movies and to a lesser extent real crime and violent television. However, these personality factors did not consistently predict liking of these genres suggesting that individuals may be seeking excitement and aggression (gratifications sought) in these genres but are not necessarily satisfied (gratifications obtained) by these mediated forms. In addition, even after controlling for these personality factors, exposure to these various forms of violent media was directly related to self-reported violent behavior and risky behavior.

Keywords: Androgyny; Aggressiveness; Media; Sensation Seeking; Violent Television; Violent Movies; Risk Taking

The desire to consume media is influenced by a host of social and psychological factors (Finn, 1992, 1997; Krcmar & Greene, 1999; Weaver, 1991). Those very factors (e.g., sensation seeking, neuroticism), however, that have been implicated as motivators for media exposure have also been used to explain problem behaviors. For example, sensation seeking predicts both exposure to violent media (Krcmar & Greene, 1999) and aggressive behavior (Zuckerman, 1994). Yet many studies separately examine

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personality (e.g., Jessor, 1987) or media exposure in relation to behavioral outcomes. Therefore, one ongoing problem is the lack of agreement concerning the relations among personality factors, media use, and negative behavioral outcomes.

The uses and gratifications perspective attempts to address this problem by arguing personality factors might influence media use and that media use in turn might affect outcome behaviors—some of which are unintended effects. The present study utilizes a uses and gratifications perspective (Katz, Blumler, & Gurevitch, 1974) to examine a model of the link between relevant personality factors, media use and enjoyment, and negative behavioral outcomes (i.e., fighting, delinquency, or drinking and driving). Specifically, we (1) investigate the effect of several important personality factors on *exposure* to media genres (especially violent media); (2) investigate the effect of personality factors on *liking* of those genres; and (3) examine the way in which media exposure and media liking can moderate the link between those personality factors under investigation and negative behavioral outcomes, specifically risk taking. This study makes several new contributions to the literature. First, this research looks independently at the predictors of *exposure* to media violence and *enjoyment* of this fare, making the study novel in its contribution to the uses and gratifications framework. Second, little research has examined androgyny, as opposed to biological sex, as a possible predictor for exposure to media violence. Lastly, this study combines a uses and gratifications approach with examination of risk taking. In addition, although this study examines the personality correlates of exposure to and liking of violent media, and not the uses and gratifications of exposure to violent content *per se*, we reasoned that an analysis of personality factors would provide initial information about the types of individuals who *choose* to watch violent television. In doing so, groundwork could be laid for further study of the ways in which individuals use violent television.

In this study, we will focus on those factors (i.e., verbal aggression, argumentativeness, sensation seeking) that have frequently been used to explain both media choice and problem behavior. Although sensation seeking has been used to examine risk taking and media use, verbal aggressiveness and argumentativeness generally have not. However, aggressive tendencies have been posited as a theoretical predictor for risk taking (e.g., Jessor, 1987) and attraction to media violence. We have chosen verbal aggression and argumentativeness rather than simply physical aggressiveness because we believe that in our adolescent sample, such results would be less affected by social desirability and also, therefore, have more variance.

In the past decade, media-effects researchers have progressively reached consensus that exposure to television violence can result in aggressive behavior (e.g., Donnerstein, Slaby, & Eron, 1994; Paik & Comstock, 1994; Wilson et al., 1997). Several studies have demonstrated that television violence can cause imitation of violent acts (e.g., Paik & Comstock, 1994), desensitization (e.g., Thomas, Horton, Lippencott, & Drabman, 1977), and the conception of the world as a mean and scary place (e.g., Gerbner, Gross, Morgan, & Signorielli, 1994). Although it is generally recognized that television violence affects behavior, social critics continue to argue that the effects of television violence are more subtle and insidious. For example, Rust and Wagner

(1998) claim that television violence is a causal factor in the breakdown of children's moral reasoning.

Approaches Examining Exposure to Media Violence

In their classic précis, Katz et al. (1974) sought to understand the “social and psychological origins of needs which ... lead to differential patterns of media exposure (or engagement in other activities) resulting in needs gratifications and other consequences, perhaps mostly unintended ones” (p. 20). This initial approach has led to more recent research that examines the link between personality and viewing motives or the link between media exposure and gratifications obtained (GO). In other words, recent research stresses that both personality factors and social structure may influence individuals' needs that in turn influence the gratifications that individuals seek (GS) from mass media and their patterns of media use. Several studies (e.g., Finn, 1992, 1997; Krcmar & Greene, 1999; Weaver, 1991) have utilized this approach by attempting to link personality factors with either GS or with actual patterns of media use. Although these studies assume—as does the uses and gratifications tradition—that audiences have ready access to their motives for choosing various content and can articulate those motives (e.g., Perloff, Quarles, & Drutz, 1983), it is possible that an understanding of the *motives* of exposure to media content (e.g., violent television) might also be gained through more indirect methods. Specifically, assessing the personality correlates of exposure to media content allows the researcher to speculate about viewer motives without directly triggering participants' demand characteristics. Therefore, some researchers have simply measured personality characteristics and media exposure; other research has linked media exposure to risk taking in adolescents (e.g., Arnett, 1991; Krcmar & Greene, 2000). The present study combines the two approaches. In the next section, we will review these areas of research and then link the two areas by applying them to a uses and gratifications framework.

Personality Correlates of Media Exposure

Research into the relationship between personality characteristics and media exposure typically fall into one of three categories: studies relating personality characteristics to exposure to types of media (e.g., Finn, 1997); studies relating personality characteristics to viewing motives (e.g., Conway & Rubin, 1991); and studies relating personality factors to exposure to various media content (e.g., Krcmar & Greene, 1999; Slater, 2003; Weaver, 1991). For example, Finn (1997) found that openness to new experiences was positively related to movie attendance and pleasure reading. He concluded that individuals who were more open to experience overall were also more interested in media that were novel. Similarly, Weaver (1991) found that individuals who rated high on an index of psychotocism were attracted to graphically violent horror films, whereas those who were more neurotic showed a preference for news and information programs (psychotocism taps an individual's “lack of restraint, responsibility, need for cognitive structure, and willingness to live by society's rules and mores;” Zuckerman,

Kuhlman, & Camac, 1988, p. 104). Both Finn's (1997) and Weaver's (1991) research suggest that individuals looked to the mass media to fulfill certain needs related to their own psychological characteristics. This point is certainly consistent with the uses and gratifications approach.

Sensation Seeking

Perhaps the variable most utilized by scholars interested in attraction to media and the stimulation it offers has been sensation seeking. Sensation seeking is theoretically and empirically related to individuals' need for stimulation. Each of the four subscales (thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility) tests an individual's tendency to approach, rather than avoid, novel stimuli; high sensation seekers have higher optimum levels of physiological arousal. It is reasonable to suggest, therefore, that high sensation seekers may attempt to fulfill their need for stimulation by utilizing a variety of mediated and nonmediated sources.

Donohew and colleagues found that high sensation seekers (HSS) have lower arousal levels and require more exciting and novel messages to attract their attention (Donohew, Finn, & Christ, 1988; Donohew, Palmgreen, & Duncan, 1980). Other research into sensation seeking has also found that it predicts attraction to heavy metal music (Arnett, 1991), violent television and website content (Slater, 2003), and contact sports and real crime shows (Krcmar & Greene, 1999). These latter authors reasoned that these high sensation seekers were "seeking out arousal that is produced by visually stimulating and unpredictable media content" (p. 40). Therefore, it seems likely that sensation seeking does predict exposure to violent media.

But why does sensation seeking predict exposure to violent media content? Conway and Rubin (1991) found that sensation seeking was positively related to the uses and gratifications constructs of passing time and escapism as motives for television viewing. Perhaps, then, sensation seeking predicts media exposure because violent media may offer the stimulation and visual excitement that is necessary for high sensation seekers. Therefore, we predict that:

- H1: Controlling for overall television viewing and age, those who score higher on the sensation-seeking scale will also report more viewing of violent television and violent movies.

Despite evidence linking sensation seeking to violent media exposure, little is known about the degree to which HSS individuals *enjoy* violent media. This leads us to ask:

- RQ1: What is the relationship between sensation seeking and liking of violent media?

Gender

The sex of respondent is a crucial variable in research on exposure to media violence and research on risk taking because both have been found to correlate with biological sex. Use of biological sex alone, however, can produce contradictory results. Researchers originally viewed sex roles as masculine/feminine bipolar dimensions that were

mutually exclusive. Androgyny theory (e.g., Bem, 1974), however, argues that psychological gender as opposed to biological sex offers a better understanding of gender and a more sensitive measure. Research into this construct (e.g., Wheelless & Dierks-Stewart, 1981) suggests that masculinity (instrumental androgyny) and femininity (expressive androgyny) taken together form two orthogonal dimensions. Instrumental includes a sense of agency, in combination with a strong sense of self, while expressive implies selflessness and concern for others. Furthermore, although biological sex has informed us about several media variables, such as viewing motivations (Conway & Rubin, 1991) and exposure to realistic crime shows and contact sports (Krcmar & Greene, 1999), androgyny may possibly account for more variance in these areas as well. In fact, the use of androgyny, rather than biological sex, as a predictor for media use and aggressive behavior has not been studied. We would expect a more action-oriented feature such as instrumental androgyny to be positively related to and a more relationship-oriented factor such as expressive androgyny to be inversely related to violent media consumption and liking. Androgyny theory leads us to predict that:

H2A and B: Controlling for overall television viewing, instrumental androgyny will be positively related and expressive androgyny negatively related to (a) exposure to and (b) liking of violent media.

Verbal Aggressiveness and Argumentativeness

Verbal aggressiveness and argumentativeness have been studied as personality traits (for review see Infante & Rancer, 1996). Verbal aggressiveness is defined as a stable trait reflecting a person's tendency to attack "a person's self-concept to deliver psychological pain" (Infante & Rancer, 1996, pp. 315–316), while argumentativeness is an individual trait associated with attitudes and beliefs about one's own and others' arguing. Those high in argumentativeness are more open-minded and see both sides of the issue, yet this may not hold for salient issues (see Frantz & Seburn, 2003).

The relation between argumentativeness and verbal aggression has varied (including different signs and strengths of correlations), and the constructs have shown differential patterns of relations with variables such as approach/apprehension (Simmons, Lamude, & Scudder, 2003), ratings of instructor behaviors (Schrodt, 2003), relational satisfaction (Veneble & Martin, 1997), types of appeals (Ifert & Bearden, 1998), and satisfaction in small group settings (Anderson & Martin, 1999). Although the two constructs have shown varied patterns of relations, Roberto and Finucane (1997) have argued that adults may have clearer distinctions between argumentativeness and aggression than adolescents.

There has been more research utilizing verbal aggression than argumentativeness. Research on verbal aggressiveness has shown that it damages the receiver's self-esteem, serves as a catalyst to interspousal violence (e.g., Gelles, 1974; Infante, Chandler, & Rudd, 1989), and results in less liking and lower credibility (Cole & McCroskey, 2003). Verbal aggressiveness predicts a variety of behaviors from alcohol consumption (see Graham, Schmidt, & Gillis, 1996; Moss & Kirisci, 1995) and video game use (see Anderson & Dill, 2000) to physical aggressiveness (e.g., Atkin, Smith, Roberto, Fediuk,

& Wagner, 2002) and substance use (Bukstein, 1996). Although several studies have focused on the link between personality and media exposure (e.g., Finn, 1992, 1997; Krcmar & Greene, 1999; Weaver, 1991) including listening to violently oriented music (Atkin et al., 2002), no published study has examined the relationship between verbal aggressiveness and exposure to and liking of violent television. Rather, exposure to (but not liking of) media violence is often measured as a predictor of verbal aggression (e.g., Haridakis, 2002). Nevertheless, it seems likely that those who are verbally aggressive might be attracted to and enjoy violent shows. Because violent programming, both realistic violence and comedic violence, tends to present physical and verbal aggression (e.g., Potter & Warren, 1998) verbally aggressive individuals may be attracted to it because violent television genres may provide some form of validation for aggression. Therefore, we predict the following:

H3A and B: Controlling for overall television viewing, both verbal aggressiveness and argumentativeness will be positively related to (a) exposure to (b) liking of violent media.

Violent Media Exposure as a Predictor of Risk Taking

From the perspective of problem behavior theory, social deviance is represented by a collection of problem behaviors that constitute a pattern. Among those behaviors are deviance (e.g., vandalizing or shoplifting), underage drinking, drug use (e.g., smoking cigarettes and marijuana), and physical aggression (e.g., fighting) (Jessor & Jessor, 1984). Three systems of psychosocial influence are said to influence problem behaviors: the personality system (e.g., sensation seeking), the perceived environment system (e.g., family life, media influence), and the behavior system (e.g., school performance, communication behavior). Taken together, these systems work to create adolescent *proneness*; proneness specifies the likelihood of occurrence of risk-taking behavior. The theory further contends that “because proneness to engage in problem behavior is seen as a system-level property, it is theoretically meaningful to speak of personality proneness, environmental proneness and behavioral proneness” (Jessor, 1987, p. 332).

One such type of proneness—environmental proneness—refers to supports, influences, and models that have meaning for an adolescent but may vary from person to person. For example, if an adolescent sees smoking modeled, this behavior may come to mean independence, or it may carry the meaning of unhealthy behavior. Similarly, “problem behaviors” such as vandalism and truancy may mean, for the adolescent, that they are refuting conventional norms and affirming their independence (Jessor, 1987). Therefore, if two distinct behaviors carry the same *meaning* for someone, the modeling of one can result in increases of another. In other words, the *function* of the behavior being modeled and imitated is important, not the form of the behavior.

For example, Chassin, et al. (1981) found perceived environment, which included media-modeled behavior, accounted for 10% of the variance in adolescent cigarette smoking behavior. Donovan and Jessor (1985) found vandalizing property could be predicted by modeled behavior within the perceived environment (specifically, the adolescent’s peers), and Rachal, et al. (1975) found that drinking behavior could be

predicted by modeled use of drugs in general. Krcmar and Greene (2000) found that exposure to media images of violence was related to increases in delinquency, drinking, drug use, and driving under the influence. What is crucial here is not only that modeled negative behaviors were imitated, but also that a system of modeled behaviors resulted in a system of behavioral outcomes.

To date, the majority of media effects studies have looked at the impact of specific media portrayals on similar behavioral outcomes. Given the model proposed by problem behavior theory, it is possible that modeling of one form of problem behavior (e.g., violence) may influence other problem behaviors (e.g., drinking) by creating environmental proneness. Consider then, the following: Earlier, we have argued that personality factors (i.e., sensation seeking, androgyny, verbal aggressiveness, and argumentativeness) might predict exposure to and interest in media violence. Furthermore, we suggest that these violent depictions might increase risk-taking behavior in general even in cases where only violence, and not other forms of risk taking, are shown. In sum, we argue that personality factors shape individuals' interest in media and in turn, the portrayal of a specific problem behavior on television (i.e., violence), may result in increases in aggression and other types of risk taking. This leads to the following hypothesis and research question:

H4A and B: (a) Exposure to and (b) liking of media violence will be positively related to risk-taking behavior.

RQ2: Controlling for personality factors, what is the relation between exposure to media violence on risk-taking behavior?

Method

Participants and Procedure

To enable cross-sectional comparisons across adolescence, junior high and high school ($n = 347$) and college students ($n = 263$) were sampled ($N = 610$). The junior and high school students ranged in age from 11 to 18 ($M = 15.3$, $SD = 1.19$) and college students from 18 to 25 ($M = 20.3$, $SD = 1.74$). The sample included 331 women (54%) and 274 men (45%) (1% did not report gender), participants were largely (84%) Caucasian, with 11% African-American. All participants signed an informed consent and participants younger than 18 had the signed consent of a parent.

College students were recruited from introductory communication courses at a mid-sized Southeastern University, completed the survey outside of class time, and received credit for their participation. Junior high and high school students were recruited by students trained in a research methods course who selected precollege adolescents aged 11–18.¹ Participants received a survey and completed it in their homes. Parental consent was required prior to participation. The questionnaire took less than 40 minutes to complete and was anonymous. After completing the questionnaire, participants were debriefed and thanked. Random callbacks (20% contact) by a research assistant occurred two weeks later to ensure participants had filled out the survey.

Measurement Instruments

Variables measured included: movie viewing and liking, television viewing and liking, sensation seeking, androgyny, verbal aggressiveness, argumentativeness, and risk-taking behavior.

Movie viewing and liking

Participants were first presented with a list of 15 movies. These included violent movies, horror films and others.² Participants were asked to rate how many times they had seen a particular movie on a scale including “never,” “once,” and “2 or more.” Confirmatory factor analyses (varimax) were performed on the movie viewing. Using factors with an eigenvalue > 1, three dimensions emerged but only movies with violent content are utilized for the present study (the comedy dimension was excluded). The first dimension, labeled *violent movies*, included five movies (e.g., *Natural Born Killers*, *Pulp Fiction*). These items were summed to form one scale (alpha = .69, $M = 3.21$, $SD = 2.42$). The second factor, labeled *horror movies*, included four movies with violent content (e.g., *Scream II*). These items were summed to form one scale (alpha = .70, $M = 2.69$, $SD = 1.94$). Higher scores indicated more movie viewing.

For movie liking, participants were asked to rate how much they liked each of the 15 movies on a 4-point scale ranging from “none” to “a lot” (scores were adjusted if they had never seen a particular movie). To match the movie viewing scores, the dimensions described above were replicated. Two liking variables were created: *violent movie liking* (alpha = .66, $M = 1.81$, $SD = 0.89$), and *horror movie liking* (alpha = .73, $M = 1.85$, $SD = 0.92$). Items for these dimensions were averaged, and higher scores for each of these scales indicated more liking of the movie genre.

Television viewing and liking

Participants were first presented with a list of 22 programs. These included sit-coms, evening soap dramas such as *Melrose Place*, and realistic news-type programs such as *COPS*, but only violence-related television is included in the present study.³ For television viewing, they were asked to rate how often they watched each kind of program on a 4-point scale ranging from “never” to “very often.” Confirmatory factor analyses (varimax) of the television viewing items were performed based on a priori factors. The first dimension, labeled *real crime*, included four programs with violent content (e.g., *COPS*). These items were averaged to form one scale (alpha = .83, $M = 1.49$, $SD = 0.54$). The second dimension, labeled *violent television*, included four programs (e.g., *Walker Texas Ranger*, *JAG*). These items were averaged to form one scale (alpha = .67, $M = 1.32$, $SD = 0.44$). Higher scores indicate more viewing of the television genre.

For television liking, participants were asked to rate how much they liked each of the 22 programs on a 4-point scale ranging from “none” (0) to “a lot” (3) (scores were adjusted if participants had never viewed a particular program). To match the television viewing scores, the dimensions described were replicated. Two liking variables

were created: *real crime liking* ($\alpha = .79$, $M = 1.22$, $SD = 1.16$), and *violent television liking* ($\alpha = .67$, $M = 1.22$, $SD = 0.92$). Items were averaged, with higher scores indicating more liking of the television genre.

Sensation seeking

Sensation seeking was measured by Form V of Zuckerman's (1994) sensation-seeking scale (SSS). Zuckerman has reported extensive psychometric information about this measure, and it has been widely used in studies of risk-taking behavior. The measure consists of 40 forced-choice items. A composite scale is created by summing items (excluding the risky behavior items), with higher scores indicating greater need for stimulation or greater "sensation seeking." Reliability ($KR-20$) for the present study was .78. The items were summed to form a composite scale with a higher score indicating more overall sensation seeking.

Androgyny

The androgyny scale was Wheelless and Dierks-Stewart's (1981) short form derived from Bem's (1974) Sex Role Inventory (BSRI). It contains 20 stimulus adjectives rated on a scale of one to seven, asking participants to describe themselves by responding to the statement "how much this characteristic [stimulus adjective] is true of me" (e.g., competitive, sensitive). This instrument yields two dimensions (instrumental androgyny and expressive androgyny) and the subscales were formed by averaging the items. For the instrumental androgyny (sometimes referred to as masculinity) dimension ($M = 5.09$, range 2.1–7) the reliability (Cronbach's α) was .90, and the factor analysis indicated a single factor structure (eigenvalue = 4.72, 46% variance) with all items loading greater than .55. For the expressive androgyny (sometimes referred to as femininity) dimension ($M = 5.56$, range 2–7), reliability was .85, and the factor analysis indicated a single factor structure (eigenvalue = 5.35, 54% variance) with all items loading greater than .60.

Verbal aggressiveness

Verbal aggressiveness was measured by 10 five-point Likert items selected from the 20 item scale developed by Infante and Wigley (1986). One sample item stated, "When individuals are very stubborn I use insults to soften the stubbornness." Reliability was moderate ($\alpha = .75$), and the factor analysis indicated a single factor structure (eigenvalue = 3.14, 31% variance) with all items loading greater than .50 after deleting one item. The items were averaged to form a composite scale with a higher score indicating more verbal aggressiveness ($M = 2.52$, $SD = 0.56$, range 1–4.22).

Argumentativeness

Argumentativeness was measured by 10 five-point Likert-type items selected from the 20 item scale developed by Infante and Rancer (1982). The items include five approach

and five avoidance items. For example, one item stated, "I enjoy a good argument over a controversial issue." Reliability was moderate ($\alpha = .77$), and the factor analysis indicated a single factor structure (eigenvalue = 3.31, 33% variance) with all items loading greater than .50. The items were summed and averaged to form a composite scale with a higher score indicating more argumentativeness ($M = 3.06$, $SD = .59$, range 1–4.7).

Risk-taking behavior measures

Seven kinds of risk-taking behavior were measured (see Krcmar & Greene, 1999, 2000) including: smoking, risky sexual behavior, drug use, risky driving behavior, delinquency, alcohol consumption, and fighting.⁴ Factor analyses (varimax) indicated the presence of two factors from these seven variables. The first factor (eigenvalue = 3.17, 45% variance) was labeled *risky behavior* and included risky driving, alcohol consumption, risky sex, drug use and smoking (loading above .6 on the factor). The second factor (eigenvalue = 1.13, 16% variance) was labeled *violent behavior* and included fighting and delinquency (loading above .6 on the factor). Based on these results, two dimensions were formed.

Results

Analyses

A zero-order correlation matrix for variables is presented in Table 1. Hierarchical (or stepwise) regressions were performed to test hypotheses, with the level of significance set at $p < .05$. In order to aid in interpretation of the data, the same control variables (age and overall television viewing for all and including gender as well only for androgyny analyses) are entered on the first step in the analyses referring to media use; the variables of interest are entered on the second step. The results will be organized by hypothesis and presented next. A summary of findings is presented in Table 2 in order to show the overall pattern of results (see Appendices⁵ for full regression tables).

Hypothesis 1 and Research Question 1 for Sensation Seeking

Hypothesis 1 and RQ1 explored the effect of sensation seeking on television and movie viewing and liking after controlling for age and overall time spent viewing. For Block 1, age and overall television viewing were entered, then on Step 2 sensation seeking. Regressions were run, first predicting the movie and then the television viewing and liking variables (see Appendices 1–8; see Note 5).

Movie viewing

For *violent movie* viewing the first step was significant as was the change for the second step, $F(3, 508) = 75.5$, $p < .001$, adj. $R^2 = .36$. The final model indicated that increased

Table 1 Zero Order Correlation Matrix for All Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1. Violent movie—viewing	1.00																		
2. Horror movie—viewing	.40**	1.00																	
3. Violent movie—liking	.35**	.15**	1.00																
4. Horror movie—liking	.14*	.29**	.39**	1.00															
5. Real crime—viewing	.22**	.26**	.11*	.10*	1.00														
6. TV violence—viewing	.01	.13*	-.01	.01	.41**	1.00													
7. Real crime—liking	.02	.08	.12*	.16**	.55**	.16**	1.00												
8. TV violence—liking	-.09	-.01	.08	.05	.17**	.62**	.44**	1.00											
9. Violent behavior	.32**	.22**	.21**	.04	.19**	.09	.08	.01	1.00										
10. Risky behavior	.51**	.11*	.27**	-.02	.10	-.04	.01	-.09	.36**	1.00									
11. Sensation seeking	.50**	.19**	.24**	.08	.05	-.05	-.01	-.02	.41**	.49**	1.00								
12. Instrumental androgyny	.14**	.09	.10	.10	.09	.08	.03	.06	.18**	.16**	.28	1.00							
13. Expressive androgyny	-.17**	-.09	-.06	.04	-.11*	.02	.05	.06	-.31**	-.14*	-.17**	.10	1.00						
14. Argumentativeness	.26**	.11*	.13*	.03	.11*	.11*	.06	.06	.28**	.19**	.34**	.26**	-.29**	1.00					
15. Verbal aggressiveness	.20**	.14**	.12*	-.07	.10	.08	.02	.01	.43**	.20**	.34**	.17**	-.43**	.40**	1.00				
16. Overall TV viewing	.10	.19**	.04	.05	.14**	.17**	.01	.03	-.01	.04	-.06	-.01	-.02	-.02	.06	1.00			
17. Age	.27**	-.02	.13*	-.05	.02	-.05	.09	.03	-.01	.44**	.13*	.02	.03	.08	-.03	-.05	1.00		
18. Sex ^a	-.27**	-.08	-.17**	-.05	-.24**	-.08	-.14*	-.06	-.35**	-.12*	-.16**	-.04	.37**	-.24**	-.27**	-.05	-.06	1.00	

* $p \leq .01$, ** $p \leq .001$ (df range from 471 to 597). ^a 0 = male, 1 = female.

Table 2 Summary of Significant Predictors Across RQs and Hypotheses

	Sensation seeking	Instrumental androgyny	Expressive androgyny	Argumentativeness	Verbal aggression	TV viewing	Age	Sex
Movie viewing								
Violent	+	+	-	+	+	+	+	-
Horror	+	+	-		+	+		
Movie liking								
Violent	+	+		+				+
Horror	+	+			-			
Television viewing								
Real crime		+	-	+		+		-
Violence		+		+		+		-
Television liking								
Real crime							+	
Violence								

Negative (-) and positive (+) relations.

age ($B = .26$), more overall television viewing ($B = .15$), and higher sensation seeking ($B = .45$) predicted more violent movie viewing. For *horror movie* viewing the first step was significant as was the change for the second step, $F(3, 502) = 14.6, p < .001, \text{adj. } R^2 = .07$. The final model indicated more overall television viewing ($B = .20$) and higher sensation seeking ($B = .21$) predicted more horror movie viewing. Thus, Hypothesis 1 was supported for violent and horror movie viewing.

Movie liking

For *violent movie* liking the first step was significant as was the change for the second step, $F(3, 449) = 10.4, p < .001, \text{adj. } R^2 = .08$. The final model indicated higher sensation seeking ($B = .24$) and age ($B = .14$) predicted more violent movie liking. For *horror movie* liking neither step was significant, $F(3, 431) = 2.01, p = \text{n.s.}, \text{adj. } R^2 = .02$. The final model indicated increased sensation seeking ($B = .13$) predicted more horror movie liking. For Research Question 1 regarding sensation seeking there were stronger relations for violent than horror movie liking.

Television viewing

For *real crime* television viewing the first step was significant as was the change for the second step, $F(3, 509) = 3.39, p < .01, \text{adj. } R^2 = .02$. The final model predicting indicated more overall television viewing ($B = .14$) predicted more real crime viewing. For *television violence* viewing the first step was significant but not the change for the second step, $F(3, 506) = 5.38, p < .001, \text{adj. } R^2 = .04$. The final model indicated more overall television viewing ($B = .16$) predicted more television violence viewing. Thus, results for the first hypothesis regarding violent television viewing were not supported.

Television liking

For *real crime* liking the first step was significant but not the change for the second step, $F(3, 458) = 1.49, p = \text{n.s.}, \text{adj. } R^2 = .03$. The final model indicated increased age ($B = .09$) predicted more real crime liking. For *television violence* liking neither step was significant, $F(3, 436) = 0.19, p = \text{n.s.}$ The final model indicated no variables significantly predicted television violence liking. Thus, results for the first research question indicated sensation seeking generally did not predict violent television liking.

Hypotheses 2A and B for Androgyny

Hypotheses 2A and B explored the effect of androgyny (instrumental and expressive androgyny) on television and movie viewing and liking after controlling for age, overall television viewing, and sex. For Step 1, overall television viewing, sex, and age were entered, then on Step 2 instrumental androgyny (masculine) and expressive androgyny (feminine) first predicting movie and then the television viewing and liking variables.

Step 2 is reported here, as Step 1 results are similar to those for Hypothesis 1 and RQ1 (see Appendices 9–16; see Note 5).

Movie viewing

For *violent movie* viewing the change for the second step was significant, $F(5, 532) = 37.8, p < .001, \text{adj. } R^2 \text{ cg.} = .04$. The final model indicated increased television viewing ($B = .09$), sex ($B = -.18$, male), and age ($B = .40$), higher instrumental androgyny (masculine $B = .13$) and lower expressive androgyny (feminine $B = -.12$) predicted more violent movie viewing. For *horror movie* viewing the change for the second step was significant, $F(5, 518) = 5.26, p < .001, \text{adj. } R^2 \text{ cg.} = .02$. The final model indicated more television viewing ($B = .17$), higher instrumental androgyny ($B = .09$), and lower expressive androgyny ($B = -.09$) predicted more horror movie viewing. Thus, Hypothesis 2A was generally supported for violent movie viewing.

Movie liking

For *violent movie* liking the change for the second step was significant, $F(5, 458) = 19.3, p < .001, \text{adj. } R^2 \text{ cg.} = .02$. The final model indicated instrumental ($B = .09$), expressive ($B = -.11$), age ($B = .33$), sex ($B = -.12$, male), predicted more violent movie liking. For *horror movie* liking the change for the second step was significant, $F(5, 443) = 3.69, p < .05, \text{adj. } R^2 \text{ cg.} = .02$. The final model indicated higher expressive androgyny ($B = -.15$) and overall television viewing ($B = .10$) predicted more horror movie liking. Thus, results for the Hypothesis 2B were generally supported. Instrumental androgyny positively predicted movie violence viewing and liking; expressive androgyny, on the other hand negatively predicted watching and liking of violent movies.

Television viewing

For *real crime* viewing the change for the second step was significant, $F(5, 526) = 9.32, p < .001, \text{adj. } R^2 \text{ cg.} = .02$. The final model indicated more television viewing ($B = .13$), sex ($B = -.23$, male), and higher instrumental androgyny ($B = .09$) predicted more real crime viewing. For *television violence* viewing the change for the second step was significant, $F(5, 522) = 7.33, p < .001, \text{adj. } R^2 \text{ cg.} = .02$. The final model indicated more television viewing ($B = .16$), age ($B = .15$), sex ($B = -.12$, male), and higher instrumental androgyny ($B = .09$) predicted more television violence viewing. Thus, results for the Hypothesis 2A were partially supported for television viewing with instrumental androgyny positively predicting exposure to some violent programs.

Television liking

For *real crime* liking the change for the second step was not significant, $F(5, 471) = 2.01, p = \text{n.s.}, \text{adj. } R^2 \text{ cg.} = .01$. The final model indicated increased television viewing ($B = .14$) predicted more real crime television liking. For *television violence* liking

the change for the second step was not significant, $F(5, 453) = 1.4$, $p = \text{n.s.}$ No variable significantly predicted television violence liking. Thus, results for Hypothesis 2B were not supported. Liking of television genres was not predicted by the androgyny scale.

Hypotheses 3A and B for Argumentativeness and Verbal Aggressiveness

Hypotheses 3A and B explored the effect of argumentativeness and verbal aggressiveness on television and movie viewing and liking after controlling for age and overall television viewing. For Step 1, overall television viewing and age were entered, then on Step 2 argumentativeness and verbal aggressiveness were entered predicting the movie and then the television viewing and liking variables. Only Step 2 is reported here, as Step 1 results and full tables are presented as Appendices 17–24 (see Note 5).

Movie viewing

For violent movie viewing the change for the second step was significant, $F(4, 549) = 23.2$, $p < .001$, $\text{adj. } R^2 = .23$. The final model indicated more television viewing ($B = .11$), age ($B = .25$), higher argumentativeness ($B = .20$), and verbal aggressiveness ($B = .12$) predicted more violent movie viewing. For horror movie viewing the change for the second step was significant, $F(4, 541) = 7.56$, $p < .001$, $\text{adj. } R^2 = .05$. The final model indicated more television viewing ($B = .18$) and higher verbal aggressiveness ($B = .10$) predicted more horror movie viewing. Thus, results for the Hypothesis 3A were generally supported for movie viewing. Argumentativeness predicted exposure to violent movies, as predicted, and verbal aggressiveness predicted exposure to both violent genres.

Movie liking

For *violent movie* liking the change for the second step was significant, $F(4, 479) = 4.09$, $p < .01$, $\text{adj. } R^2 = .04$. The final model indicated increased age ($B = .13$) and argumentativeness ($B = .14$) predicted more violent movie liking. For *horror movie* liking the change for the second step was not significant, $F(4, 463) = 1.76$, $p = \text{n.s.}$ The final model indicated lower verbal aggressiveness ($B = -.10$) predicted more horror movie liking. Thus, results for Hypothesis 3B did not support predictions.

Television viewing

For *real crime* television viewing the change for the second step was significant, $F(4, 550) = 5.30$, $p < .001$, $\text{adj. } R^2 = .02$. The final model indicated more television viewing ($B = .14$) and higher argumentativeness ($B = .10$) predicted more real crime viewing. For *television violence* viewing the change for the second step was significant, $F(4, 545) = 7.56$, $p < .001$, $\text{adj. } R^2 = .03$. The final model indicated increased television viewing ($B = .18$) and argumentativeness ($B = .13$) predicted television violence viewing. Thus,

results for the Hypothesis 3A were supported with argumentativeness but not verbal aggressiveness related to watching violent television genres.

Television liking

For *real crime* television liking the change for the second step was not significant, $F(4, 490) = 1.75, p = \text{n.s.}$ The final model indicated only increased age ($B = .10$) predicted real crime liking. For *television violence* liking the change for the second step was not significant, $F(4, 468) = .87, p = \text{n.s.}$ The final model indicated no variables significantly predicted television violence liking. Thus, results for the Hypothesis 3B were not supported for television liking.

Hypotheses 4A and B and Research Question 2 for Relation to Risky Behavior

A series of stepwise regressions was performed to explore Hypotheses 4A and B (see Appendices 25–28; see Note 5). For both behavior variables (violent behavior and risky behavior), all violent media viewing variables (movie and television) were entered for one set of regressions, then they were repeated including the media liking variables as predictors.

Hypotheses 4A and B

For *risky behavior*, violent movie viewing entered on the first step (adj. $R^2 = .25$). On the second step, horror viewing entered ($R^2 \text{ cg} = .02$). Thus, increased violent movie viewing but decreased horror movie viewing explained increased risk behavior, $F(2, 484) = 85.3, p < .001$. The regressions including the liking variables in addition to viewing variables did not change results.

For *violent behavior*, violent movie viewing entered on the first step (adj. $R^2 = .11$). On the second step, real crime television viewing entered ($R^2 \text{ cg} = .02$). Thus, increased violent movie viewing and increased real crime viewing explained increased violent behavior, $F(2, 556) = 40.5, p < .001$. The regressions including the liking variables in addition to viewing variables did not change results.

Research question 2

To explore RQ2, regressions were run predicting the two risky behavior variables. In the first block, the five personality variables (argumentativeness, aggressiveness, sensation seeking, instrumental androgyny, and expressive androgyny) were entered, and media viewing variables (movie and television) on the second block. We repeated these analyses including both media liking and viewing variables, and the results did not change substantially, so only the media viewing results are reported (see Appendices 29–30; see Note 5).

For *risky behavior*, the first set of variables was significant (adj. $R^2 = .24$) with only sensation seeking significant but not argumentativeness, verbal aggressiveness,

expressive androgyny, or instrumental androgyny. The second set of variables was also significant ($R^2_{cg} = .09$) with violent movie viewing and horror movie viewing significant but not the other movie and television viewing variables. For risky behavior, $F(9, 391) = 22.6, p < .001$, personality explained more variance than media viewing yet both contributed substantially.

For *violent behavior*, the first set of variables was significant ($\text{adj. } R^2 = .31$) with verbal aggressiveness, expressive androgyny, and sensation seeking significant, but not argumentativeness or instrumental androgyny. The second set of variables was significant ($R^2_{cg} = .03$) with violent movie viewing, movie horror viewing, and television violence viewing significant but not the other movie and television viewing variables. Thus, increased violent behavior can be explained by increased verbal aggressiveness and sensation seeking, decreased expressive androgyny, and increased violent movie, horror movie, and television violence viewing. For violent behavior, $F(9, 448) = 26.8, p < .001$, the personality block explained more variance than media viewing, though both were significant predictors.

Discussion

Summary of Findings

This study utilized a uses and gratifications framework (in combination with problem behavior theory), although it did not utilize the classic viewing motivations measures. Because we argue that media use is in fact motivated, we applied many of the uses and gratifications findings and the theoretical approach in order to frame our research; however, we wished to demonstrate that personality factors, and conversely needs that may be related to those factors, can also predict exposure and liking.

First, we found that sensation seeking positively predicted exposure to and liking of violent movies; however, sensation seeking did not consistently predict the television viewing and liking variables. Consistent with predictions, sensation seeking was positively related to watching violent and horror movies and liking them more. On the other hand, sensation seeking was not consistently related to watching and liking violent *television*, lending credence to the idea forwarded by Krucmar and Greene (1999) that "it is possible that sensation seekers, as a group, do not find television to be an exciting medium" (p. 41). Rather, they seem to seek out movies, especially violent ones but other types as well.

Second, we utilized the androgyny scale to see if a measure of psychological gender might predict media exposure and enjoyment. Although the expressive androgyny and instrumental androgyny hypotheses were not supported for all analyses, the pattern of results is quite clear and once again, stronger for movie use than for television use. Those who scored higher on the instrumental androgyny scale were exposed to and liked violent and horror movies, were exposed to and liked real crime and violent television. Conversely, those who scored high on the expressive androgyny scale watched fewer real crime programs, and violent and horror movies. Again, greater selectivity in movie choice compared to television choice may account for the greater consistency in

the movie results, and androgyny effects were clear even when gender was included (males reported more overall violent media viewing and liking).

Third, we examined argumentativeness and verbal aggressiveness in order to test if aggressive personality types might in fact seek out violent media in order to simultaneously validate their own aggressive tendencies and to satisfy their desire to watch violence in its mediated form. Our findings suggest that verbal aggressiveness is positively related to violent movie and horror movie exposure, as predicted. Furthermore, argumentativeness is positively related to violent movie exposure, real crime television exposure and violent television exposure. However, neither verbal aggressiveness nor argumentativeness predicted media liking. In sum, then, argumentativeness and verbal aggressiveness are better predictors of violent media exposure than they are of violent media liking. And, consistent with other analyses, the results for movie use are clearer than the results for television use.

Lastly, we controlled for the personality factors under consideration and looked at the remaining influence of media variables on risky behavior. After controlling for all of the personality factors, violent movie exposure was positively related to risk taking, whereas horror movie viewing was negatively related to risk taking.

Limitations and Theoretical Implications

There are several limitations of the study worth considering. First, several sample issues must be taken into account. The data were sampled primarily from south-east U.S.A. and do not represent all races/ethnicities equally. Second, this study did not ask specifically why adolescents chose to watch particular media, thus future work could include additional examination of viewing motivations. We tapped five personality traits in this study, but there are others that might account for additional variance, again an area for future research. Finally, the behaviors reported (both media and risk taking) are self-reported and contain those inherent benefits and drawbacks (including moderate to low reliabilities).

Despite the limitations, there are several theoretical implications for these findings. First, sensation seeking is a good predictor of media use; however, it is not as strongly related to media liking. This study builds on the body of evidence that suggests that we may seek out various gratifications from the mass media but we do not necessarily obtain them (e.g., Perloff et al., 1983). In other words, high sensation seekers may turn to violent movies to watch others engage in exciting, violent activities. But precisely because they are high sensation seekers, watching others may not fulfill those particular needs. They are therefore disappointed by the viewing experience. The fact that the pattern is stronger for movies than for television suggests that greater selectivity is likely to go into the process of movie choice, making personality factors better predictors. Furthermore, because movie choice takes more effort in the form of rental fees, perhaps travel to theatre or another's home, and time taken to select, movie choices may be viewed as more of a conscious decision. Conversely, television viewing may be a less purposeful activity, making structural factors such as scheduling as important as, say, sensation seeking or androgyny.

Second, instrumental androgyny, and to a lesser extent, expressive androgyny, can predict movie viewing and liking. Therefore, the idea that particular genres appeal to either men or women may not be true. Although it is true, for example, that women prefer sad movies (Oliver, Weaver, & Sargent, 2000), it is informative, additionally, to examine psychological gender as well. In the present study, those who are high in instrumental androgyny, whether males or females (but especially males), seem to watch and enjoy violent and horror movies. They also watch more real crime and violent television, although again, the relationships are weaker. Interestingly, those with high expressive androgyny watch less violent, horror, and real crime media. Therefore, violent media does appear to satisfy some need that is related to psychological gender. Perhaps precisely because violent media features dominance, competitiveness, and aggression (all key features in the instrumental androgyny dimension of the androgyny scale) those with instrumental androgyny can identify with, and therefore seek out, violent depictions.

Third, although personality factors are often implicated in the search for causal factors associated with violence and risk taking, this study suggests that after controlling for these factors, media images may still serve to exacerbate violent and risky behavior. This is consistent with much research suggesting that media representations may in fact serve to increase a variety of problem behaviors (see Paik & Comstock, 1994 for an extensive meta-analysis).

Last, this study suggests that the search for personality dimensions underlying media exposure, specifically, interest in media violence, can be a fruitful one. Furthermore, because movie viewing takes more effort and therefore, most likely reflects a more deliberate choice, future research should examine movie preference in addition to television preference alone, as has been examined in previous research (e.g., Krcmar & Greene, 1999). Certainly the clear pattern of results for viewing and liking reminds media researchers that liking of various genres, and not simply exposure to those genres, must be considered in future research.

Notes

- [1] The sample plan was convenience, but there were target groups each researcher had to contact. Each researcher was required to sample equal numbers of girls and boys. In addition, each data gatherer had to pass a mock interview (observed by the first author) before s/he was allowed to collect data.
- [2] *Face Off, Faces of Death, Friday XIII, The Full Monty, Halloween H20, Hope Floats, Lethal Weapon IV, Natural Born Killers, Nightmare On Elm Street, Pulp Fiction, Saving Private Ryan, Scream II, Something About Mary, Truman Show, and The Wedding Singer.* The list is presented here alphabetically. Comedy movies were not included in the present study of violent media.
- [3] *90210, Ally McBeal, America's Most Wanted, Buffy the Vampire Slayer, COPS, Dharma & Greg, Drew Carey, Friends, Just Shoot Me, Homicide, JAG, Melrose Place, NYPD Blue, Party of Five, Real Stories of the Highway Patrol, Real World, Rescue 911, South Park, Suddenly Susan, Sunset Beach, Top Cops, and Walker, Texas Ranger.* The list is presented here alphabetically. Situation comedies and television dramas were not included in the present study of violent media.
- [4] Seven kinds of risk-taking behavior were measured: smoking, risky sexual behavior, drug use, risky driving, delinquency, alcohol consumption, and fighting. These measures were developed by the authors in previous research (see Krcmar & Greene, 1999, 2000).

Smoking. Smoking was measured by one item. The item asked, "How many cigarettes do you smoke a day?", and the responses ranged from "none" to "a pack or more." For the smoking score ($M = 0.64$, $SD = 1.22$, range 0–4), a higher score indicated more smoking.

Risky sexual behavior. Risky sexual behavior was measured by two items developed by the authors. The items asked, "How many different sexual partners have you had in the past 2 years?", and the number was entered (those never sexually active were scored 0). The next item asked "How often do you (does your partner) use a condom when you have sexual intercourse?" The five-point Likert responses ranged from "never" (5) to "always" (1). These items were multiplied to form a risky sex score ($M = 3.99$, $SD = 8.37$, range 0–68), with a higher score indicating more past sexual partners combined with less protective behavior.

Drug use. Illegal drug use was measured by four items developed by the authors. The prompt asked, "In the past 3 months, how many times have you used each of the following?" The target drugs included marijuana, uppers/downers, LSD, and cocaine/crack. The six-point Likert responses ranged from "never" (0) to "more than 10" (5). These items were summed to form a drug use score ($M = 1.89$, $SD = 3.52$, range 0–20), with a higher score indicating more past drug use. The reliability was moderate ($\alpha = .71$).

Risky driving behavior. Risky driving was measured by three Likert items developed by the authors, and it applied only to potential drivers (over age 16). The items included: "How often have you driven over 80 mph?"; "How often have you driven more than 20 mph over the speed limit?"; and "How often have you passed in a no passing zone while driving?" The responses ranged from "never" (1) to "very often" (5). These items were averaged to form a risky driving score ($M = 2.01$, $SD = 0.93$, range 1–5), with a higher score indicating more risk. Reliability was good ($\alpha = .87$).

Delinquency. Delinquent behavior was measured by six Likert-type items developed by the authors. The items included: "How often have you cheated on a test in school?"; "How often have you shoplifted from a store?"; "How often have you trespassed on restricted property?"; "How many times have you participated in vandalism (damage to or destruction of property)?"; "How often do you gamble?"; and "How often have you broken windows on purpose?" The responses ranged from "never" (1) to "very often" (5). These items were summed and averaged to form a delinquency score ($M = 1.67$, $SD = 0.57$, range 1–4.67), with a higher score indicating more delinquent behavior. The reliability was moderate ($\alpha = .78$).

Alcohol consumption. Alcohol consumption was measured by three Likert-type items developed by the authors. The items included: "How often do you drink alcoholic beverages?"; "On a typical occasion, how much alcohol do you consume?"; and "In the past 30 days, how many times did you drink alcohol?" The responses varied by item, so they were summed to form an alcohol consumption score ($M = 11.05$, $SD = 8.96$, range 3–53), with a higher score indicating greater alcohol consumption (frequency and quantity). The reliability was good ($\alpha = .84$).

Fighting. Fighting was measured by four Likert-type items developed by the authors. The items included: "How often have you been in a physical fight?"; "How many times have you punched or kicked someone on purpose?"; "How often have you thrown an object during an argument or a fight?"; and "How often have you pushed someone on purpose?" The responses ranged from "never" (1) to "very often" (5). These items were summed and averaged to form a fighting score ($M = 1.90$, $SD = 0.74$, range 1–5), with a higher score indicating more fighting. The reliability was good ($\alpha = .86$).

- [5] Full regression tables are available at <http://www.scils.rutgers.edu/~kgreene/articles.html> and <http://www.class.uh.edu/comm/commstudies>.

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