

Sexually Violent Pornography, Anti-Women Attitudes, and Sexual Aggression: A Structural Equation Model

DANO DEMARÉ

University of Manitoba, Winnipeg, Manitoba, Canada

HILARY M. LIPS

Centre for Gender Studies, Radford University, Virginia

AND

JOHN BRIERE

*Department of Psychiatry and the Behavioral Sciences, University of Southern California
School of Medicine*

Using data provided by male university students, several structural equation models were developed and tested to assess the interrelationship of pornography use, anti-women attitudes, and propensity for sexual violence. The model best fitting the data is one in which use of Sexually Violent Pornography and Anti-Women Attitudes are exogenous latent variables predicting self-reported Likelihood of Rape and Likelihood of using Sexual Force, as well as self-reported history of having achieved sexual intercourse by use of Coercion and Force. A variation of this model which includes use of Nonviolent Pornography as an exogenous variable was also tested. Consistent with previous research, use of nonviolent pornography was not uniquely associated with potential or actual sexual aggression. The findings suggest the potential roles of both attitudes and sexually violent pornography in the occurrence of sexual aggression. Further, they support other research findings that suggest it is not merely exposure to sexually explicit materials, *per se*, but the combination of *sex* and *violence* in pornographic materials that encourages or facilitates sexual aggression. © 1993 Academic Press, Inc.

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Despite a growing literature in this area, controversy continues regarding the role of pornography in the development of sexually aggressive behavior. Perhaps most reflective of this confusion are the diametrically opposed findings of the last two federal commissions charged with investigating the impact of pornography on behavior. The U.S. Commission on Obscenity and Pornography (1970) reviewed the research available at that time and concluded that sexually explicit media had no known negative effects on behavior, including aggressive or antisocial activities. In contrast, the Attorney General's Commission on Pornography (1986) reported that research "shows a causal relationship between exposure to [sexually violent materials] and aggressive behavior toward women" (p. 324). Conclusions reached by both of these commissions, in turn, have been broadly criticized: the 1970 report for underestimating the specific role of violent pornography (e.g., Cline, 1974; Dienstbier, 1977; Malamuth & Briere, 1986), and the 1986 report for overgeneralizing from a small group of studies concerned with aggression in the laboratory (e.g., Linz, Donnerstein, & Penrod, 1987; Malamuth, 1989; Wilcox, 1987).

A careful review of recent research on pornography and sexual aggression generally leads to an intermediate set of conclusions: (1) It might be sexually violent pornography (i.e., simultaneously involving explicit sexual stimuli and aggression or violence) that is most associated with potentially deleterious effects, as opposed to stimuli portraying consensual, nonviolent sexual acts (e.g., Demaré, Briere, & Lips, 1988; Donnerstein, 1980, 1984; Garcia, 1986; Malamuth & Briere, 1986); (2) The relationship between pornography and sexual aggression might be mediated by subjects' attitudes regarding sexual violence or coercion (Malamuth & Briere, 1986), in that pornography use is associated typically with rape-supportive attitudes (e.g., Briere, Corne, Runtz, & Malamuth, 1984; Briere, Malamuth, & Check, 1985; Garcia, 1986; Malamuth & Check, 1981, 1985), and rape-supportive attitudes are correlated with self-reported potential and actual sexual aggression (e.g., Briere *et al.*, 1984; Briere & Malamuth, 1983; Demaré *et al.*, 1988; Malamuth, 1981, 1984, 1986).

In an attempt to integrate these various findings into a testable theory, Malamuth and Briere (1986) presented an "indirect" model of the impact of pornography on thoughts and behaviors. They suggested that sexually violent media, in combination with other social forces, influence through modeling and implicit social support the development of rape-supportive attitudes. For example, as Malamuth (1989) noted, violent pornography might contain themes that normalize rape and other sexually violent acts, minimize the perception of harm to the victim, place responsibility for the act on the victim by virtue of her seductiveness or supposed deservingness of aggression, or perhaps elevate "the positive value of sexual aggression by associating it with sexual pleasure and a sense of conquest"

(p. 165). Such attitudes and beliefs, in turn, are hypothesized to interact with various environmental events (e.g., opportunity, peer responses, arousal) to stimulate antisocial behavior against women, including sexual aggression. In contrast, nonviolent pornography (where, by definition, aggression is not normalized or modeled) would not be expected to reinforce sexual violence.

As Malamuth and Briere (1986) cautioned, however, this model remains speculative, requiring further research "to explore the causal links among the hypothesized originating and intermediate contributors to aggression" (p. 88). Among those relationships awaiting further study are (a) the connection between pornography and attitudes supporting sexual aggression, and (b) the association between potential and actual sexual aggression.

Demaré *et al.* (1988) noted that it is not clear whether sexually violent pornography stimulates the development of rape-supportive attitudes, as hypothesized by Malamuth and his colleagues (e.g., Malamuth, 1989; Malamuth & Briere, 1986), or whether, in fact, possession of rape-supportive attitudes motivates both consumption of sexually violent pornography and involvement in sexual violence. In the latter instance, it is possible that the correlation between pornography and sexual aggression found in various studies might be artifactual, reflecting an underlying relationship between sexually violent attitudes and sexual aggression. Although Demaré *et al.* (1988) presented multivariate data showing that attitudes and pornography use were each uniquely associated with Malamuth's (1981) Likelihood of Raping (LR) and Likelihood of Sexual Force (LF) measures, the authors' reliance on measures of hypothetical potential for sexual aggression, rather than actual self-reports of such behavior, weakens the ecological validity of their findings.

The issue of whether measures of hypothetical potential for sexual violence (i.e., LF or LR) do, in fact, tap an underlying state or trait related to sexual aggressiveness has been debated since LR's introduction a decade ago (Malamuth, 1981; Malamuth, Haber, & Feshbach, 1980). Although the accumulating data on this measure suggest its construct validity in terms of the expected association with sexually aggressive attitudes, arousal patterns, and behaviors (e.g., Briere & Malamuth, 1983; Demaré *et al.*, 1988; Malamuth, 1981, 1984; Stille, 1984), these data do not illuminate the actual relationship between LF, LR, and naturalistic sexual aggression. It is not clear, for example, whether LR is an index of a broader construct that includes sexual aggression, thus supporting its use as a criterion measure or, as Malamuth (1989) suggested recently, an index of the "lure of sexual aggression" (p. 30) for some subjects, suggesting its role as a possible precursor to sexual violence.

Given these various issues, the current study was designed specifically

to probe the relationship between an intentionally limited set of variables: pornography use, attitudes supporting violence toward women, and self-reported hypothetical and actual sexual aggression. Because traditional analyses of cross-sectional, retrospective data are not especially conducive to causal inference (Briere, 1992), structural equation modeling was performed on these data. In order to directly compare different theories regarding the etiology of sexual aggression, the current analysis included tests of several competing structural equation models.

METHOD

Four hundred and twenty-two male undergraduate students¹ were randomly selected from an Introductory Psychology subject pool and administered an "Attitudes Survey." This questionnaire consisted of items tapping sexual and social attitudes, beliefs, perceptions, and behaviors. For the purpose of testing structural equation models the measures were grouped according to their association with a particular overall latent construct. These measures were intended to tap two latent exogenous variables, *Anti-Women Attitudes* (AWA), and use of *Sexually Violent Pornography* (SVP), and four latent endogenous variables, *Likelihood of Sexual Force* (LF), *Likelihood of Rape* (LR), *Intercourse Achieved by Coercion* (IAC), and *Intercourse Achieved by Force* (IAF).

Anti-Women Attitudes

Three measures were chosen that, together, were thought to reflect subjects' negative and sexually violent attitudes toward women. The first two, the Rape Myth Acceptance (RMA) scale and Acceptance of Interpersonal Violence (AIV) scale, were developed by Burt (1980) in an attempt to identify attitudinal correlates and antecedents of sexual violence, specifically rape, in North American culture. Whereas the RMA scale assesses attitudes indirectly supportive of sexual aggression against women *because they deserve it* (e.g., "Many women have an unconscious wish to be raped, and may then unconsciously set up a situation in which they are likely to be attacked"), the AIV scale has been characterized (e.g., Malamuth, 1986) as a measure of attitudes that more directly condone sexual aggression (e.g., "Sometimes the only way a man can get a cold woman turned on is to use force"). The final attitudinal measure used was the short version of the Attitudes toward Women Scale (AWS) developed by Spence and Helmreich (1978). This scale was designed to measure attitudes pertaining to the rights, roles, and privileges to which women in society should or should not be entitled, and more negative attitudes toward women have been found to be associated with subjects' greater self-reported likelihood of using violence in relationships with women (e.g., Briere, 1987; Lanktree, Briere, & Demaré, 1988).

Pornography Use

Subjects were asked to estimate on 7-point scales, ranging from *never* to *daily*, the frequency of their use during the last year of sexually explicit or pornographic materials (e.g., books, magazines, films, videotapes) that depicted various themes. Embedded within distractor themes such as "group sex" and "male homosexual acts" were two items designed to identify users of sexually violent pornography: (a) "a man forcing a woman to perform

¹ Preliminary data on 205 of these subjects were reported elsewhere (Demaré *et al.*, 1988), in a study restricted to self-reported likelihood of sexual aggression.

a sexual act against her will” and (b) “rape of a woman (or women) by a man (or many men).” These two items, labeled *Force* depictions and *Rape* depictions, respectively, were used as indicators of SVP. Users of nonviolent pornography (NVP) were identified by the final item on the list, “mutually consenting sex between a man and a woman (not involving any of the above themes).” This item served as the sole indicator of NVP.

Because subjects’ responses to the Sexually Violent Pornography use items produced positively skewed distributions, two types of data transformations were employed before entering these variables into the structural equations. First, each category of SVP use was collapsed to 3 points, defined as *never*, *1–2 times*, and *3 or more times* with respect to subjects’ use of these types of materials during the last year. Second, log 10 transformations of the variables were employed. In the case of Nonviolent Pornography, a negative skew was addressed by reversing the regrouped scale before applying the log 10 transformation. Subsequent to data analysis, the signs of all coefficients pertaining to the NVP variable were restored in accordance with the original direction of the scale.

Likelihood of Sexual Aggression

Subjects’ hypothetical likelihoods of using sexual aggression were measured by asking them to indicate on 5-point scales ranging from *not at all* to *very* how likely they would be to engage in a variety of acts if they could be assured of not being caught. Embedded within distractor items such as “oral sex” and “group sex” were the two behaviors of interest: “rape” (LR) and “forcing a woman to do something sexual that she really didn’t want to do” (LF). Malamuth (1984) has presented a strong argument for the construct validity of the LR item as a measure of relative propensity to rape, whereas the item pertaining to likelihood of using sexual force (LF) is thought to identify males prone to sexual aggression who nevertheless fail to indicate a likelihood of raping (Briere & Malamuth, 1983). The LF and LR items served as single indicators of the Likelihood of Force and Likelihood of Rape constructs, respectively.

Actual Sexual Aggression

Two dimensions of subjects’ histories of actual sexual aggression against women were assessed by a version of the Sexual Experiences Survey (Koss and Oros, 1982) modified from the original by Briere *et al.* (1984). The original scale is composed of twelve yes–no questions that assess male respondents’ histories of attempted or completed sexual intercourse with women by the use of various degrees of coercion, threat, and force. The modified version asks subjects to indicate whether or not they have ever had sexual intercourse (vaginal, anal, or oral) with a woman against her will by means of any of six possible actions. Three of the items identify subjects who have used sexual coercion (i.e., (a) “by threatening to end your relationship with her otherwise”; (b) “by pressuring her with continual argument”; and (c) “by saying things that you really didn’t mean”), and three identify those who have used physical force or threats of force to achieve sexual intercourse with a woman (i.e., (a) “by threatening to use some degree of physical force (twisting her arm, holding her down, etc.)”; (b) “by using some degree of physical force (twisting her arm, holding her down, etc.)”; and (c) “because you became so sexually aroused that you could not stop yourself”). In comparison to the first two “force” items, the latter is somewhat ambiguous. It is included in the force category because it heavily implies the use of at least a degree of force or threat, and because it seems reasonable to expect that males who might feel uncomfortable with the strong wording of the “force” or “threat” items, but whom had nevertheless been sexually aggressive, might endorse this more subtle item (Briere *et al.*, 1984).

Subjects were classified as having had sexual intercourse through coercion or sexual force

if they responded affirmatively to at least one coercion or force item, respectively. The coercion and force items were used as single indicators of the Intercourse Achieved by Coercion and Intercourse Achieved by Force constructs.

Development of Structural Equation Models

Structural equation modeling using the LISREL VI (Jöreskog & Sörbom, 1985) computer program was employed to examine the relationships among the latent constructs. The program compares the estimated covariance structure matrix based on the proposed model with the observed (sample data) covariance matrix in order to determine the "fit." The structural equation modeling approach was used in preference to other modeling techniques such as path analysis because no assumption of error-free measurement is made for the indicator variables, and causal relations can be tested among the latent constructs rather than among the observed variables. In addition, the LISREL approach relies on maximum likelihood estimation, meaning that all parameters are estimated simultaneously, as opposed to the least-squares approach in path analysis in which each equation is estimated separately.

In structural equation analysis a model is specified using a series of equations that correspond to the parameters to be estimated. These equations address two components of the model: the measurement component, which describes the relationship between the indicator variables and the latent constructs, and the causal or structural component, which describes the structural relationships among the latent constructs. In the models developed for the present study, the latent construct Anti-Women Attitudes was represented by scores on the Rape Myth Acceptance, Acceptance of Interpersonal Violence, and Attitudes toward Women scales. The latent construct, use of Sexually Violent Pornography, was represented by two indicator variables: responses to the SVP-Force and SVP-Rape items. Each of the other constructs was represented by a single indicator variable.

Several models incorporating the constructs were developed and tested for goodness-of-fit to the data. Model 1, diagrammed in Fig. 1, represents the hypothesized relationships of both sexually violent pornography use and anti-women attitudes to self-reported likelihood of rape and use of sexual force, as well as to self-reported actual use of sexual coercion and force. This model was compared for goodness-of-fit with alternative models.

RESULTS

Of a total of 422 subjects, 39 failed to complete the entire questionnaire and were excluded from analyses. Results reported, therefore, are with respect to the remaining 383 subjects.

Measures

Attitudinal variables. The mean scores obtained for the Burt scales were 47.6 ($SD = 12.9$) on the RMA scale and 17.0 ($SD = 5.2$) on the AIV scale. Means and standard deviations for these scales were comparable to those found by Burt (1980), whose sample consisted of males and females from the general population, and to those reported in studies using a college student sample (e.g., Malamuth & Check, 1981).

The mean score obtained for the AWS was 30.2 ($SD = 6.8$), slightly higher than those reported by Spence and Helmreich (1978) for two samples of college males (i.e., $M = 25.9$, $SD = 7.3$; $M = 26.5$, $SD = 9.1$).

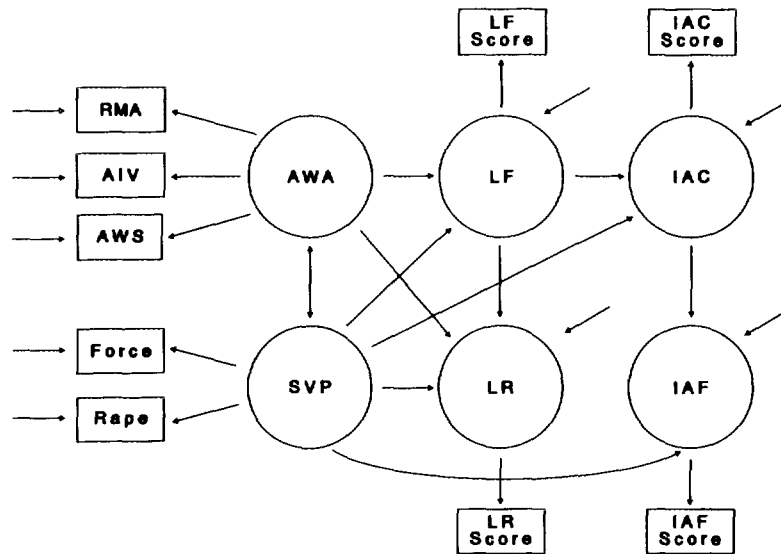


FIG. 1. Model 1 representing the hypothesized relationships among sexually violent pornography use, anti-women attitudes, likelihood of sexual force and rape, and use of sexual coercion and force. (AWA, Anti-Women Attitudes; RMA, Rape Myth Acceptance; AIV, Acceptance of Interpersonal Violence; AWS, Attitudes toward Women; SVP, use of Sexually Violent Pornography; Force, Force depictions; Rape, Rape depictions; LF, Likelihood of Force; LR, Likelihood of Rape; IAC, Intercourse Achieved by Coercion; IAF, Intercourse Achieved by Force.)

Pornography use. By far the most commonly used type of pornography, nonviolent materials were used to some extent during the last year by 86% of participants. Thirty-six percent had used materials that depicted forced sexual acts against women, and 25% had used materials depicting rape of women.

Likelihood of sexual aggression. Subjects' responses to each of the Likelihood of Force (LF) and Likelihood of Rape (LR) items were each recoded to two levels (*no likelihood* versus *some likelihood*), as per Malamuth (1981). Twenty-eight percent of subjects reported some hypothetical likelihood of using sexual force against a woman, and 11% reported some likelihood of raping.

Actual sexual aggression. Sixteen percent of subjects reported that they had used some form of coercion to achieve sexual intercourse with a woman and 12% reported that they had used some form of force.

Structural Equation Models

Table 1 presents the correlation matrix for the observed variables, along with their standard deviations. An examination of this matrix reveals

TABLE 1
INPUT CORRELATION MATRIX

Indicator variables	RMA ^a	AIV ^b	AWS ^c	SVP-F ^d	SVP-R ^e	NVP ^f	LF ^g	LR ^h	IAC ⁱ	IAF ^j
RMA	1.000									
AIV	.611	1.000								
AWS	-.556	-.449	1.000							
SVP-F	.081	.125	-.079	1.000						
SVP-R	.103	.142	-.098	.626	1.000					
NVP	-.031	.078	-.016	.296	.225	1.000				
LF	.225	.258	-.166	.207	.191	.149	1.000			
LR	.174	.262	-.178	.234	.291	.139	.353	1.000		
IAC	.057	.134	-.064	.209	.150	.123	.194	.186	1.000	
IAF	.082	.086	-.057	.160	.158	.119	.129	.157	.324	1.000

Note. SD: RMA (12.95), AIV (5.19), AWS (6.77), SVP-F (.177), SVP-R (.159), NVP (.184), LF (.452), LR (.313), IAC (.369), IAF (.322).

^a Rape Myth Acceptance.

^b Acceptance of Interpersonal Violence.

^c Attitudes toward Women.

^d Sexually Violent Pornography use—Force depictions.

^e Sexually Violent Pornography use—Rape depictions.

^f Nonviolent Pornography use.

^g Likelihood of Force.

^h Likelihood of Rape.

ⁱ Intercourse Achieved by Coercion.

^j Intercourse Achieved by Force.

TABLE 2
STATISTICS FOR THE MEASUREMENT MODEL OF MODEL 1

	Regression coefficients ^a		SMC ^d
	Raw ^b	Standardized ^c	
Anti-Women Attitudes			
RMA	1.000 (fixed)	1.000 (fixed)	.703
AIV	.349	.870	.532
AWS	-.403	-.771	.418
Sexually Violent Pornography			
SVP-F	1.000 (fixed)	1.000 (fixed)	.600
SVP-R	.933	1.039	.648

^a Maximum likelihood.

^b Input matrix was covariance.

^c Input matrix was correlation.

^d Squared multiple correlations (reliabilities of the indicator variables as measurement instruments for the latent constructs).

reasonably strong intercorrelations among the variables used as indicators of Anti-Women Attitudes and among those used as indicators of Sexually Violent Pornography use.

LISREL analyses were performed using both the covariance and correlation matrices, which produce raw and standardized regression coefficients, respectively, of the indicator variables onto the latent constructs. Table 2 shows these coefficients and the squared multiple correlations for the indicator variables. The measurement model is a good one, with a coefficient of determination for the *X* variables of .954.

The LISREL program provides several goodness-of-fit statistics to aid in the assessment of the degree to which a proposed model fits the observed data. The χ^2 value provides a test of the null hypothesis that the covariance matrix estimated from the model and the observed covariance matrix both represent the same population covariance matrix. Thus, a lower χ^2 value relative to degrees of freedom is indicative of a better fit and a nonsignificant χ^2 test is desirable. Given that use of the common .05 level of significance in this case would not provide particularly strong confirmation of one's model, it has been suggested (e.g., Hayduk, 1987) that a .1 or even a .2 level of significance be adopted. Other goodness-of-fit statistics provided by the LISREL program include the Adjusted Goodness-of-Fit Index, which indicates the relative amount of variance or covariance jointly accounted for by the model, adjusted for degrees

of freedom, and the Root Mean Square Residual, which is a measure of the average residual variance or covariance.

Model 1 provided a good fit to the data, $\chi^2(21, N = 383) = 22.22$, $p = .387$, Adjusted Goodness-of-Fit Index = .973. The correlation between Anti-Women Attitudes and Sexually Violent Pornography use was statistically significant ($p < .01$). Regression coefficients for direct paths from AWA to LF and LR, and from SVP to LF, LR, Intercourse Achieved by Coercion and Intercourse Achieved by Force were also significant.²

In order to test the relative importance of pornography type to the occurrence of sexual aggression, a second model was created. This model, Model 2, is similar to Model 1 but includes Nonviolent Pornography (NVP), in addition to AWA and SVP, as an exogenous latent variable predicting LF, LR, IAC, and IAF.

As expected, Model 2 also provided a good fit to the data, $\chi^2(24, N = 383) = 28.28$, $p = .248$, Adjusted Goodness-of-Fit Index = .967, but does not appear to represent an improvement over Model 1. More importantly, all of the regression coefficients for direct paths from SVP to LF, LR, IAC, and IAF were statistically significant, but none of the equivalent paths for NVP reached significance. These results indicate that SVP, but not NVP, was uniquely associated with potential or actual sexual aggression. Model 2A, the result of a slight modification to Model 2, was created to illustrate this point further: When all paths from NVP were fixed at a value of zero (i.e., use of nonviolent pornography treated as if it has no influence), the resulting goodness-of-fit statistics were very similar to those of Model 2: $\chi^2(28, N = 383) = 33.14$, $p = .269$, Adjusted Goodness-of-Fit Index = .967. The change in χ^2 value of 3.86 between Model 2 and Model 2A for a concomitant change of 4 *df* was not statistically significant ($p > .30$), indicating that a model in which NVP is hypothesized to influence potential and actual sexual violence did not fit the data any better than a model in which NVP is hypothesized to have no influence. Considering the low (nonsignificant) regression coefficients associated with NVP, and in the interest of parsimony (e.g., Loehlin, 1987), Model 2A is considered the better model over Model 2, and Model 1 can be considered superior to both of these. Table 3 presents standardized regression coefficients for Models 1, 2, and 2A.

In order to evaluate further the goodness-of-fit of Model 1, its fit to the data was compared to the fit provided by two different "null" models—more restrictive but theoretically defensible models (e.g., Bentler & Bo-

² Results from a model in which direct paths from AWA to IAC and IAF were also free for estimation revealed that coefficients for these paths were not statistically significant. Similarly, other models tested revealed that direct paths from LF to IAF, from LR to IAC, and from LR to IAF were not significant.

TABLE 3
STANDARDIZED REGRESSION COEFFICIENTS^a FOR STRUCTURAL EQUATION
MODELS 1, 2, AND 2A

	Model 1	Model 2	Model 2A
AWA → LF	.301***	.304***	.297***
AWA → LR	.172**	.174**	.173**
SVP use → LF	.269***	.223**	.271***
SVP use → LR	.328***	.292***	.305***
SVP use → IAC	.251**	.233**	.255***
SVP use → IAF	.185*	.156*	.179*
NVP use → LF		.086 (ns)	.000 (fixed)
NVP use → LR		.021 (ns)	.000 (fixed)
NVP use → IAC		.039 (ns)	.000 (fixed)
NVP use → IAF		.041 (ns)	.000 (fixed)
LF → LR	.247***	.247***	.245***
LF → IAC	.145**	.140**	.140**
IAC → IAF	.291***	.289***	.288***
Total coefficient of determination for structural equations	.254	.260	.258

^a Maximum likelihood.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

nett, 1980), which are nested within Model 1. Null Model 1 is the same as Model 1, except that all paths from SVP are fixed at zero (i.e., use of sexually violent pornography treated as if it has no influence). As shown in Table 4, this modification resulted in a statistically significant χ^2 change of 49.42 ($p < .001$), in conjunction with a change of only 4 *df*. This large increase in χ^2 compared with a small change in *df* indicates that the original model (Model 1) represents a real improvement over this null model (Hayduk, 1987). Similarly, Null Model 2 is the same as Model 1, except that all paths from AWA are fixed at zero (i.e., anti-women attitudes treated as if they have no influence). As shown in Table 4, this modification resulted in a significant χ^2 change of 26.39 ($p < .001$), in conjunction with a change of 2 *df*. Clearly, this second null model was also a poorer fit to the data than was Model 1.

DISCUSSION

Competing Models

The results of this study support one model of the genesis of sexual aggression and suggest that four other models may be less useful in this

TABLE 4
GOODNESS-OF-FIT STATISTICS FOR ALL MODELS

	χ^2	<i>df</i>	<i>p</i>	Adjusted goodness-of-fit	Root mean square residual	
					Raw ^a	Standardized ^b
Model 1	22.22	21	.387	.973	.225	.030
Model 2	28.28	24	.248	.967	.178	.031
Model 2A	32.14	28	.269	.967	.186	.033
Null Model 1	71.64	25	.000	.925	.316	.085
Null Model 2	48.61	23	.001	.947	.226	.068

^a Input matrix was covariance.

^b Input matrix was correlation.

regard. The most successful model, Model 1, indicates that anti-women attitudes and use of sexually violent pornography are correlated phenomena that, nevertheless, have separate influences over hypothetical and actual sexual aggression. Of these two variables, sexually violent pornography appears to be the more powerful, having direct effects on self-reported likelihood of sexual force and rape, as well as on actual rape, and on coercive sexual behavior. Anti-women attitudes, on the other hand, appear to have direct effects only on likelihood of sexual force and rape. Somewhat surprisingly, given previous research, self-reported likelihood of raping (LR) was not associated with either coerced or forced sexual intercourse in this model.

The poorer performances of models involving (a) the inclusion of non-violent pornography as an exogenous latent variable (Model 2), (b) stipulation of no relationship between sexually violent pornography and subsequent variables (Null Model 1), and (c) stipulation of no relationship between anti-women attitudes and subsequent variables (Null Model 2) have implications for our theoretical understanding of the causes of sexual aggression.

Model 2 and Null Model 1 each provide an alternative hypothesis to the notion that use of sexually violent pornography is directly contributory to the development of sexually aggressive behavior. The relative failure of Null Model 1 indicates that a theory that omits the role of sexually violent pornography in the genesis of hypothetical or actual sexual aggression is incomplete. That sexually violent pornography, but not nonviolent pornography, was associated with potential and actual sexual aggression (Model 2) suggests further that, as hypothesized by Demaré *et al.* (1988), Donnerstein (1984), Malamuth and Briere (1986), and others, it is not

merely the presence of sexually explicit material that supports sexual aggression, but instead the unique combination of sex *and* violence in pornography that is most potent.

Finally, the poorer performance of Null Model 2, relative to Model 1 suggests, as reported also by Burt (1980), Garcia (1986), Malamuth (1986), and others, that certain anti-women attitudes are intrinsic components of sexually aggressive behavior, such that overlooking their contribution reduces the predictive power of one's theory.

Sex and Violence

The relative importance of sexually violent pornography (Model 1) as compared to that of nonviolent pornography (Models 2 and 2A) in the prediction of self-reported sexual aggression supports findings from laboratory data (e.g., Donnerstein, 1980). As noted by Malamuth (1984) in this regard, "the coupling of sex and aggression in these portrayals may result in conditioning processes whereby aggressive acts become associated with sexual arousal, a powerful unconditioned stimulus and reinforcer" (p. 31). In addition, as described earlier, juxtaposition of sex and violence in the same stimuli may have cognitive impacts, suggesting to the consumer that violence is an acceptable component of sexual behavior with women. Support for this latter notion can also be found in the fact that SVP and AWA were correlated exogenous variables in Model 1.

Anti-Women Attitudes and Sexual Aggression

Although less strongly associated with self-reported sexual aggression than was sexually violent pornography, anti-women attitudes were predictive of self-reported likelihood of using sexual force and raping and, indirectly, intercourse achieved by verbal coercion and force. It was suggested in the introduction to this study that the relationship between pornography and sexual aggression might be a function of previously held anti-women attitudes. Specifically, it was thought possible that individuals with such attitudes might both use pornography and report higher rates of hypothetical and actual sexual aggression. Thus, the connection between pornography and sexually violent behavior could be spurious, arising from their correlations with anti-women attitudes. The current data clearly do not support this hypothesis: although anti-women attitudes were correlated with use of sexually violent pornography, the latter was a far more important predictor of both hypothetical and actual sexual aggression than were attitudes alone. Thus, it appears that sexually violent pornography use is specifically associated with sexual violence, above and beyond any links it shares with anti-women attitudes.

LR and Actual Rape

The present data suggest that measures of self-reported likelihood of sexual aggression might represent somewhat different phenomena than self-reports of actual sexual aggression. Malamuth's (1981) LR measure did not demonstrate significant direct or indirect paths to either self-reported coerced or forced sexual intercourse. Further, although anti-women attitudes predicted LR, these attitudes did not directly predict actual coerced or forced intercourse. Sexually violent pornography use, however, was associated directly with both LR and forced intercourse. It is possible that LR and actual sexual aggression represent different constructs. If, as Malamuth (1989) suggested, LR specifically taps sexual attraction to the idea of raping, divergence in LR and actual rapist behavior would be understandable. Similarly, it is probable that many individuals who have, in fact, engaged in forced intercourse view their victims as secretly desiring and/or consenting to sexual contact (Burt, 1980). Such individuals might engage in sexually aggressive behavior, but nevertheless deny any interest in raping, per se.

CONCLUSION

Using the relatively powerful tool of structural equation modeling, results from the present study suggest that use of sexually violent pornography and possession of anti-women attitudes are correlated phenomena that have direct and indirect impacts on sexually aggressive behavior. Because this methodology relies upon correlational data, however, we are still unable to assert unequivocally that the possession of certain attitudes and use of some forms of pornography are critical to the development of rapist behavior. By explicitly testing various directional models of sexual aggression, however, the current study appears to add strong support for the role of such variables in the etiology of rape and/or coerced sexual contact. To the extent that Model 1 is valid, social policy regarding public education and constraints on certain forms of sexually violent media depictions would appear relevant to the reduction of sexual violence in our culture.

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