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CHILDHOOD AND ADOLESCENT VICTIMIZATION AND SEXUAL COERCION AND ASSAULT BY MALE AND FEMALE UNIVERSITY STUDENTS

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Objective: (1) To estimate the extent to which male and female university students use verbal sexual coercion and physically forced sex on a dating partner. (2) To test a theoretical model which specifies that corporal punishment, minor forms of neglect by parents, and sexually abuse regardless of the perpetrator, increase the probability of sexually coercing and sexually assaulting a partner, and that this relationship is partly mediated by antisocial traits and behavior. **Method:** A path analysis using multinomial logistic regression was used to test the fit of the model to a convenience sample of 13,877 students in 32 nations. **Results:** Both male and female students engage in sexual coercion, but the rates are higher for males. For both men and women, each of the three forms of prior victimization studied were associated with an increased probability of antisocial behavior, which in turn was associated with an increased probability of verbally coercing and physically forcing sex. Most of the direct paths from victimization to sexual coercion were also statistically significant. **Conclusions:** In addition to sexual abuse, relatively mild victimization such as corporal punishment and seemingly innocuous forms of neglect are part of the etiology of sexually coercive behavior. Because those mild forms of victimization are highly prevalent, steps to reduce their prevalence could be an important step in primary prevention of sexual coercion.

Keywords: sexual coercion; childhood and adolescent victimization; dating violence; corporal punishment; neglect history; sexual abuse.

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CHILDHOOD AND ADOLESCENT VICTIMIZATION AND SEXUAL COERCION AND ASSAULT BY MALE AND FEMALE UNIVERSITY STUDENTS

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Research on sexual coercion has consistently found high rates in college and community samples (Basile, Chen, Black, & Saltzman, 2007; Koss, Gidycz, & Wisniewski, 1987; Tjaden & Thoennes, 2000). Most of the studies have asked only about men sexually coercing women (e.g. Koss et al., 1987), although a growing body of literature has showed that women also sexually coerce (e.g., Anderson & Struckman-Johnson, 1998; Davies, 2002; Muehlenhard & Cook, 1988). There has also been considerable research on the etiology of sexual coercion, but again primarily studies of male perpetrators. The primary objective of this study was to test a theoretical model of the links between victimization as a child or adolescent and sexual coercion as a young adult. The distinctive features of model tested are that it includes two victimization experiences that are not usually thought of as being risk factors for sexual coercion -- corporal punishment and relatively minor forms of neglect such as not comforting a child who is distressed (which we will call sub-clinical level neglect) during childhood, and that it tests the applicability of the model to women as well as men. The model also includes an extensively studied risk factor -- sexual abuse as a child or adolescent. As a result, the results will show if there are effects for corporal punishment and neglect that are in addition to those for sexual abuse. In addition, the model specifies that these relationships are partly mediated by antisocial traits and behavior. In addition, the study estimated the extent to which male and female university students engage in verbally coercing sex and physically forced sex on a dating partner.

Prevalence And Gender Differences In Sexual Coercion

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Sexual coercion is a widespread problem with deleterious short- and long- term consequences (Arata, 1995; Banyard, 2007; Brener, 1999; Demaris, 2005; Temple,

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3 Weston, Rodriguez, & Marshall, 2007; Tewksbury, 2007; Zweig, 1999). A number of
4 terms, such as sexual coercion, sexual assault, sexual aggression, sexual violence, sexual
5 pressure, and date or acquaintance rape have been used to cover a range of physical or
6 non-physical behaviors to coerce a partner into unwanted sexual activity. Whatever terms
7 are used, it is important to distinguish between verbal sexual coercion, which involves
8 non-physical behaviors such as insisting or threatening an unwilling partner to gain sexual
9 contact against partner's will and physically forced sex.

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20 The prevalence of sexual coercion by men has been widely researched. Because
21 the current study investigated the etiology of sexual coercion by women as well as men,
22 this review will focus on studies of prevalence that present rates for both men and women
23 in dating relationships. All these studies used student samples. Examples include a study
24 by Struckman-Johnson (1988) which found that 10% of men and 2% of women in a
25 sample of university students admitted to "forcing" a date into sexual activity at least once
26 in their lifetime. However, later questioning of some of the participants revealed that this
27 included verbal coercion. A study by O'Keefe (1997) found that 12.3% of male students
28 and 3% of females reported forcing sex in their dating relationships, but this study also did
29 not specify what was meant by "force." A study that did distinguish between verbally
30 coercing and physically forcing sex is Poitras and Lavoie (1995). They found that 12% of
31 males and 6.3% of females used verbal sexual coercion against a dating partner, and 0.3%
32 of males and none of the females misused authority, another 2.3% of males but none of the
33 females used alcohol or drugs, and 3.9% of males and 0.3% of females reported
34 threatening to or using physical force. Hines and Saudino (2003) found that 29% of male
35 and 13% of female university students reported one or more acts of sexual coercion in the
36 previous 12 months. These studies show that, although stranger rapes are almost
37 exclusively perpetrated by men, in relationships with acquaintances, dating, or marital

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3 partners, both men and women use a broad range of sexually coercive behaviors, but more
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5 men than women do so.
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8 **Prior Victimization And Sexual Coercion**

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10 (Insert Figure 1 about here)
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12 We chose to investigate the relation of corporal punishment, neglect, and sexual
13 abuse as a child or adolescent to sexually coercing a partner as a young adult because, on
14 theoretical grounds and on the basis of the studies reviewed below, each is hypothesized to
15 contribute a distinctive piece to the explanation of sexual coercion. Neglect can contribute
16 less moral internalization and less self-control, including control of aggression (see review
17 below). Corporal punishment can contribute examples of using physical force and
18 violence to control the behavior of another person. Sexual abuse history can provide an
19 example of coercion to obtain sex. Together, they are a "perfect storm" that is
20 hypothesized to result in sexual coercion. Moreover, in addition to these direct
21 relationships, the three types of victimization increase the probability of antisocial traits
22 and behavior, which then further increases the probability of sexual coercion. These
23 relationships are diagrammed in Figure 1.
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40 In addition to testing the model in Figure 1, this study avoids some of the
41 limitations of previous studies of risk factors for sexual coercion. For example, some
42 studies combined several types of prior victimization into a single variable (e.g. Wolfe et
43 al., 2001), thus providing no information on the separate effect of each type. Most studies
44 of sexual coercion have considered exclusively male samples. There are studies of sexual
45 coercion by women. However, because samples and measures vary from study to study,
46 accurate comparison of male and female prevalence rates and etiology requires studies that
47 include both in the same study. Finally, many of the studies examined the effect of only
48 one type of victimization in isolation from other types (e.g. Loh & Gidycz, 2006).
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3 Because "poly-victimization" is common (Finkelhor, Ormrod, & Turner, 2007), this tends
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5 to overestimate the effect of that one type of victimization. There is a need for studies of
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7 the relation of different forms of prior victimization to sexual coercion while controlling
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9 for each of the other types of victimization.
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13 The study reported in this paper avoids some of these limitations, but of course, has
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15 its own limitations. It considers the combined effect and the net effect of three childhood
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17 and adolescent types of victimization: neglect, corporal punishment, and sexual abuse in a
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19 sample of men and women. In addition, because a number of studies have shown that
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21 antisocial traits and behaviors (ATB) are important in the etiology of sexual coercion by
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23 men against women (Knight & Sims-Knight, 2003; Knight & Sims-Knight, 2004;
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25 Malamuth et al., 1991; Malamuth, Linz, Heavey, Barnes, & Acker, 1995), we investigated
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27 the extent to which ATB mediates the link between earlier victimization and sexual
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29 coercion, i.e., whether the relation of the three types of victimization (neglect history,
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31 sexual abuse, and corporal punishment) to sexual coercion occurs because they increase
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33 the likelihood of developing ATB. The following sections review the research on the
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35 relation of the three types of victimization to sexual coercion.
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41 **Why Focus On Corporal Punishment And Neglect?**

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44 Little attention has been given to whether corporal punishment such as spanking or
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46 slapping a child and minor forms of neglect in the general population (such as not helping
47
48 a child who experiencing a difficulty) are risk factors for sexual coercion. Perhaps this is
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50 because it can be presumed that spanking and sub-clinical level neglect constitute a much
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52 less severe level of victimization than sexual abuse. However, there are important reasons
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54 for including corporal punishment and minor forms of neglect in an examination of risk
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56 factors for sexual coercion. One reason to focus on these presumably less serious types of
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58 victimization is the well established public health principle that mitigating a frequently
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3 occurring risk factor with a low effect size (such as spanking a child) can result in a greater
4 reduction in the prevalence of a disease than mitigation of a relatively rare risk factor with
5 a large effect size (such as physical abuse) (Rose, 1985). Thus, if corporal punishment and
6 sub-clinical neglect are found to be related to sexual coercion, reducing these two risk
7 factors could be a major step in preventing sexual coercion because they are such prevalent
8 forms of child victimization. This could be the case because studies in many countries
9 have found that over 90% of toddlers experience corporal punishment in the form
10 “spanking” or “smacking” (Straus, 2001). Similarly, studies of minor forms of neglect by
11 parents such as failing to console a child who is sad or in physical pain, have found very
12 high rates (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998; Straus & Savage, 2005).
13 A cross-national study of such sub-clinical level neglect in a large sample of university
14 students used a scale of eight neglectful behaviors, such as “Did not comfort me when I
15 was upset” and found that about half of the students experienced one or more of eight
16 neglectful behaviors, including 12% who reported two of the eight, and another 12%
17 experienced three or more (Straus & Savage, 2005).

38 **Neglect History And Sexual Coercion**

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41 Neglect is “behavior by a caregiver that constitutes a failure to act in ways that are
42 presumed by the culture of a society to be necessary to meet the developmental needs of a
43 child and which are the responsibility of a caregiver to provide” (Straus, 2005; p. 20).
44 Tremblay (2003) argued that a responsive parent and consistent discipline enable children
45 to learn non-violent strategies for achieving their goals and expressing anger. A child who
46 does not have a responsive caregiver and consistent guidance may not adequately learn
47 non-violent strategies and, consequently is more likely to engage in maladaptive coping
48 strategies and an aggressive pattern of interaction (see also Chappel, 2005; Gottfredson &
49 Hirschi, 1990; Spitz, 1959). Consistent with this theory, a number of empirical studies
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3 have found that neglect constitutes a risk factor for aggressive and antisocial behaviour.
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5 For example, Widom and Maxfield (2001) reported that children who had been neglected
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7 with no co-occurrence of physical and sexual abuse were 69% more likely than non-
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9 maltreated children to have been arrested for a violent crime. A longitudinal study by
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11 Knutson, DeGarmo, and Reid (2004) found that neglect at Time 1 was significantly
12
13 associated with subsequent violent and antisocial behavior at Time 2. In another
14
15 longitudinal study, Henry and Silva (1996) reported that deficient or neglectful parenting
16
17 was related to adolescent antisocial behavior and crime. Other studies have found similar
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19 relationships (Chapple, Tyler, & Bersani, 2005; Henry, Caspi, Moffitt, & Silva, 1996;
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21 Hildyard & Wolfe, 2002; Horwitz, Widom, McLaughlin, & White, 2001; Kendall-Tackett
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23 & Eckenrode, 1997). There is also a study of the link between neglect and physical
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25 violence against a dating partner using the same measure of sub-clinical level neglect as
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27 used for this paper and found that even this level of neglect experienced as a child was
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29 significantly related to assaulting and injuring a dating partner (Straus and Savage, 2005).
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31 We located only one study investigating the link between neglect and sexual coercion.
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33 DeGue and DiLillo (2004) found that a history of physical or psychological abuse was
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35 related sexual coercion, but that a history of neglect was not.
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43 One can conclude from these studies that there is a large body of evidence showing
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45 that neglect is a risk factor for later aggressive and criminal behavior, including one study
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47 of physical aggression against dating partners. However, the one study that investigated
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49 sexual coercion did not find a relationship. Despite that, on the theoretical grounds laid
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51 out by Tremblay, we hypothesize that the more neglect experienced, the greater the
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53 probability of engaging in sexual coercion of a dating partner.
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57 **Corporal Punishment And Sexual Coercion**

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3 Corporal punishment, such as spanking a disobedient child, is the use of physical
4 force with the intention of causing pain, but not injury, for purposes of correction or
5 control (Straus, 2001). Several mechanisms have been proposed to explain the association
6 between corporal punishment and antisocial behavior and aggression. According to social
7 learning theory, children exposed to corporal punishment as a means of discipline learn
8 through the model of the behavior of their parents that aggression is an acceptable and
9 effective means for modifying the behavior of others (Bandura, 1977; Bandura, 1979).
10 Consistent with this, research has shown that corporal punishment is associated with an
11 increased probability of physical violence against a marital or dating partner (Simons, Lin,
12 & Gordon, 1998; Straus & Yodanis, 1996). It has also been hypothesized that although
13 corporal punishment produces compliance in the short term, in the long term it may
14 increase the probability of deviance, including antisocial tendencies. The association
15 between corporal punishment and antisocial behavior has been shown in a number of
16 studies (Gunnoe & Mariner, 1997; Straus & Mouradian, 1998; Straus, Sugarman, & Giles-
17 Sims, 1997; Straus, 2001). A meta-analysis of 88 studies examined the link between
18 corporal punishment and multiple negative outcomes (Gershoff, 2002). It included 40
19 tests of the hypothesis that corporal punishment is associated with an increased probably of
20 aggressive and delinquent behaviour by children. Thirty nine of the tests found this
21 relationship. Similarly, eight of the nine tests of adult aggression and criminal behavior
22 found the hypothesized link to corporal punishment. Finally, and closest to the issues of
23 this study, of nine tests of the relationship between corporal punishment and abuse of the
24 victims own children or partner, all nine found the hypothesized relation.

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Given the consistency of the research showing that corporal punishment is related to
aggression and crime, it is not surprising that it has been also found to be related to sexual
coercion against women (DeGue & DiLillo, 2004; Malamuth et al., 1991). On the basis of

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3 both theory and these empirical results we hypothesized that corporal punishment as a
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5 child is associated with an increased probability of perpetration of sexual coercion.
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7 Moreover, because Douglas and Straus found that the relationship between corporal
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9 punishment and assaulting a partner applied to both men and women, we also
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11 hypothesized that the relation of corporal punishment to sexual coercion will apply to both
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13 men and women.
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16 17 **Sexual Abuse History And Sexual Coercion**

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19 Previous reviews have shown that experiencing sexual abuse is associated with a
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21 wide variety of problematic behaviors. Because previous reviews are available (Kendall-
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23 Tackett, Williams, & Finkelhor, 2001; Berliner & Elliot, 1996) and because of space
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25 limitations, we will mention only studies which examined the relation of sexual abuse to
26
27 sexual coercion. Loh and Gidycz (2006) found that men with a history of childhood sexual
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29 victimization were over six times more likely to perpetrate sexual assault as adolescents
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31 and adults. Lyndon et al. (2007) found that males who used force to gain sexual contact
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33 reported significantly more childhood history of sexual abuse compared with both men
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35 who used manipulation and men who reported engaging in only consensual sex. Sexual
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37 abuse history has also been found to be a predictor of perpetration of sexual coercion by
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39 women. Krahe et al. (2003), for example, found that the probability of sexual coercion of a
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41 male was 2.62 times higher for females who reported childhood sexual victimization than
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43 for females without a history of sexual abuse. Other studies showing a link between
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45 childhood or adolescent sexual abuse and sexual coercion by women include (Anderson,
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47 1996; Knight & Sims-Knight, 2004; Merrill et al., 2001; Senn, Desmarais, Verberg, &
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49 Wood, 2000). Based on these results, we hypothesized that a history of sexual abuse will
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51 be related to sexual coercion by the students in this study.
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59 **Antisocial Traits and Behaviors (ATB) and Sexual Coercion**

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3 The link between an antisocial orientation and sexual coercion against woman has
4 been extensively studied in both criminal and non-criminal samples of men (Abbey, 2004;
5 DeGue & DiLillo, 2004; Knight & Sims-Knight, 2003; Knight & Sims-Knight, 2004;
6 Malamuth et al., 1991; Malamuth et al., 1995). The related concept of psychopathy has
7 also been found to be associated with sexual coercion (Hare, Clark, Grann, & Thornton,
8 2000; Knight, 2006). These studies leave little doubt that ATB associated with sexual
9 coercion by men, but do not answer the question of whether this relationship also applies
10 to women.
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22 **Methods**

23 **Sample**

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27 **The International Dating Violence Study.** The research reported in this paper is
28 part of the International Dating Violence Study, which was conducted by a consortium of
29 researchers in all major world regions. The regional coverage includes two nations in sub-
30 Saharan Africa, seven in Asia, 13 in Europe, four in Latin America, two in the Middle
31 East, two in North America, and two in Oceania. Each consortium member used the same
32 core questionnaire. A detailed description of the study, including the questionnaire and all
33 other key documents, and previous publications, is available on the website
34 <http://pubpages.unh.edu/~mas2>.
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46 **Study Participants.** The participants are a convenience sample of 13,877 students
47 at 68 universities in 32 nations. Most of the data were obtained by administering a
48 questionnaire during regularly scheduled classes. Most of the classes were in psychology,
49 sociology, criminology, and family studies. The median sample sizes in each nation is 241
50 (range = 90 to 4,040). Seventy percent of the students were female because the
51 questionnaires were administered in social science courses which tend to have a large
52 percentage of female students. Because this study is focused on issues in which gender
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3 differences are crucial, the analyses either controlled for gender or were replicated for
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5 male and female students.
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8 **Questionnaire Administration.** The data were gathered using procedures
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10 reviewed and approved by each participating university. The purpose of the study and the
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12 right to refuse to participate were explained to all students. They were assured of
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14 anonymity and confidentiality, and given a debriefing form that explained the study in
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16 more detail. The students were also provided contact information for area agencies should
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18 they need assistance with mental health or violence problems.
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22 At 60 of the 68 universities, the questionnaires were completed during a class
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24 period. The mean participation rate for universities where the questionnaires were
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26 completed in class was 83.4%. For the eight universities where the questionnaire was
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28 completed outside of class, the participation rate was 36.1%. For all universities, the mean
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30 participation rate was 79.6% (range 17.6% to 100%).
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34 A total of 21,165 complete or almost complete questionnaires were received. The
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36 data were then checked for aberrant responses, such as reporting an injury, but not
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38 reporting that an assault had taken place, and implausible responses such as reporting ten
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40 or more instances of attacks with a knife or gun in the previous 12 months. Based on these
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42 criteria, 7.8% were coded as having questionable data and removed from the sample,
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44 resulting in a sample of 20,595 (6,587 males; 14,008 females). As in other studies, not all
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46 participants answered every question. Missing data were imputed provided the case met
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48 certain requirements (described in Medeiros, 2007). After eliminating cases that did not
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50 meet the requirements, the file with imputed data consisted of 17,404 cases (5,207 males
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52 and 12,197 females). To be included in the analyses for this paper the student had to have
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54 been in a heterosexual relationship for at least a month. We did not examine same-sex
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3 relationships because of the small sample size of gay and lesbians in this sample. The final
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5 result was a sample consisting of 13,877 participants (3,905 males, 9,972 females).
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8 **Validity Of Data.** The data quality control procedures just described were
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10 intended to remove cases of questionable validity. However, even if all students had
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12 responded accurately, the use of a convenience sample means that results describe what
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14 was found for the students in those classes in each country and cannot be taken as
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16 representative of the nation, or even of students in general. Fortunately, there is evidence
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18 that the behavior and beliefs of these students reflects the national context in which the
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20 students lived. Analyses of the degree of correspondence between seven concepts as
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22 measured by the International Dating Violence Study and as measured by studies using
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24 representative samples found correlations that ranged from .43 to a high of -.69 (Straus,
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26 2007).
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31 **Measure Of Sexual Coercion**

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34 Sexual coercion of a dating partner was assessed using the Sexual Coercion Scale
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36 of the Revised Conflict Tactics Scales or CTS2 (Straus, Hamby, Boney-McCoy, &
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38 Sugarman, 1996). This scale has demonstrated good cross-cultural construct validity and
39
40 internal consistency reliability (alpha of .82; Straus, 2004). It consists of a four item
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42 Verbal Sexual Coercion scale and a two item Physically Forced Sex scale. The verbal
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44 coercion items are: "Insisted on sex when my partner did not want to (but did not use
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46 physical force)," "Insisted my partner have oral or anal sex (but did not use physical
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48 force)," "Used threats to make my partner have sex," "Insisted On sex without a condom,"
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50 "Used threats to make my partner have oral or anal sex." The Physically Forced Sex
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52 items are: "Used force (like hitting, holding down, or using a weapon) to make my partner
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54 have oral or anal sex," "Used force (like hitting, holding down, or using a weapon) to
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56 make my partner have sex." Participants who reported doing one or more of the verbal
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3 coercion items in the past year were coded as 1, and all others as 0. The same procedure
4 was used to identify participants who had physically forced sex. These two scores then
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6 was used to identify participants who had physically forced sex. These two scores then
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8 used to create a Sexual Coercion Severity typology. Because research suggests that
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10 individuals who use non-physical coercion to gain sexual contact differ in several ways
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12 from individuals who use physical force (e.g. DeGue & DiLillo, 2004; Lyndon et al.,
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14 2007), to permit separately analyzing verbal sexual coercion and physically forced sex, we
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16 classified each participant into one of three mutually exclusive categories: 0 = no sexual
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18 coercion, 1 = Verbal Sexual Coercion without physically force, 2 = Physically Forced Sex.

21 **Independent And Mediating Variables**

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24 The measures of neglect history, corporal punishment, sexual abuse, and antisocial
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26 traits and behavior are from the Personal And Relationships Profile (PRP) (Straus, Hamby,
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28 Boney-McCoy, & Sugarman, 1999 (Revised 2007); Straus & Mouradian, 1999). The
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30 response categories are (1) Strongly Disagree, (2) Disagree, (3) Agree, and (4) Strongly
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32 Agree.
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36 *Neglect history.* The PRP includes an eight item short form of the
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38 Multidimensional Neglectful Behavior Scale (Straus, Kinard, & Williams, 1995). It has
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40 two items to measure each of the four dimensions of neglectful behavior (cognitive,
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42 supervisory, emotional, and physical). Example items are "My parents did not comfort me
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44 when I was upset," "My parents did not care if I got into trouble in school" and "My
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46 parents helped me when I had problems." These four dimensions and the items to measure
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48 each dimension were selected on the basis of a review of measures of neglect, followed by
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50 factor analysis and item analysis to select the final items. The scale was scored by adding
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52 all of the items to which the participant reported agreeing/strongly agreeing. Thus, the
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54 scores indicate the number of different types of neglect experiences that each respondent
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60 experienced as a child. The Neglectful Behavior Scale has demonstrated good cross-

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3 cultural construct validity and reliability, with an overall alpha of .72 (Straus, 2006). For
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5 this study, the overall alpha coefficient of internal consistency reliability was .70.
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8 **Corporal punishment.** The PRP includes the question "I was spanked or hit a lot
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10 by my parents before age 12." Participants responded using the 1 (Strongly Disagree) to 4
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12 (Strongly Agree) described earlier.
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15 **Sexual Abuse History.** Sexual abuse was assessed using the 8-item Sexual Abuse
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17 History scale of the PRP. This scale includes questions on whether participants had
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19 experienced contact and/or non-contact sexual abuse by family members, peers, and/or
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21 non-family adults. The scale repeats the following two items for perpetration before age
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23 18 by an adult family member, another child in the family, a non-family adult, and a non-
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25 family children: "Made me look at or touch their private parts (sex organs), or looked at or
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27 touched mine" and "Had sex with me (vaginal, anal, or oral)." The total score was
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29 computed by adding the items to which the respondent marked Agree or Strongly Agree.
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31 Thus, the score on the SAH scale corresponds to the number of different experiences of
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33 sexual abuse that each participant experienced as a child and/or adolescent, with a
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35 maximum of eight experiences. Strong internal consistency reliability was found for
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37 previous samples (Straus & Mouradian, 1999). For this study, the overall alpha coefficient
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39 was .79.
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46 **Antisocial traits and behavior (ATB).** This scale is derived from the DSM-IV
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48 (American Psychiatric Association, 1994). Although the questions were derived from the
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50 DSM-IV definition of ASP, this scale was not designed as a diagnostic tool. Because the
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52 DSM-IV definition of Antisocial Personality Disorder includes criminal behavior, both
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54 before and after age 15, the scale combines the nine Antisocial Personality Traits scale and
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56 the Criminal History scale of the PRP. Examples of the nine Antisocial Personality trait
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58 items are "I often lie to get what I want" and "I don't think about how what I do will
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3 affect other people’’). Each of the four criminal behaviors are asked for "before age 15"
4 and for "since age 15." Examples of the eight Criminal History scale items are “Before
5 age 15, I stole money from anyone, including family’’ and “Since age 15, I have
6 physically attacked someone with the idea of seriously hurting them.’’ The 17 items
7 comprising both subscales were summed and divided by the number of items to obtain a
8 mean ATB score. The internal consistency reliability (Chronbach’s α) was .80.
9
10 Information on the construct and concurrent validity of the ATB subscale is in Hines and
11 Straus (2007). In order to examine the degree to which victimization is associated with an
12 increased probability of only a medium level of ATB as compared to a high level of ATB,
13 and to examine the extent to which medium and high levels of ATB are associated with an
14 increased probability of sexual coercion, we coded the ATB scores into three categories: 1
15 = Low ATB (scores below the 25th percentile), 2 = Medium ATB (scores between the
16 25th and 75th percentile), 3 = High ATB (the top 25% of the distribution).
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34 **Control Variables**

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36 **Social desirability.** The tendency of some participants to minimize disclosure of
37 socially undesirable behavior was controlled using the Limited Disclosure Scale of the
38 PRP. This is a 13-item scale based on Reynolds short-form Social Desirability subscale
39 (Reynolds, 1982). It includes behaviors and emotions that are slightly undesirable but true
40 of most people, such as, “I sometimes try to get even rather than forgive and forget’’.
41
42 Participants indicated on a four-point scale from 1 (Strongly Disagree) to 4 (Strongly
43 Agree) the extent to which they agreed with each item. The items were then summed and
44 divided by the number of items in the scale to obtain an average social desirability score.
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46 For this study, the overall internal consistency reliability of this scale is .68.
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57 **Socioeconomic status.** A family socioeconomic status (SES) scale was created for
58 each site by z-scoring for each university and summing three variables: father’s education,
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3 mother's education, and family income. The resulting composite was then transformed
4
5 into z-scores for each university. The scale thus measures SES as the number of standard
6
7 deviations each student is above or below the mean of the students in the sample from their
8
9 university.
10

11
12 **Age.** Age is control because it is well established that younger ages are associated
13
14 with higher rates of violent crime, including partner violence (Stets & Straus, 1989).
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17 **Relationship Length In Months.** It was important to control for the length of
18
19 time the couple had been together because the longer the relationship, the greater the
20
21 opportunity for sexual coercion to have occurred.
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24 **Data analysis**

25
26 We first present descriptive statistics for male and female students on all the
27
28 variables in the study. Then, to test the theoretical model shown in Figure 1, we used
29
30 multinomial logistic regression to estimate a modified path model (Hagenaars, 1993, p.
31
32 15). The dependent variable was the three-category Sexual Coercion Severity Typology,
33
34 using No Sexual Coercion as the reference category. The intervening or mediating
35
36 variable was Antisocial Traits And Behavior (ATB) classification, using Low ATB as the
37
38 reference category. Thus, the results indicate the extent to which each type of
39
40 victimization increases the odds of verbally coercing sex, and physically forcing sex; and
41
42 the odds of Medium and High ATB.
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49 The regression analysis procedure was to regress the exogenous variables (the three
50
51 victimization measures and the control variables) and the mediating variable (ATB) on the
52
53 Sexual Coercion Types. Then the exogenous variables were regressed on ATB.
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56 Correlations between the independent variables were calculated to assess the
57
58 possibility of multicollinearity. The strongest relationship were between corporal
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3 punishment and ATB ($r = .35$). The rest of correlations ranged from .19 to .28, which
4
5 suggests little risk of multicollinearity problems (Tabachnick & Fidell, 1996).
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8 We estimated separate models for males and females because the consequences of
9
10 prior victimization might be different by gender (e.g. Horwitz et al., 2001). We did not
11
12 estimate separate models for each national context because, for some of the national
13
14 contexts, the sample size was not sufficient for this type of multivariate analysis.
15
16 However, because US students are almost a third of the sample, we included a dummy
17
18 variable for USA in the model. This controls for the predominance of US students because
19
20 the coefficients for all other variables are net of the effect of US students in the sample.
21
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23

24 Results

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26
27 (Insert Table 1 about here)
28

29 Prevalence of Sexual Coercion

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31 The last rows of Table 1 show that 26.7% of the male students and 19.6% of the
32
33 female students [$\chi^2(1) = 91.88; p < .001$] verbally coerced sex. Significant gender
34
35 differences were found in most of verbal sexual coercion items: insisting on sex without a
36
37 condom [males=14.9%; females= 12.9%; ($\chi^2(1) = 9.91; p < .01$)]; insisting on sex when the
38
39 partner did not want to [males= 15.9%, females= 8.2%; ($\chi^2(1) = 178.56, p < .001$); insisting
40
41 on oral or anal sex [males= 11%, females= 3.8%; ($\chi^2(1) = 264.22; p < .001$); threatening the
42
43 partner to have oral or anal sex [males= 1.2%, females= 1.1; ($\chi^2(1) = .588; p = .443$); and
44
45 threatening the partner to have sex [males=1.4%, females= 0.8%; ($\chi^2(1) = 12.00; p < .001$).
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50 Physically forcing sex was reported by 2.4% of the male students and 1.8% of the
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52 female students [$\chi^2(1) = 4.83; p < .05$]. Rates for the specific items were: 1.3% of males
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54 and 1.0% of females reported using force on the partner to have sex [$\chi^2(1) = 1.67; p = .19$],
55
56 and 1.6% of the males and 1.0% of the females reported using force to have oral or anal
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58 sex [$\chi^2(1) = 7.35; p < .01$]. Thus, as in other studies which compared sexual coercion by
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3 men and women in the same study, both men and women engaged in sexually coercive
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5 behavior, but men predominate.
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8 **Tests Of The Theoretical Model**

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10 Table 2 shows the multinomial logistic regressions testing the hypothesis that the
11 three forms of prior victimization are associated with verbal sexual coercion and
12 physically forced sex, both directly and indirectly through ATB. Figure 2 displays the
13 results in Table 2 in the form of a path diagram. For clarity, only paths that are statistically
14 significant at the $p < .05$ level (one-tailed test) and only the odds ratios for ‘high ATB’
15 (75th percentile) are shown. The first and second coefficient on each path represents the
16 odds ratios for men and women respectively.
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27 (Insert Figure 2 and Table 2 about here)
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29 **Corporal Punishment.** The odds ratios on the path from Corporal Punishment
30 (upper left) to Verbal Sexual Coercion (upper right) shows that, for male students there is
31 not a statistically significant relation between Corporal Punishment and Verbal Sexual
32 Coercion, but for women, each increase of one point on the 4 point scale of corporal
33 punishment before age 12 is associated with increasing the odds of Verbal Sexual
34 Coercion by males 1.10 times, i.e. a 10% increase in Verbal Sexual Coercing. The paths
35 from Corporal Punishment to ATB, and from there to Verbal Sexual Coercion show that
36 Corporal Punishment is also associated with Verbal Sexual Coercion indirectly through
37 increasing the odds of ATB (center box) by just over a three times (odds ratio of 3.07) for
38 males and just over two times (2.25) for females. ATB, in turn, is associated with
39 increasing the odds of Verbal Sexual Coercion 1.33 times for males and 1.44 times for
40 females.
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57 The diagonal path from Corporal punishment to Physically Forced Sex shows that
58 corporal punishment is directly associated with an increased probability of Physically
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3 Forced Sex, as indicated by the odds ratios of 1.33 for male students and 1.27 for female
4 students, and indirectly related to physically forcing sex though increasing the probability
5 of ATB, which in turn, is associated with increasing the probability of physically forcing
6 sex by 1.69 times for males and by 2.08 times for females.
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12 **Sexual Abuse History.** The paths from Sexual Abuse History to Verbal Sexual
13 Coercion of 1.20 for males and 1.17 for females, and from Sexual Abuse History to
14 Physically Forced sex of 1.23 for men and 1.14 for women show that, as hypothesized, the
15 more sexual abuse experienced, the greater the probability of both verbal and physical
16 sexual coercion. Prior sexual abuse is also associated with sexual coercion indirectly
17 through an increased probability of ATB.
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27 **Neglect History.** The odds ratios for the relation of Neglect History to Verbal
28 Sexual Coercion are not significant. However the path from Neglect History to Physically
29 Forced Sex is significant for male students, but not for female students. The indirect
30 effects of Neglect History through ATB are significant for the both the male and female
31 students in this study. Specifically, the odds ratios on the path from Neglect History to
32 ATB show that each increase of one unit in the Neglect History scale is associated with
33 increasing the odds of being high in ATB 1.66 times for males, and 1.46 times for females,
34 and as note previously, the paths from ATB to Verbal Sexual Coercion and to Physically
35 Forced Sex are significant for both male and female students.
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(Insert Figure 3 and Figure 4 about here)

50 **Antisocial Traits And Behavior.** Because ATB appears to play such a central role
51 in explaining sexual coercion by both men and women, conditional effect plots (Hamilton,
52 1992, 1993) were created to examine this relationship in more detail (see Figure 3 and
53 Figure 4). These plot lines were computed with the value of all other variables in Table 2
54 set at the mean. Both figures show that although the probability of both kinds of sexual
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3 coercion is higher for male than for female students, the slopes are parallel, which
4
5 indicates that ATB is associated with a sexual coercion to about the same extent for both
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7 the men and women in this study.
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10 **Discussion**

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12 We studied a large multi-nation sample of university students and, consistent with
13 other studies, found high rates of verbally coercing sex and of physically forcing sex.
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15 Specifically, 27% of the male students and 20% of the female students verbally coerced
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17 sex in the previous 12 months, and 2.4% of the male students and 1.8% of the female
18
19 students physically forced sex during that period. Thus, as in other studies which
20
21 compared sexual coercion by men and women in the same study, both men and women
22
23 engaged in sexually coercive behavior, but the rates for men are higher. The data on
24
25 physically forcing sex by women are difficult to interpret because the questions did not
26
27 specify the specific acts of force used. Most of the instances may be manually or orally
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29 stimulating the male partner despite physical resistance.
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36 **Tests Of The Theoretical Model**

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38 The main objective of the study was to test a theoretical model which specified that
39
40 three types of child and adolescent victimization (corporal punishment, neglect, and sexual
41
42 abuse) are each independently associated with an increased probability of engaging in
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44 sexually coercive behavior later in life. The model also specified that antisocial traits and
45
46 behavior (ATB) partially mediate the relationship. All except two paths in the model were
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48 confirmed.
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53 **Corporal punishment.** Frequent spanking and slapping a young child was found
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55 to be an important risk factor for sexual coercion, primarily through increasing the
56
57 probability of Antisocial Traits and Behavior (ATB). Experiencing frequent corporal
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59 punishment was associated with a tripling of the probability of being high in ATB for men
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3 and doubled the probability for the women in this study. In turn, ATB significantly
4 increased the likelihood of either verbal sexual coercion or physically forced sex for both
5 males and females. It is important to keep in mind that these results are based on a
6 question which asks about experiencing “a lot” of corporal punishment. Research shows
7 that the harmful side effects of corporal punishment take the form of a “dose response”
8 pattern (Gunnoe & Mariner, 1997; Straus et al., 1997). Therefore, the effect size for only
9 occasional corporal punishment is likely to be much lower. Nevertheless, these results are
10 consistent with the results of a meta analysis of research on corporal punishment
11 (Gershoff, 2002) which found a large and unusually consistent body of research showing
12 that corporal punishment tends to *increase* the probability of deviant behavior and
13 psychological problems. This includes two longitudinal studies of antisocial tendencies
14 (Gunnoe & Mariner, 1997 (Straus et al., 1997); studies of physical violence against a
15 dating or marital (Foshee et al., 2005; Simons et al., 1998; Straus, 2001; (Straus &
16 Yodanis, 1996), sexual coercion (e. g. Malamuth et al., 1995), and conviction for serious
17 crime as an adult (McCord, 2005). Other mechanisms explaining the relationship between
18 corporal punishment, ATB and sexual coercion against a dating partner such as social
19 learning, reduced opportunity to participate in non-violent conflict resolution, and
20 depression have been proposed (Straus & Yodanis, 1996) and should be researched in
21 future studies.

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48 **Sexual Abuse History.** For both men and women, a history of sexual abuse was
49 associated with a statistically significantly increase in the probability of sexual coercion
50 and of ATB. ATB, in turn, was associated with a significantly greater probability of either
51 physical or verbal sexual coercion. These findings are in keeping with past research that
52 has found that individuals with a history of sexual abuse are likely to engage in antisocial
53 and criminal activities (Herrera & McCloskey, 2003; Swanston et al., 2003; Widom &
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3 Ames, 1994) and sexual coercion against men (Krahé et al., 2003; Anderson, 1996) or
4
5 women (Loh & Gidycz, 2006; Lyndon et al., 2007; Merrill et al., 2001; Senn et al., 2000).
6
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8 **Neglect History.** The hypotheses concerning experiencing mild forms of neglect
9
10 as a child were only partly supported. This sub-clinical level of neglect was not
11
12 significantly associated with a higher probability of Verbal Sexual Coercion. For male
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14 students in this study, but not for female students, even this level of neglect was associated
15
16 with an increased probability of physically forcing sex. There the results show that this
17
18 level of neglect is associated with an increased probability of being in the high ATB
19
20 category, which in turn is associated with either verbal sexual coercion or physically
21
22 forced sex for both men and women. This is consonant with the studies reviewed earlier
23
24 which found an association of neglect history with partner violence and antisocial
25
26 behaviors (see also Chapple et al., 2005).
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31 **Antisocial Traits And Behavior.** The results underscore the importance of ATB
32
33 in understanding the association between childhood and adolescent victimization and
34
35 sexual coercion among males and females. Although the role of an antisocial orientation
36
37 on sexual coercion has been demonstrated among men in previous studies (Abbey, 2004;
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39 Knight & Sims-Knight, 2003; Knight & Sims-Knight, 2004; Knight, 2006; Malamuth et
40
41 al., 1991; Malamuth et al., 1995), the current results indicate that this applies to women as
42
43 well. However, as in other studies, the rate of antisocial behaviour was higher for the men
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45 in this study than for the women. In addition, effect size for the association of corporal
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47 punishment and sexual abuse with antisocial traits and behaviour is higher for the male
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49 students than for the female students. This is congruent with the literature on sex specific
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51 impact of childhood abuse that has found victimized men are more likely than women to
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53 report antisocial symptoms (e.g. Horwitz et al., 2001).
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3 This is also consistent with past research that has provided evidence that a number
4 of problem behaviors, such as risky sexual behavior or aggressive behavior, may comprise
5 a single problem behavior syndrome in adolescents and young adults (e. g. Donovan,
6 1985; Gover, 2004). Thus, sexual coercion appears likely to be a manifestation of a more
7 general antisocial orientation.
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15 **Limitations**

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17 Although this study avoided some of the limitations of previous research, such as
18 restricting the study to male perpetration, failing to control for socially desirable response
19 bias, examining a particular type of prior victimization in isolation from other types of
20 victimization (i.e. not allowing for poly-victimization), and combining several types of
21 victimization into a single variable, there are nonetheless a number of limitations to keep
22 in mind when considering the conclusions and implications.
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31 First, like much previous research on sexual coercion, the study participants were
32 university students. Because the rate of most crime, including sexual crime, peaks at about
33 the age of university students, these studies may overestimate the prevalence of sexual
34 coercion in the general population. On the other hand, the opposite bias may be present
35 because university students tend to be from higher socioeconomic status families, and
36 there is abundant evidence that partner violence and parent-child violence become less
37 prevalent with increasing socioeconomic status. Moreover, as pointed out in the Methods
38 section, the sample is not representative of a national context or even of students in each
39 national context. Therefore, the only generalizations that can be made are about what is
40 related to sexual coercion in the sample studied. However, as also noted in the Methods
41 section and in Straus (2007), there is considerable evidence that the behavior of the
42 students in this study reflects differences between nations found by other studies.
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3 A second limitation is that the cross-sectional design does not permit establishing
4 the causal direction. This is particularly important in the case of corporal punishment
5 because that is something parents typically do to correct misbehavior. Thus, corporal
6 punishment, rather than being a cause of later antisocial, may be a consequence early child
7 behavior problem behavior, which carries over into adulthood. However, there are at least
8 seven longitudinal studies which show that although misbehavior does cause corporal
9 punishment and does result in cessation of the misbehavior at the time, in the longer run
10 use of corporal punishment boomerangs in the sense of increasing the probability of
11 subsequent antisocial behavior (Straus, 2001; Straus & Medeiros, 2008).
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25 Third, the study relies on retrospective self-report, which may have produced
26 memory biases. Furthermore, at least two of the measures have important limitations. The
27 Neglect History scale measures relatively mild forms of neglect and even students with
28 high scores would be unlikely to be classified by child protective services as “neglected.”
29 The item used to measure corporal punishment has almost the opposite problem. As
30 pointed out previously, the question refers to having been spanked or slapped "a lot"
31 before age 12. Thus, the results may not apply to students who were spanked only
32 occasionally. In addition, the question is defective in not using a more specific indication
33 of frequency of spanking, as do the response categories of the Dimensions of Discipline
34 Inventory (Fauchier & Straus, 2007; Straus & Fauchier, 2007).
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48 **Conclusions And Implications**

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50 Although stranger rapes are almost exclusively perpetrated by men, this study, like
51 other studies, has found that in partner relationships, women as well as men engage in both
52 verbal and physical coercion of partners. The implications of the results of testing the
53 theoretical model add to the already large and consistent body of evidence showing that
54 spanking and slapping children is a risk factor for a wide variety of antisocial and criminal
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3 behavior (Gershoff, 2002; Straus, 2001; Straus, 2008). This study has added sexual
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5 coercion to the identified aggressive and criminal behaviors which are linked to corporal
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7 punishment. Moreover, because neglect and having been sexually abused were included in
8
9 the model, the effect of corporal punishment is in addition to the effect of those two other
10
11 types of victimization.
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15 Several implications for school and community prevention strategies are suggested
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17 by the findings. First, prevention of distal risk factors with wide prevalence such as
18
19 corporal punishment against children and sub-clinical level neglect could make a major
20
21 contribution to prevention of sexual coercion in intimate relationships. This is because, as
22
23 explained earlier, even though the effect size is low, the prevalence is very high. Thus, an
24
25 important prevention approach is helping parents avoid corporal punishment and helping
26
27 then avoid even seemingly innocuous forms of neglect. Second, although it is widely
28
29 recognized that knowledge about the effect of sexual abuse can be helpful to develop
30
31 interventions to reduce the negative consequences for victims, the results of this research
32
33 suggest that this also applies to corporal punishment and minor forms of neglect.
34
35 Moreover, since ATB mediates the effect of these victimization experiences, in addition to
36
37 providing help to victims, screening for antisocial traits and behavior should also be
38
39 considered, even though there may be reluctance to do that in the case of female sexual
40
41 abuse victims. Procedures which both screen and provide for treatment, and which do not
42
43 further victimize these women, need to be developed. For primary prevention, the fact that
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45 men predominate in sexual coercion should not obscure the fact that women also engage in
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47 sexual coercion. Public service announcements and other educational efforts to prevent
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49 sexual coercion of partners need to be explicitly addressed to women as well as men.
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51 Finally, this study provides another of many examples of the principle that humane
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3 treatment of children can have major benefits in creating more humane relationships in
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6 general, including relationships between men and women.
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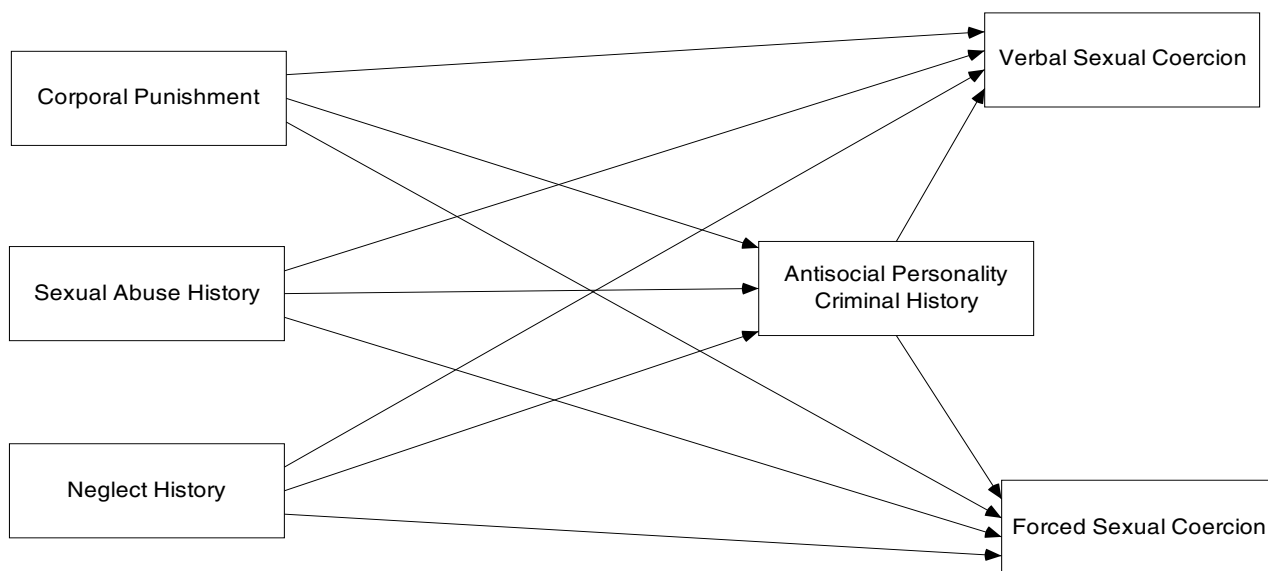
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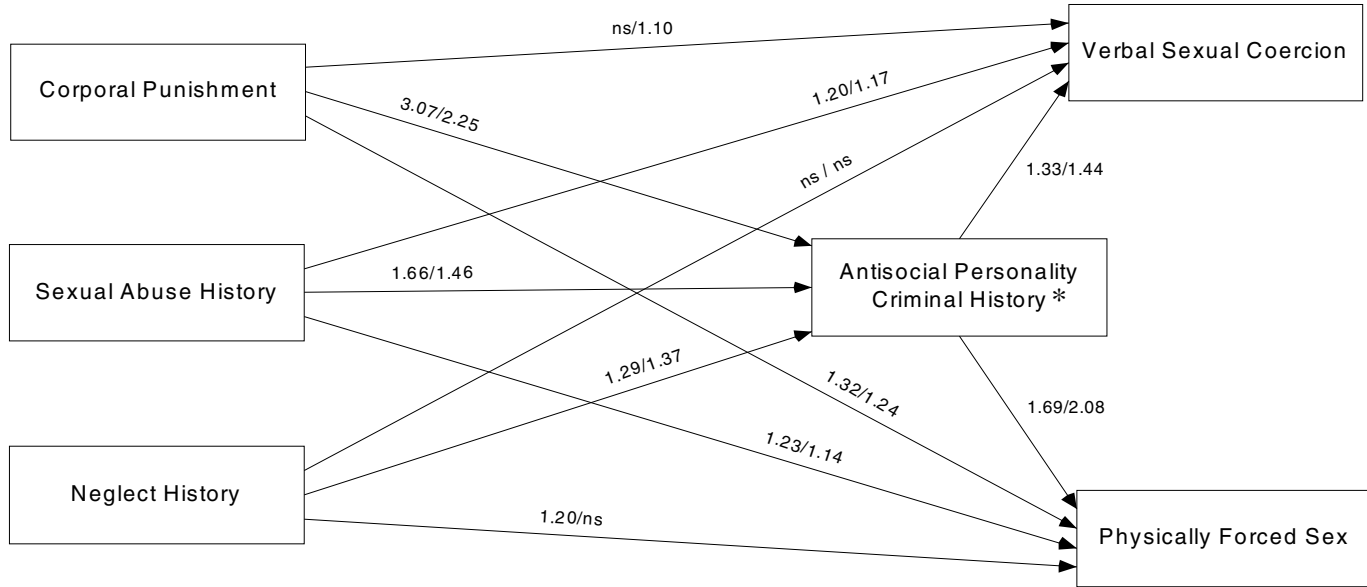
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Figure 1. Proposed Model of Sexual Coercion.



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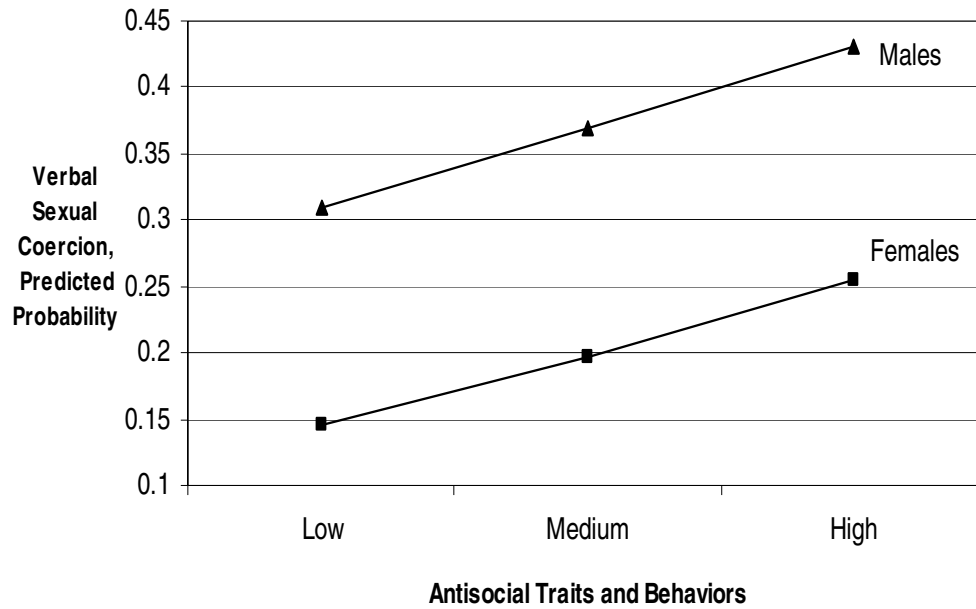
Figure 2. Paths from victimization to sexual coercion (Left number is the odds ration for men; right is for women).



* Odds ratios on paths to Antisocial Personality are the odds of being in the High Antisocial category. See Table 2 for odds ratio for the Middle group.

Figure 3

Verbal Sexual Coercion By Antisocial Traits and Behaviors



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Figure 4. Physically Forced Sex By Antisocial Traits and Behaviors

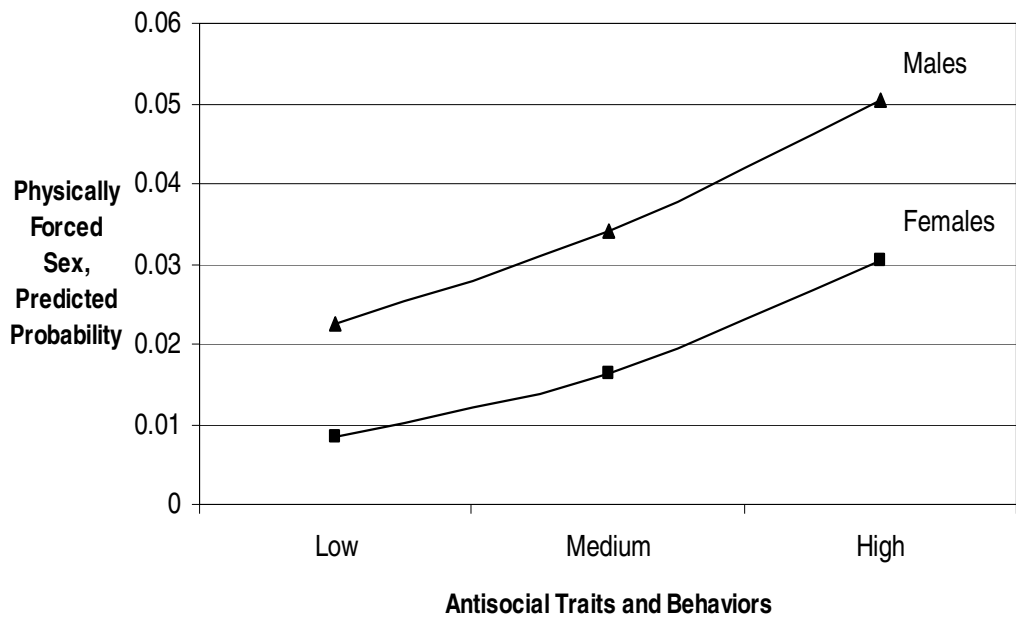


Table 1
Descriptive Statistics

Variables	X (SD)		Range
	Men	Women	
<i>Independent Variables</i>			
Corporal Punishment	1.84 (.88)	1.68 (.87)	1 – 4
Sexual Abuse History	0.60 (1.18)	0.70 (1.28)	0 – 8
Neglect History	1.17 (1.34)	1.02 (1.31)	0 – 8
<i>Mediating Variable</i>			
Antisocial Traits and Behaviors	1.81 (0.42)	1.52 (0.35)	1 – 4
<i>Control Variables</i>			
Age	22.97 (5.5)	23.13 (6.49)	18 – 55
Relationship Length (Months)	12.82 (9.09)	15.15 (8.92)	0.60 – 50
Socioeconomic Status (z score)	0.12 (1.01)	0.002 (.97)	-3.1 – 3.6
Social desirability	2.59 (.35)	2.63 (.36)	1 – 4
<i>Dependent Variable</i>			
Verbal Sexual Coercion (%)	26.7	19.6	
Physically Forced Sex (%)	2.4	1.8	

Table 2

*Multinomial Logistic Regression Analyses Testing Direct And Indirect
Paths To Sexual Coercion*

Independent Variable	Odds Ratios [†]			
	Model 1. Dependent Variable: Medium and High Antisocial Behavior		Model 2. Dependent Variable: Sexual Coercion	
	Medium ATB	High ATB	Verbal Sexual Coercion	Physically Forced Sex
Men				
Corporal Punishment	1.64***	3.07***	1.08 <i>ns</i>	1.32*
Sexual Abuse	1.32***	1.66***	1.20***	1.23**
Neglect History	1.07 <i>ns</i>	1.29***	.98 <i>ns</i>	1.20**
ATB	--	--	1.33***	1.69*
<i>Control Variables</i>				
Age	.97 **	.95***	1.00 <i>ns</i>	1.01 <i>ns</i>
Length of Relationship	.98*	.98**	1.03***	1.02 <i>ns</i>
SES	0.99 <i>ns</i>	1.14 *	1.02 <i>ns</i>	1.04 <i>ns</i>
Social desirability	.05***	.005***	.61 ***	.60 <i>ns</i>
USA (=1)	.75*	.96 <i>ns</i>	1.19*	1.08 <i>ns</i>
	$\chi^2(16) = 1599.192***$		$\chi^2(18) = 247.582***$	
N	1658	1545	1042	93
Women				
Corporal Punishment	1.51***	2.25***	1.10**	1.24**
Sexual Abuse	1.19***	1.46***	1.17***	1.14**
Neglect History	1.13***	1.37***	.98 <i>ns</i>	1.01 <i>ns</i>
ATB	--	--	1.44***	2.08***
<i>Control Variables</i>				
Age	.97***	.95***	.98**	.99 <i>ns</i>
Length of Relationship	.98***	.97***	1.03***	1.03***
SES	.99 <i>ns</i>	1.05 <i>ns</i>	0.98 <i>ns</i>	.94 <i>ns</i>
Social desirability	.06***	.01***	.77**	.80 <i>ns</i>
USA (=1)	.70***	.72***	1.35***	1.21 <i>ns</i>
	$\chi^2(16) = 3723.968$		$X^2(18) = 499.998$	
N	4907	1768	1973	180

[†]Reference group for ATB: 'low ATB'; Reference group for Sexual Coercion: 'No sexual coercion'.

p*<.05; *p*<.01; ****p*<.001; *ns* = not significant.