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RESEARCH ARTICLE

Verbal Sexual Coercion among a US College Sample: Patterns of Sexual Boundary Violations and Predictive Factors

Ioanna Hadjicharalambous* and Melissa M. Sisco*

The present study examined verbal sexual coercion. The behaviors which fall under the general label verbal sexual coercion are examined in more depth and categorized in seven behaviors named *sexual boundary violations* (SBVs). We aimed to explore patterns of SBVs and hypothesized that impulsivity and psychopathy predict SBVs. We analyzed secondary data gathered from a 2009 online survey of sexual behaviors. The participants were 430 sophomores (296 females and 134 males) from an urban south-western university in the US. We ran three stages of analysis: factor analyses to detect patterns of SBVs; hierarchical regression models to determine the predictive value of the hypothesized traits; and t-tests to explore sex differences. The results showed that men used SBVs more often than women. Two factors emerged, labelled "Disguised" and "Undisguised" SBVs. Male sex, sensitivity to temptation, and poorer executive functioning predicted undisguised SBVs. We discuss how these findings can inform future interventions.

Keywords: verbal sexual coercion; impulsivity; psychopathy; college students; sex differences

Sexual aggression is a prevalent and serious problem among the college population. A meta-analysis of studies from 27 European countries has shown that up to 80% of male and 40% of female students have been sexually aggressive (Krahé, Tomaszewska, Kuyper & Vanwesenbeeck, 2014). If reported, perpetrators of sexual assault and/or sexual abuse may be prosecuted by law. However, there is a range of sexual misconduct that might be perceived as less severe and not receive as much scrutiny, yet is still inappropriate and can negatively impact the recipients' wellbeing. These behaviors have been examined under the term "verbal sexual coercion" and include actions such as lying to people to obtain sexual intercourse, pressuring individuals into sexual favors, or deceiving someone in order to present oneself as more sexually desirable, among other acts.

There have been a plethora of studies that have measured verbal sexual coercion, but the findings have been inconsistent. In one study, 60% of participants reported having been recipients of verbal sexual coercion (Struckman-Johnson, Struckman-Johnson, & Anderson, 2003). Perpetration of verbal sexual coercion ranges from about 9% (O'Sullivan & Byers, 1993) to 41% (Muñoz, Khan, & Cordwell, 2011) among women and 25% (Fischer, 1996) to 76% (Muñoz et al., 2011) among men. These findings indicate that verbal sexual coercion is certainly present, but our understanding of the nature of its prevalence remains unclear. This inconsistency in the findings may be reduced by examining specific subcategories of verbal sexual coercion.

The present study attempted to further understanding of verbal sexual coercion by focusing on seven different behaviors that have formed characteristic and distinct categories of verbal sexual coercion in two prior studies. The first study developed a novel instrument for measuring sexual aggression, the Sexual Acts and Perception Inventory (SAPI; Sisco & Figueredo, 2008). The authors of this study included additional sexually coercive misbehaviors that were not examined by prior instruments, such as the Sexual Experience Survey (Koss & Oros, 1982; Koss et al., 2007). The second study (Sisco, 2011) examined these behaviors further. The author classified verbal sexual coercion into seven categories of *Overt Harassment, Covert Harassment, Social Badgering, Vengeful Manipulation, Stalking, Lying, and Betting.* We named these behaviors *sexual boundary violations* (SBVs). For definitions of the factors and a sample question related to each behavior see **Table 1**.

In the present study, we explored college students' perpetration of SBVs in more depth. Our first aim was to assess whether SBVs are perpetrated individually and independently of each other, or within specific behavioral patterns. In other words, we wanted to know whether a person who committed one SBV would be more likely

* Department of Psychology, Roosevelt University, Chicago, IL, USA
ioanna.hadjicharalambous@gmail.com

Corresponding author: Ioanna Hadjicharalambous

SBV	Definition	Example
Overt Harassment	Blatant sexual badgering so as to pressure someone into unwanted sexual encounters	Made a sexual joke about a person, without his/her permission or after they asked to stop
Covert Harassment	Passive violation so as to pressure someone into unwanted sex	Showed someone porn "accidentally"
Social Badgering	Premeditated intrusion of one's intimate space through exploitation of social networks or repetitive initiations of contact	Made contact with the parents or family of a person, who had tried to terminate a relationship
Vengeful Manipulation	Publicly discussing sexual matters of a desired mate or ex-partner	Spread rumors about the sexual orientation of someone against their will
Stalking	Giving people unwanted presents, showing unexpectedly at place of employment or residence, sending texts, or calling repeatedly	Gave presents to a person who had tried to terminate a relationship
Lying	Telling lies in order to gain sexual contact	Told a lie to have a person engage in oral sex
Betting	Use of bets, dares, or pledges to gain sexual contact	Got a person to masturbate or "play with" breast, vagina, or penis to fulfill a pledge, bet, or deal

Table 1: Sexual Boundary Violations (SBVs).

to commit other SBVs. Our second aim was to examine whether any personal characteristics predict such behaviors.

Predictors of SBVs

Based on theories of sexual aggression, we examined impulsivity and psychopathic traits as possible predictors of SBVs:

Impulsivity. The general theory of crime by Gottfredson and Hirschi (1990) proposed that sub-criminal as well as criminal conduct share the same cause, low self-control. According to the theory, people lacking self-control enjoy taking risks, and they neither plan long-term goals, nor do they anticipate extended consequences of their actions. Thus, they are less likely to refuse the immediate gratification provided by criminal or sub-criminal behaviors. The causal relationship between impulsivity and aggression has been supported by a meta-analysis (Pratt & Cullen, 2000) and empirical studies (Hecht & Latzman, 2015; Hoaken, Shaughnessy, & Pihl, 2003; Krakowski & Kzobor, 2014).

Additionally, the multimodal self-regulation theory (Stinson, Becker, & Sales, 2008) links one behavioral presentation of impulsivity, neuroticism (Whiteside & Lynam, 2001), to sexually aggressive behaviors. In summary, the theory proposes that problematic developmental antecedents (e.g., childhood abuse) contribute significantly to self-regulatory deficits in the domains of cognition, emotion, behavior, and interpersonal functioning. People do not develop adaptive mechanisms to cope with stress and they find external solutions to regulate such problems. As a result, they engage in behaviors that provide immediate gratification, and require minimal planning, such as substance abuse, sexual activities, antisocial behaviors and sexually abusive acts (Stinson et al., 2008). Based on these two theories, we expect that impulsivity will be a predictor of SBVs.

Impulsivity has been categorized according to four behavioral traits: (lack of) perseverance; (lack of) premeditation; sensation seeking; and urgency (Whiteside & Lynam, 2001). Lack of perseverance refers to motor disinhibition, which has been predominantly associated with ADHD (e.g., Campbell & Von Stauffenberg, 2009; Willcut, Doyle, Nigg, Faraone, & Pennington, 2005). Premeditation reflects an individual's abilities to control his/her behavior in order to attain their goals. These abilities are coordinated by the prefrontal cortex and include planning, focused attention, and abstract thinking (Hoaken, Shaughnessy, & Pihl, 2003; Whiteside & Lynam, 2001). Such abilities are referred to as executive functioning, deficits in which lead to impulsive actions (Cross, Copping, & Campbell, 2011; Hoaken et al., 2003). Sensation seeking is the tendency to pursue novel, complex, and exciting experiences, regardless of the associated risk (Cross et al., 2011; Whiteside & Lynam, 2001). People high in sensation seeking have difficulty delaying gratification (Álvarez-Moya et al., 2011), thus engage in impulsive responses (Hollander, Baker, Hahn, & Stein, 2006). Sensation seeking is in alignment with sensitivity to temptation (Figueredo et al., 2006). Finally, urgency is a compulsive avoidance of negative affect due to sensitivity to emotional discomfort and is aligned with the personality factor of neuroticism. Under distress, people with high urgency will respond impulsively, engaging in immediately gratifying actions to subdue negative affect without considering negative consequences (Whiteside & Lynam, 2011). For the purposes of this study we measured three of the four impulsivity traits: sensitivity to temptation, neuroticism, and executive functioning.

Psychopathic traits. Psychopathic personality is uncommon among college students (Levenson, Kiehl, & Fitzpatrick, 1995). However, some young adults are characterized by subclinical psychopathic traits. The confluence model of sexual aggression (Malamuth, Linz, Heavey, Barnes, & Acker, 1995; Malamuth, Sockloskie, Koss, & Tanaka, 1991) links psychopathy with sexual aggression and coercion. The theory states that sexual promiscuity, hostility, and personal philosophies that facilitate aggression and manipulation are the causal factors of such behaviors. Hostility and permissiveness of taking

advantage of others are one of the two aspects of psychopathy, the second being antisocial behaviors (Coid, Yang, Ullrich, Roberts, & Hare, 2009). Previous studies found that people with these psychopathic traits are prone to sexual aggression (Abbey, Wegner, Pierce, & Jacques-Tiura, 2012; Levenson et al., 1995; Mouilso & Calhoun, 2012) and verbal coercion for sexual intercourse (Czar, Dahlen, Bullock, Nicholson, 2011; Muñoz et al., 2011). Based on the confluence model of sexual aggression we hypothesized that psychopathic traits will function as predictors of SBVs.

Method

Design

The data for this study was initially collected in 2009 for the purposes of a project on sexuality, which was eventually used to develop an online sexual awareness program (Sisco, 2011). Participants were students who consented to participate in the study and received class credit in exchange. The participants answered several questionnaires measuring their sexual experiences, sexual beliefs and attitudes, and personality traits. All questionnaires were answered online and responses remained confidential. After submitting their responses, students had the chance to attend a debriefing session during which they could ask questions regarding the questionnaires and were given guidelines as to how to act in case they experienced sexual abuse or coercion in the future. Ethical approval was obtained from the Institutional Review Board of University of Arizona. For the purposes of this secondary analysis only information relevant to our research questions was used, with permission from the researcher who collected the data (i.e., the second author of the present study). Participants were aware that the data would be used in several scientific studies when they consented to participate.

Participants

In total, 544 college sophomores from an urban southwestern university were sampled; 32% were male and 68% female. The mean age of the sample was 21 years (*SD* = 3). Per race, 57% were Caucasian, 23% Hispanic, 2% Black and 18% self-identified as other. The majority of the students were heterosexual (94%) and sexually active (89%). Of the initial sample, 21% of the answers were excluded from analyses because participants either used a default pattern of answering questions (6%) or they omitted excessive material (15%). Hence, the final sample included 430 individuals comprising 134 men and 296 women. All participants were assured that they would receive full class credit regardless of omitting material.

Measures

Demographics. Information about age, ethnicity, sex, and sexual status was collected using a 16-item multiple-choice questionnaire.

Sexual Boundary Violations. The Sexual Acts and Perceptions Inventory (SAPI; Sisco & Figueredo, 2008) is a comprehensive questionnaire that measures 53 acts pertaining to the full range of sexual aggression, ranging from minor sexual violations (SBVs) to illegal sexual abuse (e.g., rape). The entire questionnaire consists of 133 items. Participants are asked to indicate the *number of times they had perpetrated each action in the past year* and the degree of *objection* or *consent* indicated by the recipient. The entire SAPI has adequate validity and reliability (α = .95). For the present study, we analyzed only 32 items, which pertain to the seven SBVs under examination. The scale used to measure SBVs is also valid and reliable (α = 0.79) (Sisco, 2011).

Impulsivity—executive functioning. The Brief Rating Inventory of Executive Functions (BRIEF; Gioia, Isquith, Guy, & Kenworthy, 2000) was used to assess deficits in executive functioning. The instrument consists of 40 items (e.g., "I have angry outbursts") rated from *never (0)* to *almost always (6)* on a 7-point Likert scale. It has high internal consistency (α = 0.80–0.98) and test–retest reliability (α = 0.81) (Gioia et al, 2000).

Impulsivity—sensitivity to temptation. Jake's Temptation Scale (Figueredo et al., 2006) includes 25 items that measure an individual's likelihood to succumb to the 'seven deadly sins': lust; pride; sloth; gluttony; wrath; envy; and greed (e.g., "Temptation to be stubborn"). Participants were asked to indicate *how many times in the past two weeks* they had experienced such temptations. Validity and reliability (α = .88) are adequate (Sisco, 2011).

Impulsivity—neuroticism. Scores on neuroticism were attained from the Neuroticism Scale of the Big Five Inventory (BFI; John, Donahue, & Kentle, 1991). The BFI has 55 items, which measures personality traits according to the five factor model (McCrae & John, 1992): neuroticism; extraversion; openness; agreeableness; and conscientiousness. For the purposes of the current study we used only the 11 items that pertain to the scale of neuroticism (e.g., "I see myself as someone who is depressed, blue"). The items are rated on a 7-point Likert scale ranging from *strongly disagree (1)* to *strongly agree (7)*. Validity and reliability for the entire questionnaire (α = .80–.90) and for neuroticism in particular (.84) are adequate (Srivastava, John, Gosling, & Potter, 2003).

Psychopathic traits. An abbreviated 10-item version of Levenson's Self-Report Psychopathy Scale (LSRP; Levenson et al., 1995) was used to measure psychopathic traits (e.g., "I enjoy manipulating other people's feelings"). The answers are given on a 4-point Likert scale from *strongly disagree (–2)* to *strongly agree (+2)*. Validity and reliability (α = .32–.67) are adequate (Levenson et al., 1995).

Statistical Procedure

Descriptive analysis. Mean, standard deviation, correlations, frequency, and skewness were measured for all the variables. When 90% or more survey questions were answered, the missing items were replaced with the average of that scale's answered items.

Standardization. The data on impulsivity and psychopathy were standardized into Z-scores. Standardization was used in order to put these continuous variables in the same units to ensure equal weighting of all variables.

Prevalence of SBVs. To examine the perpetration of SBVs we measured how many times each participant

reported perpetrating each individual SBV in the past year and the total number of acts committed in the past year. We also measured the percentage of participants who reported perpetrating SBVs at least once and the percentage of those who never did. As an additional analysis, t-tests were run to explore whether men or women used more SBVs. Skewness, normality of distribution, and independence of variables were assessed to assure analysis suitability.

Factor analyses. The perpetration of SBVs was analyzed using factor analysis with Varimax rotation to examine whether SBVs are perpetrated independently of each other, or within specific behavioral patterns. Eigenvalues, scree plots, percentage of variance accounted for, and factor structures were used to determine the appropriate number of factors to test the a priori notions.

Hierarchical partitioning of variance. Hierarchical partitioning of variance is a form of stepwise regression that allows for an a priori ordering and systematic examination of the influence of each variable on the dependent variable. Each independent variable is systematically removed and change in R^2 is examined with each removal. This method allows for control of confounding influential factors on the outcome of each individual predictive factor and provides a nuanced profile of a complex situation in a systematic and accurate fashion. A hierarchical partitioning of variance model was run for each factor of the SBVs as generated from the factor analysis. Sex, impulsivity measures of sensitivity to temptation, neuroticism, and executive functioning, and psychopathic traits were the independent variables, with the presenting order.

Results

Perpetration of SBVs

We measured the perpetration of SBVs by asking how many times participants perpetrated each act in the past year. We also compared male and female students to determine sex differences. **Table 2** presents the mean number of perpetrations of each action, standard deviations, the maximum times each action was perpetrated, and the t-test results for the sex difference. T-test results showed that male students perpetrate SBVs more frequently than female students (M_{male} = 46.95, SD = 80.20, M_{female} = 27.25, SD = 52.92, $t(428)$ = 3.019, p = .003). Of the individual SBVs only the frequency of using vengeful manipulation was significantly different between the two groups, (M_{male} = 39.46, SD = 74.33, M_{female} = 18.25, SD = 40.88, t (428) = 3.803, $p < .001$). We ran an additional analysis of frequency to determine the percentage of students who had perpetrated SBVs at least once. The results showed that 78.6% of our sample had perpetrated at least one SBV in the past year and, per sex, 79.1% of male students and 78.4% of female students had engaged in such acts.

Exploratory analysis: SBV co-occurrence factors

We ran an exploratory factor analysis with Varimax rotation to examine whether SBVs are used in specific behavioral patterns or independently of each other. The seven SBVs comprised two factors. Covert harassment, betting, and lying comprised Factor 1, while overt harassment, social badgering, vengeful manipulation, and stalking comprised Factor 2. The first factor seems to include SBVs that are subtler and can be misleading with regards to their intention, while the SBVs in the second factor appear to be more overt and the intention (to gain sexual access to an unwilling person) is more apparent. Therefore, Factor 1 is labeled *disguised SBVs* and Factor 2 is labeled *undisguised SBVs*. **Table 3** shows factor loadings.

Hypotheses 1 and 2: Impulsivity and psychopathic traits predict SBV factors

Before conducting the hierarchical partitioning of variance, we ran a t-test to compare impulsivity and psychopathic traits between male and female students. Results are presented in **Table 4**. We also ran correlation analyses to see initial relationships between impulsivity measures, psychopathic traits, and individual SBVs, the

SBV	Total n = 430			Male n = 134			Female n = 296			t-test	
	M	*SD*	Max value	*M*	*SD*	Max value	*M*	*SD*	Max value	*t* (428)	*p*-value
Overt Harassment	2.10	9.18	104	2.88	11.95	104	1.75	7.61	100	1.179	.239
Covert Harassment	.63	3.27	32	.66	2.54	16	.63	3.56	32	.093	.926
Social Badgering	3.32	9.73	120	2.5	5.41	46	3.69	11.14	120	–1.178	.240
Vengeful Manipulation	24.86	54.40	400	39.46	74.33	400	18.25	40.88	300	3.803**	.000
Stalking	1.25	6.30	100	.53	1.71	11	1.57	7.49	100	–1.595	.111
Lying	.43	3.75	59	.16	.84	8	.55	4.48	59	–.999	.318
Betting	.79	3.46	56	.76	2.17	10	.80	3.91	56	–.109	.913
Total SBVs	33.39	63.27	432	46.95	80.20	404	27.25	52.92	432	3.019*	.003

Table 2: Perpetration of SBVs in the entire sample and by sex: t-test results.
Note: Max value indicates the highest number of times participants reported perpetrating SBVs, lowest number was 0 for every act; * indicates statistical significance level lower than .01; ** indicates statistical significance lower than .001.

Variable	Factor 1/Disguised SBVs	Factor 2/Undisguised SBVs
Overt Harassment	.126	**.564**
Covert Harassment	**.733**	.002
Social Badgering	.001	**.812**
Vengeful Manipulation	.015	**.535**
Stalking	.031	**.655**
Lying	**.904**	.093
Betting	**.902**	.092

Table 3: Factor loadings for factor analysis with Varimax rotation of SBV behavior subscales.
Note: Bold indicates factor loadings greater than .4.

Measure	Male		Female		*t*-test	
	M	*SD*	*M*	*SD*	*t* (428)	p-value
Sensitivity to Temptation	113.71	146.08	89.44	89.68	2.113*	.035
Neuroticism	30.87	2.97	29.21	2.68	5.775**	.000
Executive Functioning	1.35	.79	1.63	.74	−3.594**	.000
Psychopathic Traits	−11.16	11.03	−16.01	8.78	4.885**	.000

Table 4: Sex differences on sensitivity to temptation, neuroticism, executive functioning, and psychopathic traits.
Note: * $p < .05$, ** $p < .01$.

two factors of SBVs, and total perpetration of the behaviors. Results are presented in **Table 5**.

The first hierarchical linear model included the following independent variables in the presenting order: (1) sex; (2) sensitivity to temptations; (3) neuroticism; (4) executive functioning; and (5) psychopathic traits. The dependent variable was disguised SBVs. The model did not support our hypothesis. None of the hypothesized factors showed any predictive value for disguised SBVs (see **Table 6**).

The second model included the same independent variables as the first model, alongside undisguised SBVs as the dependent variable. Male sex, sensitivity to temptations, and deficits in executive functioning were significant predictors of undisguised SBVs (see **Table 6**). This model partially supported our first hypothesis that impulsivity can have an impact on perpetration of specific types of verbal sexual coercion. First, male sex predicted 2.3% of the variance. Sensitivity to temptation predicted 12.7% of the remaining variance after the influence of sex was excluded. Finally, deficits in executive functioning predicted another 1.8% of the remaining variance.

Discussion

The present study explored the patterns in which college students perpetrate SBVs and whether impulsivity and psychopathic traits predict perpetration of verbal sexual coercion. We extracted two factors of SBVs. The first factor included covert harassment, lying, and betting. The second factor included overt harassment, vengeful manipulation, social badgering, and stalking. The difference between the first and second factor is the level of overtness of the behaviors. The first factor of SBVs includes behaviors that do not convey a clear intention, for example a bet can be taken as a joke, not necessarily as a sexual initiation. The second factor includes behaviors with a goal that easily becomes clear to any observer, which is to gain sexual access to a person. Therefore, the first factor was labeled *disguised SBVs* and the second was labeled *undisguised SBVs*.

Our results showed that disguised SBVs are not predicted by sex, impulsivity, or psychopathy. However, the undisguised SBVs were predicted by male sex, and two impulsivity traits, sensitivity to temptation, and poorer executive functioning. These findings indicate that male college students are more likely to perpetrate SBVs. Additionally, those who are sensitive to temptations and have deficits in executive functioning are also more likely to use such coercive approaches to attain sexual relationships with unwilling partners. The personality trait of neuroticism and psychopathic traits, contrary to our hypotheses, did not have any predictive value over SBVs.

Previous findings regarding the prevalence of verbal sexual coercion have been inconsistent (Struckman-Johnson, Struckman-Johnson, & Anderson, 2003; O'Sullivan & Byers, 1993; Muñoz et al., 2011). In the present study, we measured a wider range of inappropriate verbally coercive sexual behaviors and found out that 79.1% of male college students and 78.4% of female college students perpetrate SBVs. However, we found that male students tend to use such behaviors much more often than female students. While women were found to perpetrate an average of 27 acts, men perpetrated an average of 47 acts. This finding

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Overt Harassment	–												
2. Covert Harassment	.12*	–											
3. Social Badgering	.24**	.00	–										
4. Vengeful Manipulation	.18**	.04	.30**	–									
5. Stalking	.18**	.04	.41**	.05	–								
6. Lying	.13**	.47**	.09	.03	.11*	–							
7. Betting	.10*	.47**	.10*	.09	.07	.81**	–						
8. Disguised SBVs	.14**	.75**	.07	.06	.09	.91**	.90**	–					
9. Undisguised SBVs	.37**	.05	.50**	.96 **	.23**	.07	.12*	.10*	–				
10. Total SBVs	.38**	.16**	.50**	.95 **	.24**	.20**	.24**	.23**	.99**	–			
11. Sensitivity to Temptation	.21**	–.02	.31**	.32 **	.11*	.00	.05	.01	.37**	.36**	–		
12. Neuroticism	.03	.03	–.03	.11 *	.03	.02	.02	.03	.10 *	.10*	–.03	–	
13. Executive Functioning	.08	–.02	.24**	.16**	.14**	.01	.05	.01	.21**	.20**	.30**	–.31**	–
14. Psychopathic Traits	.11*	.05	.18**	.07	.14**	.04	.06	.06	.13*	.13**	.20**	–.09	.25**

Table 5: Summary of correlations for Sexual Boundary Violations, impulsivity measures (sensitivity to temptation, neuroticism, and executive functioning), and psychopathic traits.
Note: * $p < .05$, ** $p < .01$.

Dependent V Predictor	Disguised SBVs			Undisguised SBVs		
	F	β	ΔR^2	*F*	β	ΔR^2
Sex	.182	.052	.000	9.964*	–.109	.023
Sensitivity to Temptation	.145	.006	.000	37.487*	.306	.127
Neuroticism	.289	.049	.001	26.230	.126	.007
Executive Functioning	.238	–.001	.000	22.406*	.151	.018
Psychopathic Traits	.586	.074	.005	17.900	.013	.000

Table 6: Hierarchical multiple regression analyses predicting disguised SBVs, undisguised SBVs and total SBVs based on sex, sensitivity to temptation, neuroticism, executive functioning, and psychopathic traits.
Note: * $p < .01$.

is in accordance with prior studies, which show that men tend to be more verbally sexually coercive than women (Muñoz et al., 2011; Struckman-Johnson et al., 2003).

Our findings regarding the predictors of undisguised SBVs give partial support to the general theory of crime (Gottfredson & Hirschi, 1990), which states that low self-control is the causal factor of sub-criminal, abusive actions. The fact that undisguised, but not disguised approaches were predicted by impulsivity shows the need to distinguish different aspects of verbal sexual coercion. Previous research examined verbal sexually coercive techniques under general labels such as "verbal coercion," "lying and manipulation," "talking someone into sex" (Fischer, 1996; Struckman-Johnson et al., 2003; Zurbriggen, 2000). This oversimplification of verbal sexual coercion might have caused inconsistency in prior findings and might also have led to ineffective intervention campaigns that fail to reduce inappropriate sexual behaviors (Jacobs, Sisco, Hill, Malter & Figueredo, 2012; Breitenbecher & Scarce, 2001). By understanding the different behaviors that comprise verbal sexual coercion and the different characteristics related to those behaviors, we can develop appropriate interventions for people who perpetrate different types of SBVs. This can result in more successful interventions and reduction of abusive patterns.

Our findings do not support the multimodal self-regulation theory (Stinson, Becker, & Sales, 2008), or the confluence model of sexual aggression (Malamuth et al., 1995; Malamuth et al., 1991). Neuroticism and psychopathic traits failed to predict any of the undisguised and

disguised SBVs. This finding does not entirely refute the theories, but may suggest that neuroticism and psychopathic traits are related to other sexually abusive acts, rather than the SBVs covered in this study.

Additionally, the finding that sensitivity to temptations and deficits in executive functioning are associated with undisguised SBVs, might suggest that brain function plays a role in the perpetration of these behaviors. Executive functioning includes a range of abilities that are coordinated by the prefrontal cortex. Even though most brain maturation occurs in adolescence, the prefrontal cortex continues to develop in adulthood (Sowell, Thompson, Holmes, Jernigan, & Toga, 1999). The participants in this study had an average age of 21 years. It can be speculated that the subgroup of participants in the lower age group (i.e., those around 18 years old), might have deficits in executive functioning and sensitivity to temptation due to immature prefrontal cortex. To investigate this hypothesis, future research should examine the perpetration of disguised and undisguised SBVs among different age groups. A longitudinal design could also be appropriate to determine if deficits in executive functioning and sensitivity to temptation persist throughout adulthood and are still associated with perpetration of SBVs.

Information from this study could be used to develop campaigns to reduce (and hopefully prevent) SBVs. Initially, policymakers and those working in community settings (e.g., universities) should be informed about SBVs and their wide use by both male (79%) and female (78%) students. Verbal sexual coercion does not entail the same taboo that sexual assault does and it may therefore be easier to discuss its abusive nature with the public. By increasing awareness about the phenomenon, policymakers and those working in community settings may be able to reduce such actions, through the promotion of healthy sexual relationships and bystander support, among other measures. It is important to convey the message that SBVs apply to almost every student, as the literature indicates that prior educational campaigns may have failed due to many individuals' belief that information presented in the campaign is not applicable or relevant to themselves (Jacobs et al., 2012; Breitenbecher & Scarce, 2001).

This study was based on self-report instruments. Therefore, impulsivity and psychopathic traits may have not been accurately captured. In addition, some people might have falsely denied using SBVs, or they might have reported a much higher number than their actual perpetration. This may be either due to recall biases or social desirability bias. This consideration was partially addressed by using neutral language in the questionnaires, and by securing participants' confidentiality. Still, such measures cannot fully eliminate bias or erroneous recall.

Furthermore, although a linear regression model is one of the most robust statistical analyses for exploring relationships between variables, the lack of longitudinal data means that causal inferences are not possible. The collection and relevant analysis of longitudinal data in future research can address this limitation. To eliminate the self-report inaccuracies, future studies could use independent raters who are blind to the purposes of the study to measure personality characteristics and ensure higher validity of the data. In addition, novel data collection methods, such as the use of smart phone applications, could be used to ensure immediate report of SBVs by participants and consequently reduce recall bias.

To determine a causal relationship between any hypothesized predictors and SBVs, a longitudinal study could be designed that would follow students from adolescence until their college years to examine whether the hypothesized predictors—in the present study, impulsivity and psychopathic traits—are present before the perpetration of SBVs. In addition, a longitudinal design could include other personal and situational characteristics in the analyses as independent variables in order to reach more firm conclusions into which characteristics are significant causal factors of SBVs.

Social and environmental factors can also influence the use of verbal sexual coercion. This study included a primarily young, white and heterosexual sample. Future studies may focus on examining how different layers of Bronfenbrenner's (1986) social ecology (i.e., culture, group, family, peers, attitudes, environment, and self) impact on use of SBVs. Exploration of potential cultural differences in initiating sexual encounters is an important research topic. By examining rates of SBVs across different cultural backgrounds, we may gain insight into how different characteristics either promote the use of verbal coercion, or act as protective factors against such actions.

Competing Interests

The authors declare that they have no competing interests.

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