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PREVALENCE AND PREDICTORS OF SEXUAL ASSAULT AMONG A COLLEGE SAMPLE

A.H. Conley, Ph.D.^a, C.M. Overstreet, B.A.^b, S.E. Hawn, B.S.^b, K.S. Kendler, M.D.^{b,c}, D.M. Dick, Ph.D.^{*,b}, and A.B. Amstadter, Ph.D.^{*,b}

^aDepartment of Counselor Education, Virginia Commonwealth University, Richmond, VA, USA

^bDepartment of Psychiatry, Virginia Institute of Psychiatric and Behavioral Genetics, Virginia Commonwealth University, Richmond, VA, USA

^cDepartment of Human and Molecular Genetics, Virginia Commonwealth University, Richmond, VA, USA

Abstract

Objective—This study examined the prevalence and correlates of sexual assault (SA) pre-college, college onset, and repeat SA within a representative student sample.

Participants—A representative sample of 7,603 students.

Methods—Incoming first year students completed a survey about their exposure to broad SA prior to college, prior trauma, personality, relationships, and mental health. Broad SA was then re-assessed each spring semester while enrolled.

Results—Nearly 20% of the sample reported experiencing broad SA, with women endorsing significantly higher rates compared to males. Prior victimization before coming to college was related to a greater risk of victimization in college and there was no statistically significant difference between males and females who reported revictimization. Correlates of college onset broad SA were found and are discussed.

Conclusions—Given the need for SA intervention and prevention on college campuses, identification of factors potentially contributing to exposure within this population is essential.

Keywords

PTSD; trauma; sexual assault; sexual victimization; resilience; revictimization

Sexual assault (SA), defined as unwelcomed sexual behavior in which an individual exerts his/her will on a person in a less powerful position¹, is the most common form of violence on US college campuses today². A comprehensive report from the Department of Justice found that 20–25% of women and 4–6% of men are victims of SA while they are enrolled in college, and more than 90% of survivors do not report the assault³. Indeed, a recent

Please send all correspondence to Abigail Conley, PhD, Department of Counselor Education, Virginia Commonwealth University, 1015 West Main Street, Box 842020, Richmond, VA 23284-2020. ahconley@vcu.edu.

*co last authors

epidemiologic study of college women (N=2000) found that only 11.5% reported their assault, and of those involving alcohol or other drugs an even smaller percentage (2.7%) were reported⁴. The ubiquitous rate of both SA and under-reporting of these crimes underscores the fact that college SAs are occurring (and potentially reoccurring) at widespread rates and further implores institutional response and prevention.

Previous victims of SA experience a two to three fold increased risk of being re-victimized compared to those without a history of abuse⁵; a finding that has generalized across college^{6,7}, clinical^{8,9}, and community-based samples^{10,11,12}. Furthermore, risk of revictimization has been demonstrated via both retrospective and prospective research designs¹¹. Investigation of SA revictimization is crucial, considering the high prevalence and strong relationship to subsequent psychopathology, including increased risk for Axis I diagnoses, comorbid psychopathologic conditions, and high rates of PTSD and depression¹³⁻¹⁹.

Additionally, a number of factors have been demonstrated to predict SA risk. Extant literature has shown that these correlates not only impact differential responses to SA, but also influence the likelihood of repeated SA²⁰⁻²². For example, sex is related to PTSD risk following a potentially traumatic event (PTE), with women being at greater risk for SA and PTSD²⁰. In regards to age, individuals in late adolescence/early adulthood (i.e., 16-25 years old) are at the greatest risk for assaultive violence and development of PTSD symptoms²¹. College students are an especially relevant population to study with regards to SA, because the rate of victimization is higher among college-aged women than any other age groups²².

Facets of the early environment, such as parenting styles (i.e., permissive or authoritarian)²³, poor perceived parenting^{24,25}, and exposure to peer deviance²⁶ may also confer increased risk to PTE exposure, including SA. Additionally, scoring highly on neuroticism is a consistent predictor of both PTE risk^{27,28} and subsequent symptoms²⁰. Conversely, factors associated with resilience (e.g. perceived availability to cope and degree of social support²⁹) significantly influence the impact of PTE exposure and potential trajectory of symptoms³⁰. While many factors related to SA risk have been identified, they have not been simultaneously examined in a large, diverse, sample of college students, which would yield important implications for sexual violence prevention and programming efforts.

The present study utilized data from the Spit for Science study (S4S)³¹, an ongoing university-wide research project, which longitudinally assesses genetic and environmental influences on substance use and psychiatric disorders in a representative majority of college students throughout their enrollment at a large urban university. This is a unique sample in that it provides a valuable view of SA among a college population; one which is largely comprised of the age groups at highest risk for PTE exposure more generally (i.e., 16-25 year-olds)³², as well as the age group demonstrated to be at greatest risk for interpersonal PTE exposure³³ and SA²².

The purpose of the present study was threefold: (1) to examine the prevalence of SA in a large sample of students from the first three cohorts of S4S; (2) to examine the rates of revictimization within this sample (i.e., individuals endorsing both a history of SA prior to

and since beginning college); and (3) to examine factors derived from the existing literature (i.e., sex, personality, parental relationship, peer deviance, mental health, resilience factors) in relation to risk of SA. It was hypothesized that prevalence rates of SA within this sample would be consistent with those found in the literature. Additionally, we hypothesized higher rates among women and those with a prior history of SA. Lastly, it was hypothesized that early environmental factors, personality characteristics, and age would have significant relationship with rates of sexual victimization. Factors relating to resilience (i.e., social support, perceived ability to cope) were hypothesized to be negatively associated with college onset SA.

METHODS

Participants

The present study includes data from the first three cohorts of S4S. From 2011–2013, all incoming first year students age 18 or older were invited to participate in a university-wide research study on college behavioral health, which included an online survey of a variety of factors including childhood experiences, personality, and college experiences, including SA. First year students who did not participate in the fall were sent additional e-mail invitations in the spring, thereby providing another opportunity to complete the baseline survey and become part of the study. Participants who were enrolled in the fall completed follow-up surveys in each spring beginning their first year while those enrolled in the spring completed follow-up surveys beginning spring of their sophomore semester. The new spring survey asked participants to retrospectively report on the items from the fall survey. Therefore, participants from the first cohort (2011) had the opportunity to complete the survey up to four times, the 2012 cohort had three possible surveys, and the 2013 cohort had two possible surveys (Fall assessment and three, two, and one Spring follow-up assessments, respectively). Participants received \$10 and a t-shirt for their involvement. Additional detailed information concerning recruitment can be found in Dick et al., 2014³¹.

Invitations were sent to all incoming first year students (11,328 individuals), with a 67% response rate. Participants were representative of the broader University student population in terms of both sex and race/ethnicity. The University Institutional Review Board approved all study procedures and informed consent was obtained from all study participants. Study data were collected and managed using REDCap (Research Electronic Data Capture), hosted at the University³⁴. REDCap is a secure, web-based application designed to support data capture for research studies.

Sample Characteristics

The sample was comprised of 7,603 participants (61.1% female; $M_{\text{age at baseline}}=18.53$, $SD=.65$). Race was dummy coded and separated into three categories with participants who self-identified as White set as the reference group. The categories were comprised of participants who self-identified as Black (19.6%), Asian (16.3%), and Other (13.8%) which included American Indian/Native Alaskan, Hispanic/Latino, Native Hawaiian/Other Pacific Islander, more than one race, and unknown.

Measures

Given the large-scale nature of the parent S4S study, measures were necessarily abbreviated to reduce participant burden. Further detail regarding the rationale to reduce the survey length can be found in Dick et al., 2014³¹. Data from the first wave of the study were used to conduct item response theory (IRT) modeling to guide all scale modifications. Specifically, by examining the item characteristic and information curves, items that provided very similar calibrating information for estimating subjects' locations on the latent factor were removed. Criteria used to identify the retained items included whether an item discriminated relatively well compared to the other items included as indicators of the factor and items that optimally functioned on the latent continuum. Thus, items that provided good discrimination at various locations along the range of the latent factor scale were utilized to economize test administration.

Pre-College PTE Exposure (Baseline Assessment)—PTE exposure was assessed via an abbreviated version of the Life Events Checklist³⁵, which assessed exposure to interpersonal (SA, physical assault) and accidental (natural disasters, transportation accidents) traumatic events. Two items were used to form the dichotomous 'broad SA' variable: "sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)" and "other unwanted or uncomfortable sexual experience". Participants completing the survey in the fall or retrospectively in the spring of their first year were given the response options of "yes" or "no" to items regarding whether each stressful event occurred "before the past 12 months", "during the past 12 months", "before starting college", or "never happened to me". Participants reporting either "before the past 12 months", "during the past 12 months", or "before starting college" were coded as having a pre-college onset SA. New spring participants were additionally asked whether each event had occurred "since starting college".

College-onset PTE Exposure (follow-up assessments)—Students completing follow-up assessments were given the same response options as those offered during baseline assessment ("yes" or "no") but asked to respond to whether each event occurred "since starting college" in the follow-up survey conducted Spring of their first year and "in the past 12 months" in follow-up surveys completed each subsequent Spring. A dichotomous variable was created to identify individuals reporting exposure to broad SA while in college, again using the SA and unwanted sexual experience items. Finally, a dichotomous revictimization variable was created to identify individuals endorsing both any broad SA prior to beginning college and broad SA occurring while enrolled in college.

Probable PTSD (Baseline Assessment)—If a participant reported a PTE at baseline they were asked to respond to a PTSD screener item. The PTSD screener item was derived from the Primary Care PTSD Screen (PC-PTSD), which has previously been used in screening of PTSD symptoms in primary care settings³⁶. The item asked whether the participant had experienced nightmares, attempts to avoid thoughts or reminders of the potentially traumatic experience, hypervigilance, and feelings of detachment. Selecting 'yes' for this item was used as indication of a positive lifetime history of probable PTSD.

Family Relations (Baseline Assessment)—The Parenting Styles Inventory, given at the first Fall assessment³⁷ was used to examine family relations. The measure consists of two subscales, parental involvement and autonomy granting, and questions are in reference to the parent(s)/guardian(s) the participant lived with throughout childhood. The parental involvement subscale consists of three items ($\alpha = .71$) pertaining to the degree of parental involvement in the child's life (e.g., My parents knew who my friends were). Autonomy granting was assessed with three items ($\alpha = .60$) that asked about freedom granted by parents throughout childhood (e.g., My parents told me that their ideas were correct and that I should not question them). A Likert-type scale was used to assess each item, ranging from 1 (strongly agree) to 4 (strongly disagree), and sum scores were computed for each subscale.

Peer Deviance (Baseline Assessment)—Peer deviance was assessed by six items ($\alpha = .94$) previously created to assess conduct disorder and peer deviance³⁸. Items asked how many friends the participant regularly interacted with exhibited potentially deviant behaviors within the past year (e.g., smoked cigarettes, been in trouble with the law). Responses were assessed on a 5-point Likert-type scale from 1 (None) to 5 (All) with higher scores indicating higher levels of deviance among peers.

Personality (Baseline Assessment)—A modified version of the Big Five Inventory (BFI)³⁹ was used to measure personality characteristics. The scale includes five sub-scales consisting of Extraversion ($\alpha = .85$), Agreeableness ($\alpha = .71$), Conscientiousness ($\alpha = .80$), Neuroticism ($\alpha = .80$), and Openness ($\alpha = .71$). Each subscale possessed three items.

Social Support (Baseline Assessment)—Social support was also evaluated via three items from the modified version of the Medical Outcomes Study (MOS) module⁴⁰. Responses were made on a Likert-type scale of 1 (none of the time) to 4 (all of the time), with higher scores representing greater perceived social support. The current study utilized a sum score of the three items ($\alpha = .74$).

Resilience (Baseline Assessment)—Two items derived from the Connor-Davidson Resilience Scale (CD-RISC)⁴¹ were used to assess resilience (e.g., ability to “bounce back” after change). Responses were made on a Likert-type scale of 1 (none true at all) to 4 (true nearly all the time), with higher scores indicative of higher levels of resilience. The current study used a sum score of the two items ($\alpha = .67$).

Alcohol Use (Baseline Assessment)—Frequency of alcohol use was assessed via a single item, “how often do you have a drink containing alcohol”. Response options included “never”, “monthly or less”, “2 to 4 times a month”, “2 to 3 times a week”, and “4 or more times a week”.

Depression and Anxiety (Baseline Assessment)—The Symptom Checklist-90 Short Version⁴² is a 27-item self-report instrument designed to measure mental health status. The SCL was used in the current study to assess depression (four items; $\alpha = .84$) and anxiety (four items; $\alpha = .88$) over the past month. Responses were made on a Likert-type scale of 1 (not at all) to 5 (extremely).

Analyses

To address Aim 1, descriptive statistics were conducted to determine the prevalence of college-onset broad SA within the full sample and by sex. For Aim 2, descriptive statistics were conducted to determine the prevalence of broad SA prior to enrolling in college and revictimization within the full sample and by sex. For Aim 3, given the large number of predictors considered for inclusion in the final model, rather than enter all predictors into one model for each sex, predictors were grouped into theoretically derived predictor sets: ethnicity, personality, early environment (i.e., family relations, peer deviance), mental health (i.e., PTSD, alcohol frequency, anxiety, and depression), resilience (i.e., social support, resilience), and trauma history (i.e., any trauma, accidental, interpersonal). Six separate logistic regression analyses (one for each theoretically derived predictor set) were conducted separately by sex to determine correlates of the college onset broad SA. Finally, significant variables from each logistic regression were entered into final models to determine which variables contributed independent variance in association with broad SA occurring during time enrolled as a student. Statistical significance was defined as $p < .05$. All analyses were conducted in SPSS (Version 21).

RESULTS

Aim 1: Prevalence of broad SA since beginning college

Broad SA (i.e., experiencing at least one SA and/or other unwanted or uncomfortable sexual experience) was reported by 18.7% of the sample with women indicating significantly higher rates compared to men (23.0% of women vs. 11.6% of men, $X^2=119.34$, $p<.001$). Of the full sample, 5.2% reported experiencing a SA while 17.5% reported at least one other unwanted or uncomfortable sexual experience since beginning college. Women were significantly more likely to report experiencing both SA and any other unwanted or uncomfortable sexual experience compared to men (6.7% of women vs. 2.8% of men, $X^2=44.37$, $p<.001$; 21.7% of women vs. 10.6% of men, $X^2=117.48$, $p<.001$, respectively) (Table 1).

Aim 2: Prevalence of broad SA prior to college and prevalence of revictimization

Prior to beginning college, 22.2% of the sample reported experiencing broad SA. Women were more likely to report pre-college broad SA compared to men (29.3% of women vs. 10.9% of men, $X^2=331.62$, $p<.001$). Among participants endorsing broad SA prior to college, 39.2% also reported being victimized in college and rates between males and females were not significantly different (40.6% of females vs. 33.5% of males, $X^2=3.78$) (Table 1).

Aim 3: Correlates of broad SA since beginning college

Women—As shown in Table 2, identifying as Black or Asian was related to decreased likelihood of experiencing broad SA in college compared to identifying as White (OR=.81, $p<.05$ and OR=.56, $p<.001$, respectively). Higher levels of three personality factors were associated with greater risk of exposure including neuroticism (OR=1.06, $p<.001$), extraversion (OR=1.04, $p<.05$), and openness (OR=1.09, $p<.05$) while higher

conscientiousness was associated with reduced risk (OR=.93, $p<.001$). Lower levels of reported parental involvement (OR=1.06, $p<.05$), parental autonomy (OR=1.07, $p<.01$), and peer deviance (OR=1.07, $p<.001$) were associated with increased risk while higher levels of social support (OR=.88, $p<.001$) served as a protective factor. Variables associated with mental health were also significantly associated with risk of broad SA experienced in college. Symptoms of PTSD, alcohol use frequency, and depression each conferred greater risk (ORs=1.93, 1.38, 1.12, $ps<.001$, respectively). Additionally, experience of an interpersonal trauma prior to college was a significant predictor of broad SA in college (OR=3.98, $p<.001$). Other factors in the models were not significant.

Men—Identifying as Asian was associated with decreased likelihood of experiencing broad SA in college compared to identifying as White (OR=.67, $p<.05$). Conversely, higher levels of neuroticism (OR=1.10, $p<.001$) and openness (OR=1.11, $p<.01$) were related with heightened risk, while higher agreeableness (OR=.92, $p<.05$) was associated with decreased risk of broad SA. Social support (OR=.89, $p<.01$) also served as protective factor while peer deviance (OR=1.05, $p<.001$) and lower levels of parental involvement (OR=1.14, $p<.001$) were related to increased risk. Symptoms of PTSD and anxiety also increased risk (ORs=1.76, 1.10, $ps<.05$, respectively). Similarly to females, experience of an interpersonal trauma prior to college was a significant predictor of broad SA in college (OR=5.29, $p<.001$) among males. Other factors in the models were not significant.

Final Models—A final regression was modeled for men and women separately with each significant predictor from the previous analyses included. Among both men and women, greater levels of social support were associated with reduced risk (ORs=.92, $ps<.05$). Greater levels of openness increased risk of broad SA in men (OR=1.12 $p<.05$). Alcohol use frequency and depression symptoms were additionally associated with increased risk of exposure (OR=1.23, $p<.01$; OR=1.05, $p<.05$; respectively) only in women. Moreover, experience of an interpersonal trauma prior to college was also related to greater risk for both men (OR=3.46, $p<.001$) and women (OR=2.55, $p<.001$). Other variables in the final models were not significant.

COMMENT

While factors related to SA risk have been identified by previous literature, this study uniquely examines such factors simultaneously in a large, diverse, sample of college students. Nearly one fifth of the overall sample reported experiencing broad SA, with women reporting significantly higher rates compared to men. Overall, our findings were consistent with previous literature. We found that the prevalence of broad SA since beginning college within our sample was similar to previous studies. However, exact prevalence comparison is challenging given that studies often report the prevalence of rape^{3,43}, while we examined the prevalence of all unwanted sexual experiences, which includes rape. This distinction is particularly salient with the college population, given that previous research has found that many survivors do not report being raped despite reporting experiences that meet the legal definition of rape⁴⁴. It is interesting to note that previous research has found that 4–6% of men are victims of rape while enrolled in college³, while in our sample 11.6% of males experienced sexual victimization, with only 2.8% reporting rape.

This finding is important given that the federal government's definition of rape did not include male victims in the F.B.I.'s uniform crime report until 2012⁴⁵ and the related pervasive rape myth that men cannot be raped. Perhaps men have been experiencing higher rates of sexual victimization than previously thought, but due to historical and social forces that may shape men's views of what constitutes rape, their experiences are not being accurately captured. More research is needed to understand the nuanced experience of men, not just as perpetrators, but also as victims of sexual violence.

In terms of the prevalence of broad SA revictimization, similar to previous research (e.g.,⁴⁶), nearly one fifth of the sample reported broad SA prior to college, with about 40% of those participants reporting revictimization while enrolled in college. Our research hypothesis was confirmed that among both men and women, experience of prior victimization before coming to college was related to a greater risk of victimization while in college. A new finding from this study is that there was no statistically significant difference between men and women who reported revictimization. Therefore, while women experience higher rates of sexual victimization overall, once broad SA has occurred, both men and women experience similar risk of revictimization.

Finally, while no early environmental factors that were measured were significant, in line with extant literature (e.g.,^{5,11}) the experience of an interpersonal trauma prior to college was a significant predictor of broad SA in college for both men and women. Notably, prior research investigating the association between personality and SA has focused mainly on one facet of personality (i.e., neuroticism^{20,27,28}), whereas the present study examined associations between SA and multiple personality factors (i.e., neuroticism, openness, extraversion, conscientiousness) in order to identify possible risk or protective factors that may inform education and prevention efforts. Interestingly, while neuroticism in men and extraversion in women were significant in the first analysis, in the final analysis openness in males was the solitary personality factor that was a significant predictor of broad SA in college. Given that men are not socialized to fear and expect sexual victimization as women are, the role openness plays in the risk for victimization in men should be explored in future research. Additionally, in terms of mental health factors, lifetime alcohol use and depression conferred a greater risk for females only. Taken together, these findings uncover a more nuanced picture of the importance ways male and female risk factors for victimization may differ. Finally, consistent with previous literature related to resilience (e.g.⁴⁷), social support served as a protective factor for both groups. This finding underscores the importance of cultivating a positive campus culture where student support can be leveraged to encourage active bystander behaviors⁴⁸.

Limitations

There are several limitations of this study. First, while the sample was robust and representative of the larger university population, the generalizability of the study results is constrained by the focus on students in one large, urban, public university. Second, because the data are part of a larger longitudinal research project the available data and measurements used were not specifically tailored to this study. Moreover, some of the modified versions of the scales possess lower than optimal Cronbach's alphas (i.e., subscales

pertaining to family relations). Thus, a more thorough assessment of these factors with full scales should be incorporated into future research endeavors. Additionally, given that data collection occurred over a window of time there is potential overlap in the fall administration between the responses “in the past twelve months” and “before starting college”. Therefore it is possible that a participant who experienced SA during their initial days of the college was erroneously coded as pre-college onset rather than college-onset SA. Finally, the terminology “unwanted or uncomfortable sexual experiences” was used in addition to “rape” to describe broad sexual assault. Given high rates of underreporting sexual violence, this was done to capture a subset of participants that may not have otherwise reported sexual assault despite experiencing sexual trauma. This categorization, however, left open a wide range of interpretation among participants and researchers should proceed with caution when drawing comparisons with other prevalence rates. Future research should investigate the spectrum of behaviors that occur within the umbrella of unwanted sexual experiences to learn more about risk factors related to different types of sexual violence. Finally, although a number of variables were identified as significantly associated with broad SA, these findings must be considered in light of small effect sizes. The results demonstrate a multifactorial and complex relationship between demographic, personality, early environment, resiliency, mental health, trauma history and broad SA, however, the clinical relevance of some factors may be limited.

Conclusions

Despite these limitations, this study has important implications for sexual violence prevention programming and response. It should be noted that the implications do not include a focus on decreasing prevalence rates, as the only way to decrease sexual violence is to focus on those who perpetrate sexual violence and is beyond the scope of this study. Rather, understanding the risk factors and correlates of experiencing sexual violence is a step towards improving sexual violence programming and response by bolstering protective factors and minimizing modifiable risk factors. Indeed, in compliance with Title IX federal mandates and the Campus Sexual Violence Elimination (SaVE) Act, colleges and universities are required to offer sexual violence prevention programming and support services to survivors. Schools in violation may face fines up to \$35,000 per violation⁴⁹. Therefore, as universities are rushing to meet these new federal guidelines, student prevention programming and response services should consider the impact of previous interpersonal trauma prior to coming to college on all students’ risk of SA. In addition, student health personnel and college counselors should screen all clients for previous sexual trauma as this is a significant risk factor for revictimization for both men and women. When therapeutically relevant, counseling services should intentionally work with survivors to bolster protective factors (e.g. trauma-informed counseling⁵⁰) and minimize modifiable risk factors (e.g. risk-reduction education⁵¹), taking into account the varied experiences of men and women.

Current bystander models are focused on educating and empowering students to recognize behaviors that endorse rape culture and safely intervene in situations that encourage sexual violence⁵². In addition to focusing on this cultural shift, bystander intervention programs should focus on strengthening the assets found to be protective factors against SA (i.e.,

social support) within the campus community. Finally, the unique needs of male survivors of SA should be considered when creating sexual violence prevention and response services. Males are often called upon to help end violence against women, and male survivors may feel their experiences are not validated. Given that once SA has occurred, males have a similar risk of revictimization as females; campus services should take care to cater to a diverse spectrum of survivors (e.g., house services in a Wellness Center vs. a Women's Center) and offer response services and support groups specifically to male student survivors.

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Table 1
Prevalence of SA, Any Other or Unwanted Sexual Experience, Broad SA, and Broad SA Revictimization by Sex

	Men			Women			Full Sample		
	n	%	SE	n	%	SE	n	%	SE
Prior to college									
SA	2797	3.5	.004	4417	10.8	.005	7243	8.0	.003
Other unwanted or uncomfortable sexual experience	2774	9.9	.006	4405	27.1	.007	7207	20.5	.005
Broad SA	2765	10.9	.006	4386	29.3	.007	7179	22.2	.005
While in college									
SA	2212	2.8	.004	3734	6.7	.004	5987	5.2	.003
Other unwanted or uncomfortable sexual experience	2205	10.6	.007	3729	21.7	.007	5974	17.5	.005
Broad SA	2204	11.6	.007	3725	23.0	.007	5969	18.7	.005
Revictimization ^a	218	33.5	.032	993	40.6	.016	1217	39.2	.014

Note

* p<.05,

**

p<.01,

p<.001.

^aRevictimization analyses were run among individuals endorsing a history of broad SA prior to enrolling into college.

Table 2 Potential correlates (Demographic, Personality, Environmental, Resilience, Mental Health) of Broad SA by Sex

	Men				Women			
	OR	95% C.I.	B	S.E.	OR	95% C.I.	B	S.E.
Demographics								
Black (vs. White)	.70	.47–1.05	-.36	.21	.81*	.67–.98	-.21	.10
Asian (vs. White)	.67*	.45–.98	-.41	.20	.56***	.44–.71	-.59	.12
Other (vs. White)	.92	.62–1.40	-.08	.20	.82	.65–1.03	-.20	.12
Personality								
Neuroticism	1.10***	1.05–1.15	.09	.03	1.06***	1.03–1.10	.06	.02
Agreeableness	.92*	.87–.99	-.08	.03	.97	.92–1.00	-.04	.02
Extraversion	1.02	.97–1.07	.02	.03	1.04*	1.01–1.06	.04	.01
Conscientiousness	.94	.88–1.01	-.06	.04	.93**	.88–.97	-.08	.02
Openness	1.11**	1.04–1.19	.11	.04	1.09***	1.05–1.13	.08	.02
Early Environment								
Parental Involvement	1.14***	1.07–1.23	.13	.04	1.06*	1.02–1.10	.06	.02
Parental Autonomy	1.04	.97–1.12	.04	.04	1.07**	1.03–1.11	.07	.02
Peer Deviance	1.05***	1.03–1.08	.05	.02	1.07***	1.05–1.09	.07	.01
Resilience								
Social Support	.89**	.83–.95	-.12	.04	.88***	.85–.92	-.13	.02
Resilience	.92	.83–1.02	-.09	.05	1.02	.96–1.08	.02	.03
Mental Health								
PTSD	1.76*	1.13–2.75	.57	.23	1.93***	1.53–2.43	.66	.12
Alcohol Frequency	1.07	.90–1.26	.06	.09	1.38***	1.24–1.53	.32	.05
Depression Symptoms	1.05	.98–1.12	.05	.04	1.12***	1.07–1.16	.11	.02
Anxiety Symptoms	1.10*	1.02–1.19	.10	.04	.97	.93–1.01	-.03	.02
Trauma History								

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	Men			Women				
	OR	95% C.I.	B	S.E.	OR	95% C.I.	B	S.E.
Accidental Trauma	1.49	.98-2.26	.40	.21	.86	.69-1.08	-.15	.11
Interpersonal trauma	5.29 ^{***}	3.77-7.41	1.67	.17	3.98 ^{***}	3.34-4.73	1.38	.09

Note

* p<.05,

** p<.01,

p<.001. Analyses were run among all participants in the study.

Table 3

Correlates of Broad SA Final Models by Sex

	Men (n=1307)				Women (n=1718)			
	OR	95% C.I.	B	S.E.	OR	95% C.I.	B	S.E.
Significant Variables from Previous Analyses								
Asian	.63	.37-1.09	-.46	.28	.71	.48-1.06	-.34	.20
Black	-	-	-	-	1.02	.75-1.39	-.02	.16
Extraversion	-	-	-	-	1.04	1.00-1.09	.04	.02
Neuroticism	1.05	.98-1.13	.05	.04	1.03	.97-1.08	.03	.03
Openness	1.12*	1.02-1.23	.11	.05	1.06	1.00-1.13	.06	.03
Agreeableness	.97	.90-1.05	-.03	.04	-	-	-	-
Conscientiousness	-	-	-	-	.93	.86-1.00	-.08	.04
Parental involvement	1.09	1.00-1.19	.08	.05	.99	.93-1.06	-.01	.04
Parental Autonomy	-	-	-	-	1.06	1.00-1.13	.06	.03
Peer Deviance	1.02	.99-1.06	.02	.02	1.00	.97-1.04	.01	.02
Social Support	.92*	.84-1.00	-.09	.04	.92**	.86-.97	-.09	.03
PTSD	1.40	.92-2.12	.33	.21	1.19	.89-1.59	.17	.15
Alcohol Frequency	-	-	-	-	1.23**	1.06-1.43	.21	.08
Depressive Symptoms	-	-	-	-	1.05*	1.01-1.09	.05	.02
Anxiety Symptoms	1.05	.99-1.12	.05	.03	-	-	-	-
Interpersonal Trauma	3.46***	2.21-5.45	1.24	.23	2.55***	1.90-3.42	.94	.15

Note

* p<.05,

** p<.01,

*** p<.001. Analyses were run among all participants in the study.