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Latent Profiles of Sexual Functioning Among Survivors of Sexual Violence

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Abstract

Sexual violence is a pervasive public health issue with significant impacts on survivors' sexual functioning. The current study used latent profile analysis to identify subgroups of sexual functioning among 393 women with histories of sexual violence. Four profiles emerged: *High Inhibition/Concerns*, *Healthy Functioning*, *Casual Sex*, and *Satisfied but Inhibited*. Profiles differed significantly in PTSD symptoms, binge drinking, and substance use before sex, but not in sexual violence severity. Results highlight the heterogeneity of sexual functioning outcomes following sexual violence and underscore the importance of tailored, trauma-informed interventions addressing sexual health, PTSD, and substance use among survivors.

Sexual violence among women is a global public health concern (Dworkin et al., 2021; García-Moreno et al., 2013) and encompasses any nonconsensual sexual act including sexual contact, sexual coercion, sexual assault, attempted rape, and completed rape that can occur in childhood and/or adulthood (Fedina et al., 2018). More than half of women in the United States experience unwanted sexual contact during their lifetime, while one in four women experience attempted or completed rape (Basile et al., 2014; Leemis et al., 2022). Sexual violence is associated with numerous negative psychological, physical, and relational consequences (Dworkin, 2020; Dworkin et al., 2017).

Given the intimate nature of sexual violence, many survivors also struggle with sexual functioning following an assault (Kelley & Gidycz, 2017; Pulverman & Creech, 2021). Sexual functioning is a multifaceted construct. Although there is no uniform definition of

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Author contributions

[Blinded for review] conceived the study, led the data collection, and wrote the first draft of the manuscript. [Blinded for review] conducted the analysis, interpreted the results, and provided critical revisions to the manuscript. Dr. Bhuptani contributed to the literature review and assisted with writing and editing.

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sexual functioning, the World Health Organization (WHO) refers to sexual functioning as encompassing sexuality-related physical, emotional, mental, and social well-being (Organization, 2017). The Diagnostic Statistical Manual for Mental Disorders, 5th edition ([DSM-5], American Psychiatric Association, 2013) refers to difficulties with sexual functioning as sexual dysfunction and refers to a wide-ranging set of problems associated with an impaired ability to “respond sexually or to experience sexual pleasure.” The DSM-5 provides a list of specific areas of sexual dysfunction that include physiological aspects such as desire, arousal, pain, orgasm, and lubrication, along with psychological aspects of sexual functioning such as sexual satisfaction. The empirical literature has also identified other relevant aspects of sexual functioning, such as sexual competence, sexual communication, and sexual compatibility (Meston et al., 1999; Meston & Trapnell, 2005).

Whereas 40–45% of women experience difficulties with sexual functioning regardless of a prior history of assault (Lewis et al., 2010), approximately 60% of women who have experienced lifetime sexual violence report some form of difficulties with sexual functioning (Högbeck & Möller, 2022; Öberg et al., 2004). Notably, 65–85% of women with histories of childhood sexual abuse report difficulties with sexual functioning, nearly twice the rate reported by the general population of women (Pulverman et al., 2018). Another study on college women found that 83% ($n = 167$) of women with a history of lifetime sexual violence experienced problems with sexual dysfunction (Garneau-Fournier et al., 2017). The authors also found that approximately 44% ($n = 167$) of college women with at least one sexual dysfunction problem reported a history of lifetime sexual violence. These prevalence rates demonstrate the long-standing impact of sexual violence on survivors’ sexual health and well-being.

The relationship between sexual violence and sexual functioning is complex. First, sexual violence does not uniformly impact all domains of sexual functioning. For example, studies show that sexual violence is associated with less sexual satisfaction (Kelley & Gidycz, 2015), less sexual compatibility with their sexual partners (Kilimnik et al., 2016), higher levels of sexual concerns (Kilimnik et al., 2016), lower sexual desire (Turchik & Hassija, 2014), greater difficulty with orgasm (Turchik & Hassija, 2014), and greater lubrication difficulties (Kelley & Gidycz, 2019). In contrast, other studies found that sexual violence *was not* related to varied domains of sexual functioning, such as sexual arousal (Kelley & Gidycz, 2019), orgasm difficulties (Kelley & Gidycz, 2019), overall sexual functioning (Kelley & Gidycz, 2017), or overall sexual satisfaction (Kelley & Gidycz, 2017).

Second, post-traumatic disorder symptoms experienced by survivors post-assault also have an impact on aspects of sexual functioning (Högbeck & Möller, 2022). Specifically, in a sample of women veterans with a history of military sexual assault, increased post-traumatic disorder symptoms were associated with lower sexual desire (Garneau-Fournier et al., 2018). Another study on college women found that increased post-traumatic disorder symptoms mediated the relationship between history of adult sexual violence and greater orgasm difficulties as well as greater sexual pain (but not desire, arousal, or lubrication; Kelley & Gidycz, 2017). When trying to understand why PTSD symptoms impact sexual functioning, scholars postulate that intrusive trauma-related experiences may negatively impact survivors’ sexual response. Negative changes in mood (e.g., anxiety, low mood) may contribute

to increased hypervigilance to pain sensations and increased pelvic floor tension during intercourse that lead to increased sexual pain (ter Kuile et al., 2010).

In the same vein, sexual functioning impairments experienced by survivors may also have an impact on substance use, both in general and use before sex specifically. Several studies report a significant association between decreased sexual functioning and increased alcohol use among women (Kling et al., 2019; Salari et al., 2023). Associations between decreased sexual functioning and increased alcohol use are also reported among survivors of sexual violence (Sadler et al., 2012). Research on the use of alcohol in sexual contexts has found that women who report a history of sexual violence are more likely to drink *prior to sex* (Bird, 2020; Umo, 2021). Research also suggests that women in general (i.e., not necessarily sexual assault survivors) use substances *prior to sex* for explicitly sexual purposes, such as increasing sexual pleasure and decreasing sexual inhibitions (Lorenz, 2021; Lynn et al., 2019; Talley et al., 2014; White et al., 2009). Specific to survivors, women with a history of sexual violence may also use substances before sex to cope with difficulties with sexual functioning (Sanjuan et al., 2009; Smith et al., 2014). Lastly, prior studies have also documented a positive association between sexual violence severity and impairments in sexual functioning, with increased violence severity associated with increased problems in sexual functioning (Dunlop et al., 2015; Staples et al., 2016).

Traditional variable-centered approaches have been instrumental in identifying these associations by examining average relationships between variables such as sexual violence exposure, PTSD symptoms, and sexual functioning. However, such approaches assume homogeneity across individuals and may obscure meaningful subgroups of survivors who experience qualitatively distinct patterns of sexual functioning concerns (Daljeet et al., 2017; Swartout et al., 2011). In contrast, person-centered analytic approaches, such as latent profile analysis (LPA), focus on identifying naturally occurring subgroups based on individuals' patterns of responses across multiple domains (Bauer, 2022). LPA approach is particularly well-suited to the study of sexual functioning among survivors, where difficulties are often heterogeneous and multidimensional (Kilimnik et al., 2016; Swartout et al., 2011). By capturing co-occurring patterns—rather than single-variable associations—LPA enables a more nuanced understanding of how survivors differ in their sexual functioning profiles and how these profiles relate to PTSD symptoms, substance use, and sexual violence severity. Thus, integrating a person-centered approach moves beyond the limitations of variable-centered methods by highlighting the diversity of survivors' experiences and identifying subgroups that may require distinct clinical attention.

Accordingly, the current study is the first to use a person-centered analytic approach, specifically LPA, to identify subgroups of women survivors with different patterns of sexual functioning. The current study aimed to identify latent profiles of sexual functioning among survivors of sexual violence and examine their associations with PTSD symptoms, substance use, and sexual violence severity. Given that this is the first study identifying subgroups of sexual functioning among sexual violence survivors, the hypothesis regarding the number of profiles yielded is exploratory. However, we expected that profiles would range in levels of difficulties endorsed, such as high sexual functioning difficulties to low difficulties. Next, we compared post-traumatic stress symptoms, substance use behaviors, and sexual

violence severity between the different latent profiles identified. Based on prior studies (e.g., Dunlop et al., 2015; Högbeck & Möller, 2022; Staples et al., 2016), we expected that profiles with higher sexual functioning difficulties will be associated with higher levels of PTSD symptoms, greater use of substances before sex, greater levels of binge drinking, and increased violence severity, compared to profiles with low sexual functioning difficulties.

Method

Participants

The current sample consisted of 393 women who reported having sex in the last 12 months and experienced lifetime sexual violence. Participants were recruited via advertisements on social media (i.e., Instagram, Facebook, and Twitter) as part of a larger study on disclosures of unwanted sexual experiences that was motivated by the #MeToo movement ($n = 767$). Data was collected from February 2020 to February 2022. Participants were eligible for the larger study if they lived in the United States, were at least 18 years old, and endorsed having an unwanted sexual experience on the Sexual Experiences Survey—Short Form Victimization (SES-SFV; Johnson et al., 2017; Koss et al., 2007). Participants were only included in the current study if they endorsed having sex within the last 12 months ($n = 393$) and identified as a woman.

The racial/ethnic composition of the sample was 69.5% White ($n = 273$), 5.9% Black or African American ($n = 23$), 8.9% Latinx or Hispanic ($n = 35$), 7.9% Asian/Pacific Islander ($n = 31$), 3.6% Multiracial ($n = 14$), 3.1% Native American or American Indian ($n = 12$), and 1% other ($n = 4$)—with 0.3% reporting they preferred not to answer ($n = 1$). Most of the sample identified as straight/heterosexual (45.3%; $n = 178$). Additionally, 35.4% identified as bisexual ($n = 139$), 10.9% identified as pansexual ($n = 43$), 5.6% identified as lesbian ($n = 22$), 1.5% identified as other ($n = 6$), 0.3% as gay ($n = 1$), and 1% reported they preferred not to answer ($n = 4$).

Procedure

The survey was administered online. Informed consent was obtained from participants before being directed to the survey. The survey lasted approximately half an hour, and participants were provided with a \$10 Amazon gift card upon completion. To prevent data corruption (e.g., bots completing the study), a two pronged approach to data quality control was implemented: (1) a reCAPTCHA box was used to verify participant was human and (2) survey responses were manually reviewed, and suspicious data was flagged by the research team (e.g., inconsistent responses, multiple responses from same participants, unlikely email addresses, and illogical responses to open-ended questions). Any participant with at least one characteristic of suspicious data was removed from the analysis. Of the 1191 responses collected, 767 (64.3%) were included in the larger study. Study procedures for the full project were approved by the institutional review board [blinded for review] and human subject review continued through the secondary analyses of data.

Measures

Sexual victimization: Sexual victimization was measured using the Sexual Experiences Survey-Short Form Victimization (SES-SFV; Koss et al., 2007). The SES-SFV is a self-report measure designed to assess experiences of unwanted sexual contact since the age of 14. Sexual assault was classified according to the most severe experience indicated, including (a) no experience, (b) sexual contact by verbal coercion, intoxication, by force or threat of force, (c) attempted rape by verbal coercion, (d) completed rape by verbal coercion, (e) attempted rape by intoxication, by force or threat of force, (f) completed rape by intoxication, force, or threat of force. This five-level categorization scheme was utilized as a measure of assault severity (Davis et al., 2014). The SES-SFV has been proven to be a valid and reliable measure of sexual victimization in a variety of different populations and is one of the most commonly used measures in sexual victimization research (Johnson et al., 2017; Koss et al., 2007).

Sex in the past 12 months: Participants were asked, “Have you had sex with one or more partners in the past 12 months?” Participants had to respond with a “Yes” or “No.” Only those participants who responded with “Yes” were included in the current study.

Female sexual functioning index: Sexual functioning was measured via self-report using the Female Sexual Functioning Index (FSFI; Meston, 2003). The FSFI is a 19-item scale used for assessing sexual functioning across six subscales (i.e., sexual desire, arousal, lubrication, orgasm, satisfaction, and pain). Participants responded to items on a five-point Likert scale, with response options varying depending on the question asked (i.e., *very often* to *very rarely*; *very low* to *very high*, *very easy* to *very difficult*, and *very satisfied* to *very dissatisfied*). For example, on “How often did you feel sexual desire or interest?” participants could respond *very often* (1) to *very rarely* (5). On “How difficult was it to become lubricated or erect during sexual activity?” participants could respond *Very easy* (1) to *very difficult* (5). The FSFI has demonstrated excellent internal reliability, construct validity, convergent validity, and discriminant validity (Wiegel et al., 2005; Meston, 2003; Rosen et al., 2000). In the current study, subscale scores were obtained by multiplying the sum by a factor to achieve a total possible score of 5. Low scores indicate low levels of desire, low levels of arousal, greater difficulty with lubrication, greater difficulty with orgasm, low satisfaction, and low pain. In the current study, the scale demonstrated acceptable internal validity across subscales (desire [$\alpha = 0.90$], arousal [$\alpha = 0.92$], lubrication [$\alpha = 0.92$], orgasm [$\alpha = 0.92$], satisfaction [$\alpha = 0.83$], and pain [$\alpha = 0.77$]).

Sexual excitation/inhibition scale: Sexual arousal was measured via self-report using the Sexual Excitation/Sexual Inhibition Inventory for Women and Men (SESII-W/M; Milhausen et al., 2010). The SESII-W/M is a 30-item measure with six subscales (Inhibitory Cognitions, Relationship Importance, Arousability, Partner Characteristics and Behaviors, Setting, and Dyadic Elements of the Sexual Interaction). Participants responded using a 4-point scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (4) to items such as “If a partner surprises me by doing chores, it sparks my sexual interest.” Item responses were added to create a sum score. Higher scores on the Inhibitory Cognitions subscale

reflect higher levels of cognitions or emotions that inhibit sexual arousal, such as worry about having an orgasm or concerns about being a good sexual partner. Higher scores on the Relationship Importance subscale reflect a higher need for trust and commitment to get aroused. Higher scores on the Arousability subscale mean the tendency to become easily sexually aroused in a variety of situations, such as thinking about someone who is very sexually attractive, talking about sex, and being physically close to a partner. Higher scores on the Partner Characteristics and Behaviors subscale indicate higher levels of arousal in response to the partner's personality (intelligence, talent, interpersonal skills) or behavior (doing chores, doing something nice for the partner) to impact arousal. Higher scores on the Setting subscale indicate a greater tendency for their arousal to be enhanced when engaging in sexual behavior in an unusual or unconcealed setting. Lastly, higher scores on the Dyadic Elements of the Sexual Interaction subscale indicate higher inhibition due to dyadic elements (one's needs regarding a sexual partner's behavior in order to get aroused). The SESII-W/M has demonstrated construct validity and moderate to good internal validity (Milhausen et al., 2010). In the current study, most subscales of SESII-W/M demonstrated acceptable internal validity (Inhibitory Cognitions [$\alpha = 0.82$], Relationship Importance [$\alpha = 0.92$], Arousability [$\alpha = 0.79$], Partner Characteristics and Behaviors [$\alpha = 0.76$], Setting [$\alpha = 0.70$], and Dyadic Elements of the Sexual Interaction [$\alpha = 0.55$]).

Sexual Satisfaction Scale for Women: Sexual satisfaction was measured via self-report using the Sexual Satisfaction Scale for Women (SSS-W; Meston & Trapnell, 2005). The SSS-W is a 30-item measure comprised of five subscales (contentment, communication, compatibility, relational concerns, and personal concerns). Participants responded to items (e.g., "I feel content with the way my present sex life is") using a five-point Likert scale. Response options ranged from *strongly disagree* (1) to *strongly agree* (5) or *completely satisfactory* (1) to *not at all satisfactory* (5), depending on the wording of the item. The SSS-W has demonstrated good to excellent internal consistency and construct and discriminant validity (Meston & Trapnell, 2005). Individual domain scores are calculated by summing the scores of the items that comprise the domain. Low scores indicate low levels of contentment, less comfort with sexual communication, low sexual compatibility, and higher personal concerns. In the current study, most subscales of SESII-W/M demonstrated acceptable internal validity (contentment [$\alpha = 0.59$], communication [$\alpha = 0.82$], compatibility [$\alpha = 0.93$], relational concerns [$\alpha = 0.90$], and personal concerns [$\alpha = 0.90$]).

Post-traumatic stress symptoms: Symptoms of post-traumatic stress disorder (PTSD) were measured via self-report using an abbreviated version of the PTSD Checklist-Civilian Version (PCL-6; Lang & Stein, 2005; Lang et al., 2012). The measure consists of 6 items and asks participants to respond on a scale of 0 (*Not at all*) to 4 (*Extremely*) regarding how bothered they have been by each symptom in the past month. PCL-6 instructions were modified in this study to ask specifically about "problems and complaints that people sometimes have *in response to threatening sexual situations or unwanted sexual contact*." The PCL-6 was adapted from the PCL-C (Weathers et al, 1993) and validated in samples of adult patients in primary care clinics (Lang & Stein, 2005; Lang et al., 2012). It has demonstrated excellent construct (Lang & Stein, 2005) and concurrent validity (Lang et al., 2012). Mean scores were computed for the PCL-6, with higher scores indicating greater

symptom severity. In the current study, the PCL-6 demonstrated acceptable internal validity ($\alpha = .85$).

Binge drinking: Binge drinking was assessed using a single item adapted from the National Survey on Drug Use and Health (Center for Behavioral Health Statistics and Quality, 2018). Participants were asked, “During the past 30 days, on how many days did you have 4 or more drinks of alcohol in a row, that is, within a couple of hours?” and responded on a seven-point scale (0 days, 1 day, 2 days, 3–5 days, 6–9 days, 10 to 19 days, 20 or more days). This measure has been used in a variety of other studies to assess binge drinking (Esser et al., 2021; Kepner et al., 2023; Porter et al., 2024).

Use of substances before sex: Use of substances before sex was assessed using an item adapted from the Youth Risk Behavior Survey (YRBS; Centers for Disease Control and Prevention, 2019). Participants were asked several questions from the stem “*The last time you had sexual intercourse...*,” and their response to “... did you drink alcohol or use drugs beforehand?” was used for this construct. Participants were able to respond (1) *I have not had sexual intercourse*, (2) *Yes*, or (3) *No*. Participants who chose “*I have not had sexual intercourse*” were not retained in the study sample.

Data analysis plan: A latent profile analysis (LPA) was conducted using Mplus 8.11 (Muthén & Muthén, 2017) to estimate profiles of sexual satisfaction, sexual functioning, and sexual excitation/inhibition among women who have experienced sexual violence. LPA is a person-centered statistical technique used to identify subgroups based on observed variables. LPA uses continuous scores to categorize individuals on latent (i.e., hidden) profiles. To determine the optimal number of latent classes that best fit the data, 2- to 6-class solutions were evaluated. Individuals are assigned to profiles based on their probability of belonging to each profile. Decisions about the number of profiles to retain rely on theoretical decisions, goals of the study, and examination of fit statistics. The most common fit statistics used to determine model retention include the Bayesian Information Criterion (BIC), Sample-Adjusted BIC (SABIC), and Akaike’s Information Criteria (AIC). For the AIC, BIC, and SABIC, lower values indicate a better fitting model. Muthén and Muthén (2017) report that simulation studies indicate the SABIC is superior to BIC. Other fit indices used in LPA include log likelihood, the Lo, Mendell, and Rubin test (LMR), the bootstrap likelihood ratio test (BLRT), and entropy. A nonsignificant LMR test means the prior model ($k - 1$) is a better-fitting model. The BLRT is used to compare the fit of one model to a model with one fewer profile. A significant BLRT indicates the current model is a better fit than a model with $k - 1$ profiles. Entropy measures the clarity with which the profiles are distinguishable, with higher values indicating better classification (Nylund et al., 2007).

After deciding on the number of profiles to retain, SPSS v29 was used for subsequent analyses. A series of one-way between groups multivariate analysis of variance (MANOVA) were conducted to examine profile differences on subscales for the Sexual Satisfaction Scale for Women, the Female Sexual Functioning Scale, and the Sexual Excitation/Inhibition Scale. Two one-way analysis of variance (ANOVA) were conducted to examine profile differences on PTSD symptoms and binge drinking. A Bonferroni correction was applied to post-hoc analyses to reduce the likelihood of Type I errors. Finally, chi-square tests were

conducted to examine whether there were differences among the profiles in the proportion of participants who used alcohol or drugs prior to their last sexual encounter and the most severe form of sexual assault they experienced.

Results

A latent profile analysis (LPA) was conducted to examine profiles of individuals with similar patterns on the subscales of the Sexual Satisfaction Scale for Women (four subscales), the Female Sexual Functioning Scale (six subscales), and the Sexual Excitation/Inhibition Scale (six subscales). Various fit statistics were examined to determine the model with the optimal number of profiles (two-profile to six-profile; Table 1). The analyses did not reveal a clear-cut solution, so the fit statistics were examined in conjunction with interpretative meaningfulness. The AIC, BIC, and sample-size adjusted BIC indicated a four-profile solution. For the LMR and BLRT tests, Nylund et al. (2007) suggest that the first occurrence of a nonsignificant p-value is a good indication to stop increasing the number of profiles examined. The BLRT remained significant ($p < .001$) for all profile solutions. The LMR indicated the three-profile solution was the better fitting model. Entropy was highest for the four-profile solution, suggesting best separation between profiles. Given that the majority of fit statistics indicated the four-profile solution was the best fitting model, the four-profile model was retained for the remaining analyses.

The four profiles were given labels to describe patterns of responding on the Sexual Satisfaction Scale for Women (four subscales), the Female Sexual Functioning Scale (six subscales), and the Sexual Excitation/Inhibition Scale (six subscales). The profiles were labeled based on how each profile's mean differed from the overall sample and how it compared to the scores of the other profiles (see Tables 2 and 3). Profile 1 ($n = 83$) was labeled *High Inhibition/Concerns* and was characterized by very high inhibitory concerns in comparison to the other profiles suggesting individuals in this profile reported high cognitions or emotions that inhibit sexual arousal such as worry about having an orgasm, concerns about being a good lover, and feeling shy or self-conscious during sex. Profile 2 ($n = 100$) was labeled *Healthy Functioning* and was characterized by the highest satisfaction, highest sexual functioning, and lowest inhibitory concerns in comparison to other groups, suggesting individuals in this profile are reporting the lowest overall sexual functioning difficulties. Profile 3 ($n = 61$) was labeled *Casual Sex* and was characterized by the lowest need for trust and/or commitment in order to get aroused, the highest tendency to become easily sexually aroused in a variety of situations (e.g., seeing someone dressed in a sexual way, feeling desired), and the highest arousal in unusual or unconcealed settings (e.g., if other people are nearby) in comparison to other profiles. Profile 4 ($n = 149$) was labeled *Satisfied but Inhibited* and was characterized by the second highest scores on the sexual satisfaction subscales (Profile 2 was the highest) and the second highest inhibitory concerns (Profile 1 was the highest), suggesting that while individuals in this profile reported high cognitions and emotions that inhibit sexual arousal, they were relatively sexually satisfied.

A series of MANOVAs were conducted to examine profile differences on subscales for the Sexual Satisfaction Scale for Women, the Female Sexual Functioning Scale, and the Sexual Excitation/Inhibition Scale. The overall models for the Sexual Satisfaction Scale for Women,

Wilkes $\lambda = 0.15$, $F(15, 1063) = 69.22$, $p < .001$, the Female Sexual Functioning Scale, Wilkes $\lambda = 0.17$, $F(18, 1084) = 51.80$, $p < .001$, and the Sexual Excitation/Inhibition Scale, Wilkes $\lambda = 0.17$, $F(18, 1084) = 51.80$, $p < .001$, were all significant. Post hoc ANOVAs revealed significant profile differences on all subscales. Profile means and differences between profiles are presented in Table 2.

A one-way ANOVA revealed significant profile differences on PTSD symptom severity, $F(3,389) = 14.89$, $p < .001$. Pairwise post hoc comparisons revealed that the High Inhibition/Concerns and Casual Sex profiles did not differ from each other but reported significantly greater PTSD symptoms than the Healthy Functioning and Satisfied but Inhibited profiles, who did not differ from each other (see Table 4). A one-way ANOVA revealed significant profile differences on binge drinking, $F(3,389) = 3.93$, $p = .01$. Pairwise post hoc comparisons showed that the Casual Sex and Satisfied but Inhibited profiles did not differ from each other but reported greater binge drinking than the Healthy Functioning profile (see Table 3). No other profile differences emerged.

Chi-square analyses were conducted comparing differences in profiles in the proportion of participants who used alcohol or drugs prior to their last sexual encounter and the severity of sexual assault experienced (see Table 4). There was a statistically significant association between profile and use of alcohol or drugs before sex, $\chi^2(3) = 11.02$, $p = .01$. The High Inhibition/Concerns and Casual Sex profiles were more likely to use alcohol or drugs before sex, and the Healthy Functioning and Satisfied but Inhibited profiles were less likely to use alcohol or drugs before sex. No significant differences emerged between profiles and the severity of sexual assault experienced, $\chi^2(3) = 6.81$, $p = .08$.

Discussion

The current study capitalized on developments in person-centered analytic methods to examine a range of sexual health variables among a large sample of female sexual violence survivors ($N = 393$). Guided by an exploratory approach, we used a latent profile analysis to identify constellations of sexual satisfaction, sexual functioning, and sexual behaviors among female survivors. Although we expected to identify profiles that would range in degree of sexual difficulties endorsed (e.g., low difficulties, high difficulties), no a priori hypotheses were made about the number or characteristics of profiles. Our final analysis yielded four profiles: *High Inhibition/Concerns*, *Low Concerns*, *Casual Sex*, and *Satisfied but Inhibited*. These four profiles captured meaningful and nuanced variations in sexual functioning, satisfaction, excitation, and inhibition among survivors of sexual violence, highlighting how survivors navigate both challenges and strengths in their sex lives.

Profile characteristics

Consistent with expectations, many survivors endorsed high levels of sexual difficulties. The *High Inhibition/Concerns* ($n = 83$; 21.1%) profile was characterized by pronounced sexual inhibition, including both emotional (e.g., anxiety, shame) and cognitive (e.g., worries about orgasm or sexual performance) barriers that impede sexual functioning. In comparison to the other profiles, participants in the *High Inhibition/Concerns* profile exhibited elevated scores on Inhibitory Cognition, reflecting heightened sensitivity to factors that suppress

arousal (e.g., self-consciousness, partner behaviors). These high inhibition scores were accompanied by the lowest scores on the Arousalability (i.e., the tendency to become easily sexually aroused in a variety of situations), Partner Behaviors (i.e., arousal in response to the partner's personality or behaviors), and Setting (i.e., arousal is enhanced when engaging in sexual behavior in an unusual or unconcealed setting) domains of sexual inhibition/excitation, indicating reduced arousal in response to various sexual stimuli. Although sexual inhibition and excitation are conceptually distinct from sexual functioning symptoms (Bancroft et al., 2009; Graham et al., 2006), this profile also had the most concerning scores on all sexual functioning subscales, indicating significant challenges across multiple dimensions of sexual functioning. Participants in this profile had significantly lower scores on the desire, arousal, orgasm, and lubrication sexual functioning subscales than the three other profiles. They also had significantly lower satisfaction scores and significantly higher pain scores on sexual functioning than participants in the *Low Concerns* and *Inhibited but Satisfied* profiles. Notably, participants' scores in the *High Inhibition/Concerns* profile closely correspond to scores previously found in a sample of women with sexual dysfunction (Meston & Trapnell, 2005), and the profile's average desire score of 3.12 was more severe than the clinical cutoff of five that indicates possible Hyposexual Desire Disorder (Meston et al., 2019). In addition, participants in this profile reported significantly lower satisfaction across multiple domains of their sex life than participants in the *Low Concerns* and *Inhibited but Satisfied* profiles. Overall, the *High Inhibition/Concerns* profile demonstrates a pattern of sexual functioning consistent with prior research documenting high rates of sexual problems and dissatisfaction among survivors of sexual violence (e.g., Kelley & Gidycz, 2015; Kilimnik et al., 2016; Turchik & Hassija, 2014). The pattern of scores in this profile also illustrates the interconnectedness of sexual and relational constructs, including sexual inhibition/excitation, sexual functioning, and subjective satisfaction (Freihart et al., 2020; Velten et al., 2017), with all of these constructs aligning closely in this group.

Further aligned with our predictions, a substantial proportion of survivors endorsed low sexual difficulties. Compared to all other profiles, individuals in the *Low Concerns* profile reported significantly higher levels of satisfaction across all sexual satisfaction subscales; significantly higher degrees of arousal, orgasm, lubrication, and satisfaction across sexual functioning subscales; and significantly lower scores on sexual pain. Compared to the *High Inhibition/Concerns* profile only, the *Low Concerns* profile also had significantly lower scores on the Inhibitory Concerns and significantly higher scores on Arousalability and Desire. This pattern of responses indicates optimal sexual functioning across multiple domains. In fact, this profile's scores on sexual functioning (FSFI) and sexual satisfaction (SSS-W) closely mirror those of a control sample (i.e., women without sexual dysfunction) used during the SSS-W's development (Meston & Trapnell, 2005). Importantly, this profile included more participants ($n = 100$; 25.4%) than the *High Inhibition/Concerns* profile ($n = 83$; 21.1%), suggesting that optimal sexual functioning and satisfaction are not only possible, but also *likely* after sexual victimization. These findings are consistent with the results of prior research that has failed to find significant relationships between sexual violence victimization, as well as research suggesting that specific psychological mediators (e.g., depression, anxiety) may be uniquely linked to specific domains of sexual functioning (Kelley & Gidycz, 2017). Future research should investigate additional protective factors that

foster this resilience to adverse sexual outcomes. For instance, individuals in this profile may benefit from greater relationship closeness, community connectedness, engagement in therapy, adoption of empowerment narratives, or reliance on broader social support networks.

The additional profiles—*Casual Sex* and *Satisfied but Inhibited*—illustrate nuanced (and even paradoxical) patterns of sexual functioning and behaviors among survivors. Members of the *Casual Sex* profile ($n = 61$; 15.5%) exhibited a distinct approach to sexuality, marked by high levels of sexual excitement and arousal, without a need for trust or commitment within intimate relationships to facilitate sexual behavior. Participants in this profile had significantly higher scores on the desire, arousal, lubrication, and orgasm sexual functioning subscales than the *High Inhibition/Concerns* profile. Compared to all other profiles, members of the *Casual Sex* profile had significantly higher scores on the Arousability and Setting subscales and significantly lower scores on the Relationship Importance (i.e., a higher need for trust and commitment to get aroused) subscale. These reports are consistent with recent literature suggesting that many survivors exhibit high levels of desire, excitement, and sensation-seeking (Bogen et al., 2022; Jones & Lorenz, 2022). For some survivors, elevated arousal may be a product of trauma-related “reenactment” (e.g., Lahav et al., 2019), wherein engaging in sexual behavior serves as a way to regain a sense of control and mastery over past experiences. For others, heightened sensation-seeking may function as a coping strategy, providing distraction from trauma-related distress or numbing/dissociative symptoms. However, despite their heightened excitement and desire, individuals in this profile also reported lower sexual satisfaction on all sexual satisfaction subscales (except Relational Concerns) compared to the *Low Concerns* profile, and their scores on satisfaction were comparable to the *High Inhibition/Concerns* group. Thus, high excitement or desire among survivors may not necessarily serve as a catalyst for *satisfying* or *fulfilling* sexual experiences, or alternatively, there may be a divergent relationship between arousal/sexual functioning and satisfaction among this group.

In contrast, the *Satisfied but Inhibited* profile represents individuals who reported moderately high levels of sexual satisfaction in tandem with moderately significant inhibitory concerns. Members of this profile had significantly higher scores on the sexual satisfaction subscales than the *High Inhibition/Concerns* and *Casual Sex* profiles, but significantly lower scores on the sexual satisfaction subscales than the *Low Concerns* profile. Similarly, they had substantially more favorable scores on all sexual functioning subscales than the *High Inhibition/Concerns* profile, but less favorable scores than the *Low Concerns* profile. On the SESI, the pattern of scores for this profile was mixed. Compared to the *Low Concerns* group, *Satisfied but Inhibited* individuals had similar levels of arousability, but higher levels of inhibitory concerns. Overall, the *Satisfied but Inhibited* profile indicates that many survivors experience moderate sexual satisfaction, despite some underlying anxiety concerns. Interestingly, this profile had the highest membership rate ($n = 146$; 37.9%) among all profiles, indicating that the negative effects of sexual violence are real *and* that many survivors exhibit resilience and can achieve a satisfying and enriching sexual life. However, contextual factors not assessed in this study—such as emotional closeness, relationship satisfaction, or social support (e.g., Henderson et al., 2009)—likely

play important roles in facilitating sexual satisfaction in the context of higher levels of inhibition.

Overall, the emergence of four profiles and their correspondence with a range of sexual health variables reinforce the idea that there are meaningful variations in multiple domains of survivors' sexual lives. In light of research that has reached competing conclusions about the relationship between sexual violence and sexual functioning (e.g., Bogen et al., 2022; Kelley & Gidycz, 2015; 2019), findings suggest that there is no universal way in which sexual violence impacts women's intimate lives. Future research should thus examine moderators that explain variation in sexual functioning outcomes in order to predict which survivors may be most at risk for sexual difficulties and to provide access to prevention/intervention efforts.

The Dual Control Model (Janssen & Bancroft, 2007) provides a useful lens for understanding the diversity of the profiles identified in the current study. According to this model, sexual excitation and inhibition operate as independent, interacting systems that influence sexual outcomes. For survivors in the *Casual Sex* profile, elevated excitation did not translate into greater sexual satisfaction. This finding highlights how high arousal, when insufficiently regulated by inhibition, may contribute to risk-taking or less fulfilling encounters. Conversely, survivors in the *Satisfied but Inhibited* group reported moderate inhibition yet still achieved relatively high satisfaction, suggesting that relational or contextual resources may buffer inhibitory concerns. Thus, the Dual Control Model helps explain how different balances of excitation and inhibition, in combination with relational resources or environmental characteristics, can produce diverse profiles of sexual outcomes among survivors.

Differences among profiles – mental health and sexual violence

When examining profile differences in PTSD symptoms, hypotheses regarding the relationship between sexual functioning concerns and PTSD symptoms were supported. The *High Inhibition/Concerns* group reported elevated PTSD symptom severity. The *Low Concerns* group reported low levels of PTSD symptoms, similar to the *Satisfied but Inhibited* group. The *Casual Sex* profile also reported high levels of PTSD symptoms, a pattern that we did not hypothesize. Taken together, these findings imply that trauma history may be related to both sexual inhibition and the pursuit of casual encounters (or “risky” sex) as coping mechanisms for PTSD symptoms. This paradox is consistent with prior research suggesting that specific clusters of PTSD symptoms arising from experiences of abuse, rather than abuse itself, play a crucial role in understanding survivors' sexual lives (Kelley & Gidycz, 2019).

When we tested group differences in binge drinking and substance use prior to sex, both the *Casual Sex* and *Satisfied, but Inhibited* profiles reported higher instances of binge drinking compared to the *Low Concerns* profile. The *Casual Sex* and *High Inhibition/Concerns* profiles also exhibited a greater likelihood of using substances prior to sex compared to the other two profiles. The higher levels of substance use in these groups (both during and outside of sex) are consistent with prior research linking sexual behavior and substance use, which may include both the use of alcohol as a coping strategy to mitigate anxiety generally

(e.g., Bird, 2020) *and/or* the use of alcohol as a strategy to enhance sexual functioning and pleasure, a practice that is common among women generally (Lorenz, 2021). Alternatively, the *Low Concerns* and *Satisfied but Inhibited* profiles' lower likelihood of using substances during sex suggests that these individuals may experience sufficient satisfaction in their sexual encounters without the need for substance use to avoid discomfort or enhance pleasure. These results have implications for understanding risk factors associated with sexual health and revictimization, as elevated alcohol use can often put survivors at risk for additional victimization (Abbey, 2011). Future research would benefit from exploring moderating factors (e.g., sensation seeking) that may predict how motivations for substance use (e.g., coping vs. enhancement) may differ between these profiles.

Finally, group membership did not differ in terms of the severity of sexual violence history (i.e., whether survivors experienced sexual coercion, sexual contact, or attempted/completed rape). Therefore, sexual symptoms may not necessarily be related to the severity of the sexual assault experience as it is traditionally conceptualized (i.e., hierarchical severity score), but instead may correspond with individual differences in the subjective experience of the assault itself. Clinicians/researchers should be wary of discounting the effects of sexual violence, simply because it was "not rape." Such a finding reflects trends in recent research suggesting that sexual coercion may similarly, if not more strongly, be related to harmful outcomes as forcible assault (Shaw & Read, 2021)

Limitations and future directions

Although this study is the first to our knowledge to conduct an LPA on sexual functioning among survivors, it is not without its limitations. The cross-sectional design and reliance on retrospective reporting restrict our ability to draw causal inferences, and the use of self-report measures may introduce bias through common method variance (Podsakoff et al., 2003). Additionally, we recruited our sample through online social media platforms, which may have introduced self-selection bias that influenced our results. Our sample was also limited in terms of racial and ethnic diversity (70% white), which restricts its generalizability. Future research should address these limitations more thoroughly by examining these relationships in longitudinal designs and collecting data from representative samples with diverse sexual and racial or ethnic identities, given that sexuality is deeply embedded in sociocultural variables, including cultural beliefs (e.g., conservatism) and practices (e.g., stigma associated with sex) that lead to greater or lesser degrees of excitation or inhibition (Heinemann et al., 2016). We also recommend incorporating qualitative methodologies in future studies to gain a deeper understanding of how these profiles evolve over time and their implications for interventions aimed at enhancing sexual well-being among sexual assault survivors. Finally, it should be noted that one of the outcome subscales—sexual contentment—demonstrated poor reliability ($\alpha = .59$), and therefore, results related to this subscale should be interpreted with caution. However, given the consistency of the results across multiple measures of sexual functioning, the inclusion of this scale likely does not affect the broad pattern of results found in the current study.

Beyond limitations, these results also carry clinical implications that should be evaluated in future research. For survivors in the *High Inhibition/Concerns* profile,

interventions that target anxiety and maladaptive cognitions about sexuality (e.g., trauma-focused CBT, cognitive restructuring, or mindfulness-based approaches) may be most beneficial. Survivors in the *Casual Sex* profile might be most appropriate for interventions that address PTSD symptoms and substance use as coping mechanisms (e.g., Prolonged Exposure, dual diagnosis programs), in tandem with psychoeducation about the potential disconnect between sexual arousal and subjective fulfillment. In contrast, the *Satisfied but Inhibited* group may benefit from psychoeducation and couples-based therapies that highlight existing strengths or resilience factors within the relationship while also addressing inhibitory concerns. Future clinical research could evaluate a “match-based” approach to providing therapy to survivors based on their profile of sexual symptoms.

Conclusion

Overall, the identification of distinct profiles of sexual functioning and behavior provides a nuanced, multifaceted understanding of survivors’ sexual experiences. These profiles indicate a *multifinality* in survivors’ intimate lives—i.e., survivors of sexual violence may experience a range of sexual, mental health, and substance use outcomes, many of which reflect resiliency in the face of threats to sexual functioning and wellbeing. Importantly, the presence of the *Low Concerns* profile underscores that resilience and healthy sexual functioning are common among survivors. Although future research is needed to explore factors predicting profile membership, the results of this study can ultimately inform prevention and interventions efforts that address the interplay of PTSD symptoms, substance use, and sexual health, tailored to survivors most at risk for negative outcomes.

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Data availability statement

The data that support the findings of this study are available from the corresponding author, [Blinded for review], upon reasonable request.

References

- Abbey A. (2011). Alcohol’s role in sexual violence perpetration: Theoretical explanations, existing evidence and future directions. *Drug and Alcohol Review*, 30(5), 481–489. 10.1111/j.1465-3362.2011.00296.x [PubMed: 21896070]
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Association.
- Bancroft J, Graham CA, Janssen E, & Sanders SA (2009). The dual control model: Current status and future directions. *Journal of Sex Research*, 46(2–3), 121–142. 10.1080/00224490902747222 [PubMed: 19308839]
- Bauer J. (2022). A primer to latent profile and latent class analysis. In *Methods for researching professional learning and development: Challenges, applications and empirical illustrations* (pp. 243–268). Springer International Publishing.
- Basile KC, Smith SG, Breiding M, Black MC, & Mahendra RR (2014). Sexual violence surveillance: Uniform definitions and recommended data elements. Version 2.0. <https://stacks.cdc.gov/view/cdc/26326>

- Bogen KW, Jones HR, & Lorenz TK (2022). Relational and trait factors mediate the associations between women's intoxication-related unwanted sexual experiences, pleasure, and desire. *Journal of Sex Research*, 59(9), 1175–1191. 10.1080/00224499.2022.2030661 [PubMed: 35262426]
- Bird ER (2020). Examination of a sex-related distress self-medication drinking model following sexual victimization: longitudinal and event-specific studies. University of Washington.
- Center for Behavioral Health Statistics and Quality. (2018). 2019 National Survey on Drug Use and Health (NSDUH): CAI specifications for programming (English Version). Substance Abuse and Mental Health Services Administration.
- Centers for Disease Control and Prevention. (2019). Youth risk behavior survey. https://www.cdc.gov/yrbs/files/2019/pdf/2019_YRBS-National-HS-Questionnaire.pdf
- Daljeet KN, Bremner NL, Giammarco EA, Meyer JP, & Paunonen SV (2017). Taking a person-centered approach to personality: A latent-profile analysis of the HEXACO model of personality. *Journal of Research in Personality*, 70, 241–251. 10.1016/j.jrp.2017.08.003
- Davis KC, Gilmore AK, Stappenbeck CA, Balsan MJ, George WH, & Norris J. (2014). How to score the Sexual Experiences Survey? A comparison of nine methods. *Psychology of Violence*, 4(4), 445–461. 10.1037/a0037494 [PubMed: 25512879]
- Dunlop BW, Hill E, Johnson BN, Klein DN, Gelenberg AJ, Rothbaum BO, Thase ME, & Kocsis JH (2015). Mediators of sexual functioning and marital quality in chronically depressed adults with and without a history of childhood sexual abuse. *The Journal of Sexual Medicine*, 12(3), 813–823. 10.1111/jsm.12727 [PubMed: 25329963]
- Dworkin ER (2020). Risk for mental disorders associated with sexual assault: A meta-analysis. *Trauma, Violence & Abuse*, 21(5), 1011–1028. 10.1177/1524838018813198
- Dworkin ER, Krahé B, & Zinzow H. (2021). The global prevalence of sexual assault: A systematic review of international research since 2010. *Psychology of Violence*, 11(5), 497–508. 10.1037/vio0000374 [PubMed: 34737898]
- Dworkin ER, Menon SV, Bystrynski J, & Allen NE (2017). Sexual assault victimization and psychopathology: A review and meta-analysis. *Clinical Psychology Review*, 56, 65–81. 10.1016/j.cpr.2017.06.002 [PubMed: 28689071]
- Esser MB, Pickens CM, Guy GP Jr., & Evans ME (2021). Binge drinking, other substance use, and concurrent use in the U.S., 2016–2018. *American Journal of Preventive Medicine*, 60(2), 169–178. 10.1016/j.amepre.2020.08.025 [PubMed: 33482979]
- Fedina L, Holmes JL, & Backes BL (2018). Campus sexual assault: A systematic review of prevalence research from 2000 to 2015. *Trauma, Violence & Abuse*, 19(1), 76–93. 10.1177/1524838016631129
- Freihart BK, Sears MA, & Meston CM (2020). Relational and interpersonal predictors of sexual satisfaction. *Current Sexual Health Reports*, 12(3), 136–142. 10.1007/s11930-020-00260-w
- García-Moreno C, Pallitto C, Devries K, Stöckl H, Watts C, & Abrahams N. (2013). Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and non-partner sexual violence. World Health Organization.
- Garneau-Fournier J, Habarth J, & Turchik JA (2018). Factors associated with sexual dysfunction symptoms among veterans who have experienced military sexual trauma. *International Journal of Sexual Health*, 30(1), 28–41. 10.1080/19317611.2017.1404541
- Garneau-Fournier J, McBain S, Torres T, & Turchik J. (2017). Sexual dysfunction problems in female college students: Sexual victimization, substance use, and personality factors. *Journal of Sex & Marital Therapy*, 43(1), 24–39. 10.1080/0092623X.2015.1113595 [PubMed: 26683983]
- Graham CA, Sanders SA, & Milhausen RR (2006). The sexual excitation/sexual inhibition inventory for women: Psychometric properties. *Archives of Sexual Behavior*, 35(4), 397–409. 10.1007/s10508-006-9041-7 [PubMed: 16900415]
- Heinemann J, Atallah S, & Rosenbaum T. (2016). The impact of culture and ethnicity on sexuality and sexual function. *Current Sexual Health Reports*, 8(3), 144–150. 10.1007/s11930-016-0088-8
- Henderson AW, Lehavot K, & Simoni JM (2009). Ecological models of sexual satisfaction among lesbian/bisexual and heterosexual women. *Archives of Sexual Behavior*, 38(1), 50–65. 10.1007/s10508-008-9384-3 [PubMed: 18574685]

- Högbeck I, & Möller A. (2022). Female sexual function six months after sexual assault: Post-traumatic stress disorder strongest risk factor for impaired function. *Journal of Sex & Marital Therapy*, 48(2), 112–120. 10.1080/0092623X.2021.1958964 [PubMed: 34338163]
- Janssen E, & Bancroft J. (2007). The dual control model: The role of sexual inhibition & excitation in sexual arousal and behavior. In Janssen E. (Ed.), *The psychophysiology of sex* (pp. 197–222). Indiana University Press.
- Johnson SM, Murphy MJ, & Gidycz CA (2017). Reliability and validity of the sexual experiences survey—short forms victimization and perpetration. *Violence and Victims*, 32(1), 78–92. 10.1891/0886-6708.VV-D-15-00110 [PubMed: 28234199]
- Jones HR, & Lorenz TK (2022). Higher sexual excitation is associated with an increase in sex-linked substance use in women with a history of unwanted sexual contact. *The Canadian Journal of Human Sexuality*, 31(3), 432–442. 10.3138/cjhs.2022-0020 [PubMed: 37274840]
- Kelley EL, & Gidycz CA (2015). Labeling of sexual assault and its relationship with sexual functioning: The mediating role of coping. *Journal of Interpersonal Violence*, 30(2), 348–366. 10.1177/0886260514534777 [PubMed: 24860074]
- Kelley EL, & Gidycz CA (2017). Mediators of the relationship between sexual assault and sexual functioning difficulties among college women. *Psychology of Violence*, 7(4), 574–582. 10.1037/vio0000073
- Kelley EL, & Gidycz CA (2019). Posttraumatic stress and sexual functioning difficulties in college women with a history of sexual assault victimization. *Psychology of Violence*, 9(1), 98–107. 10.1037/vio0000162
- Kepner WE, Han BH, Nguyen D, Han SS, Lopez FA, & Palamar JJ (2023). Past-month binge drinking and cannabis use among middle-aged and older adults in the United States, 2015–2019. *Alcohol*, 107, 32–37. 10.1016/j.alcohol.2022.07.006 [PubMed: 35934163]
- Kilimnik CD, Trapnell PD, & Humphreys TP (2016). Negative affectivity in females' identification of their nonconsensual sexual experiences and sexual dissatisfaction. *The Canadian Journal of Human Sexuality*, 25(3), 177–185. 10.3138/cjhs.253-A1
- Kling JM, Sidhu K, Rullo J, Mara KC, Frohmader Hilsaca KS, Kapoor E, & Faubion SS (2019). Association between alcohol use and female sexual dysfunction from the data registry on experiences of aging, menopause, and sexuality (DREAMS). *Sexual Medicine*, 7(2), 162–168. 10.1016/j.esxm.2018.11.009 [PubMed: 30674443]
- Koss MP, Abbey A, Campbell R, Cook S, Norris J, Testa M, Ullman S, West C, & White J. (2007). Revising the SES: A collaborative process to improve assessment of sexual aggression and victimization. *Psychology of Women Quarterly*, 31(4), 357–370. 10.1111/j.1471-6402.2007.00385.x
- Lahav Y, Talmon A, Ginzburg K, & Spiegel D. (2019). Reenacting past abuse—identification with the aggressor and sexual revictimization. *Journal of Trauma & Dissociation*, 20(4), 378–391. 10.1080/15299732.2019.1572046
- Lang AJ, & Stein MB (2005). An abbreviated PTSD checklist for use as a screening instrument in primary care. *Behaviour Research and Therapy*, 43(5), 585–594. 10.1016/j.brat.2004.04.005 [PubMed: 15865914]
- Lang AJ, Wilkins K, Roy-Byrne PP, Golinelli D, Chavira D, Sherbourne C, Rose RD, Bystritsky A, Sullivan G, Craske MG, & Stein MB (2012). Abbreviated PTSD Checklist (PCL) as a guide to clinical response. *General Hospital Psychiatry*, 34(4), 332–338. 10.1016/j.genhosppsych.2012.02.003 [PubMed: 22460001]
- Leemis RW, Friar N, Khatiwada S, Chen MS, Kresnow M-J, Smith SG, Caslin S, & Basile KC. (2022). The national intimate partner and sexual violence survey: 2016/2017 report on intimate partner violence. <https://www.cdc.gov/nisvs/documentation/nisvsReportonSexualViolence.pdf>
- Lewis RW, Fugl-Meyer KS, Corona G, Hayes RD, Laumann EO, Moreira ED Jr, Rellini AH, & Seagraves T. (2010). Definitions/epidemiology/risk factors for sexual dysfunction. *The Journal of Sexual Medicine*, 7(4 Pt 2), 1598–1607. 10.1111/j.1743-6109.2010.01778.x [PubMed: 20388160]
- Lorenz TK (2021). Sexual excitation and sex-linked substance use predict overall cannabis use in mostly heterosexual and bisexual women. *The American Journal of Drug and Alcohol Abuse*, 47(4), 433–443. 10.1080/00952990.2021.1922429 [PubMed: 34114916]

- Lynn BK, López JD, Miller C, Thompson J, & Campian EC (2019). The relationship between marijuana use prior to sex and sexual function in women. *Sexual Medicine*, 7(2), 192–197. 10.1016/j.esxm.2019.01.003 [PubMed: 30833225]
- Meston CM (2003). Validation of the Female Sexual Function Index (FSFI) in women with female orgasmic disorder and in women with hypoactive sexual desire disorder. *Journal of Sex & Marital Therapy*, 29(1), 39–46. 10.1080/713847100 [PubMed: 12519665]
- Meston C, & Trapnell P. (2005). Development and validation of a five-factor sexual satisfaction and distress scale for women: The Sexual Satisfaction Scale for Women (SSS-W). *The Journal of Sexual Medicine*, 2(1), 66–81. 10.1111/j.1743-6109.2005.20107.x [PubMed: 16422909]
- Meston CM, Heiman JR, & Trapnell PD (1999). The relation between early abuse and adult sexuality. *The Journal of Sex Research*, 36(4), 385–395. 10.1080/00224499909552011
- Meston CM, & Stanton AM (2019). Understanding sexual arousal and subjective–genital arousal desynchrony in women. *Nature Reviews. Urology*, 16(2), 107–120. 10.1038/s41585-018-0142-6 [PubMed: 30664743]
- Milhausen RR, Graham CA, Sanders SA, Yarber WL, & Maitland SB (2010). Validation of the sexual excitation/sexual inhibition inventory for women and men. *Archives of Sexual Behavior*, 39(5), 1091–1104. 10.1007/s10508-009-9554-y [PubMed: 19859799]
- Muthén B, & Muthén L. (2017). Mplus. In *Handbook of item response theory* (pp. 507–518). Chapman and Hall/CRC.
- Nylund KL, Asparouhov T, & Muthén BO (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling: A Multidisciplinary Journal*, 14(4), 535–569. 10.1080/10705510701575396
- Öberg K, Fugl-Meyer A, & Fugl-Meyer KS (2004). On categorization and quantification of women's sexual dysfunctions: an epidemiological approach. *International Journal of Impotence Research*, 16(3), 261–269. 10.1038/sj.ijir.3901151 [PubMed: 15184916]
- Podsakoff PM, MacKenzie SB, Lee JY, & Podsakoff NP (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, 88(5), 879–903. 10.1037/0021-9010.88.5.879 [PubMed: 14516251]
- Porter AC, Carrasquillo KD, & Ashrafioun L. (2024). Differences in the relation of binge drinking and prescription drug misuse to suicide ideation and attempts between college-aged adults and adults above the age of 25: Findings from the 2015–2019 National Survey on Drug Use and Health (NSDUH). *Journal of Psychiatric Research*, 173, 281–285. 10.1016/j.jpsychires.2024.03.009 [PubMed: 38555675]
- Pulverman CS, & Creech SK (2021). The impact of sexual trauma on the sexual health of women veterans: A comprehensive review. *Trauma, Violence & Abuse*, 22(4), 656–671. 10.1177/1524838019870912
- Pulverman CS, Kilimnik CD, & Meston CM (2018). The impact of childhood sexual abuse on women's sexual health: A comprehensive review. *Sexual Medicine Reviews*, 6(2), 188–200. 10.1016/j.sxmr.2017.12.002 [PubMed: 29371141]
- Rosen C, Brown J, Heiman S, Leiblum C, Meston R, Shabsigh D, Ferguson R, & D'Agostino R. (2000). The Female Sexual Function Index (FSFI): A multidimensional self-report instrument for the assessment of female sexual function. *Journal of Sex & Marital Therapy*, 26(2), 191–208. 10.1080/009262300278597 [PubMed: 10782451]
- Sadler AG, Mengeling MA, Fraley SS, Torner JC, & Booth BM (2012). Correlates of sexual functioning in women veterans: Mental health, gynecologic health, health status, and sexual assault history. *International Journal of Sexual Health*, 24(1), 60–77. 10.1080/19317611.2011.640388
- Salari N, Hasheminezhad R, Almasi A, Hemmati M, Shohaimi S, Akbari H, & Mohammadi M. (2023). The risk of sexual dysfunction associated with alcohol consumption in women: A systematic review and meta-analysis. *BMC Women's Health*, 23(1), 213. 10.1186/s12905-023-02400-5 [PubMed: 37131197]
- Sanjuan PM, Langenbucher JW, & Labouvie E. (2009). The role of sexual assault and sexual dysfunction in alcohol/other drug use disorders. *Alcoholism Treatment Quarterly*, 27(2), 150–163. 10.1080/07347320902785541

- Shaw R, & Read JP (2021). The differential effects of verbal sexual coercion and forcible sexual assault on alcohol use and consequence trajectories in the first year of college. *Psychological Trauma: Theory, Research, Practice and Policy*, 13(8), 835–846. 10.1037/tra0001130 [PubMed: 34591534]
- Smith KZ, Smith PH, & Grekin ER (2014). Childhood sexual abuse, distress, and alcohol-related problems: Moderation by drinking to cope. *Psychology of Addictive Behaviors*, 28(2), 532–537. 10.1037/a0035381 [PubMed: 24955671]
- Staples JM, Eakins D, Neilson EC, George WH, Davis KC, & Norris J. (2016). Sexual assault disclosure and sexual functioning: The role of trauma symptomatology. *The Journal of Sexual Medicine*, 13(10), 1562–1569. 10.1016/j.jsxm.2016.08.001 [PubMed: 27590187]
- Swartout KM, Swartout AG, & White JW (2011). A person-centered, longitudinal approach to sexual victimization. *Psychology of Violence*, 1(1), 29–40. 10.1037/a0022069
- Talley AE, Hughes TL, Aranda F, Birkett M, & Marshal MP (2014). Exploring alcohol-use behaviors among heterosexual and sexual minority adolescents: intersections with sex, age, and race/ethnicity. *American Journal of Public Health*, 104(2), 295–303. 10.2105/AJPH.2013.301627 [PubMed: 24328614]
- ter Kuile MM, Both S, & van Lankveld JJDM (2010). Cognitive behavioral therapy for sexual dysfunctions in women. *The Psychiatric Clinics of North America*, 33(3), 595–610. 10.1016/j.psc.2010.04.010 [PubMed: 20599135]
- Turchik JA, & Hassija CM (2014). Female sexual victimization among college students: Assault severity, health risk behaviors, and sexual functioning. *Journal of Interpersonal Violence*, 29(13), 2439–2457. 10.1177/0886260513520230 [PubMed: 24505086]
- Umo I. (2021). Sexual behavior after sexual assault: Differences based on racial identity, ethnicity, and sexual orientation [Thesis]. Georgia State University. 10.57709/2271000
- Velten J, Scholten S, Graham CA, & Margraf J. (2017). Sexual excitation and sexual inhibition as predictors of sexual function in women: A cross-sectional and longitudinal study. *Journal of Sex & Marital Therapy*, 43(2), 95–109. 10.1080/0092623X.2015.1115792 [PubMed: 26735804]
- Weathers FW, Litz BT, Herman DS, Huska JA, & Keane TM (1993, October). The PTSD Checklist (PCL): Reliability, validity, and diagnostic utility. In *Annual convention of the international society for traumatic stress studies* (Vol. 462).
- White HR, Fleming CB, Catalano RF, & Bailey JA (2009). Prospective associations among alcohol use-related sexual enhancement expectancies, sex after alcohol use, and casual sex. *Psychology of Addictive Behaviors: journal of the Society of Psychologists in Addictive Behaviors*, 23(4), 702–707. 10.1037/a0016630 [PubMed: 20025377]
- Wiegel M, Meston C, & Rosen R. (2005). The female sexual function index (FSFI): cross-validation and development of clinical cutoff scores. *Journal of Sex & Marital Therapy*, 31(1), 1–20. 10.1080/00926230590475206 [PubMed: 15841702]
- World Health Organization. (2017). Sexual health and its linkages to reproductive health: an operational approach (9241512881). WHO.

Table 1.
Fit indices for latent profile models with two to six profiles.

	2 profiles	3 profiles	4 profiles	5 profiles	6 profiles
AIC	32,569.058	32,025.878	31,716.264	31,819.680	31,883.619
BiC	32,775.696	32,304.045	32,065.959	32,070.904	32,476.372
Sample Size adj. BiC	32,610.701	32,081.937	31,786.737	31,804.569	31,882.923
Log Likelihood	-17,016.002	-15,942.939	-15,770.132	-15,653.840	-15,567.810
LMR (K vs. K-1)	1552.509	573.843	342.430	230.441	170.476
	$p < .01$	$p < .05$	$p = .185$	$p = .211$	$p = .248$
BLRT (K vs. K-1)	-17,016.002	-16,232.529	-15,942.939	-15,770.132	-15,653.840
	$p < .001$	$p < .001$	$p < .001$	$p < .001$	$p < .001$
Entropy	0.896	0.888	0.897	0.892	0.896
Groups: n (%)	1 = 182 (46.3%)	1 = 91 (23.2%)	1 = 83 (21.1%)	1 = 62 (15.8%)	1 = 49 (12.5%)
	2 = 211 (53.7%)	2 = 175 (44.5%)	2 = 100 (25.4%)	2 = 73 (18.6%)	2 = 41 (10.4%)
		3 = 127 (32.3%)	3 = 61 (15.5%)	3 = 95 (24.2%)	3 = 66 (16.8%)
			4 = 149 (37.9%)	4 = 70 (17.8%)	4 = 77 (19.6%)
				5 = 93 (23.7%)	5 = 74 (18.8%)
					6 = 86 (21.9%)

Note: **Boldface** type suggests best fit for that particular indicator. The 4-profile solution was retained for further analyses.

Table 2.

Sexual functioning means by profile.

	Full sample (<i>N</i> = 393)	High inhibition/ concerns (<i>n</i> = 83)	Low concerns (<i>n</i> = 100)	Casual sex (<i>n</i> = 61)	Satisfied but inhibited (<i>n</i> = 149)	Wilks' Λ	<i>F</i>	<i>df</i>	η^2_p
Sexual Satisfaction subscales						.15	69.22**	15	.47
Contentment	18.20 (4.36)	14.07 (2.69) _a	23.27 (2.35) _b	13.82 (2.41) _a	18.89 (2.24) _c				
Communication	20.99 (5.28)	16.42 (4.15) _a	25.83 (3.14) _b	16.75 (4.28) _a	22.03 (3.78) _c				
Compatibility	20.86 (6.47)	15.20 (4.91) _a	27.70 (2.76) _b	14.15 (4.04) _a	22.17 (4.02) _c				
Relational concerns	20.04 (6.24)	13.37 (3.98) _a	27.04 (2.98) _b	17.34 (4.22) _c	20.16 (4.48) _d				
Personal concerns	18.78 (6.56)	12.54 (3.63) _a	26.01 (4.14) _b	14.46 (4.54) _a	19.17 (4.66) _c				
Female Sexual Functioning subscales						.17	51.80**	18	.44
Desire	4.17 (1.26)	3.12 (1.38) _a	4.54 (.92) _{bc}	4.92 (.98) _b	4.21 (1.12) _c				
Arousal	4.34 (1.22)	2.73 (.84) _a	5.39 (.63) _b	4.71 (.86) _c	4.38 (.85) _d				
Lubrication	4.31 (1.30)	2.92 (1.13) _a	5.24 (.84) _b	4.51 (1.15) _c	4.39 (1.02) _c				
Orgasm	3.56 (1.56)	2.02 (1.04) _a	4.90 (1.07) _b	3.33 (1.38) _c	3.60 (1.33) _c				
Satisfaction	4.03 (1.38)	2.64 (1.00) _a	5.48 (.63) _b	2.73 (.67) _a	4.37 (.84) _c				
Pain	2.47 (1.26)	3.01 (1.20) _a	1.91 (1.23) _b	2.47 (1.23) _{ac}	2.54 (1.19) _c				
Sexual Excitation/inhibition subscales						.48	17.87**	18	.22
Arousability	13.72 (4.61)	10.18 (3.32) _a	14.47 (4.44) _b	16.66 (4.21) _c	14.00 (4.33) _b				
Partner Behaviors	15.12 (4.40)	12.88 (3.95) _a	16.09 (4.66) _b	16.05 (3.97) _b	15.34 (4.23) _b				
Setting	10.62 (3.74)	8.36 (2.94) _a	10.38 (4.22) _b	13.31 (3.59) _c	10.94 (3.02) _b				
inhibitory Concerns	22.36 (6.96)	29.02 (6.00) _a	18.05 (6.23) _b	20.48 (6.01) _{bc}	22.30 (9.96) _c				
Dyadic Elements	10.38 (2.67)	11.23 (2.61) _a	9.98 (2.91) _b	10.74 (2.44) _{ab}	10.04 (2.51) _b				
Relationship importance	16.82 (4.69)	18.70 (4.27) _a	18.07 (4.68) _a	13.69 (4.46) _b	16.21 (4.25) _c				

Note. Table entries comprise means and standard deviations in parentheses. Within each row, means with different subscripts are significantly different at $p < .05$. ** $p < .001$. * $p < .05$.

Table 3.
Subscale means for the four-profile solution.

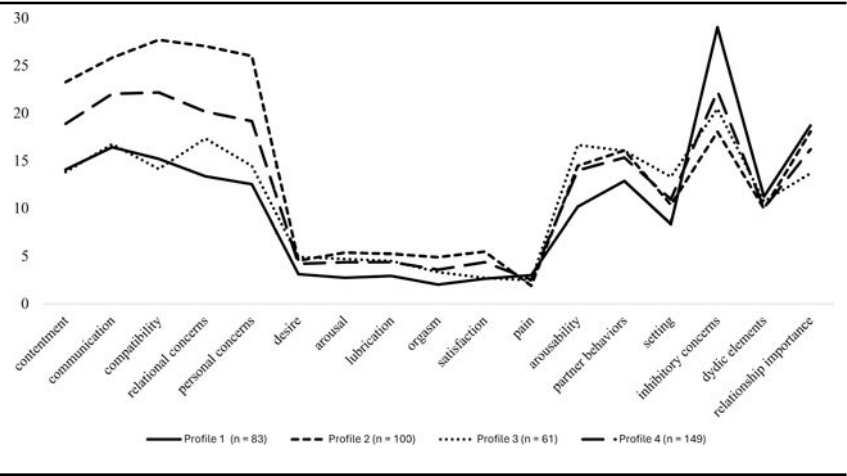


Table 4.
Mental health outcomes and sexual assault experiences by sexual functioning profile.

	Full sample (<i>N</i> = 393)	High inhibition/ concerns (<i>n</i> = 83)	Low concerns (<i>n</i> = 100)	Casual sex (<i>n</i> = 61)	Satisfied but inhibited (<i>n</i> = 149)	Difference by profile	η^2
PTSD Symptoms	17.18 (5.63)	19.47 (5.58) _a	14.86 (5.33) _b	19.25 (5.32) _a	16.62 (5.26) _b	$F(3,389) = 14.89^{**}$	.10
Binge Drinking	2.04 (1.46)	1.93 (1.41) _{a,b}	1.67 (1.28) _b	2.31 (1.67) _a	2.23 (1.46) _a	$F(3,389) = 3.93^{**}$	.03
Alcohol/Drugs before Sex	25.3%	28.9%	17.0%	39.3%	23.0%	$\chi^2(3,392) = .01^*$	
Sexual Contact/ Coercion	16.3%	13.3%	23.0%	8.2%	16.8%	$\chi^2(3,393) = .08$	
Attempted Rape/ Rape	83.7%	86.7%	77.0%	91.8%	83.2%	$\chi^2(3,393) = .08$	

Note.

* $p < .05$.

** $p < .01$.

Table entries comprise means and standard deviations in parentheses. Within each row, means with different subscripts are significantly different at $p < .05$. PTSD = posttraumatic stress disorder. For sexual assault variables, percentages indicate the percentage of participants in the profile that reported they had this experience. For example, 13.3% of women in the High inhibition/Concerns profile reported they experienced sexual contact/coercion.