

Online Sexual Exposure and Risky Behaviors: The Mediating Role of Sensation Seeking

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ABSTRACT

Objective: The objective of this study was to examine the relationship between online sexual exposure and risky sexual behaviors among Canadian adolescents and young adults, with sensation seeking tested as a mediating variable.

Methods and Materials: A descriptive–correlational design was employed with a sample of 400 adolescents and young adults in Canada, selected based on Morgan and Krejcie's sample size determination table. Participants completed validated self-report questionnaires measuring risky sexual behaviors, online sexual exposure, and sensation seeking. Descriptive statistics, Pearson correlation analyses using SPSS version 27, and Structural Equation Modeling (SEM) using AMOS version 21 were applied to test the hypothesized mediation model. Model fit was evaluated using chi-square, CFI, TLI, GFI, AGFI, and RMSEA indices.

Findings: The results revealed that online sexual exposure was significantly and positively correlated with risky behaviors ($r = .46, p < .001$), while sensation seeking also showed a significant correlation with risky behaviors ($r = .52, p < .001$). SEM analysis demonstrated good model fit ($\chi^2 = 142.83, df = 71, \chi^2/df = 2.01, CFI = 0.96, TLI = 0.95, GFI = 0.94, RMSEA = 0.051$). Online sexual exposure had a significant direct effect on risky behaviors ($\beta = .29, p < .001$) and an indirect effect through sensation seeking ($\beta = .09, p = .002$). The total effect of online sexual exposure on risky behaviors was $\beta = .38 (p < .001)$, confirming partial mediation.

Conclusion: These findings highlight that sensation seeking plays a crucial mediating role in linking online sexual exposure to risky sexual behaviors. Digital platforms not only increase exposure opportunities but also align with sensation-seeking tendencies, thereby heightening vulnerability to sexual risk.

Keywords: Online sexual exposure; risky behaviors; sensation seeking; adolescents

1. Introduction

Adolescence and young adulthood are developmental periods characterized by increased exploration, heightened sensitivity to peer influences, and a greater propensity for risk-taking behaviors. Sexual risk-taking, in particular, has been extensively studied due to its implications for physical, psychological, and social well-being. Risky sexual behaviors, which include unprotected intercourse, multiple sexual partners, and engagement in casual or coerced encounters, contribute to elevated rates of sexually transmitted infections (STIs), unintended pregnancies, and long-term adverse outcomes (Garner et al., 2017; Silverstein et al., 2017). With the rapid expansion of digital technologies and social media, online sexual exposure has emerged as a significant factor influencing these behaviors, shaping attitudes, opportunities, and norms surrounding sexual interactions (Grosskopf et al., 2010; O'Hara et al., 2012). The present study examines the complex interplay between online sexual exposure and risky sexual behaviors, with a focus on sensation seeking as a potential mediating mechanism.

Existing research highlights that exposure to sexual content online can lower inhibitions, normalize risky practices, and provide a readily accessible platform for initiating sexual encounters. For example, adolescents who consume sexual media or are exposed to sexualized online interactions are more likely to report earlier sexual debut and greater engagement in risky sexual activities (O'Hara et al., 2012). Similar patterns have been observed among young adults, particularly in college populations, where online spaces facilitate anonymous interactions and exposure to sexually explicit material (Garner et al., 2017; Grosskopf et al., 2010). Among men who have sex with men (MSM), gay dating applications represent a notable avenue of online sexual exposure, often associated with increased rates of high-risk sexual encounters, multiple partners, and reduced condom use (Luo et al., 2023a, 2023b). These findings underscore the relevance of examining digital environments as critical contexts for understanding sexual decision-making processes.

The psychological mechanisms linking online sexual exposure to risky sexual behaviors are complex. One central construct is sensation seeking, a personality trait defined by the pursuit of novel, intense, and stimulating experiences, even when such pursuits involve risk or potential harm (Charnigo et al., 2012; Derefinko et al., 2014). Individuals high in sensation seeking are more likely to engage in

experimental or adventurous activities, including substance use, delinquency, and risky sexual behaviors (Byck et al., 2014; Espinoza et al., 2019). Sensation seeking is particularly relevant during adolescence, a stage characterized by neurobiological sensitivity to reward and heightened motivational drives (Dekkers et al., 2025). Hormonal influences, including interactions between testosterone and cortisol, have been shown to intensify sensation-seeking tendencies and associated risk-taking behaviors in adolescents (Dekkers et al., 2025).

The relationship between sensation seeking and risky sexual behavior has been consistently demonstrated across diverse populations. For example, young men exhibiting higher levels of impulsivity and sensation seeking report increased engagement in unprotected sex and casual encounters (Derefinko et al., 2014). Among young women, sensation seeking has been linked to sexual exploration during travel and leisure, highlighting the importance of contextual and situational factors (Berdychevsky, 2017). In continuation high schools, adolescents with elevated sensation-seeking tendencies were more likely to engage in substance use and unprotected sex (Espinoza et al., 2019). Moreover, the combination of sensation seeking with impulsivity amplifies risk, suggesting that personality traits operate interactively in shaping behavioral outcomes (Charnigo et al., 2012).

Online platforms intensify these dynamics by providing immediate access to sexual opportunities that cater to sensation-seeking tendencies. Gay dating applications, for example, serve as an interface between sexual desire, novelty-seeking, and technology, with research showing that such apps mediate the relationship between sensation seeking and engagement in high-risk sexual practices (Luo et al., 2023a, 2023b). Similarly, studies on adolescents' use of online games and digital environments indicate that lower levels of self-control are associated with higher sensation-seeking behavior, which in turn increases the likelihood of engaging in risk-taking behaviors both online and offline (Erdiansyah et al., 2023). These findings highlight the necessity of studying sensation seeking as a mediator that links online exposure to behavioral risk.

Cultural, contextual, and demographic factors further complicate this relationship. For instance, gender differences play an important role in moderating the influence of sensation seeking on risky decision-making. Research on automobile insurance coverage showed that sensation seeking predicted riskier decisions, but these effects were moderated by gender and risk perception (Jiang

et al., 2023). In Italy, psychological correlates of sexual risk behavior varied significantly by gender, suggesting that men and women experience and act upon sensation-seeking tendencies differently in sexual contexts (Pirani & Matera, 2020). Similarly, research on heterosexual male Turkish university students highlighted sociocultural influences on risky sexual behavior, showing that sensation seeking manifested differently across cultural environments (Kiylioğlu & Dönmez, 2021). These studies emphasize the importance of situating sensation seeking within cultural and gendered frameworks when analyzing its relationship with online sexual exposure and risky behaviors.

Psychopathological and personality traits also intersect with sexual sensation seeking. Traits associated with borderline personality disorder have been linked to heightened levels of sexual sensation seeking and risk-taking behaviors, especially in emotionally charged or impulsive contexts (Northey et al., 2016). Personality dimensions such as extraversion, openness, and impulsivity predict riskier sexual attitudes and behaviors, with self-efficacy and perceived control shaping the extent to which sensation-seeking individuals translate their desires into risky actions (Palacios, 2018; Turchik et al., 2010). Moreover, sexual fluidity and temperament traits have been identified as predictors of risky behaviors among young adults, suggesting that individual differences play a critical role in shaping how online sexual exposure translates into action (Negredo, 2020).

The role of technology as both a facilitator and mediator of sexual sensation seeking has also been highlighted. Research across Canada, the United States, and Western Europe demonstrated that technology use was strongly linked to sexual sensation-seeking behaviors among men of different sexual orientations (McKie et al., 2016). Online platforms do not merely provide opportunities for risky sexual encounters but also amplify pre-existing sensation-seeking tendencies by lowering social barriers, increasing anonymity, and creating an abundance of novel opportunities. In this sense, technology can be conceptualized as an accelerant of sexual risk-taking in populations already predisposed toward sensation seeking.

Taken together, the literature indicates that sensation seeking is a central mechanism connecting online sexual exposure and risky behaviors. Online environments provide a fertile ground for novelty and stimulation, aligning with the motivations of sensation-seeking individuals. Adolescents and young adults high in sensation seeking are therefore particularly vulnerable to the influences of online

sexual exposure, which increases the likelihood of risky sexual practices. However, cultural differences, gender, and personality traits must be considered to fully understand the nuances of these relationships (Azhari & Nugrahawati, 2025; Berdychevsky, 2017; Espinoza et al., 2019; Kiylioğlu & Dönmez, 2021; Negredo, 2020; Palacios, 2018).

Despite the growing body of evidence, several gaps remain. First, while many studies have examined the direct link between online sexual exposure and risky sexual behaviors, fewer have tested mediation models that incorporate sensation seeking as an explanatory pathway. Second, most existing research has focused on specific subpopulations, such as college students or MSM, leaving a need for broader population-based studies across different adolescent and young adult cohorts. Finally, while cultural and gendered perspectives have been explored, less attention has been paid to how digitalization and evolving technologies continuously reshape the landscape of sexual risk-taking.

The present study addresses these gaps by investigating the mediating role of sensation seeking in the relationship between online sexual exposure and risky sexual behaviors among Canadian adolescents and young adults.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a descriptive–correlational design to examine the relationships between online sexual exposure, sensation seeking, and risky behaviors among adolescents and young adults. The target population consisted of adolescents and emerging adults residing in Canada. Based on the Morgan and Krejcie (1970) sample size determination table, a sample of 400 participants was considered adequate to ensure statistical power and generalizability. Participants were selected through a multistage random sampling approach from schools and community centers across different provinces. Inclusion criteria required participants to be between 15 and 22 years of age, currently enrolled in educational institutions, and active users of the internet and social media. All participants completed self-report questionnaires anonymously after providing informed consent.

2.2. Measures

Risky behaviors were assessed using the Youth Risk Behavior Survey (YRBS) developed by the Centers for Disease Control and Prevention (CDC) in 1991. This tool is one of the most widely used standardized measures to evaluate health-risk behaviors among adolescents, including substance use, unsafe sexual practices, and other high-risk activities. The YRBS includes multiple subscales, such as sexual risk-taking, substance use, and safety behaviors, with a flexible structure that typically ranges between 87 and 100 items depending on the version. Items are scored on a Likert-type or frequency-based scale (e.g., number of times or days engaged in a behavior), with higher scores indicating greater engagement in risky behaviors. Numerous studies across different populations have confirmed the reliability and validity of the YRBS, showing strong internal consistency and predictive validity in measuring adolescent risk-taking behaviors.

Online sexual exposure was measured using the Online Sexual Experiences Questionnaire (OSEQ) developed by Wolak, Mitchell, and Finkelhor in 2007. The OSEQ is a standardized self-report instrument designed to assess the frequency and types of adolescents' and young adults' online sexual experiences, including intentional exposure to sexual content, unintentional exposure, and interactive online sexual activities. The tool consists of 24 items grouped into subscales such as exposure to sexually explicit materials, online sexual solicitation, and sexual interactions via digital platforms. Items are rated on a frequency-based Likert scale ranging from "never" to "very often," with higher scores indicating higher levels of online sexual exposure. Previous research has confirmed the scale's construct validity and acceptable internal consistency reliability, making it a robust measure for studies addressing adolescents' online sexual behaviors.

Sensation seeking was assessed with the Sensation Seeking Scale Form V (SSS-V) developed by Zuckerman, Eysenck, and Eysenck in 1978. The SSS-V is a widely used standardized measure designed to capture individual differences in the tendency to seek novel, complex, and intense sensations and experiences, even when such activities involve risk. The scale contains 40 forced-choice

items, divided into four subscales: Thrill and Adventure Seeking, Experience Seeking, Disinhibition, and Boredom Susceptibility. Respondents choose between two statements that best describe their preferences, with total scores and subscale scores reflecting higher sensation-seeking tendencies. The SSS-V has demonstrated strong psychometric properties, with high reliability coefficients and validity evidence across diverse adolescent and young adult samples. It has been consistently used in studies linking sensation seeking to various risk-taking and health-compromising behaviors.

2.3. Data Analysis

Data analysis was conducted using both descriptive and inferential statistics. First, descriptive statistics (frequency, percentage, mean, and standard deviation) were used to summarize demographic characteristics and study variables. Pearson correlation coefficients were calculated using SPSS version 27 to examine the bivariate relationships between online sexual exposure, sensation seeking, and risky behaviors. Furthermore, to test the hypothesized mediating role of sensation seeking, a Structural Equation Model (SEM) was employed using AMOS version 21. Model fit was evaluated through standard indices including the Chi-square statistic, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). A significance level of $p < 0.05$ was set for all statistical tests.

3. Findings and Results

Of the 400 participants, 186 were male (46.5%) and 214 were female (53.5%). The participants' ages ranged from 15 to 22 years, with a mean age of 18.47 years ($SD = 2.12$). In terms of educational level, 178 participants (44.5%) were high school students, 149 (37.3%) were undergraduate students, and 73 (18.2%) were postgraduate or vocational students. Regarding internet use, 112 participants (28.0%) reported spending less than 2 hours online daily, 196 (49.0%) reported 2–4 hours daily, and 92 (23.0%) reported more than 4 hours daily. The sample thus represented a diverse range of adolescents and young adults with respect to gender, age, and digital engagement.

Table 1

Descriptive statistics for the main study variables

Variable	M	SD	Min	Max
Risky Behaviors	42.37	9.18	21	68
Online Sexual Exposure	27.46	7.82	12	48
Sensation Seeking	31.52	6.94	15	49

The descriptive statistics presented in Table 1 show that the mean score for risky behaviors was 42.37 (SD = 9.18), indicating a moderate level of engagement among participants. Online sexual exposure had a mean of 27.46 (SD = 7.82), suggesting that exposure levels were fairly common across the sample. Sensation seeking recorded a mean of 31.52 (SD = 6.94), consistent with expected distributions for adolescent and young adult populations. The ranges confirm adequate variability in responses across all variables.

Prior to conducting correlation and SEM analyses, statistical assumptions were tested and confirmed. Normality was evaluated through skewness and kurtosis

indices, which were within acceptable ranges (skewness values between -0.57 and 0.63; kurtosis values between -0.84 and 0.79). Linearity was confirmed by examining scatterplots of each pair of variables, which showed consistent linear patterns. Homoscedasticity was verified using Levene's test, which indicated nonsignificant results ($p = .271$). Multicollinearity was examined through tolerance and variance inflation factor (VIF) statistics, with tolerance values ranging from 0.61 to 0.84 and VIF values between 1.18 and 1.42, all within recommended limits. These results confirmed that the data met the necessary assumptions for Pearson correlation and SEM analyses.

Table 2

Pearson correlations between study variables

Variable	1	2	3
1. Risky Behaviors	—		
2. Online Sexual Exposure	.46** ($p < .001$)	—	
3. Sensation Seeking	.52** ($p < .001$)	.41** ($p < .001$)	—

As shown in Table 2, risky behaviors were positively and significantly correlated with both online sexual exposure ($r = .46$, $p < .001$) and sensation seeking ($r = .52$, $p < .001$). Additionally, online sexual exposure and sensation seeking

were moderately correlated ($r = .41$, $p < .001$). These results indicate strong bivariate associations, supporting the hypothesized relationships.

Table 3

Fit indices of the structural equation model

Index	Value	Recommended Threshold
χ^2	142.83	—
df	71	—
χ^2/df	2.01	< 3.00
GFI	0.94	≥ 0.90
AGFI	0.91	≥ 0.90
CFI	0.96	≥ 0.95
TLI	0.95	≥ 0.95
RMSEA	0.051	≤ 0.08

Table 3 shows that the structural equation model had acceptable fit indices. The chi-square statistic was significant ($\chi^2 = 142.83$, $df = 71$), which is common in large samples, but the χ^2/df ratio was 2.01, within the acceptable

range. Other indices confirmed good fit: GFI = .94, AGFI = .91, CFI = .96, TLI = .95, and RMSEA = .051, all meeting recommended thresholds.

Table 4

Direct, indirect, and total path coefficients in the structural model

Path	b	SE	β	p
Online Sexual Exposure → Risky Behaviors (Direct)	0.32	0.07	.29	< .001
Sensation Seeking → Risky Behaviors (Direct)	0.41	0.08	.35	< .001
Online Sexual Exposure → Sensation Seeking (Direct)	0.28	0.06	.27	< .001
Online Sexual Exposure → Risky Behaviors (Indirect via Sensation Seeking)	0.11	0.04	.09	.002
Online Sexual Exposure → Risky Behaviors (Total)	0.43	0.08	.38	< .001

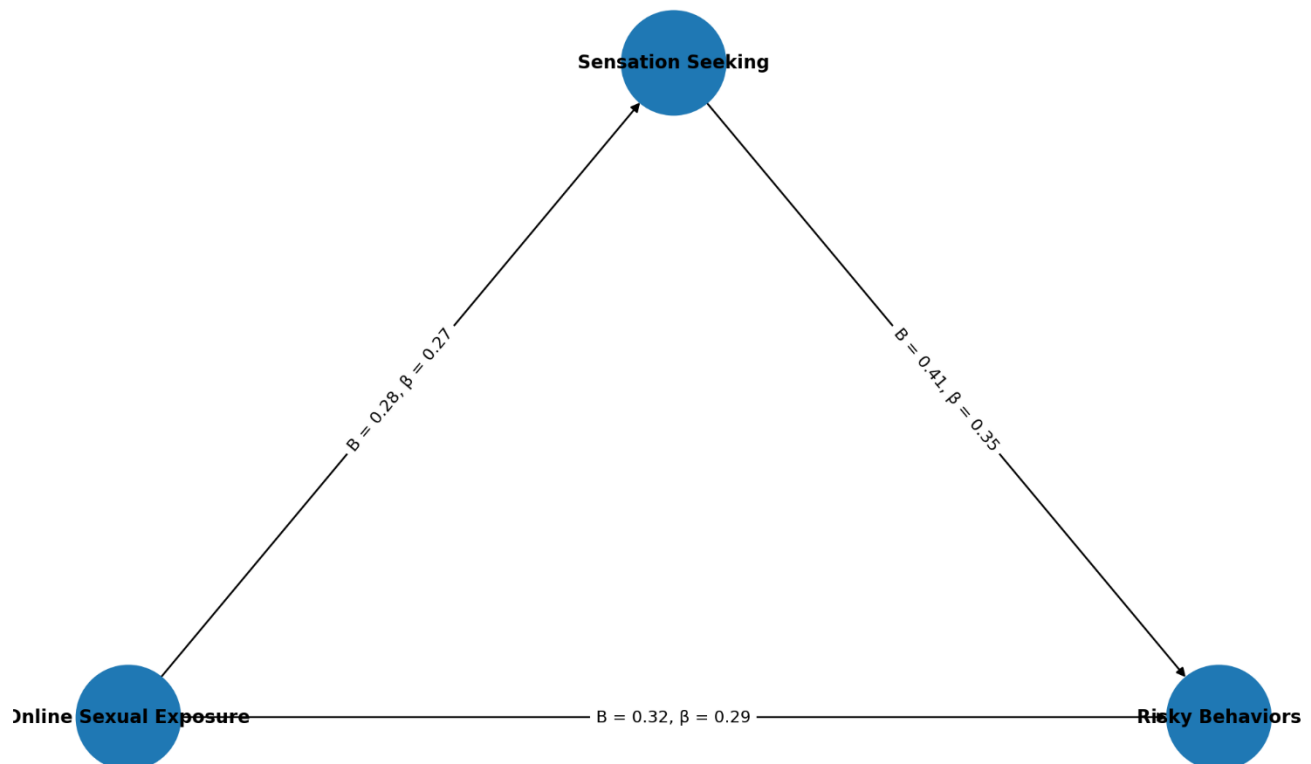
As shown in Table 4, online sexual exposure had a significant direct effect on risky behaviors ($\beta = .29$, $p < .001$). Sensation seeking also exerted a significant direct effect on risky behaviors ($\beta = .35$, $p < .001$). Additionally, online sexual exposure was positively associated with sensation seeking ($\beta = .27$, $p < .001$). The indirect effect of

online sexual exposure on risky behaviors via sensation seeking was significant ($\beta = .09$, $p = .002$), supporting mediation. The total effect (direct + indirect) of online sexual exposure on risky behaviors was $\beta = .38$, $p < .001$, indicating that sensation seeking partially mediated the relationship.

Figure 1

Model with Beta Coefficients

Structural Model: Online Sexual Exposure, Sensation Seeking, and Risky Behaviors



4. Discussion and Conclusion

The findings of this study demonstrated that online sexual exposure was significantly associated with risky sexual behaviors among adolescents and young adults in Canada,

and that sensation seeking played a mediating role in this relationship. Specifically, higher levels of online sexual exposure predicted greater involvement in risky sexual practices, and this relationship was partially explained by elevated sensation-seeking tendencies. These results provide

strong support for the theoretical framework that posits sensation seeking as a psychological pathway through which digital exposure to sexual content translates into real-life behavioral risks.

The observed positive relationship between online sexual exposure and risky behaviors is consistent with previous studies documenting that adolescents and young adults who frequently engage with sexualized online content are more likely to report earlier sexual initiation and higher levels of unprotected or casual sex (Grosskopf et al., 2010; O'Hara et al., 2012). Online platforms, especially those involving dating or hookup applications, create environments where sexual opportunities are more accessible, immediate, and anonymous, lowering barriers to engagement in risk-taking behaviors (Luo et al., 2023a, 2023b). In line with these findings, the current study underscores the growing role of technology as a determinant of sexual health, suggesting that the digital ecosystem amplifies opportunities for risk by increasing exposure to sexual stimuli and normalizing potentially hazardous practices.

The mediating effect of sensation seeking observed in this study highlights an important psychological mechanism. Sensation seeking, as defined by the pursuit of novelty and intense experiences, has long been linked to risk-taking behavior across domains such as substance use, delinquency, and sexual practices (Byck et al., 2014; Charnigo et al., 2012). Adolescents with high sensation-seeking traits are particularly vulnerable, as neurobiological changes during this developmental stage heighten responsiveness to reward and reduce inhibitory control (Dekkers et al., 2025). Our findings align with prior evidence showing that hormonal interactions, particularly between testosterone and cortisol, are linked to heightened sensation seeking and related behaviors in youth (Dekkers et al., 2025). In this sense, online sexual exposure may act as a situational trigger that resonates strongly with the motivational drives of sensation seekers, thereby increasing the probability of risky outcomes.

Prior studies have confirmed the interplay between sensation seeking and risky sexual behavior in both male and female populations. For instance, Derefinko et al. (Derefinko et al., 2014) demonstrated that impulsivity and sensation seeking predicted higher engagement in unprotected sex among young men, while Charnigo et al. (Charnigo et al., 2012) highlighted that the combination of sensation seeking with impulsivity intensified risky sexual practices among young adults. The present findings are consistent with these results, showing that individuals characterized by sensation

seeking not only respond to offline opportunities but also actively pursue novel experiences through online platforms. The alignment of our data with these earlier studies strengthens the claim that sensation seeking should be treated as a central personality trait in sexual health research and intervention development.

Furthermore, cultural and gender-related nuances must be considered when interpreting these results. Prior evidence shows that sensation seeking manifests differently across demographic groups. Jiang et al. (Jiang et al., 2023) revealed that gender moderated the relationship between sensation seeking and risky decision-making in financial contexts, while Pirani and Matera (Pirani & Matera, 2020) demonstrated gendered psychological correlates in Italian students' sexual risk profiles. Similarly, Kiylioğlu and Dönmez (Kiylioğlu & Dönmez, 2021) reported distinctive patterns of risky sexual behavior among Turkish university men, illustrating how sociocultural environments shape the expression of sensation seeking. These findings suggest that while sensation seeking operates as a generalizable mediator, its impact may be amplified or attenuated by cultural and gendered contexts. The Canadian sample in this study adds to the international body of evidence, emphasizing that although context matters, the general mediating function of sensation seeking remains robust.

The association of sensation seeking with sexual exploration is not limited to heterosexual contexts. Research on gay men using online dating apps has shown that sensation-seeking tendencies are closely related to engagement in high-risk sexual behaviors facilitated by digital technologies (Luo et al., 2023a, 2023b). McKie et al. (McKie et al., 2016) similarly found that technology use mediated sexual sensation-seeking behaviors across diverse sexual orientations in Western countries. The current study's findings support these observations by demonstrating that digital exposure—irrespective of sexual orientation—provides a fertile context for sensation seekers to actualize their drives. In this sense, online environments serve as accelerants, amplifying pre-existing traits by removing social barriers and offering an abundance of novel opportunities.

Psychological and personality-related factors further reinforce the role of sensation seeking as a mediator. Palacios (Palacios, 2018) demonstrated that self-efficacy and personality traits predicted sexual risk-taking among Mexican adolescents, while Negredo (Negredo, 2020) found that temperament traits were linked to sexual fluidity and associated risk. Similarly, Northey et al. (Northey et al.,

2016) showed that borderline personality disorder traits were associated with elevated levels of sexual sensation seeking and risk engagement. These findings converge with the current study by highlighting how personality and psychopathological characteristics intersect with sensation seeking in shaping risk outcomes. Importantly, they point to the need for multidimensional models that consider both dispositional traits and situational contexts such as online exposure.

In addition, our results resonate with research linking sensation seeking to specific sexual contexts and experiences. Berdychevsky (Berdychevsky, 2017) reported that young women's sexual risk-taking during tourist experiences was strongly predicted by sensation seeking, while Espinoza et al. (Espinoza et al., 2019) found that adolescents in continuation high schools with higher sensation-seeking traits were more likely to engage in both substance use and risky sexual behavior. The current findings similarly illustrate how sensation seeking cuts across various life domains, reinforcing its role as a broad vulnerability factor.

Interestingly, previous studies have also noted the interaction between substance use and sexual risk-taking, both of which are influenced by sensation-seeking tendencies. For example, Turchik et al. (Turchik et al., 2010) highlighted that personality, substance use, and sexuality jointly predicted risky sexual behavior in college students, while Silverstein et al. (Silverstein et al., 2017) demonstrated that sensation seeking moderated the relationship between risk factors and risky sexual behavior in college populations. These findings align with the present study by indicating that sensation seeking not only mediates the effect of online sexual exposure but also interacts with broader risk-related contexts such as substance use.

Taken together, these findings provide compelling evidence that sensation seeking is a key explanatory mechanism linking online sexual exposure to risky sexual behaviors. The results align with multiple strands of research across cultural contexts, sexual orientations, and personality frameworks (Azhari & Nugrahawati, 2025; Garner et al., 2017; Negredo, 2020; Northey et al., 2016). This convergence underscores the theoretical significance of sensation seeking and validates its role in guiding future interventions aimed at mitigating sexual risk-taking in the digital age.

5. Limitations & Suggestions

Despite its contributions, this study has several limitations that should be acknowledged. First, the cross-sectional design limits causal inference, as the directionality of relationships between online sexual exposure, sensation seeking, and risky behaviors cannot be definitively established. Longitudinal studies would be necessary to confirm the temporal sequence implied by the mediation model. Second, the use of self-report questionnaires raises the possibility of reporting biases, particularly social desirability effects in disclosing sensitive sexual behaviors. Although anonymity was emphasized, participants may have underreported or exaggerated their engagement in risky practices. Third, the sample, while diverse within the Canadian context, may not be representative of broader global populations. Cultural, ethnic, and socioeconomic diversity may influence how online sexual exposure and sensation seeking manifest, limiting the generalizability of the findings. Finally, the study did not account for potential confounders such as substance use, mental health conditions, or family background, which could interact with sensation seeking to shape risk behaviors.

Future research should address these limitations by employing longitudinal designs to establish causal pathways between online sexual exposure, sensation seeking, and risky sexual behaviors. Multi-wave studies could better capture the developmental dynamics of adolescence and early adulthood, where both digital engagement and sensation seeking evolve over time. Additionally, experimental or quasi-experimental designs could provide stronger evidence of causality by manipulating exposure to online sexual content. Expanding samples beyond Canada to include culturally diverse populations would enhance the external validity of findings and shed light on cultural variations in sensation seeking and sexual risk-taking. Moreover, future studies should incorporate additional mediators and moderators, such as impulsivity, self-control, and social norms, to develop a more nuanced understanding of the mechanisms at play. Integrating biomarkers such as hormonal measures or neuroimaging could also enrich the exploration of biological underpinnings of sensation seeking.

In terms of practical implications, the findings highlight the importance of developing targeted sexual health education programs that account for individual differences in sensation seeking. Interventions should not only focus on reducing exposure to online sexual content but also address

the underlying motivational drives that make adolescents and young adults more susceptible to risky behaviors. Tailoring messages to sensation seekers, for example by emphasizing the thrill and novelty of safe sexual practices, could increase engagement and effectiveness. Schools, parents, and health practitioners should also be aware of the role that digital platforms play in shaping sexual risk-taking, promoting digital literacy and resilience. Finally, policymakers and app developers should consider strategies to minimize harmful exposure while fostering healthier online sexual cultures.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed in this article.

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