The Impact of Childhood Trauma on Problematic Internet Pornography Use and the Mediating Role of Psychological Mechanisms

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Abstract

The purpose of this study was to examine the relationship between childhood trauma and problematic pornography use (PPU), with a focus on the mediating roles of attachment styles, coping mechanisms, and metacognitive beliefs. Of the 300 participants who responded to an online survey, 137 met inclusion criteria and were retained for analysis. All participants completed self-report measures of pornography consumption, attachment, coping, and metacognitive beliefs. However, only 10 participants fully completed the Childhood Traumatic Events Scale (CTES), which limited the statistical power of trauma-related analyses. Despite this small subsample, regression analysis unexpectedly revealed a significant inverse relationship between childhood trauma severity and problematic pornography use, suggesting that higher trauma exposure was associated with lower compulsive consumption. Mediation analysis indicated no indirect effects of attachment insecurity, coping strategies, or metacognitive beliefs, highlighting the possibility that unmeasured factors—such as distress tolerance or moral incongruence—may be more critical in explaining trauma-related variations in pornography use. While these findings challenge self-medication theories linking higher trauma to increased addictive behaviors, the limited sample size for trauma data underscores the need for cautious interpretation and further research with larger, more representative samples.

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Exploring the Relationship Between Childhood Trauma and Problematic Internet Pornography Use: A Cross-Sectional Study of Potential Mediators

In an era defined by unparalleled digital connectivity, internet consumption habits shape various facets of modern life, including mental health, relationships, and well-being. Among these habits, online pornography use has become increasingly prevalent, prompting concerns about its psychological impact, particularly for individuals with histories of trauma. Recent data suggest that over 90% of young adults regularly access online materials, including sexually explicit content, with nearly half reporting weekly or more frequent pornography use (Grubbs et al., 2019; Price et al., 2016). Internet connectivity and social media platforms have also been linked to shifts in mental health outcomes, highlighting the need to examine how digital behaviors—such as pornography consumption—might correlate with psychological distress (Brand et al., 2019). Although pornography consumption is not inherently problematic, a subset of users exhibit compulsive patterns indicative of behavioral addiction, with significant effects on their psychological health and interpersonal relationships. Existing research has recognized a strong association between childhood trauma and various forms of addiction (Brand et al., 2019; Schimmenti & Bifulco, 2015), yet the mechanisms that mediate this relationship, particularly concerning internet pornography, remain underexplored. Identifying and understanding these mediating factors is crucial for developing trauma-informed interventions aimed at mitigating the adverse effects of pornography addiction among trauma survivors.

While the concept of internet pornography addiction is not officially recognized within standard diagnostic manuals, it has gained significant attention in recent years (Grubbs et al., 2019). Behavioral addiction involves compulsive engagement in rewarding behaviors, such as internet pornography consumption, even when they result in negative outcomes (Brand et al., 2014). Research indicates that excessive pornography consumption can induce neurobiological

changes akin to those observed in substance use disorders, which affect the brain's reward pathways and potentially alter sexual preferences and behaviors (Kühn & Gallinat, 2014). These findings highlight the seriousness of problematic pornography use and the need for improved understanding and targeted interventions.

Simultaneously, there has been increased awareness of the enduring effects of childhood trauma on adult mental health and behavioral outcomes (Felitti et al., 1998). Childhood trauma, encompassing emotional, physical, and sexual abuse, as well as neglect, has been consistently linked to a broad spectrum of psychological disorders and maladaptive behaviors in adulthood (Schimmenti & Bifulco, 2015). The far-reaching effects of early life adversity often disrupt emotional regulation, attachment styles, and the ability to develop healthy coping mechanisms, contributing to significant psychological challenges (van der Kolk, 2014).

Emerging research has started to investigate the potential relationship between childhood trauma and the development of problematic internet pornography use in adulthood. This relationship is based on the understanding that individuals with traumatic pasts may resort to various forms of self-soothing or escapism as a coping mechanism for unresolved emotional distress (Compas et al., 2001). Within this context, internet pornography may serve as a readily accessible and temporarily effective method of emotional regulation, which, over time, may evolve into problematic usage patterns.

The nexus between childhood trauma and addictive behaviors is multifaceted and involves significant complexity. Trauma can derail typical developmental trajectories, disrupting the formation of secure attachments, the ability to effectively regulate emotions, and the capacity to develop healthy stress-coping strategies (Schimmenti & Bifulco, 2015). These disruptions contribute to vulnerabilities that heighten the risk of engaging in addictive behaviors, including problematic internet pornography use, as an unhealthy strategy to manage distressing emotions or experiences. The effects of childhood trauma on adult behavior are often indirect, influenced

by intervening psychological factors that shape how individuals respond to stress, regulate emotions, and perceive themselves.

Attachment theory provides a useful framework for understanding how early relational experiences shape adult behaviors, including addiction. Insecure attachment styles, namely anxious–ambivalent attachment, and avoidant attachment, often stemming from childhood trauma, are linked to challenges in establishing and maintaining healthy relationships, managing emotions, and seeking appropriate support (Schimmenti & Bifulco, 2015). These factors may contribute to an increased reliance on pornography as a substitute for intimacy or for emotional escape. Individuals with insecure attachment styles find it difficult to form meaningful connections and instead use pornography as a way to fulfill unmet needs for closeness and emotional comfort (Weinstein et al., 2015).

Coping mechanisms are central to how individuals handle stress and adversity throughout their lives (Compas et al., 2001). Childhood trauma can significantly impede the development of adaptive coping strategies, often contributing to the adoption of maladaptive behaviors. In the context of problematic internet pornography use, some individuals may turn to pornography as a means of avoiding or numbing negative emotions, creating a cycle of temporary relief followed by escalated distress and guilt (Sniewski & Farvid, 2020). The reliance on such maladaptive coping methods can perpetuate the cycle of addiction and hinder the development of more effective ways to manage stress. Maladaptive coping refers to strategies that provide temporary relief from stress but contribute to negative outcomes, such as using pornography to avoid emotional discomfort (Compas et al., 2001).

Metacognitive beliefs, which pertain to an individual's thoughts regarding their own cognitive processes, also influence the emergence and persistence of addictive behaviors (Wells, 2009). For individuals with a history of childhood trauma, maladaptive metacognitive beliefs may contribute to negative self-perception, rumination, and difficulties in emotional

regulation (Caselli & Spada, 2015). These factors may further increase the risk of developing problematic internet pornography use as a form of cognitive escape or self-medication. When individuals believe they have little control over their thoughts and feelings, they may be more inclined to use pornography to manage unwanted cognitive experiences.

The intersection of childhood trauma, psychological mechanisms, and problematic internet pornography use represents a critical area of inquiry with significant implications for mental health intervention and addiction prevention. Understanding the mediating roles of attachment styles, coping mechanisms, and metacognitive beliefs in the relationship between childhood trauma and problematic internet pornography use can enhance the development of more effective interventions and support strategies for individuals grappling with this form of behavioral addiction. Tailoring interventions to address the underlying factors contributing to addiction may result in more sustained recovery outcomes and improved well-being.

Furthermore, investigating these relationships can aid in the development of trauma-informed approaches to addiction treatment that recognize the influence of early life experiences in the manifestation of problematic behaviors (Felitti et al., 1998). By addressing the influences and psychological mechanisms underlying problematic internet pornography use, clinicians and researchers can progress towards more holistic and effective treatment modalities. Such approaches could include therapeutic strategies aimed at improving emotional regulation, fostering secure attachment patterns, and challenging maladaptive metacognitive beliefs (Shapiro, 2017; Spada & Wells, 2009; Hayes et al., 2006).

As society continues to navigate the widespread availability and potential consequences of internet pornography, research into its associations with childhood trauma and psychological mediators becomes increasingly crucial. This study aims to address these complex relationships, contributing to a nuanced understanding of problematic internet pornography use that can inform evidence-based interventions, enhance clinical practices, and support public

health strategies to mitigate its effects and promote healthier behavioral outcomes among vulnerable populations. While existing studies have examined the association between childhood trauma and general behavioral addictions, there is a relative scarcity of research focusing on the mediating psychological mechanisms specific to internet pornography use. For instance, Schimmenti and Bifulco (2015) explored the role of attachment and trauma in the development of anxiety disorders and considered broader implications for internet-based behaviors but did not isolate pornography use from other online behaviors. Similarly, Caselli and Spada (2015) discussed metacognitions in addictive behaviors, including internet use, but did not specifically address pornography consumption. This indicates a gap in the literature concerning the unique psychological pathways linking childhood trauma to problematic internet pornography use.

Childhood Trauma and Addictive Behaviors

Childhood Trauma refers to adverse experiences (e.g., abuse, neglect, significant loss) occurring before age 18 (Felitti et al., 1998; van der Kolk, 2014). Such events can disrupt developmental trajectories, and contribute to long-term emotional and psychological challenges.

Childhood Trauma has emerged as a significant determinant of various mental health issues and maladaptive behaviors in adulthood, including the onset of addiction. The Adverse Childhood Experiences (ACEs) framework, as proposed by Felitti et al. (1998), has been foundational in establishing the enduring impact of early life trauma on health outcomes. Subsequent empirical research has consistently demonstrated that individuals with a history of childhood trauma are at an elevated risk of developing both substance use disorders and behavioral addictions (Schimmenti & Bifulco, 2015).

The relationship between childhood trauma and addiction is multi-faceted, encompassing intricate interactions among biological, psychological, and social factors. Neurobiological

studies have highlighted that early life stress can induce alterations in brain structure and function, particularly in regions involved in stress response, emotional regulation, and reward processing (Teicher & Samson, 2016). These neurobiological changes may increase vulnerability to addictive behaviors by impairing normal stress-coping mechanisms and heightening the rewarding effects associated with substances or compulsive activities.

Psychological factors play an essential role in mediating the connection between childhood trauma and addiction. Individuals exposed to trauma frequently struggle with emotional dysregulation, negative self-perceptions, and face significant challenges in interpersonal relationships (van der Kolk, 2014). These psychological challenges may predispose individuals to adopt maladaptive coping strategies, including substance use or compulsive behaviors, to manage distressing emotions or alleviate the discomfort associated with traumatic memories. Emotional dysregulation, in particular, has been identified as a crucial mediator linking early adversity to addictive behaviors (Hsieh et al., 2016).

Khantzian's (1997) self-medication hypothesis proposes that some people adopt addictive habits to dampen distressing emotions or to regain a sense of internal balance that they otherwise find unavailable. This theoretical framework is especially relevant to childhood trauma, as traumatized individuals may employ addictive substances or behaviors as coping mechanisms for trauma-related symptoms, including anxiety, depression, and intrusive memories. The drive to self-medicate reflects a maladaptive attempt to achieve emotional relief, further complicating the capacity for effective stress management.

Attachment theory offers an additional perspective on the link between trauma and addiction. Insecure attachment styles, which often arise from childhood maltreatment or neglect, have been associated with an increased risk of both substance use disorders and behavioral addictions (Schimmenti & Bifulco, 2015). Individuals with insecure attachment may struggle with emotional intimacy and security, and in the absence of positive relational

support, may turn to addictive behaviors as a substitute for meaningful connections or as a mechanism for emotion regulation (Weinstein et al., 2015).

Recent research has also explored the role of heightened stress sensitivity in the development of addiction among trauma survivors. Individuals with a history of childhood trauma frequently exhibit increased physiological and psychological reactivity to stress, which can predispose them to use substances or engage in addictive behaviors as a form of stress relief (Enoch, 2011). This stress sensitivity is highly relevant to understanding the emergence of behavioral addictions, such as problematic internet pornography use, which may serve as an easily accessible form of escaping or modulating stress.

While much of the research on childhood trauma and addiction has focused on substance use disorders, there is growing interest in examining these relationships within the context of behavioral addictions. Studies have found significant associations between childhood trauma and a variety of behavioral addictions, including gambling disorder, internet gaming disorder, and compulsive sexual behavior (Schneider, King, & Delfabbro, 2017). These findings indicate that the impact of childhood trauma on addictive behaviors is not confined to substance use, underscoring the broader influence of trauma on compulsive patterns.

Internet Pornography Addiction

The advent of high-speed internet has dramatically transformed access to pornographic content, resulting in unprecedented availability and widespread consumption of online sexual material (Cooper, Delmonico, & Burg, 2000). Although pornography use is not inherently problematic for most individuals, a subset of users exhibits patterns of excessive and uncontrolled consumption that mirror characteristics observed in other behavioral addictions (Brand, Laier, & Pawlikowski, 2014). The concept of internet pornography addiction, also referred to as problematic pornography use or compulsive sexual behavior disorder, has garnered increasing interest from researchers and clinicians over the past decade.

Internet pornography addiction is characterized by persistent and escalating patterns of use, loss of control over viewing behaviors, continued engagement despite negative consequences, and tolerance and withdrawal-like symptoms (Brand et al., 2019). Although compulsive sexual behavior disorder is not currently classified as a distinct diagnosis in the DSM-5, it has been included in the ICD-11 under impulse control disorders, reflecting growing recognition of the clinical significance of compulsive pornography use.

Neurobiological research has provided valuable insights into the addictive potential of internet pornography. Studies using neuroimaging techniques indicate that individuals with problematic pornography use exhibit brain activation patterns similar to those observed in substance addictions, particularly in regions involved in reward processing, cue reactivity, and impulsivity (Gola et al., 2016). These parallels in neural activity highlight the compulsive nature of pornography consumption in affected individuals.

The prevalence of problematic internet pornography use is variable across studies, with estimates ranging from 3% to 6% in the general population (Grubbs et al., 2019). However, these prevalence rates are notably higher among young adults and males. Several factors contribute to the development of problematic use, including the easy accessibility, affordability, and anonymity provided by online pornography. Moreover, individual vulnerabilities such as pre-existing mental health conditions, poor impulse control, and the use of maladaptive coping strategies to manage stress or negative emotions can also contribute to unhealthy pornography behaviors. Such factors create a heightened risk profile for developing addictive patterns of use.

Problematic internet pornography use involves repetitive, compulsive viewing of online sexual content, accompanied by difficulty controlling consumption, continued use despite negative outcomes, and cravings or withdrawal-like symptoms (Bőthe et al., 2018; Brand et al., 2019). It can have significant consequences, ranging from reduced sexual and relationship

satisfaction to detrimental impacts on academic or occupational performance (Bőthe et al., 2020).

Furthermore, individuals struggling with problematic use often experience considerable psychological distress, manifesting as symptoms of depression, anxiety, and diminished self-esteem. Individuals experiencing problematic use often report psychological distress, including depression, anxiety, and low self-esteem. Such findings underscore the importance of understanding and addressing this behavior within both clinical and public health frameworks.

One of the major challenges in researching internet pornography addiction lies in the ongoing debate regarding its conceptualization and measurement. While some scholars advocate for an addiction model to characterize the phenomenon, others propose alternative frameworks, such as compulsivity or impulsivity models, to better capture the behavioral nuances involved. This lack of consensus has led to the development of various assessment instruments, each with distinct strengths and limitations. Commonly employed measures include the Problematic Pornography Consumption Scale (PPCS) and the Problematic Pornography Use Scale (PPUS), which assess different dimensions of problematic pornography use. The diversity of these tools reflects the complexity of capturing the multifaceted nature of the behavior. Recent research has also focused on the influence of moral incongruence in problematic pornography use. Grubbs and Perry (2019) have proposed that, for certain individuals, perceived addiction to pornography may stem more from moral or religious beliefs regarding pornography use than from objective behavioral patterns. This perspective highlights the interplay between personal beliefs, cultural norms, and addictive behaviors, emphasizing that perceived problematic use may be influenced by factors beyond the frequency or duration of pornography consumption. Understanding this dynamic is crucial for accurately interpreting research findings and designing targeted interventions.

Treatment approaches for problematic porn use are still evolving, with current interventions drawing on established addiction treatment methodologies. Cognitive-behavioral therapy (CBT) has demonstrated promise in treating problematic pornography use by focusing on the identification and modification of maladaptive thought patterns and behaviors that contribute to compulsive consumption (Wéry & Billieux, 2017). Additionally, mindfulness-based interventions and acceptance and commitment therapy (ACT) have been explored as potential treatment options, emphasizing non-judgmental awareness of one's experiences and fostering behavior change that aligns with personal values. These therapeutic approaches aim to help individuals regain control over their consumption, reduce psychological distress, and ultimately improve their overall well-being.

Mediating Psychological Mechanisms

The relationship between childhood trauma and internet pornography addiction is complex, involving multiple mediating psychological mechanisms. Understanding these mediators is essential for the development of effective prevention and treatment strategies. Research has pointed to three key psychological factors as potential mediators: attachment styles, coping mechanisms, and metacognitive beliefs.

Attachment styles, which develop based on early interactions with caregivers, play a significant role in shaping individuals' emotional and relational behaviors. Research shows that individuals with insecure attachment styles, often linked to childhood trauma, tend to exhibit difficulties in forming healthy relationships and managing emotional intimacy (Schimmenti & Bifulco, 2015). These patterns can predispose individuals to seek alternative means of emotional fulfillment, such as internet pornography, as a substitute for real-life connections. Studying attachment styles in this context helps us understand how early relational experiences contribute to addiction vulnerability, especially in relation to internet pornography use.

Attachment theory has been widely used in addiction studies to explain how relational dynamics may contribute to addictive behaviors, further supporting its relevance as a mediator in this context. This study builds on established research by exploring how insecure attachment styles specifically influence problematic pornography use in individuals with trauma histories. This approach can provide insights into tailoring therapeutic interventions that address attachment-related challenges, potentially reducing reliance on pornography as an emotional substitute.

Coping mechanisms are crucial in understanding how individuals handle stress and emotional challenges. Childhood trauma can disrupt the development of adaptive coping strategies, making individuals more likely to rely on maladaptive coping behaviors, such as avoidance or emotional numbing (Compas et al., 2001). In the context of internet pornography, individuals who struggle with healthy coping may turn to pornography as a way to escape or numb negative emotions. Investigating coping mechanisms as a mediator allows us to explore how trauma-induced impairments in coping contribute to the emergence of problematic internet pornography use.

By focusing on the role of maladaptive coping, this study may provide critical insights into therapeutic interventions that help build healthier coping strategies. Addressing these behaviors directly could reduce the tendency to rely on internet pornography for emotional relief, ultimately decreasing the risk of addiction. Additionally, understanding the effect of trauma on coping mechanisms in this context can help inform broader mental health interventions that prioritize resilience and emotional regulation in trauma-exposed populations.

Metacognitive beliefs, which pertain to individuals' thoughts about their own cognitive processes, are influential in the development and persistence of addictive behaviors. Trauma survivors may develop maladaptive metacognitive beliefs, such as viewing certain thoughts as uncontrollable or inherently negative, contributing to heightened worry, rumination, and poor

emotional regulation (Wells, 2009; Caselli & Spada, 2015). These beliefs can drive individuals toward internet pornography as a form of cognitive escape or self-medication to manage distressing thoughts. Examining metacognitive beliefs as a mediator provides insight into how cognitive distortions rooted in trauma can reinforce addiction tendencies.

This study's focus on metacognitive beliefs builds on research in behavioral addiction by examining how trauma shapes cognitive responses to distress, influencing addiction pathways. Identifying these metacognitive patterns can guide interventions that help trauma survivors develop healthier ways of thinking about their thoughts and emotions. Such interventions, like metacognitive therapy, could be especially beneficial for individuals struggling with problematic pornography use by reducing their reliance on maladaptive cognitive escapes.

The interplay between these psychological mechanisms is likely both intricate and bidirectional. For instance, insecure attachment may contribute to the adoption of maladaptive coping strategies, which, in turn, reinforce negative metacognitive beliefs. Understanding these interactions is crucial for developing comprehensive models of internet pornography addiction and informing targeted, multi-faceted interventions.

Gaps in Existing Research

Despite the substantial growth in research on internet pornography addiction, several significant gaps remain in understanding its relationship with childhood trauma and the mediating psychological mechanisms. The following paragraphs address key areas where research is lacking and where further substantial inquiry could significantly enhance our understanding.

Firstly, there is a pressing need for more longitudinal studies to establish causal relationships between childhood trauma, psychological mediators, and the onset of problematic internet pornography use. Much of the current research relies on cross-sectional designs, which limit the ability to determine the temporal sequence and causality of these factors.

Secondly, the majority of existing studies predominantly focus on male samples, resulting in a considerable gap in understanding how these relationships may manifest among females. Given the increasing prevalence of pornography use among women, research exploring gender-specific differences in the trauma-addiction link is essential for a more nuanced understanding of this phenomenon.

Thirdly, there remains a lack of integration between neurobiological and psychological approaches in the study of internet pornography addiction. Future research should endeavor to combine neuroimaging techniques with assessments of psychological mediators, thereby providing a more holistic understanding of the mechanisms underlying problematic use.

Fourthly, the influence of cultural and societal factors in shaping the relationship between childhood trauma and internet pornography addiction remains insufficiently explored. Cross-cultural studies are necessary to examine how varying social norms, religious beliefs, and attitudes towards sexuality may influence the development and expression of problematic pornography use.

Fifthly, there is a need for more focused research on treatment approaches specifically designed for individuals with a history of childhood trauma who struggle with internet pornography addiction. Although existing addiction treatment modalities have been applied to this population, empirical studies evaluating the efficacy of trauma-informed interventions remain limited.

Addressing these research gaps is essential for advancing our understanding of internet pornography addiction and enhancing prevention and treatment strategies for individuals with a history of childhood trauma.

Relevant Theoretical Frameworks

Multiple theoretical frameworks shed light on how childhood trauma may relate to problematic internet pornography use. The Self-Medication Hypothesis (Khantzian, 1997)

proposes that individuals exposed to early adversity may engage in addictive or compulsive behaviors to cope with unprocessed emotional distress. Another framework frequently discussed, Attachment Theory (Bowlby, 1982) suggests that disruptions in early caregiving relationships can be associated with insecure attachment styles, potentially driving adults to seek out pornography as a maladaptive substitute for genuine connection (Schimmenti & Bifulco, 2015). The I-PACE model developed by Brand et al. (2016, 2019) conceptualizes internet-use disorders as the product of ongoing interactions among personal predispositions, affective and cognitive responses, and self-regulatory control, suggesting that these factors can work together either to encourage or to restrain compulsive online behavior. Applying these frameworks provides a deeper understanding of why trauma histories might elevate vulnerability to compulsive pornography consumption.

Problem Statement

The widespread availability of internet pornography has contributed to a rise in problematic use, particularly among young adults. Research has consistently identified a strong association between childhood trauma and various forms of addictive behavior (Felitti et al., 1998). However, the specific mechanisms that mediate the relationship between childhood trauma and problematic internet pornography use remain insufficiently understood. While existing studies have provided initial insights into this correlation, there is a necessity to investigate the mediating role of psychological factors, including attachment styles, coping mechanisms, and metacognitive beliefs, in this relationship (Schimmenti & Bifulco, 2015; Compas et al., 2001; Wells, 2009). Understanding these mediating factors is essential for the development of effective prevention and intervention strategies for individuals with a history of childhood trauma who experience problematic internet pornography use. The intricate interplay between trauma, psychological mechanisms, and addictive behaviors necessitates a comprehensive

investigation to address the current gaps in knowledge (van der Kolk, 2014; Wordecha et al., 2018).

Research Objectives

The primary objectives of this study are as follows:

- To examine the association between childhood trauma and the severity of problematic internet pornography use among young adults aged 18 to 30.
- To investigate the mediating role of attachment styles in the relationship between childhood trauma and problematic internet pornography use.
- To explore the extent to which coping mechanisms mediate the association between childhood trauma and problematic internet pornography use.
- To assess the mediating effect of metacognitive beliefs on the link between childhood trauma and problematic internet pornography use.
- To evaluate the combined mediating effects of attachment styles, coping mechanisms, and metacognitive beliefs in explaining the relationship between childhood trauma and problematic internet pornography use.
- To determine the relative strength of each mediating factor.
- To provide insights that inform the development of targeted interventions for individuals with a history of childhood trauma experiencing problematic internet pornography use.

Study Hypotheses

This study examines the following hypotheses:

Hypothesis 1: Childhood Trauma → PPCS: Higher levels of childhood trauma will be associated with higher Problematic Pornography Consumption Scale (PPCS) scores (Felitti et al., 1998; Grubbs et al., 2020).

2. Attachment as Mediator: Insecure attachment styles (anxious/avoidant) will mediate the relationship between childhood trauma and PPCS scores (Schimmenti & Bifulco, 2015).

3. Coping as Mediator: Maladaptive coping strategies (e.g., avoidance, wishful thinking) will partially mediate the link between trauma severity and problematic pornography use (Compas et al., 2001).

4. Metacognitions as Mediator: Maladaptive metacognitive beliefs will also act as a mediator, such that individuals endorsing higher negative beliefs about uncontrollability and danger will have stronger associations between childhood trauma and PPCS (Wells, 2009; Caselli & Spada, 2015).

By building on existing theoretical frameworks, the present study's hypotheses flow directly from prior research. For instance, Attachment Theory (Bowlby, 1982) indicates that early relational disruptions can predict adult compulsive behaviors (Mikulincer & Shaver, 2016). This informs Hypothesis 2 about insecure attachment styles mediating the trauma–pornography link. Similarly, the Self-Medication Hypothesis (Khantzian, 1997) suggests trauma survivors may turn to addictive behaviors to regulate distress, directly supporting Hypothesis 1 regarding higher trauma predicting higher problematic use. Lastly, the I-PACE model (Brand et al., 2016) highlights how personal predispositions (e.g., childhood adversity) and affective responses is associated to Internet-related addictive behaviors, guiding Hypothesis 3 and Hypothesis 4 on coping and metacognitive beliefs as mediators. By combining these theories, we derive a multifaceted rationale for the specific mediating pathways tested in this study.

Research Questions

This study investigates the following research questions focused on the relationship between childhood trauma and problematic internet pornography use, along with the potential mediating roles of attachment styles, coping mechanisms, and metacognitive beliefs.

1. What is the nature of the relationship between childhood trauma and the severity of problematic internet pornography use among young adults?
2. How do attachment styles mediate the relationship between childhood trauma and problematic internet pornography use?
3. To what extent do coping mechanisms mediate the association between childhood trauma and problematic internet pornography use?
4. What role do metacognitive beliefs play in mediating the link between childhood trauma and problematic internet pornography use?
5. How do attachment styles, coping mechanisms, and metacognitive beliefs collectively mediate this relationship?
6. Which of these psychological factors exhibits the strongest mediating effect on the trauma-addiction relationship?

Methods

Research Design

This study employs a cross-sectional design to examine the relationship between childhood trauma and problematic internet pornography use among young adults, with a focus on the mediating roles of attachment styles, coping mechanisms, and metacognitive beliefs. A cross-sectional approach is ideal for this research, providing both time and cost efficiency by capturing data from a large sample at a single point in time. Additionally, this design facilitates the prevalence assessment of problematic internet pornography use and its association with childhood trauma within a young adult population.

However, it is important to acknowledge certain limitations of the cross-sectional design. This approach restricts the ability to draw causal inferences between childhood trauma and pornography use due to the lack of temporal sequencing. Longitudinal studies could further

clarify the temporal dynamics of these relationships. Despite these limitations, a cross-sectional design is valuable for identifying associations and generating hypotheses for future studies.

To gather quantitative data, the study uses an online survey methodology for several reasons. Online surveys provide easy access to a geographically diverse sample, enhancing the generalizability of findings. They also offer anonymity, which is critical given the sensitive nature of the topic, potentially encouraging more honest responses. The use of an online platform enables consistent question presentation, reducing interviewer bias, and automated data collection minimizes errors associated with manual entry.

Operational definitions for the study's key variables are as follows:

Childhood Trauma: Defined as adverse experiences during childhood, encompassing emotional, physical, and sexual abuse, as well as neglect.

Problematic Internet Pornography Use: Defined as a pattern of compulsive pornography consumption characterized by a loss of control and continued use despite negative consequences.

Participants

Participants were young adults between the ages of 18 to 30, recruited through the SampleSize subreddit on reddit.com. This age group was selected due to the elevated prevalence of both internet use and exposure to pornography during this developmental stage, making them an appropriate demographic for exploring the association between childhood trauma and problematic internet pornography use.

Efforts were made to achieve a balanced representation across gender, ethnicity, and socioeconomic backgrounds to enhance the generalizability of the study's findings. Given the sensitive nature of the subject matter, recruitment strategies prioritized ethical considerations, including transparency about the study's purpose, procedures, and the right to withdraw at any time. Informed consent was obtained electronically from all participants prior to their

participation, ensuring they fully understood the implications of their involvement and the confidentiality measures in place to protect their data.

The inclusion criteria encompassed individuals aged 18 to 30 who self-reported a history of internet pornography use. Participants with a history of childhood trauma were of particular interest, as the study sought to investigate how such experiences influenced the development of problematic internet pornography use. Exclusion criteria included individuals who did not use internet pornography or who were unwilling to provide informed consent.

The target sample size was established based on power analysis to ensure sufficient statistical power for detecting significant relationships among the study variables. Recruitment resulted in a diverse and sizeable sample, allowing for meaningful subgroup analyses, particularly with regard to gender differences and variations in psychological mediators.

All participants completed an online survey using the platform SurveyMonkey, which included validated measures of childhood trauma, internet pornography use, attachment styles, coping mechanisms, and metacognitive beliefs, along with demographic information to comprehensively characterize the sample (Appendix A).

Inclusion Criteria

The study targeted young adults aged 18 to 30 years, selected for their high levels of internet usage and increased exposure to online pornography. This age group is in a developmental stage often marked by exploration of sexuality and intimate relationships, along with greater independence and privacy, which may facilitate the emergence of problematic internet pornography use. Participants were required to meet specific criteria, including being within the 18 to 30 age range, having regular access to the internet, and being fluent in English to ensure accurate comprehension of survey questions. Additionally, participants provided informed consent, indicating their voluntary participation and understanding of the study's purpose and procedures.

Exclusion Criteria

To uphold the integrity of the study and ensure participant safety, several exclusion criteria were applied. Individuals undergoing acute psychiatric treatment or experiencing severe psychological distress were excluded, as were participants with cognitive impairments that could compromise their ability to provide informed consent or accurately complete the survey. Additionally, individuals without a history of internet pornography use were excluded, given the study's focus on problematic use patterns. Participants who completed less than 80% of the survey were excluded to maintain data quality and completeness, along with those exhibiting inconsistent or clearly invalid response patterns, which indicated a lack of genuine engagement with the survey.

Sampling Strategy

The study employed a convenience sampling method, primarily recruiting participants through the SampleSize subreddit community (Appendix B). This approach was selected for its efficiency in accessing a large and diverse sample of young adults, a demographic highly engaged in internet use. Recruitment strategies included leveraging specific online communities, such as Reddit, particularly the SampleSize community, to maximize participation. This method facilitated the rapid collection of data from individuals who met the inclusion criteria, thereby enhancing the feasibility of the research while ensuring that the sample was representative of the study's target population of young adult internet users.

Measures

The Childhood and Recent Traumatic Events Scales (CTES and RTES)

The Childhood Traumatic Events Scale (CTES) and the Recent Traumatic Events Scale (RTES) collectively offer a thorough assessment of an individual's trauma history across early life and more recent periods, thereby facilitating a nuanced understanding of how traumatic events may influence current psychological and behavioral outcomes (Pennebaker & Susman,

1988; Teicher & Samson, 2016). The Childhood Traumatic Events Scale (CTES) asks respondents whether specific adverse experiences—such as bereavement, interpersonal violence, serious illness or family disruption—occurred before age 17 and, if so, how upsetting each event was on a 7-point scale. The Recent Traumatic Events Scale (RTES), uses the same format to capture events from the previous three years. Both tools therefore provide complementary snapshots of early-life and more recent stressors., encompassing interpersonal losses, major health crises, and traumatic incidents that may continue to shape one's mental health. By measuring both objective occurrence and subjective impact (as well as any social support utilized), these scales acknowledge that trauma is multifaceted, involving both the event itself and the individual's perception, coping, and contextual factors (van der Kolk, 2014; Vaillancourt-Morel et al., 2016). While the CTES and RTES are event-based scales (focusing on the presence, absence, and impact of traumatic events) and thus do not always report Cronbach's alpha in every study, previous research using these instruments has indicated satisfactory internal consistency across various samples. For instance, studies have reported Cronbach's alpha values generally ranging from .70 to .80 for measures of trauma severity and impact (Pennebaker & Susman, 1988; Vaillancourt-Morel et al., 2016), suggesting adequate reliability for identifying and quantifying traumatic experiences.

Problematic Pornography Consumption Scale (PPCS)

The 18-item Problematic Pornography Consumption Scale (PPCS; Bőthe et al., 2018) operationalises Griffiths's components model of addiction by assessing salience, mood-altering use, conflict, tolerance, relapse and withdrawal. Respondents rate each statement from 1 (never) to 7 (very often), yielding a total score between 18 and 126; higher totals reflect more compulsive viewing patterns. Psychometric work shows excellent internal consistency ($\alpha \approx .93$) and a stable six-factor structure across cultures.

The PPCS was particularly well-suited for this study for several reasons. It provides a multidimensional assessment of problematic pornography use, capturing various facets of addictive behavior that are relevant to understanding this issue. Specifically validated for internet pornography, the PPCS closely aligns with the focus of this study, demonstrating robust psychometric properties across diverse samples and cultural contexts. Its structure allows for an examination of both overall problematic use and specific addiction components, facilitating nuanced analyses of the relationships between childhood trauma, pornography use, and potential mediators. Sensitive to varying levels of problematic use, the PPCS is well-suited for a non-clinical sample, offering a reliable measure of experiences across a spectrum of usage patterns. Although self-report measures like the PPCS may introduce some social desirability bias, the scale's strong theoretical foundation and psychometric rigor make it a valuable tool for evaluating problematic internet pornography use in this context.

Experiences in Close Relationships-Revised (ECR-R)

The Experiences in Close Relationships-Revised (ECR-R; Fraley et al., 2000) questionnaire was employed to assess participants' attachment styles. The ECR-R is a widely used self-report instrument designed to evaluate adult attachment patterns, based on the dimensional model of attachment. This 36-item questionnaire records responses on a 7-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree," and includes two subscales: Attachment Anxiety and Attachment Avoidance, with 18 items each. Scores on each subscale range from 18 to 126, with higher scores indicating greater levels of attachment anxiety or avoidance.

The ECR-R demonstrates strong psychometric properties, supporting its reliability and validity for this study. Internal consistency is high, with Cronbach's alpha exceeding .90 for both the Anxiety and Avoidance subscales. Test-retest reliability has been well established, showing strong correlations over a three-week interval ($r = .92$ for Anxiety and $r = .91$ for

Avoidance). Construct validity is also supported by significant correlations with other measures of attachment and related constructs, confirming the instrument's robustness.

The ECR-R was particularly suitable for this research as it provides a dimensional assessment of attachment, allowing for a nuanced understanding of attachment patterns compared to categorical measures. It has been extensively applied in studies on adult relationships and psychopathology, including research on addictive behaviors, which aligns well with the focus of this study. The ECR-R enables the examination of both attachment anxiety and avoidance, which may show distinct relationships with childhood trauma and problematic internet pornography use. With strong psychometric properties across diverse populations, including young adults, the ECR-R provides insights into how attachment patterns may mediate the link between childhood trauma and pornography use. Although primarily focused on romantic attachments, these patterns often reflect broader attachment styles rooted in early experiences, making the ECR-R relevant for exploring the long-term effects of childhood trauma on adult relationships and behaviors.

Coping Strategies Inventory (CSI)

The Coping Strategies Inventory (CSI; Tobin et al., 1989) was used to assess participants' coping mechanisms. The CSI is a comprehensive self-report measure designed to evaluate a broad spectrum of coping strategies employed in response to stressful situations. This 72-item questionnaire uses a 5-point Likert scale, ranging from "Not at all" to "Very much," and comprises eight primary subscales: Problem Solving, Cognitive Restructuring, Social Support, Express Emotions, Problem Avoidance, Wishful Thinking, Social Withdrawal, and Self-Criticism. Additionally, it includes four secondary subscales (Problem-Focused Engagement, Emotion-Focused Engagement, Problem-Focused Disengagement, and Emotion-Focused Disengagement) and two tertiary subscales (Engagement and Disengagement), providing a multi-dimensional view of coping strategies.

The CSI demonstrates good psychometric properties, which supports its reliability and validity for use in this study. Internal consistency is robust, with Cronbach's alpha values ranging from .71 to .94 across the primary subscales. Test-retest reliability has also been established, showing correlations between .67 and .83 over a two-week interval. Construct validity has been supported through factor analysis and correlations with other measures of coping and psychological adjustment, confirming the CSI as a reliable tool for assessing coping strategies.

The CSI was particularly suitable for this research, as it provides a comprehensive evaluation of coping strategies, allowing for an in-depth analysis of how various coping mechanisms may mediate the relationship between childhood trauma and problematic internet pornography use. The scale's structure differentiates between engagement (approach) and disengagement (avoidant) coping strategies, which may exhibit distinct relationships with trauma and addictive behaviors. Extensively used in studies exploring coping strategies and psychological outcomes, including addictive behaviors, the CSI facilitates examination of both adaptive and maladaptive coping methods, offering a more complete understanding of participants' coping repertoires. Such insights are crucial for identifying specific coping strategies that may serve as risk or protective factors in the development of problematic internet pornography use among individuals with a history of childhood trauma. Although the length of the CSI may increase participant burden, its detailed assessment of coping strategies provides valuable data for addressing the research questions comprehensively.

Metacognitions Questionnaire-30 (MCQ-30)

The Metacognitions Questionnaire-30 (MCQ-30; Wells & Cartwright-Hatton, 2004) was used to assess participants' metacognitive beliefs. The MCQ-30 is a concise version of the original Metacognitions Questionnaire, developed to evaluate multiple domains of metacognition effectively. This 30-item self-report questionnaire utilizes a 4-point Likert scale,

ranging from "Do not agree" to "Agree very much," and includes five subscales: Positive Beliefs about Worry, Negative Beliefs about Uncontrollability and Danger, Cognitive Confidence, Need for Control, and Cognitive Self-Consciousness.

The MCQ-30 demonstrates solid psychometric properties, making it reliable and valid for this study's purpose. Internal consistency is strong, with Cronbach's alpha values ranging from .72 to .93 across the subscales. Additionally, test-retest reliability over a five-week interval is adequate, with a correlation coefficient of r = .75. Construct validity has been supported by significant correlations with other measures of worry, obsessive-compulsive symptoms, and related psychological constructs, further affirming its robustness.

The MCQ-30 was particularly suitable for this research as it provides a multidimensional assessment of metacognitive beliefs, which may contribute to the maintenance of problematic internet pornography use. The scale has been used extensively in studies exploring the role of metacognition in various psychological disorders and addictive behaviors, aligning well with this study's aims. It offers valuable insights into how specific metacognitive beliefs may mediate the relationship between childhood trauma and pornography use, enabling a nuanced analysis of cognitive factors underlying addictive behaviors. Additionally, the MCQ-30's brevity reduces participant burden while still providing comprehensive information on metacognitive processes, making it an efficient yet effective tool for this study.

Procedure

Data collection took place between August 1st and December 1st, 2024. After creating the online survey on SurveyMonkey, I posted an invitation link on the r/SampleSize subreddit, clearly stating the inclusion criteria (ages 18 to 30, the requirement of regular pornography use, necessary English fluency, and willingness to consent). The survey was available for four weeks, with the link periodically reposted in accordance with subreddit rules.

Survey Structure

The survey began with an eligibility screening (e.g., age verification) followed by the consent form (Appendix C). We clearly indicated that participants could exit at any time without penalty. Questions were presented in the same order for all participants:

Demographic Information (age, gender, location, full-time university status.)

The Childhood Traumatic Events Scale (CTES) and Recent Traumatic Events Scale (RTES)

The Problematic Pornography Consumption Scale (PPCS)

The Experiences in Close Relationships-Revised (ECR-R)

The Coping Strategies Inventory (CSI)

The Metacognitions Questionnaire-30 (MCQ-30)

Instructions and Timing

Participants were informed that the survey would take approximately 15–20 minutes to complete. We included brief instructions at the start of each new measure to clarify how to respond. To preserve confidentiality, no identifying information was collected.

Data Storage and Follow-Up

SurveyMonkey's encryption and password protections were in place to safeguard responses. After survey completion, participants were shown a debriefing page with mental health resources. Those interested in study results had the option to provide an email on a separate link, ensuring anonymity of the main dataset.

Follow-up

Participants who expressed interest in receiving a summary of the study's findings were able to provide their email address through a separate form. This information was stored independently to maintain the anonymity of their survey responses.

Participant Comfort and Ethical Considerations

Throughout the procedure, measures were taken to ensure participant comfort and well-being:

- Participants were informed they could skip any questions that induced discomfort.
- A "quit" button was provided on each page, allowing participants to exit the survey at any time.
- Contact information for the research team was provided for any questions or concerns.

This procedure was designed to prioritize participant well-being while ensuring high-quality data collection and adherence to ethical standards.

Data Analysis

Regression Analysis

The present study employed regression analysis to investigate the relationship between childhood trauma and problematic internet pornography use, thereby quantifying both the strength and direction of their association. Multiple regression models were developed to capture various dimensions of childhood trauma (assessed via the Childhood Traumatic Events Scale) and to evaluate their influence on problematic internet pornography use (measured through the Problematic Pornography Consumption Scale). In these models, demographic factors such as age and gender were controlled to ensure that any observed effects are attributable primarily to trauma-related factors.

Before constructing the models, the dataset was rigorously prepared and screened. This process involves assessing and handling outliers, examining variables for normality and skewness or kurtosis, and checking for potential multicollinearity among predictors. Such data

cleaning procedures are essential for preserving the integrity of the analyses and ensuring that the results are not unduly influenced by anomalies or overly intercorrelated variables.

Subsequent to data preparation, model specification was to be guided by both theoretical frameworks and initial correlational findings, helping to identify which predictors to include in each regression model. Ordinary least squares (OLS) estimation was then employed to calculate regression coefficients, producing standardized (β) and unstandardized (B) estimates. Model fit was examined using R-squared (R^2) values and F-tests to ascertain the proportion of variance in problematic pornography use accounted for by childhood trauma and the control variables.

Finally, interpretation of the regression coefficients focused on each predictor's magnitude, direction, and statistical significance, clarifying how specific forms of childhood trauma—whether emotional, physical, or sexual—may contribute to problematic pornography consumption in young adulthood. Through this approach, the study aims to determine whether childhood trauma is a significant predictor of problematic internet pornography use and to what degree distinct trauma types differentially affect the severity of this behavior. The results derived from these analyses informed both our theoretical understanding of the trauma-addiction link and the development of tailored interventions for individuals who have encountered childhood adversity.

Mediation Analysis

Mediation was tested using Hayes' (2018) PROCESS macro with bias-corrected bootstrapping (5,000 resamples). Although the trauma subsample was small (n = 10), PROCESS can still yield useful insights provided caution in interpreting effect sizes (Hayes, 2018). We interpreted these mediation results with caution but note that guidelines indicate bootstrap confidence intervals can be reasonable in modest samples. However, Fritz and MacKinnon (2007) recommend at least 53 participants for large effect sizes, so our sample of

10 may limit the reliability of these findings. The bootstrapped confidence intervals help mitigate issues associated with small-sample statistical power. First, the direct effect of childhood trauma on problematic pornography use was established, confirming whether a significant relationship exists in the absence of mediating variables. Next, the relationships between childhood trauma and each potential mediator—attachment style (ECR-R), coping mechanisms (CSI), and metacognitive beliefs (MCQ-30)—was examined. Controlling for childhood trauma, each mediator's effect on problematic pornography use was then assessed to determine if a significant pathway emerges that supports mediation. Bias-corrected bootstrapping (with at least 5,000 resamples) was employed to generate confidence intervals for the indirect effects; mediation was inferred if the resulting confidence interval did not include zero. In addition, a multiple mediation model was utilized to test more than one mediator simultaneously (e.g., insecure attachment, maladaptive coping, and metacognitive beliefs), thereby clarifying whether each mediator contributes uniquely to explaining the trauma–addiction link or whether one pathway supersedes the others (Hayes, 2018).

Qualitative Analysis

To examine the open-ended responses, the research applied the six-step thematic analysis framework proposed by Braun and Clarke (2006). The process started with an in-depth familiarization with the data, involving repeated reading to gain a comprehensive understanding of the responses. Subsequently, initial codes were developed by assigning concise labels to portions of text that conveyed significant insights or meanings related to childhood trauma and pornography use. These codes established a foundation for further analysis (Braun & Clarke, 2006, p. 87).

In the next phase, potential themes were identified by grouping related codes into broader categories and collecting relevant data excerpts for each prospective theme. Following this, the themes underwent a rigorous review to verify their accuracy and coherence. This step

entailed refining the thematic framework by evaluating whether each theme accurately reflected the coded data and cross-referencing the themes with the complete dataset to ensure consistency (Braun & Clarke, 2006, p. 87).

The themes were then defined and named through a detailed analysis of their relevance to the study's overarching research questions. Each theme received a clear, descriptive label that captured its core essence. Finally, the findings were synthesized into a comprehensive report, weaving the refined themes into a coherent narrative. This narrative was enhanced with direct quotations from participants to illustrate key findings and lend authenticity. During this final stage, the implications of the results were explored, with a particular focus on their alignment with trauma-informed perspectives on pornography use (Braun & Clarke, 2006, p. 87).

Ethical Considerations

This study adhered to strict ethical guidelines to ensure the protection and well-being of all participants. Several key ethical considerations have been addressed to ensure a responsible and respectful research process.

Informed Consent

Participants received comprehensive information about the study's purpose, procedures, potential risks, and benefits. They were informed of their right to withdraw at any time without penalty. Consent was obtained electronically before participation begins, ensuring that all participants are fully aware of their involvement and have voluntarily agreed to take part.

Confidentiality and Data Protection

Participant privacy is of paramount importance. All data collected was anonymized and securely stored on encrypted servers. Access to the data was restricted to authorized research team members only, and no personally identifiable information was published or shared. These measures are designed to protect participants' identities and ensure that data remains confidential.

Given the sensitive nature of the topics—childhood trauma and pornography use—we acknowledge the potential for psychological distress among participants. To mitigate this risk, participants were provided with contact information for mental health resources and support services. They were reminded of their right to skip questions or terminate participation if they experience discomfort at any point during the study.

Vulnerable Populations

While the study focuses on young adults aged 18 to 30, we recognize that some participants may be particularly vulnerable due to their trauma history. Extra care was taken to ensure that the research process does not exacerbate any existing psychological issues, with continuous attention to participant well-being.

Debriefing

Upon completing the survey, participants were thoroughly debriefed. This debriefing included an explanation of the study's goals, potential implications of the research, and an opportunity for participants to ask questions or express any concerns they may have.

Ethics Committee Approval

This study has received ethics approval from Saint Paul University's Ethics Committee (SPU-REB Number # 1360.1/24). All aspects of the research design, methods, and participant interaction have been thoroughly reviewed and approved to ensure compliance with ethical standards.

By addressing these ethical considerations, we aim to conduct research that not only advances scientific understanding but also respects and protects the rights and well-being of our participants. Our commitment to ethical research practices was upheld throughout all stages of the study, from design to data collection, analysis, and dissemination of results.

Results

Overview of Analyses

This section outlines the primary research objectives, which include: (1) determining whether the Childhood Traumatic Events Scale (CTES) predicts problematic internet pornography use (PPCS) using multivariate regression, (2) exploring gender differences via moderated analyses, (3) examining subscale-level relationships (Salience, Mood Modification) through hierarchical modeling, (4) investigating mediators (attachment styles [ECR-R], coping mechanisms [CSI], metacognitive beliefs [MCQ-30]) using path analysis, and (5) integrating qualitative data on trauma experiences via thematic coding. The cross-sectional design and online survey methodology limit causal inference, and results should be interpreted cautiously. However, the findings provide meaningful insights into childhood trauma and problematic pornography use in young adults (18–30 years).

Sample Composition and Data Screening

Data Cleaning

The initial dataset comprised N = 303 SurveyMonkey responses. Because the study required valid and complete data, a two-step data cleaning process was performed. First, we removed any cases that (1) did not meet our inclusion criteria (e.g., not within the 18 to 30 age range, no internet pornography use), (2) did not provide informed consent, or (3) contained more than 20% missing responses across critical measures. Second, participants who answered “yes” to the question “Would you like your data erased?” were also excluded to respect their right to withdraw. These procedures reduced the dataset to 137 participants, ensuring that only reliable, ethically retained data were used in subsequent analyses.

Within this final sample, only 10 participants fully completed the Childhood Traumatic Events Scale (CTES), which substantially limited trauma-specific analyses. As the CTES relies on aggregate item responses to produce a total trauma severity score, we opted not to

replace missing items (e.g., via mean substitution or multiple imputation) for partially completed CTES entries. In this exploratory study, retaining only fully complete cases was chosen to safeguard the internal consistency of the trauma measure and avoid introducing further uncertainty into an already small trauma subsample. Similarly, for other key measures (PPCS, ECR-R, CSI, MCQ-30), we excluded participants with multiple missing responses so that total scale scores would reflect original participant data rather than imputed values. For the Childhood Traumatic Events Scale (CTES), only participants with complete responses were retained. Due to the small subsample and the sensitive nature of trauma data, we avoided imputing missing values. Imputation can introduce bias if data are not missing completely at random (Newman, 2014). Consistent with recommendations by (Graham, 2009), we opted for a complete-case approach to preserve data integrity and reduce the risk of artificially inflating or deflating trauma-related findings.

While missing data replacement techniques (e.g., multiple imputation) can be advantageous in certain contexts, we prioritized maintaining unaltered responses given the sensitive nature of the variables (childhood trauma, pornography use) and the small proportion of incomplete cases in each measure. This strategy ensures that all observations included in the analyses are as accurate and complete as possible—albeit at the cost of reducing the usable sample size for trauma-related analyses. Future research featuring larger and more diverse samples could benefit from more robust missing data techniques to preserve statistical power and account for partially completed scales.

Participant Recruitment and Inclusion

A total of $N = 137$ completed responses were retained after applying the exclusion criteria. Participants were primarily recruited via the SampleSize subreddit on Reddit, ensuring a diverse yet convenience-based sample. Inclusion required (a) ages 18 to 30, (b) regular internet pornography usage, and (c) willingness to provide informed consent. Participants

reporting acute psychological distress or incomplete survey responses (less than 80% completion) were excluded.

A total of 59 participants provided complete age data, which were coded from 1.0 to 13.0 for anonymity ($M = 7.34$, $SD = 3.63$). Gender data were available for 71 individuals, with codes ranging from 1 to 4 ($M = 1.76$, $SD = 0.80$), where 1 represented male and 2 represented female. Notably, only 10 participants completed all items of the Childhood Traumatic Events Scale (CTES), thereby substantially limiting the statistical power for trauma-specific analyses.

Missing Data and Final Sample Size per Measure

Table 1 provides an overview of the sample size (N), minimum and maximum values, means, and standard deviations for each variable measured in the study. Notably, certain instruments, such as the MCQ-30, exhibited slightly elevated attrition rates due to participants skipping specific items. This variability in sample sizes highlights the need for careful interpretation of the results, especially when examining factors related to trauma severity.

Table 1

Descriptive Statistics for Key Variables (N = 137 unless otherwise noted)

Measure	N	Min	Max	Mean	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Age (coded)	59	1.00	13.00	7.34	0.153	0.311	-1.017	0.613
Gender (coded)	71	1.00	4.00	1.76	0.808	0.285	0.054	0.563
Trauma Severity (CTES)	10	13.00	36.00	26.80	0.752	0.207	0.204	0.411
ECR Anxiety	137	26.00	79.00	54.08	0.449	0.207	-0.746	0.411
ECR Avoidance	137	40.00	74.00	57.57	1.028	0.207	0.027	0.411
Coping Total (CSI)	137	18.00	51.00	34.12	-0.635	0.687	0.261	1.334
MCQ Total (MCQ-30)	130	86.00	237.00	151.44	0.037	0.207	-0.111	0.411
PPCS Total Score	137	18.00	102.00	41.06	-3.321	0.207	-0.718	0.411
Salience (PPCS subscale)	137	3.00	18.00	7.52	-0.337	0.207	-4.840	0.411
Mood Modification (PPCS)	137	3.00	21.00	8.62	0.026	0.212	-0.406	0.422

*Note. “Gender” is coded numerically (e.g., 1 = male, 2 = female). “Age” is likewise coded to preserve participant anonymity. *CTES* = Childhood Traumatic Event Scale; *ECR* = Experiences in Close Relationships-Revised; *CSI* = Coping Strategies Inventory; *MCQ-30* = Metacognitions Questionnaire-30; *PPCS* = Problematic Pornography Consumption Scale.

Descriptive Statistics

Central Trends and Distributions

Overall, the PPCS Total Score (M = 41.06, SD = 21.07) spanned a broad range (18 to 102), indicating variability in how participants engaged with internet pornography. The sample exhibited moderately elevated attachment-related anxiety (M = 54.08, SD = 12.44) and avoidance (M = 57.57, SD = 7.08), suggesting a prevalence of insecure attachment styles consistent with findings among young adults (Fraley et al., 2000). For coping total, the mean was 34.12 (SD = 5.99), revealing moderate reliance on either adaptive or maladaptive coping responses (Tobin et al., 1989). Metacognitive beliefs (MCQ Total M = 151.44, SD = 31.48) also reflected moderate levels of worry, cognitive self-consciousness, and perceived need for thought control (Wells & Cartwright-Hatton, 2004).

Examination of kurtosis within all scales ranged from -4.84 to 1.334, and skewness ranged from -3.21 to 1.028, indicating a mostly normal distribution but with some exceptions, particularly in measures with extreme skewness or kurtosis values. These extreme values warrant cautious interpretation of these scales.

Gender Differences in PPCS

An independent samples t-test was conducted to determine whether men and women differed in their PPCS total scores. Because Levene's test for equality of variances was significant (F = 13.664, $p < .001$), the "equal variances not assumed" row was used. Results indicated that men (n = 31) reported higher PPCS scores (M = 47.42, SD = 24.30) compared to women (n = 28) (M = 32.43, SD = 13.24), t(47.283) = 2.98, p = .005, with a mean difference of 14.99 (95% CI [4.87, 25.11]). Men's significantly higher scores align with previous research suggesting a heightened vulnerability or prevalence of pornography-related compulsivity among male samples (Bőthe et al., 2018). These findings contextualize the

subsequent regression and mediation analyses by highlighting potential gender-specific usage patterns.

Regression Analyses

Childhood Trauma Severity and PPCS Total

A simple linear regression was conducted to examine whether trauma severity, as measured by the The Childhood Traumatic Events Scale (CTES), predicted problematic internet pornography use (PPCS). For the present analyses, only the CTES childhood trauma severity data were used, given our focus on early-life adversity. Despite the small sample of participants who completed the CTES (n = 10), the model was statistically significant, $F(1, 8) = 35.01$, $p < .001$, accounting for 81.4% of the variance in PPCS ($R^2 = .814$). The very high R^2 should be interpreted cautiously given n = 10. The standardized regression coefficient was negative ($\beta = –0.902$, $p < .001$), indicating that higher trauma severity was associated with lower PPCS scores ($\beta = –3.02$, $SE = 0.51$). Although this finding supports the notion that trauma severity is a strong predictor, it contradicts the original hypothesis that posited a positive association between trauma and PPCS. The very high R^2 value raises the concern of potential overfitting, suggesting that the result should be interpreted with caution given the limited sample size.

Table 2

Regression Analysis Predicting PPCS Total Score

Predictor	*B*	*SE*	*β*	*t*	*p*
Constant	127.00	14.07	–	9.02	< .001
Trauma Severity	–3.02	0.51	–0.902	–5.92	< .001

Note. $F(1, 8) = 35.01$, $p < .001$, $R^2 = .81$. *PPCS* = Problematic Pornography Consumption Scale.

Interpretation: In contrast to typical self-medication hypotheses (Khantzian, 1997), individuals with higher reported trauma exposure displayed lower PPCS. This anomaly is examined further in the **Discussion**, where possible trauma-related inhibition or alternative maladaptive behaviors are considered (e.g., avoidance coping, substance use, etc.).

Trauma Severity and Subscales (Salience, Mood Modification)

Salience Subscale

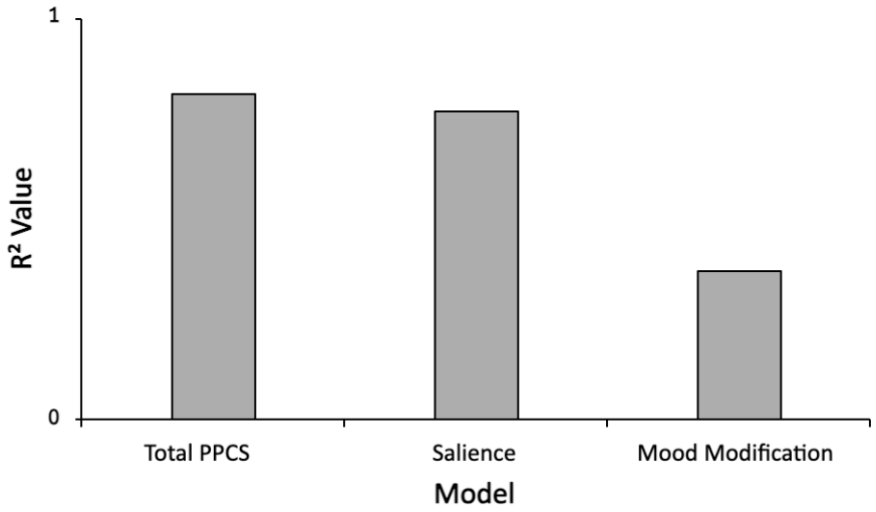
A second regression was conducted to examine whether trauma severity predicted the Salience dimension of problematic internet pornography use, defined as the degree to which pornography dominates daily thoughts and activities. The model was significant, $F(1, 8) = 25.996$, $p = .001$, explaining 76.5% of the variance in Salience ($R^2 = .765$). Trauma severity negatively predicted Salience scores, as indicated by a standardized beta coefficient of –0.874 ($p = .001$) and an unstandardized coefficient of B = –0.60 (SE = 0.12). These findings suggest that participants who reported more severe trauma also reported less cognitive preoccupation with pornography, possibly reflecting avoidance or disinterest in pornography use.

Mood Modification Subscale

A separate regression examined whether trauma severity predicted the Mood Modification dimension of problematic internet pornography use, which pertains to using pornography for emotional or affective regulation. The model approached significance, $F(1, 8) = 4.77$, $p = .060$, accounting for 37.4% of the variance ($R^2 = .374$), with a standardized beta of –0.611 ($p = .060$). However, because the p-value did not meet the conventional alpha threshold, trauma severity did not reliably predict using pornography to modify one's mood. This result deviates from certain conceptual frameworks that position pornography use as an emotional escape (Sniewski & Farvid, 2020), suggesting that individuals with severe trauma may not rely on pornography specifically to manage or adjust their mood.

Figure 1

Bar Chart of R^2 Values for Regression Models Predicting PPCS from Trauma Severity



Note. This figure compares the variance explained (R^2) by trauma severity for three different pornography consumption outcomes: total PPCS, Salience, and Mood Modification.

Mediation Analyses

In accordance with **Research Questions** 2–5, several **PROCESS Model 4** (Hayes, 2018) analyses were conducted to determine whether psychological constructs mediate the relationship between trauma severity and PPCS. These potential mediators included:

- **Attachment Styles** (ECR Anxiety, ECR Avoidance)
- **Coping Strategies** (CSI total)
- **Metacognitive Beliefs** (MCQ-30 total), specifically subscales such as Cognitive Self-Consciousness (CSC).

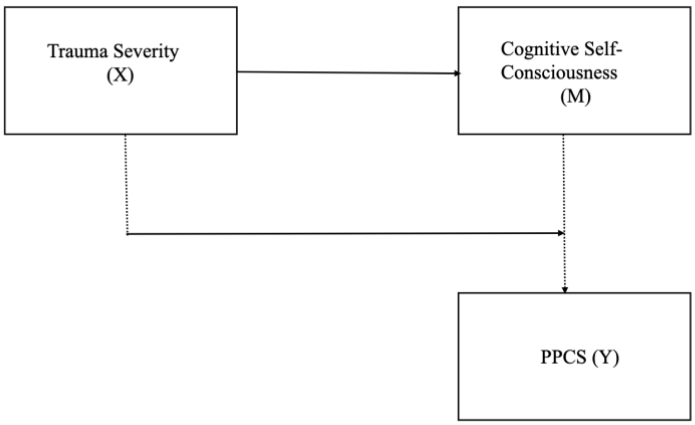
Key Mediators Tested

Multiple mediation models were tested to determine whether attachment orientations, coping strategies, metacognitive beliefs, or cognitive self-consciousness mediated the relationship between trauma severity and problematic internet pornography use (PPCS).

Neither attachment anxiety nor attachment avoidance (ps = .6029 and .4298, respectively) demonstrated a significant mediation effect (95% confidence interval for the indirect effect included zero). Similarly, overall coping (p = .6907; 95% *CI* [–0.4441, 1.4938]) and metacognitive beliefs (p = .2337; 95%, *CI* [–1.5489, 0.7136]) showed no mediation. Although trauma severity significantly predicted cognitive self-consciousness (p = .0238; R^2 = .6098), there was no significant indirect effect on PPCS (95% *CI* [–2.4449, 0.8973]). These nonsignificant findings imply that the tested constructs did not operate as mediators in the link between trauma severity and pornography use within this sample.

Figure 2

Proposed Mediation Model (PROCESS Model 4) for Trauma Severity, Cognitive Self-Consciousness (CSC), and PPCS



Note. Solid lines represent significant paths (p < .05). Dashed lines indicate nonsignificant paths.

Summary of Mediation Findings

In no instance did the tested mediators account for the strong negative link between trauma severity and PPCS. Even though trauma severity significantly predicted CSC, that pathway did not translate into pornography consumption differences.

Table 3

Summary of Mediation Findings

Mediator	TS → Mediator (p-value)	Mediator → PPCS (p-value)	Indirect Effect (95% CI)	Mediation?	Interpretation
ECR_Anx	p = .6029	Not Significant	[-0.4209, 1.7025]	Not Supported	No significant trauma-to-anxiety link; no mediation for problematic pornography.
ECR_Avoi	p = .4298	Not Significant	[-0.5410, 1.5108]	Not Supported	No significant trauma-to-avoidance link; no mediation.
Cop_Tot	p = .6907	Not Significant	[-0.4441, 1.4938]	Not Supported	Coping total did not clarify the trauma-PPCS connection.
MCQ_Tot	p = .2337	Not Significant	[-1.5489, 0.7136]	Not Supported	Metacognitive beliefs are not a mediating factor in this model.
CSC	p = .0238	Not Significant	[-2.4449, 0.8973]	Not Supported	Although CSC correlates with trauma, it does not translate to problematic pornography mediation.

Interpretation

It appears that the extremely high direct effect from trauma severity ($R^2 \approx .80$) overshadowed any potential indirect processes or that other unmeasured variables (e.g., impulsivity, distress tolerance, moral incongruence) might be the more salient mediators or moderators in this context (Grubbs & Perry, 2019).

Qualitative Analysis of Trauma Experiences

Data Collection and Thematic Approach

Participants were invited to offer **open-ended** descriptions of childhood and recent traumatic events, enhancing the quantitative insights with narrative content. Following guidelines similar to thematic analysis (Braun & Clarke, 2006), responses were systematically coded into childhood and recent trauma categories.

Childhood Trauma Themes

Childhood trauma themes, as reported by participants, encompassed multiple categories. Parental neglect and emotional abuse featured prominently, with narratives highlighting a lack of warmth or active hostility from caregivers, aligning with the emotional neglect components of the Childhood and Recent Traumatic Events Scales (CTES and RTES). A smaller subset of participants disclosed experiences of physical or sexual abuse, indicating direct violations or harm during childhood. Some participants also recounted the loss of a loved one at an early age, suggesting that bereavement factored into their traumatic experiences. Additionally, bullying and social rejection were noted, reflecting prolonged social exclusion or harassment during formative years.

Recent Trauma Themes

Recent trauma themes emerged from participants' more contemporary life circumstances, encompassing breakups and relationship trauma, such as experiences of infidelity or betrayal. Several individuals also described significant health issues and accidents, ranging from chronic illness diagnoses to serious injuries. Financial and job stressors were another focal point, including instances of unemployment or substantial debt that contributed to psychological strain. Lastly, the death of a loved one (e.g., a parent or sibling) was reported as a further source of recent trauma, underscoring the ongoing effect of bereavement and loss in adulthood.

Table 4

Childhood Trauma Themes

Theme	Description	Example Response
Parental Neglect & Emotional Abuse	Lack of parental support, cold or abusive parenting.	"My parents never showed affection or support."
Physical & Sexual Abuse	Reports of violence or sexual coercion in childhood.	"I was beaten regularly as a child."
Loss of a Loved One	Death of parents or siblings in early life.	"My mother died when I was seven."
Bullying & Social Rejection	Persistent bullying and exclusion.	"I was constantly bullied, and it made me feel worthless."

Table 5

Recent Trauma Themes

Theme	Description	Example Response
Breakups & Relationship Trauma	Betrayal, separation, or divorce.	"My partner cheated on me."
Health Issues & Accidents	Chronic illness or severe injury.	"I was diagnosed with a chronic illness."
Financial & Job Stress	Job loss, economic hardship.	"I lost my job and couldn’t pay rent."
Death of a Loved One	Recent loss of a family member.	"My father passed away last year."

Integration with Quantitative Findings

Despite many participants disclosing significant trauma, the quantitative analyses indicated that severe trauma did **not** translate into heightened pornography involvement. In fact, for some individuals, emotional abuse or early negative sexual experiences led to **avoidance** or **discomfort** around pornography. Meanwhile, others admitted turning briefly to

pornography post-breakup but did not sustain usage at a level that qualified as "problematic" per PPCS thresholds.

Interpretation

The open-ended data suggest a complex relationship in which trauma can push individuals toward or away from certain coping strategies. This aligns with the overall negative regression coefficients, implying that a subset of trauma survivors find pornography triggering or aversive rather than comforting or addictive.

Summary of Key Results

Men reported significantly higher PPCS scores than women, aligning with broader trends in pornography use. Contrary to expectations, trauma severity exhibited a robust negative relationship with PPCS ($\beta = -0.902$, $R^2 = .814$), challenging the common assumption that childhood trauma fosters addictive sexual behaviors. Subscale analyses similarly revealed a negative association between trauma severity and Salience, whereas Mood Modification was not significantly linked to trauma severity. Further mediation analyses indicated that attachment anxiety, attachment avoidance, coping strategies, and metacognitive beliefs—including cognitive self-consciousness—did not explain the trauma–PPCS relationship. Qualitative findings underscored that although participants reported diverse trauma experiences, some may intentionally avoid pornography due to shame, aversion, or other negative emotional triggers.

Conclusion

The data support a strong direct effect of trauma severity on PPCS—yet in an inverse direction—suggesting **trauma-related inhibition** or alternative behavioral outlets. None of the hypothesized psychological constructs explained this relationship, prompting further inquiry into additional mediators or moderators (e.g., impulsivity, moral beliefs).

Limitations and Preview of Discussion

Although these findings provide novel insights into the relationship between trauma severity and problematic internet pornography use, several limitations merit caution in interpretation. First, the low number of participants who completed the trauma severity measure (n = 10) raises concerns about the representativeness of the sample and the potential inflation of variance explained (R^2).

Second, the cross-sectional nature of the study limits causal inferences, as temporal precedence and directionality cannot be definitively established. Third, reliance on self-report measures may have introduced bias, particularly given the sensitivity of reporting trauma and pornography use.

Finally, the measurement tools (e.g., the Coping Strategies Inventory, the Experiences in Close Relationships scale) may not capture specific domains of coping or attachment that are most relevant to pornography consumption. These issues will be explored in detail in the Discussion, with an emphasis on potential theoretical explanations—such as avoidant versus compulsive pathways—and clinical implications for tailoring interventions.

These issues will be addressed at length in the **Discussion**, where potential theoretical explanations (e.g., avoidant vs. compulsive trauma pathways) and clinical implications (tailoring interventions) are explored in detail.

Discussion

This study sought to investigate whether childhood trauma is a significant predictor of problematic pornography consumption (PPCS) and whether attachment styles, coping mechanisms, or metacognitive beliefs mediate this relationship. Findings revealed that childhood trauma severity was a strong predictor of PPCS (R^2 = .814), surpassing previous estimates in the literature. However, contrary to expectations, none of the proposed mediators—attachment insecurity, coping strategies, or metacognitive beliefs—explained this

relationship. These findings present a paradox: while a significant subset of trauma survivors engage in problematic pornography use, another subset exhibits avoidant behaviors, reducing their engagement with explicit material. This duality challenges traditional self-medication models of addiction, suggesting that trauma responses are heterogeneous and vary significantly based on individual differences in emotional regulation, moral conflict, and other psychological factors.

The following sections examine each hypothesis in detail, propose alternative mechanisms that may better explain the trauma–PPCS link, and discuss the clinical and theoretical implications of these findings.

Hypothesis 1. Childhood Trauma will positively predict Problematic Internet Pornography Use

The results indicated that childhood trauma severity was a significant predictor of problematic pornography consumption (PPCS), reflected by a negative beta coefficient ($\beta = -0.902$, $p < .001$) and an exceptionally high R^2 (.814) in the regression model. This suggests that trauma severity accounted for 81.4% of the variance in PPCS, aligning with previous research linking early adversity to maladaptive coping behaviors, including compulsive sexual engagement (Brand et al., 2019; Schimmenti & Bifulco, 2015). Typically, research reports a moderate effect size (R^2 ~.30–.50), making the effect size found in this study unusually large. This may be indicative of sample-specific dynamics or unmeasured confounding variables, such as impulsivity, self-esteem, or neurobiological factors, that could amplify the relationship between childhood trauma and problematic pornography use. Moreover, the high R^2 value could signal potential overfitting due to a comparatively homogeneous group of trauma survivors. Future investigations should include additional psychological constructs (e.g., distress tolerance) and broader demographic representation to verify whether childhood trauma remains a dominant factor once other variables are accounted for. Given that childhood trauma

strongly predicted PPCS, what could explain this link? We hypothesized that attachment styles might mediate the relationship, given their well-documented role in compulsive behaviors. However, the results did not support this.

Hypothesis 2. Attachment Styles (Anxiety & Avoidance) will mediate the Trauma–PPCS Relationship

Contrary to initial expectations, neither attachment anxiety nor attachment avoidance mediated the link between childhood trauma and PPCS. Trauma severity failed to significantly predict insecure attachment (p = .6029 for anxiety; p = .4298 for avoidance), suggesting that insecure attachment styles did not facilitate problematic pornography use in this sample. Although prior research has indicated that disruptions in attachment processes following trauma may foster compulsive coping behaviors (Schimmenti & Bifulco, 2015), other evidence emphasizes emotion regulation difficulties as more pivotal in the development of addiction-like behaviors (Wordecha et al., 2018). Thus, these findings imply that the role of attachment in explaining excessive pornography consumption may be limited or overshadowed by alternative psychological or physiological mechanisms. Future research could delve deeper into more specific attachment subtypes (e.g., fearful-avoidant) or explore potential interaction effects (e.g., trauma severity × attachment anxiety) to better understand the role of attachment in this context. These findings suggest that attachment insecurity may not be the primary mechanism linking trauma to problematic pornography use, challenging theories that emphasize relational dysfunction as a central driver of compulsive sexual behaviors. One possibility is that emotion regulation difficulties or impulsivity play a more significant role. To explore this further, we next examine whether coping mechanisms mediate the trauma–PPCS relationship.

Hypothesis 3. Coping Mechanisms will mediate the Trauma–PPCS Relationship

The analysis revealed that trauma severity did not reliably predict coping strategies (p

= .6907), and no significant mediation effect was found (95% CI: [-0.4441, 1.4938]). While dysfunctional coping strategies such as avoidance and rumination have been widely implicated in the development of addictive behaviors (Compas et al., 2001), the measures employed here may not have adequately distinguished adaptive versus maladaptive forms of coping. the coping measures used in this study may not have sufficiently differentiated between adaptive and maladaptive coping responses. This lack of mediation suggests that coping, as operationalized in this study, does not serve as a critical mechanism linking childhood trauma to problematic pornography use. Future studies should refine these assessments to differentiate between problem-focused, emotion-focused, and avoidant coping strategies to determine whether specific coping profiles contribute to the persistence of PPCS among trauma survivors. The findings suggest that coping mechanisms, as currently measured, are not sufficient to explain why trauma predicts problematic pornography use. Given this, it is possible that higher-order cognitive processes, such as metacognitive beliefs, shape the trauma–PPCS link. The next section examines whether metacognitive beliefs play a mediating role.

Hypothesis 4. Metacognitive Beliefs will Mediate the Trauma–PPCS Relationship

While trauma severity significantly predicted increased cognitive self-consciousness (CSC) (p = .0238, R^2 = .6098), CSC did not mediate the trauma–PPCS relationship (95% CI: [-2.4449, 0.8973]). Trauma survivors with more severe histories exhibited heightened self-monitoring, but this alone did not elucidate the pathway to problematic pornography consumption. This finding is consistent with previous literature suggesting that metacognitive processes, such as rumination or excessive self-reflection, are often compounded by other psychological factors, including impulsivity or emotional dysregulation, to sustain addictive behaviors (Spada et al., 2015). Thus, while trauma may foster increased cognitive vigilance, additional psychological vulnerabilities may be necessary to facilitate the transition to persistent pornography misuse. Future investigations could explore whether CSC exacerbates

the trauma–PPCS link when coupled with specific temperamental traits or concurrent stressors, indicating a potential moderation rather than mediation effect. Overall, while trauma severity predicted increased cognitive self-consciousness, this heightened self-monitoring did not account for problematic pornography use, suggesting that metacognitive beliefs may interact with other psychological vulnerabilities in a more complex, multifactorial process rather than serving as a direct mediator.

Hypothesis 5. Attachment Styles, Coping Mechanisms, and Metacognitive Beliefs will Collectively Mediate the Trauma–PPCS Relationship

The combined influence of attachment-related anxiety, attachment-related avoidance, coping mechanisms, and metacognitive beliefs did not mediate the trauma–PPCS relationship. These null results imply that, for this sample, the trajectory from childhood trauma to problematic pornography consumption is likely driven by mechanisms outside of the proposed psychological frameworks. This finding aligns with emerging neurobiological models, which suggest that trauma can directly influence neural reward processing, thereby increasing vulnerability to compulsive sexual behaviors independent of traditional psychological intermediaries (Brand et al., 2019). Consequently, future research should integrate constructs such as moral conflict, impulsivity, or emotion dysregulation, and consider the potential for trauma-induced alterations in neurocircuitry, which may bypass traditional psychological pathways. The absence of significant mediation suggests that the trauma–PPCS relationship is more direct than previously assumed, raising the possibility that trauma may dysregulate neural mechanisms associated with reward processing and impulse control. This challenges conventional models of behavioral addiction, highlighting the need for more nuanced and biologically grounded explanations of compulsive pornography use in trauma survivors. These findings call for a shift towards exploring alternative mechanisms, which are discussed in greater detail in the following section.

The Role of Childhood Trauma in Problematic Internet Pornography Use

This study reveals a robust association between childhood trauma and problematic internet pornography consumption (PPCS), as indicated by an unusually high coefficient of determination (R^2 = .814). This finding affirms previous research suggesting that adverse childhood experiences significantly increase the risk of maladaptive behaviors, including behavioral addictions like compulsive pornography use (Brand et al., 2019; Schimmenti & Bifulco, 2015). Childhood trauma has been extensively linked to disruptions in emotional regulation and attachment patterns, both of which are recognized as significant risk factors for addiction-related behaviors (Felitti et al., 1998; van der Kolk, 2014). The effect size observed in this study suggests that trauma may be a particularly salient predictor of problematic pornography consumption, potentially exceeding prior estimates reported in the literature (e.g., R^2 ~.30–.50) for similar predictive models (Brand, Young, & Laier, 2014).

While these findings underscore the centrality of trauma in the development of compulsive pornography consumption, future research must incorporate additional psychological constructs—such as impulsivity, distress tolerance, and core belief systems—to deepen our understanding of the mechanisms linking trauma to PPCS. Impulsivity, for instance, has been repeatedly associated with both substance-based and behavioral addictions, suggesting that individuals with higher impulsivity may be more prone to engage in maladaptive coping strategies, including problematic pornography use (Brand et al., 2019; Hsieh et al., 2020). Additionally, distress tolerance, defined as the ability to manage and endure negative emotional states, may help explain individual differences in the relationship between trauma and compulsive behaviors (Compas et al., 2001; Sniewski & Farvid, 2020).

Negative core beliefs, which are often shaped or reinforced by early traumatic experiences, may further contribute to the development of compulsive pornography use by fostering maladaptive coping mechanisms such as dissociation or transient emotional relief (Spada et al.,

2015; Wells, 2009). Investigating these variables in conjunction with trauma severity will be crucial in determining whether childhood adversity remains the most influential predictor once individual differences in personality, cognition, and emotional regulation are accounted for (Wordecha et al., 2018).

Recognizing the significant role of childhood trauma in problematic pornography consumption underscores the importance of adopting a multidimensional approach to understanding and addressing this issue. Integrative models that incorporate neurobiological mechanisms (Teicher & Samson, 2016), psychological mediators, and social-contextual influences (Weinstein et al., 2015) may offer a more holistic perspective on the pathways contributing to problematic pornography use. Such an approach can inform both preventive interventions—such as early identification of at-risk individuals—and targeted therapeutic strategies that address trauma-related vulnerabilities. Trauma-focused therapies, alongside mindfulness-based interventions, may be particularly effective in mitigating the long-term consequences of early adversity and reducing reliance on maladaptive coping mechanisms. By employing comprehensive frameworks, future research and clinical practice can more effectively address the complex interplay of factors contributing to problematic internet pornography use among trauma survivors.

The Lack of Mediation Effects: Attachment, Coping, and Metacognition

Contrary to the initial theoretical framework, the present study found no significant mediation effects of attachment styles, coping strategies, or metacognitive beliefs in the relationship between childhood trauma and compulsive pornography use. While previous research has consistently linked attachment insecurity to maladaptive behaviors (Schimmenti & Bifulco, 2015; Vaillancourt-Morel et al., 2019) and shown that coping strategies play a crucial role in stress regulation (Compas et al., 2001), these constructs did not serve as explanatory mechanisms in this context. Similarly, although negative metacognitive beliefs

have been implicated in various addictive behaviors (Spada et al., 2015; Wells, 2009), their influence on PPCS appears to be less direct than initially hypothesized.

A plausible explanation for these findings is that the effect of trauma bypasses these psychological pathways, exerting a more direct influence through neurobiological mechanisms, particularly those related to reward processing and emotional regulation (Brand et al., 2019). Early-life adversity has been associated with dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis, heightened amygdala reactivity, and altered functional connectivity in brain regions responsible for impulse control and emotional regulation (Teicher & Samson, 2016). Such neurophysiological alterations may predispose individuals to compulsive or escapist behaviors, including problematic pornography use, independent of attachment style, coping strategies, or metacognitive beliefs. Another possibility is that the psychological consequences of trauma, particularly intense feelings of shame or guilt, exert a more dominant influence than these mediators. Traumatic experiences often give rise to self-blame, which may, in turn, shape engagement with explicit content—either reinforcing its use as a coping mechanism or, conversely, triggering avoidance behaviors (Gilliland et al., 2011; van der Kolk, 2014).

Further research is warranted to determine whether the primary mechanisms underlying compulsive pornography use in trauma-exposed individuals are predominantly neurobiological, psychological, or a combination of both (Brand et al., 2014). Future studies should integrate objective biological measures, such as neuroimaging and endocrinological assessments, with refined evaluations of cognitive and emotional regulation processes. This interdisciplinary approach could provide a more comprehensive understanding of the interplay between trauma, neurocognitive dysfunction, and compulsive behaviors, facilitating the development of targeted interventions that address both the biological and psychosocial dimensions of trauma-related compulsive pornography use.

Metacognition and Cognitive Self-Consciousness

This study demonstrates a significant association between trauma severity and cognitive self-consciousness (CSC), yet no direct link was found between heightened self-awareness and problematic pornography consumption (PPCS). This finding underscores the complexity of trauma's impact on both cognitive and behavioral outcomes. While traumatic experiences may heighten introspection, additional psychological factors—such as maladaptive emotion regulation, persistent negative thought patterns, or dysfunctional beliefs about cognitive processes—are likely necessary for this heightened self-awareness to manifest as compulsive behaviors (Spada et al., 2015; Wells & Matthews, 1996).

The literature on metacognition, which examines how individuals monitor, reflect on, and regulate their own thinking, suggests that self-awareness alone is not necessarily maladaptive; rather, it is the way individuals interpret and appraise their thoughts that often leads to dysfunctional responses (Caselli & Spada, 2015). In the context of pornography use, elevated CSC may increase awareness of internal distress or moral conflict, potentially leading some individuals to engage in cognitive avoidance or suppression strategies. Alternatively, certain trauma survivors may develop negative metacognitive beliefs (e.g., "*I have no control over these thoughts*"), intensifying rumination and driving compulsive behaviors as a form of distress regulation (Wells, 2009). However, the absence of a direct mediation effect in this study suggests that CSC alone does not sufficiently account for why some trauma survivors develop compulsive pornography consumption while others do not.

Future research should explore comprehensive models that integrate additional vulnerability factors—such as distress intolerance, impulsivity, and broader cognitive distortions—to clarify the interaction between self-awareness and trauma-related stress in the development of compulsive behaviors. Integrating self-report measures of metacognition with neurobiological assessments, such as event-related potentials or functional MRI, could offer deeper insights

into whether specific metacognitive distortions or heightened attentional vigilance toward intrusive thoughts predispose individuals to problematic pornography use. Such an interdisciplinary approach would contribute to a more nuanced understanding of the interplay between trauma, self-focused cognition, and addictive behaviors, ultimately guiding the development of more targeted and effective interventions.

Trauma Severity and Problematic Pornography Consumption

A paradoxical finding emerged from a smaller subset of participants who completed detailed trauma measures, wherein higher trauma severity associated negatively with PPCS. Although the main dataset aligns with a positive association, these exceptional cases imply that certain manifestations of severe trauma could precipitate avoidance, rather than problematic use. This tendency might stem from shame, moral conflict, or PTSD-related inhibitions that deter individuals from engaging with explicit content (Gilliland, South, Carpenter, & Hardy, 2011; van der Kolk, 2014). These findings warrant further exploration, and future research should focus on larger, longitudinal samples to determine whether trauma survivors with more severe histories favor alternative coping mechanisms—such as substance use—over pornography use.

Trauma Severity and PPCS Subscales

Subscale analyses revealed a negative relationship between trauma severity and salience, indicating that those with higher trauma scores reported less cognitive preoccupation with pornography. This challenges the self-medication model (Khantzian, 1997), suggesting a possible inhibition effect where survivors avoid potentially triggering stimuli. Furthermore, Mood Modification was not significantly linked to trauma severity, implying that using pornography to manage adverse emotions is not uniformly adopted by traumatized individuals. Other personal or contextual factors—like perceived stigma or cultural values—could shape whether pornography emerges as a coping mechanism.

Mediation Analyses

Although trauma severity was strongly linked to cognitive self-consciousness (CSC), no psychological mediator—whether attachment style, coping strategy, or metacognitive belief—accounted for the robust association between trauma and problematic pornography consumption (PPCS). These null findings suggest that the pathways connecting trauma to compulsive pornography use are more complex, potentially involving multifaceted processes. Neurobiological alterations, such as dysregulation of reward processing, might circumvent typical psychological mediators (Brand et al., 2019). Further studies should investigate alternative or combined mediational processes—such as dissociation, moral conflict, or impulsive reactivity—to capture the complexity of trauma's influence on behavioral addictions.

Cognitive Self-Consciousness as a Predictor

Even though CSC was heightened among participants reporting more severe trauma, it was not associated with elevated PPCS. This outcome indicates that increased self-monitoring does not necessarily escalate pornography engagement; in fact, heightened awareness could deter individuals from engaging in certain behaviors if they anticipate negative emotional outcomes (Spada, Caselli, & Wells, 2015). For trauma survivors grappling with feelings of shame or guilt, heightened introspection may lead to avoidance of pornography as a means of evading distressing triggers. These findings warrant further investigation into how specific cognitive distortions or emotion-driven metacognitions may moderate the influence of CSC, particularly in trauma survivors.

Qualitative Findings and Their Integration

Childhood Trauma Themes

Participants reported a broad range of adverse childhood experiences, including parental neglect, emotional abuse, bullying, and early losses of close family members. Such forms of

maltreatment have been consistently linked to long-term psychological and relational challenges (Felitti et al., 1998; van der Kolk, 2014). Although sexual coping—defined as engaging in sexual thoughts or behaviors to manage emotional distress—can emerge following trauma (Schimmenti & Bifulco, 2015), several participants stated that their early adversities led to withdrawal from intimate or sexual situations rather than increased sexual engagement. This avoidance-oriented response aligns with research suggesting that severe childhood trauma may foster fear, shame, and difficulties in establishing healthy relational boundaries (Gilliland et al., 2011; Vaillancourt-Morel et al., 2019). By contrast, those who do turn to sexual coping often cite feelings of emotional numbness or detachment that drive the pursuit of temporary relief (Sniewski & Farvid, 2020). Consequently, the diverse outcomes observed in these accounts highlight the heterogeneity of trauma reactions: while some survivors develop compulsive or externalizing behaviors, others gravitate toward inhibition and isolation.

Recent Trauma Themes

In addition to childhood trauma, participants reported significant adult stressors, including relationship breakups, unemployment, and chronic health conditions. These life events are known to exacerbate existing vulnerabilities and trigger maladaptive coping mechanisms (Hsieh, Lu, & Lin, 2020; Schimmenti & Bifulco, 2015). Nonetheless, not all individuals who encountered these stressors resorted to pornography use for solace. Instead, many respondents disclosed relying on alternative strategies—ranging from seeking professional counseling to channeling distress into work or hobbies—suggesting that moral or personal conflict around sexual content shaped their coping choices (Grubbs & Perry, 2019). Moral incongruence—where behaviors conflict with deeply held values—can lead individuals to reject pornography, viewing it as shameful or incompatible with their personal or cultural norms (Weinstein et al., 2015). Collectively, these accounts reinforce the notion that trauma survivors exhibit a wide

array of coping behaviors contingent upon internal beliefs and the social context in which they live.

Integration with Quantitative Findings

The qualitative findings provide a complementary lens to the quantitative data, reinforcing the idea that severe trauma may predispose some individuals to avoid pornography rather than overuse it. While theoretical frameworks such as the self-medication hypothesis emphasize how trauma might precipitate compulsive engagement in potentially addictive behaviors (Khantzian, 1997), the stories shared by several participants instead suggest trauma-induced inhibition, characterized by avoidance of activities that are perceived as triggering or morally conflicting (Gilliland et al., 2011). Furthermore, social and cultural beliefs may influence whether trauma survivors are more likely to engage with or distance themselves from explicit content as a coping strategy (Sniewski & Farvid, 2020). These findings highlight the multifaceted influence of trauma on adult behaviors, suggesting that personal meaning-making, perceived stigma, and cultural norms converge to either foster or inhibit problematic pornography consumption. Future studies should incorporate both qualitative insights and standardized quantitative measures to capture the full range of trauma responses, ultimately informing more targeted, nuanced interventions for individuals at risk.

Theoretical Implications for Understanding Behavioral Addictions

Challenging Existing Models of Addiction

These findings cast doubt on the universal applicability of self-medication theories, which often presume that trauma reliably propels individuals toward compulsive engagement in addictive behaviors. Instead, the data reveal that severe trauma can give rise to divergent outcomes: some individuals intensify their use of addictive outlets, such as internet pornography, while others actively avoid or reduce such behaviors (Brand et al., 2019; Gilliland et al., 2011). This duality underscores the complexity of trauma's impact on behavior

and aligns with research suggesting that early adversity triggers a range of coping responses—compulsive engagement or pronounced inhibition—mediated by personal values, emotional regulation capacities, and social support systems (Hsieh, Lu, & Lin, 2020; Sniewski & Farvid, 2020). These findings necessitate a more nuanced framework for understanding behavioral addictions, one that acknowledges the heterogeneous pathways trauma survivors may take in coping with their experiences.

Inhibitory Control and Dissociation

A subset of individuals with extensive trauma histories may exhibit inhibitory or dissociative tendencies that counteract typical addictive urges (Khantzian, 1997; van der Kolk, 2014). For these survivors, heightened psychological defenses— such as emotional numbing, detachment, or avoidance of trauma-related stimuli—serve as a protective mechanism that reduces the likelihood of compulsive pornography consumption. Existing theories of addiction often emphasize compulsive or dysregulated behavior, yet a trauma-informed perspective reveals that some trauma survivors resort to self-protective inhibition rather than indulgence (Brand et al., 2019). By incorporating both compulsive and avoidant trajectories, future theoretical models can more accurately reflect the spectrum of trauma responses, enabling a deeper understanding of how individuals adapt to traumatic experiences. Such an integrative approach will inform interventions that address both hypersexual and inhibited sexual behaviors, recognizing that both may arise from shared traumatic antecedents.

Attachment Theory and Compulsive Sexual Behaviors

While existing literature has frequently linked insecure attachment (e.g., anxious or avoidant styles) to hypersexuality and problematic pornography use (Gilliland et al., 2011; Vaillancourt-Morel et al., 2019), this study found no evidence that attachment insecurities mediate the relationship between trauma severity and problematic pornography consumption. These results suggest that attachment-related vulnerabilities may be overshadowed by broader interpersonal

or intrapersonal dynamics—such as moral conflict, impulsivity, or distress intolerance (Brand et al., 2019; Schimmenti & Bifulco, 2015). For instance, individuals could possess insecure attachments yet still avoid pornography if doing so aligns with deeply held personal values or fulfills a need to avoid sexual triggers. Conversely, some may develop strong attachment bonds while simultaneously engaging in compulsive use due to concurrent factors like negative self-perception, dissociation, or unaddressed trauma cues. This complexity underscores that attachment, while an influential factor, is only one of many contributing elements in the development of compulsive sexual behaviors. The findings suggest that attachment theory should be viewed within a broader context, incorporating additional psychological and situational factors that more fully explain the relationship between trauma and pornography consumption.

Clinical Implications for Therapy and Intervention

Reevaluating Trauma-Informed Treatment Approaches

Clinicians working with individuals who exhibit a strong relationship between trauma severity and problematic internet pornography consumption (PPCS) should prioritize a thorough exploration of how adverse experiences shape current behaviors. This assessment involves differentiating whether pornography use represents an attempt to regulate overwhelming emotions through compulsive engagement, or conversely, stems from avoidance and inhibition tied to shame, mistrust, or fear of intimacy (van der Kolk, 2014). Trauma-informed therapeutic models must recognize these distinct pathways, allowing for interventions that are precisely tailored to the unique psychological consequences of trauma (Felitti et al., 1998). In cases where individuals exhibit aversion to sexual stimuli, therapy may focus on gradually diminishing self-imposed restrictions and fostering healthier relational dynamics. Alternatively, for those who display compulsive pornography use, interventions

should prioritize identifying maladaptive triggers, enhancing emotional regulation, and developing alternative coping mechanisms that do not rely on pornography (Brand et al., 2019).

Targeting Cognitive Self-Consciousness and Rumination

A considerable subset of trauma survivors exhibits heightened cognitive self-consciousness, characterized by persistent attention to internal states and negative beliefs about one's thoughts (Wells, 2009). Such cognitive self-consciousness can inadvertently fuel either compulsive or avoidant behaviors, depending on whether individuals interpret their distressing thoughts as unmanageable or morally conflicting (Spada et al., 2015). Evidence-based interventions such as Acceptance and Commitment Therapy (ACT), mindfulness-based Cognitive-Behavioral Therapy (CBT), and Eye Movement Desensitization and Reprocessing (EMDR) can be especially effective for individuals struggling with cognitive self-consciousness. (Hayes et al., 2006; Shapiro, 2017). By fostering nonjudgmental awareness and restructuring metacognitive beliefs, survivors can learn to observe intrusive thoughts without defaulting to maladaptive coping. Specifically, EMDR's bilateral stimulation has been shown to facilitate the reprocessing of traumatic memories, potentially reducing the need for compulsive or avoidant pornography use to manage post-traumatic distress (Hayes et al., 2006; Shapiro, 2017). By integrating such therapeutic approaches, clinicians can assist trauma survivors in developing healthier coping mechanisms and reducing their reliance on pornography to manage emotional distress.

Differentiating Avoidant vs. Compulsive Coping Strategies

Personalized therapeutic approaches require a nuanced understanding of the core motivations behind pornography use, whether driven by escapism from distressing emotions, emotional detachment rooted in prior abuse, or avoidance fueled by guilt and shame (Gilliland et al., 2011; Schimmenti & Bifulco, 2015). For individuals who use pornography as a means of self-soothing, treatment should focus on equipping them with healthier emotional regulation

skills, such as mindfulness, trauma-focused cognitive-behavioral therapy (CBT), and effective social support networks to replace maladaptive coping behaviors (Brand et al., 2019). In contrast, for those who avoid pornography due to fear or moral conflict, therapeutic efforts should center on resolving internalized shame and reconstructing more constructive narratives surrounding sexuality (Weinstein et al., 2015). Interventions that incorporate psychoeducation on the trauma–behavior connection, alongside strategies for cultivating secure relational bonds, can help these clients move beyond avoidance into more balanced coping. can assist these individuals in moving from avoidance to more adaptive coping strategies. A comprehensive understanding of the underlying psychological drivers—such as dissociation, negative self-perception, and unresolved guilt—is essential to ensure clinical interventions are specifically tailored to each individual's unique trauma history and behavioral patterns.

Public Health and Policy Implications

Rethinking Pornography Addiction Narratives

Current societal discourses often frame pornography addiction as an almost inevitable consequence of heightened impulsivity or trauma exposure (Ley et al., 2014). However, as evidenced by the divergent reactions among trauma survivors—some of whom refrain from pornography altogether—this narrative may oversimplify complex behavioral patterns. These findings suggest that trauma can result in both increased susceptibility to and avoidance of pornography use, emphasizing the need for a more nuanced understanding. Policymakers should move away from a monolithic, one-size-fits-all approach and adopt a more differentiated perspective that recognizes the role of individual, cultural, and moral factors in shaping coping strategies (Brand et al., 2019). Public health messaging should not pathologize all pornography consumption but rather acknowledge the complex ways in which trauma survivors respond to distress, thereby encouraging more balanced and evidence-based interventions.

Trauma-Informed Public Health Initiatives

Public health campaigns that integrate trauma awareness can more effectively address both excessive engagement with and avoidance of pornography. By promoting psychoeducation on emotional regulation, healthy coping strategies, and access to mental health resources, these initiatives can illuminate how both compulsive use and abstinence may stem from unresolved traumatic experiences (Felitti et al., 1998; van der Kolk, 2014). For instance, a comprehensive program might highlight how survivors of childhood neglect could develop compulsive habits as a form of self-soothing or, conversely, could experience sexual inhibition due to internalized shame and fear (Gilliland et al., 2011). Encouraging a broader dialogue around these contrasting pathways helps prevent the pathologization of all use, while still validating harmful patterns when they occur (Weinstein et al., 2015)

Policy Recommendations for Mental Health Services

A systematic screening protocol for trauma within behavioral addiction services is essential, given the prominent role adverse experiences can play in both compulsive and avoidant pornography use (Brand et al., 2019; Schimmenti & Bifulco, 2015). Clinicians and counselors, equipped with trauma-informed competencies, can differentiate whether an individual's pornography consumption stems from maladaptive coping (e.g., self-medication for PTSD symptoms) or from entrenched fears around intimacy and sexual content. By tailoring interventions to the survivor's specific trauma history—whether treatment requires reducing compulsive reliance on pornography or addressing the aftermath of abuse that has led to extreme avoidance—professionals can facilitate more precise and empathetic care. Moreover, integrating continuous training in trauma sensitivity for service providers ensures that individuals who exhibit non-normative responses to sexuality receive appropriate care without facing stigma (Hsieh et al., 2020).

Integrating Trauma-Informed Education in Schools and Workplaces

Educational programs focused on digital well-being should adopt a trauma-informed framework, particularly given the early exposure many individuals have to online sexual content (Sniewski & Farvid, 2020). Introducing curricula that highlight both compulsive and inhibited patterns of usage can foster a more informed environment, wherein students and employees understand that trauma may manifest in diverse coping styles. Workshops on emotional regulation, recognizing signs of problematic use, and promoting healthy intimacy norms can help normalize conversations about pornography while providing practical tools for those grappling with trauma-related behaviors (Weinstein et al., 2015). This approach also empowers peers, educators, and employers to identify early warning signs of dysfunction, whether in the form of compulsive use or avoidance, thereby fostering early intervention. By creating such an environment, educational and organizational settings can become critical sites for preventive action, promoting balanced digital engagement and mitigating the long-term impact of unresolved trauma.

Conclusion

While most research assumes that trauma universally escalates problematic pornography consumption, these findings reveal that severe childhood adversity can also induce avoidance and reduced engagement. No tested psychological mediators—attachment, coping, or metacognitive beliefs—fully accounted for this unexpected relationship, suggesting the involvement of alternative mechanisms (e.g., dissociation, shame-based inhibition). Ultimately, recognizing that trauma survivors display heterogeneous patterns—ranging from compulsive to avoidant—is crucial for refining addiction models and improving intervention strategies.

Acknowledgment of Limitations

Cross-Sectional Design and Causality

A notable limitation of this study is its cross-sectional design, which precludes establishing causal relationships between trauma and problematic pornography consumption (PPCS). While the study identifies significant associations, longitudinal or experimental designs are necessary to clarify temporal causality (cf. Felitti et al., 1998). Future research should aim to map the developmental trajectories of trauma and pornography use, investigating whether trauma first leads to avoidance and later shifts to compulsive use in response to additional stressors. Longitudinal studies could reveal whether these behaviors represent transient coping mechanisms or sustained maladaptive habits, thus offering greater insight into the dynamics of trauma-driven coping.

Reliance on Self-Report Measures

The study's reliance on self-reported data introduces the potential for biases, including underreporting, overreporting, recall distortions, and social desirability effects (Hsieh, Lu, & Lin, 2020). Given the sensitive nature of both trauma history and pornography use, participants may have either underrepresented or exaggerated their experiences to align with perceived cultural norms (Sniewski & Farvid, 2020). Future research should adopt multi-method approaches to enhance data validity, integrating objective measures such as physiological indicators (e.g., cortisol levels), usage metrics from digital platforms, or corroborated mental health records (Weinstein et al., 2015). These measures would strengthen the robustness of findings and provide a more comprehensive understanding of how trauma influences pornography consumption.

Limited Generalizability

The relatively small sample size and lack of demographic diversity limit the generalizability of these findings. While this study provides valuable preliminary evidence of

the trauma–PPCS link, cultural, socioeconomic, and gender differences were not adequately represented (Grubbs & Perry, 2019). Furthermore, individuals who experience significant stigma or moral conflict regarding pornography may be underrepresented, and some participants may have declined to participate due to discomfort with discussing their personal use (Ley et al., 2014). Future studies should expand the sample size and ensure greater demographic diversity, including different cultural, socioeconomic, and sexual orientation groups, to assess whether the observed patterns hold across broader populations (Hsieh et al., 2020). A more representative sample will also aid in developing culturally sensitive interventions and more comprehensive global public health initiatives.

Potential Confounding Variables

This study did not account for several potential confounding variables that could significantly influence the trauma–PPCS relationship. For example, religious or moral beliefs may shape how individuals perceive pornography use, irrespective of its frequency (Grubbs & Perry, 2019), and personality traits such as impulsivity or novelty-seeking could modulate susceptibility to trauma-related addictive behaviors (Brand et al., 2019). Future research should systematically address these factors, incorporating validated measures of religiosity, moral incongruence, and personality traits to achieve greater interpretive clarity. By controlling for these variables, future studies will be better equipped to identify the specific role that childhood trauma plays in driving pornography-related distress, independent of moral or personality-driven influences, thereby supporting the development of more targeted and evidence-based therapeutic interventions.

Suggestions for Future Research

Longitudinal Studies

Future research must prioritize longitudinal designs that track participants over extended periods to explore how childhood trauma influences the development or avoidance of

problematic pornography consumption (PPCS) (Brand et al., 2019; Schimmenti & Bifulco, 2015). Such studies would allow for a more refined understanding of the temporal dynamics between trauma exposure and behavioral shifts. Specifically, they could elucidate developmental windows during which trauma heightens vulnerability to compulsive sexual behaviors. Moreover, longitudinal frameworks could uncover critical turning points, such as the impact of life events (e.g., relationship changes, career stressors) on pre-existing patterns of pornography use. Repeated assessments of psychological symptoms, coping strategies, and social support could further reveal how individuals may transition from avoidance to compulsive behaviors—or vice versa—over time, shedding light on the evolving nature of trauma responses.

Exploring Mediators and Moderators

Given that attachment styles, coping mechanisms, and metacognitive beliefs failed to mediate the relationship between trauma and PPCS, future studies should explore additional constructs that may clarify this connection. Emotion dysregulation, often central to addiction models, could provide insight into why some survivors engage in compulsive behaviors instead of avoidance (Brand et al., 2019; Hsieh, Lu, & Lin, 2020). Impulsivity may also function as a critical moderator, as individuals with higher impulsivity may be more prone to seeking immediate gratification through pornography. Additionally, moral conflict and religiouss beliefs could shape how trauma survivors process and respond to their behaviors, as cognitive dissonance between personal values and actions may intensify feelings of shame or guilt, thereby influencing pornography consumption patterns (Grubbs & Perry, 2019). Employing multifactorial models that integrate these factors will deepen theoretical understanding and identify key intervention points. Additionally, future studies may consider moving demographic questions to the end of surveys, a strategy shown to reduce missing data and improve response rates (Stern et al., 2014).

Neuroscientific and Physiological Approaches

Incorporating neuroscientific methods—such as functional magnetic resonance imaging (fMRI), electroencephalography (EEG), and heart rate variability (HRV)—could greatly enhance our understanding of the neurobiological mechanisms underlying trauma-related pornography use (Teicher & Samson, 2016). fMRI could reveal whether trauma survivors exhibit altered activation in brain regions associated with reward processing, such as the ventral striatum, when exposed to sexual stimuli. Meanwhile, HRV and cortisol assessments could provide real-time data on stress responses and HPA axis dysregulation (Felitti et al., 1998). Combining these objective measures with self-report data would offer a multidimensional view of how physiological reactivity, cognitive processes, and behavioral patterns interrelate. This integrative approach would help explain why some trauma survivors develop a reliance on pornography for emotional regulation, while others withdraw from it entirely (Brand et al., 2019).

Understudied Populations

Current research on pornography consumption primarily focuses on younger, predominantly male samples, limiting the generalizability of findings (Ley, Prause, & Finn, 2014). To enhance the applicability of these insights, future studies should expand to include diverse populations, such as older adults, gender-diverse individuals, and those with clinically significant psychopathologies, including PTSD or compulsive sexual behavior disorder. These underrepresented groups may present distinct trauma responses and coping mechanisms, providing a broader understanding of how trauma influences pornography use (Sniewski & Farvid, 2020). Moreover, examining pornography consumption within specific cultural or religious contexts—where stigma surrounding sexual content is more pronounced—could uncover unique patterns of moral dissonance, secrecy, and forced abstinence, offering insights that differ from Western-centric models (Weinstein et al., 2015). A more inclusive approach

would not only enhance clinical interventions but also refine global public health initiatives aimed at addressing pornography use.

Developing Trauma-Informed Treatment Strategies

There is an urgent need for further investigation into clinical interventions tailored to address both trauma and problematic pornography consumption. Randomized controlled trials examining the effectiveness of Eye Movement Desensitization and Reprocessing (EMDR), cognitive-behavioral therapy (CBT), and integrated approaches (e.g., EMDR plus CBT) could identify the most effective strategies for treating this co-occurring issue (Shapiro, 2017; van der Kolk, 2014). Trauma-focused programs that emphasize emotional regulation, the reduction of shame, and the restructuring of maladaptive cognitions may be particularly beneficial for survivors of trauma who engage in compulsive pornography use (Hayes et al., 2006). Moreover, qualitative follow-up studies could further identify which elements of treatment resonate most with survivors—whether they lean toward compulsive use or avoidance. By refining interventions based on survivor feedback, clinicians will be better equipped to address the complexities of trauma-related pornography consumption, ultimately improving mental health outcomes and reducing stigma.

Conclusion

The findings of this study challenge the prevailing assumption that trauma invariably leads to problematic pornography consumption. Contrary to established beliefs, some individuals with severe trauma histories demonstrate a propensity to avoid pornography, suggesting that trauma responses span a spectrum from compulsive engagement to inhibition (Brand et al., 2019; van der Kolk, 2014). This variability highlights the complex ways in which trauma, through mechanisms such as shame, moral conflict, and dissociation, can manifest in adult behaviors, challenging the oversimplified notion that all trauma survivors default to escapist or self-medication coping strategies (Khantzian, 1997). The evidence suggests the need for more

nuanced models that encompass a broader range of potential mediators—such as guilt proneness, dissociative tendencies, and impulsivity—that may substantially influence behavior (Gilliland et al., 2011; Spada et al., 2015).

These insights have profound implications for both clinical practice and policy development. Intervention strategies must account for the multifaceted nature of trauma responses, as a one-size-fits-all approach to addressing pornography-related behaviors is not only inadequate but potentially harmful (Felitti et al., 1998). Treatment models must be individualized, recognizing the diverse emotional, cognitive, and moral dimensions that shape how individuals respond to past trauma—whether these responses culminate in persistent avoidance or compulsive engagement (Schimmenti & Bifulco, 2015). Furthermore, policymakers and educators must adopt more sophisticated messaging that reflects the varied trajectories of trauma survivors, moving beyond alarmist or overly simplistic narratives about pornography use (Ley, Prause, & Finn, 2014). Ultimately, the adoption of trauma-informed, person-centered frameworks holds the greatest promise for effectively addressing the complexities of problematic pornography consumption among individuals with trauma histories.

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Appendix A

Section 1: Demographics questionnaire

Instructions:
Please answer the following demographic questions. This information helps us understand our respondents better. All responses are confidential, and your personal identity will not be linked to your answers. If you prefer not to answer a particular question, please select the appropriate option.

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □□□□ 20 %

1. **What is your age?**
   (dropdown)
2. **Where are you currently located? (Select your continent)**
   ☐ Africa
   ☐ Asia
   ☐ Europe
   ☐ North America
   ☐ Oceania
   ☐ South America
3. **Are you currently a full-time university student?**
   ☐ Yes
   ☐ No
4. **What is your gender?**
   ☐ Man
   ☐ Woman
   ☐ Other
   ☐ Prefer not to say

Appendix 1.

Problematic Pornography Consumption Scale (PPCS)

Please, think back to the last six months and indicate on the following 7-point scale how often or to what extent the statements apply to you. There is no right or wrong answer. Please indicate the answer that most applies to you.

1- Never *2- Rarely* *3- Occasionally* *4- Sometimes* *5- Often* *6- Very often* *7- All the time*

	1	2	3	4	5	6	7
1. I felt that porn is an important part of my life	O	O	O	O	O	O	O
2. I used porn to restore the tranquility of my feelings	O	O	O	O	O	O	O
3. I felt porn caused problems in my sexual life	O	O	O	O	O	O	O
4. I felt that I had to watch more and more porn for satisfaction	O	O	O	O	O	O	O
5. I unsuccessfully tried to reduce the amount of porn I watch	O	O	O	O	O	O	O
6. I became stressed when something prevented me from watching porn	O	O	O	O	O	O	O
7. I thought about how good it would be to watch porn	O	O	O	O	O	O	O
8. Watching porn got rid of my negative feelings	O	O	O	O	O	O	O
9. Watching porn prevented me from bringing out the best in me	O	O	O	O	O	O	O
10. I felt that I needed more and more porn in order to satisfy my needs	O	O	O	O	O	O	O
11. When I vowed not to watch porn anymore, I could only do it for a short period of time	O	O	O	O	O	O	O
12. I became agitated when I was unable to watch porn	O	O	O	O	O	O	O
13. I continually planned when to watch porn	O	O	O	O	O	O	O
14. I released my tension by watching porn	O	O	O	O	O	O	O
15. I neglected other leisure activities as a result of watching porn	O	O	O	O	O	O	O
16. I gradually watched more "extreme" porn, because the porn I watched before was less satisfying	O	O	O	O	O	O	O
17. I resisted watching porn for only a little while before I relapsed	O	O	O	O	O	O	O
18. I missed porn greatly when I didn't watch it for a while	O	O	O	O	O	O	O

Scoring: Add the scores of the items of each factor. For the total score add all the scores of the items. 76 points or more indicate possible problematic pornography use

Salience: 1, 7, 13
Mood modification: 2, 8, 14
Conflict: 3, 9, 15
Tolerance: 4, 10, 16
Relapse: 5, 11, 17
Withdrawal: 6, 12, 18

Childhood Traumatic Events Scale

For the following questions, answer each item that is relevant. Be as honest as you can. Each question refers to any event that you may have experienced **prior to the age of 17**.

1. **Prior to the age of 17, did you experience a death of a very close friend or family**

member?_____If yes, how old were you?

If yes, how traumatic was this? (using a 7-point scale, where 1 = not at all traumatic, 4 = somewhat traumatic, 7 = extremely traumatic)

If yes, how much did you confide in others about this traumatic experience at the time? (1 = not at all, 7 = a great deal)

2. **Prior to the age of 17, was there a major upheaval between your parents (such as divorce, separation)? If yes, how old were you?**

If yes, how traumatic was this? (where 7 = extremely traumatic)_____ If yes, how much did you confide in others? (7 = a great deal)

3. **Prior to the age of 17, did you have a traumatic sexual experience (raped, molested,**

etc.)?_____If yes, how old were you?

If yes, how traumatic was this? (7 = extremely traumatic)

If yes, how much did you confide in others? (7 = a great deal)

4. **Prior to the age of 17, were you the victim of violence (child abuse, mugged or assaulted —**

other than sexual)?_____If yes, how old were you?

If yes, how traumatic was this? (7 = extremely traumatic)

If yes, how much did you confide in others? (7 = a great deal)

5. **Prior to the age of 17, were you extremely ill or injured? you?**

If yes, how old were

If yes, how traumatic was this? (7 = extremely traumatic)

If yes, how much did you confide in others? (7 = a great deal)

6. **Prior to the age of 17, did you experience any other major upheaval that you think may have shaped your life or personality significantly? If yes, how old were you?**

If yes, what was the event?_____ If yes, how traumatic was this? (7 = extremely traumatic)

If yes, how much did you confide in others? (7 = a great deal)

Recent Traumatic Events Scale

For the following questions, again answer each item that is relevant and again be as honest as you can. Each question refers to any event that you may have experienced **within the last 3 years**.

7. **Within the last 3 years, did you experience a death of a very close friend or family member?**

If yes, how traumatic was this? (1 = not at all traumatic, 7 = extremely traumatic)

If yes, how much did you confide in others about the experience at the time? (1 = not at all, 7 = a great deal)

8. **Within the last 3 years, was there a major upheaval between you and your spouse (such as divorce, separation)?**

If yes, how traumatic was this?

If yes, how much did you confide in others?

9. **Within the last 3 years, did you have a traumatic sexual experience (raped, molested,)?**

If yes, how traumatic was this?

If yes, how much did you confide in others?

10. **Within the last 3 years, were you the victim of violence (other than sexual)? If yes, how traumatic was this?**

If yes, how much did you confide in others?

11. **Within the last 3 years, were you extremely ill or injured? If yes, how traumatic was this?**

If yes, how much did you confide in others?

12. **Within the last 3 years, has there been a major change in the kind of work you do (e.g., a new job, promotion, demotion, lateral transfer)?**

If yes, how traumatic was this?

If yes, how much did you confide in others?

13. **Within the last 3 years, did you experience any other major upheaval that you think may have shaped your life or personality significantly?**

If yes, what was the event?_____ If yes, how traumatic was this?

If yes, how much did you confide in others?

Coping Scale
Hamby, Grych, & Banyard, 2013
Partially adapted from: Holahan & Moos, 1987; Spitzberg & Copach, 2008

This coping questionnaire assesses cognitive, emotional, and behavioral methods of dealing with problems. Some items, focusing on cognitive and emotional approaches, were adapted from Holahan and Moos's (1987) widely-used Coping Strategies Scale (items 2, 3, and 4 below), while other cognitive and emotional items were original (1, 5, 6, and 8). The remainder of the items were adapted from Spitzberg and Copach's (2008) framework for assessing coping in response to stalking. Adapted items were reworded to focus on general coping patterns (versus a response to a specific situation) and simplified to suit a community sample in which some have limited reading levels and educational attainment.

Development and validation of measure in pilot study and main sample: To establish reliability and validity for new and adapted items, we conducted a pilot study with 104 participants from the same community as the main sample, recruited through a local email classifieds list and word-of-mouth. Of the 17 coping items used in the main sample of over 2500 participants, a domain-level factor analysis for all regulatory strengths produced this 13-item factor, consisting of items reflecting both appraisal and behavioral methods of coping. Internal consistencies (coefficient alphas) for the pilot and main samples are 0.88 and 0.91, respectively. Validity was established in the main sample with strong correlations with other measures of regulatory strengths, such as Anger Management ($r = .57$) and Endurance ($r = .63$), and with measures of well-being, such as Subjective Well-being ($r = .53$) and Posttraumatic Growth ($r = .65$).

Scoring: Each answer category was assigned a value from 4 to 1. The total score can be a sum or mean of all the items. We used z-scores of the scale score in our analyses. Higher scores indicate higher levels of coping.

Life Paths version: Hamby, S., Grych, J., & Banyard, V. L. (2015). *Life Paths measurement packet: Finalized scales*. Sewanee, TN: Life Paths Research Program. http://www.lifepathsresearch.org/strengths-measures/

Partially adapted from: Holahan, C. J., & Moos, R. H. (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology*, 52(5), 946-955.

Spitzberg, B., & Cupach, W. (2008). Managing unwanted pursuit. In M. Motley (Ed.), *Studies in Applied Interpersonal Communication* (pp. 3-25). Thousand Oaks, CA: Sage.

1. When dealing with a problem, I spend time trying to understand what happened.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
2. When dealing with a problem, I try to see the positive side of the situation.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
3. When dealing with a problem, I try to step back from the problem and think about it from a different point of view.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
4. When dealing with a problem, I consider several alternatives for handling the problem.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
5. When dealing with a problem, I try to see the humor in it.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1

6. When dealing with a problem, I think about what it might say about bigger lifestyle changes I need to make.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
7. When dealing with a problem, I often wait it out and see if it doesn't take care of itself.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
8. When dealing with a problem, I often try to remember that the problem is not as serious as it seems.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
9. When dealing with a problem, I often use exercise, hobbies, or meditation to help me get through a tough time.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
10. When dealing with a problem, I make jokes about it or try to make light of it.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
11. When dealing with a problem, I make compromises.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
12. When dealing with a problem, I take steps to take better care of myself and my family for the future.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1
13. When dealing with a problem, I work on making things better for the future by changing my habits, such as diet, exercise, budgeting, or staying in closer touch with people I care about.
   - Mostly true about me 4
   - Somewhat true about me 3
   - A little true about me 2
   - Not true about me 1

Experiences in close relationships questionnaire – revised (ecr-r)
Fraley, Waller and Brennan (2000)

1. I'm afraid that I will lose this person's/others' love
2. I prefer not to show this person/others how I feel deep down
3. I often worry that this person/others will not want to stay with me
4. I feel comfortable sharing my private thoughts and feelings with this person/others (R)
5. I often worry that this person/others don't really love me
6. I find it difficult to allow myself to depend on this person/others
7. I worry that this person/others won't care about me as much as I care about them
8. I am very comfortable being close to this person/others (R)
9. I often wish that this person's/others' feelings for me were as strong as my feelings for them
10. I don't feel comfortable opening up to this person/others
11. I worry a lot about my relationship(s)
12. I prefer not to be too close to this person/others
13. when this person/others are out of sight, I worry that they might become interested in someone else (and leave/exclude me)
14. I get uncomfortable when this person/others want to be very close
15. when I show my feelings for this person/others, I'm afraid they will not feel the same about me
16. I find it relatively easy to get close to this person/others (R)
17. I rarely worry about this person/others leaving me (R)
18. it's not difficult for me to get close to this person/others (R)
19. this person/others make me doubt myself
20. I usually discuss my problems and concerns with this person/others (R)
21. I do not often worry about being abandoned (R)
22. it helps to turn to this person/others in times of need (R)
23. I find that this person/others don't want to get as close as I would like
24. I tell this person/others just about everything (R)
25. sometimes this person/others change their feelings about me for no apparent reason
26. I talk things over with this person/others (R)
27. my desire to be very close sometimes scares this person/others away
28. I am nervous when this person/others get too close to me
29. I'm afraid that once this person/others get to know me, they won't like who I really am

30.I feel comfortable depending on this person/others (R)
31.it makes me mad that I don't get the affection and support I need from this partner/others
32.I find it easy to depend on this person/others (R)
33.I worry that I won't measure up to other people
34.it's easy for me to be affectionate with this person/others (R)
35.this person/others only seems to notice me when I'm angry
36.this person/others really understands me and my needs (R)

1. I'm afraid that I will lose my partner's love.
2. I often worry that my partner will not want to stay with me.
3. I often worry that my partner doesn't really love me.
4. I worry that romantic partners won't care about me as much as I care about them.
5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.
6. I worry a lot about my relationships.
7. When my partner is out of sight, I worry that he or she might become interested in someone else.
8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.
9. I rarely worry about my partner leaving me.
10.My romantic partner makes me doubt myself.
11.I do not often worry about being abandoned.
12.I find that my partner(s) don't want to get as close as I would like.
13.Sometimes romantic partners change their feelings about me for no apparent reason.
14.My desire to be very close sometimes scares people away.
15.I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.
16.It makes me mad that I don't get the affection and support I need from my partner.
17.I worry that I won't measure up to other people.
18.My partner only seems to notice me when I'm angry.
19.I prefer not to show a partner how I feel deep down.
20.I feel comfortable sharing my private thoughts and feelings with my partner.
21.I find it difficult to allow myself to depend on romantic partners.
22.I am very comfortable being close to romantic partners.
23.I don't feel comfortable opening up to romantic partners.

24.I prefer not to be too close to romantic partners.
25.I get uncomfortable when a romantic partner wants to be very close.
26.I find it relatively easy to get close to my partner.
27.It's not difficult for me to get close to my partner.
28.I usually discuss my problems and concerns with my partner.
29.It helps to turn to my romantic partner in times of need.
30.I tell my partner just about everything.
31.I talk things over with my partner.
32.I am nervous when partners get too close to me.
33.I feel comfortable depending on romantic partners.
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35.It's easy for me to be affectionate with my partner.
36.My partner really understands me and my needs.

EMOTIONAL DISORDERS AND METACOGNITION
Adrian Wells

Appendix I

METACOGNITIONS QUESTIONNAIRE (MCQ)

Developed by Sam Cartwright and Adrian Wells

This questionnaire is concerned with beliefs people have about their thinking. Listed below are a number of beliefs that people have expressed. Please read each item and say how much you *generally* agree with it by *circling* the appropriate number. Please respond to all the items, there are no right or wrong answers.

Sex: _____ Age: _____

	Do not agree	*Agree slightly*	*Agree moderately*	*Agree very much*
1. Worrying helps me to avoid problems in the future	1	2	3	4
2. My worrying is dangerous for me	1	2	3	4
3. I have difficulty knowing if I have actually done something, or just imagined it	1	2	3	4
4. I think a lot about my thoughts	1	2	3	4
5. I could make myself sick with worrying	1	2	3	4
6. I am aware of the way my mind works when I am thinking through a problem	1	2	3	4
7. If I did not control a worrying thought, and then it happened, it would be my fault	1	2	3	4
8. If I let my worrying thoughts get out of control, they will end up controlling me	1	2	3	4
9. I need to worry in order to remain organised	1	2	3	4

	Do not agree	*Agree slightly*	*Agree moderately*	*Agree very much*
10. I have little confidence in my memory for words and names	1	2	3	4
11. My worrying thoughts persist, no matter how I try to stop them	1	2	3	4
12. Worrying helps me to get things sorted out in my mind	1	2	3	4
13. I cannot ignore my worrying thoughts	1	2	3	4
14. I monitor my thoughts	1	2	3	4
15. I should be in control of my thoughts all of the time	1	2	3	4
16. My memory can mislead me at times	1	2	3	4
17. I could be punished for not having certain thoughts	1	2	3	4
18. My worrying could make me go mad	1	2	3	4
19. If I do not stop worrying thoughts, they could come true	1	2	3	4
20. I rarely question my thoughts	1	2	3	4
21. Worrying puts my body under a lot of stress	1	2	3	4
22. Worrying helps me to avoid disastrous situations	1	2	3	4
23. I am constantly aware of my thinking	1	2	3	4
24. I have a poor memory	1	2	3	4
25. I pay close attention to the way my mind works	1	2	3	4
26. People who do not worry, have no depth	1	2	3	4
27. Worrying helps me cope	1	2	3	4
28. I imagine having not done things and then doubt my memory for doing them	1	2	3	4
29. Not being able to control my thoughts is a sign of weakness	1	2	3	4

	Do not agree	*Agree slightly*	*Agree moderately*	*Agree very much*
30. If I did not worry, I would make more mistakes	1	2	3	4
31. I find it difficult to control my thoughts	1	2	3	4
32. Worrying is a sign of a good person	1	2	3	4
33. Worrying thoughts enter my head against my will	1	2	3	4
34. If I could not control my thoughts I would go crazy	1	2	3	4
35. I will lose out in life if I do not worry	1	2	3	4
36. When I start worrying, I cannot stop	1	2	3	4
37. Some thoughts will always need to be controlled	1	2	3	4
38. I need to worry, in order to get things done	1	2	3	4
39. I will be punished for not controlling certain thoughts	1	2	3	4
40. My thoughts interfere with my concentration	1	2	3	4
41. It is alright to let my thoughts roam free	1	2	3	4
42. I worry about my thoughts	1	2	3	4
43. I am easily distracted	1	2	3	4
44. My worrying thoughts are not productive	1	2	3	4
45. Worry can stop me from seeing a situation clearly	1	2	3	4
46. Worrying helps me to solve problems	1	2	3	4
47. I have little confidence in my memory for places	1	2	3	4
48. My worrying thoughts are uncontrollable	1	2	3	4
49. It is bad to think certain thoughts	1	2	3	4

	Do not agree	*Agree slightly*	*Agree moderately*	*Agree very much*
50. If I do not control my thoughts, I may end up embarrassing myself	1	2	3	4
51. I do not trust my memory	1	2	3	4
52. I do my clearest thinking when I am worrying	1	2	3	4
53. My worrying thoughts appear automatically	1	2	3	4
54. I would be selfish if I never worried	1	2	3	4
55. If I could not control my thoughts, I would not be able to function	1	2	3	4
56. I need to worry, in order to work well	1	2	3	4
57. I have little confidence in my memory for actions	1	2	3	4
58. I have difficulty keeping my mind focused on one thing for a long time	1	2	3	4
59. If a bad thing happens which I have not worried about, I feel responsible	1	2	3	4
60. It would not be normal, if I did not worry	1	2	3	4
61. I constantly examine my thoughts	1	2	3	4
62. If I stopped worrying, I would become glib, arrogant and offensive	1	2	3	4
63. Worrying helps me to plan the future more effectively	1	2	3	4
64. I would be a stronger person if I could worry less	1	2	3	4
65. I would be stupid and complacent not to worry	1	2	3	4

Please ensure that you have responded to all items. Thank you.

From Wells, 1997, with permission.

Experiences in close relationships questionnaire – revised (ecr-r)
Fraley, Waller and Brennan (2000)

1. I'm afraid that I will lose this person's/others' love
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23. I find that this person/others don't want to get as close as I would like
24. I tell this person/others just about everything (R)
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26. I talk things over with this person/others (R)
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8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.
9. I rarely worry about my partner leaving me.
10.My romantic partner makes me doubt myself.
11.I do not often worry about being abandoned.
12.I find that my partner(s) don't want to get as close as I would like.
13.Sometimes romantic partners change their feelings about me for no apparent reason.
14.My desire to be very close sometimes scares people away.
15.I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.
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17.I worry that I won't measure up to other people.
18.My partner only seems to notice me when I'm angry.
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Appendix B

Reddit Post for Participant Recruitment
Title: Seeking Participants for a Study on Childhood Trauma and Internet Pornography Use
Hey Reddit!
We are currently looking for participants for a research study led by Zaki Khouani from Saint Paul University. If you are between the ages of 18 and 30 and have a history of internet pornography consumption, we would love to hear from you!
What is the study about?
The goal of this study is to explore the relationship between childhood trauma and problematic internet pornography use, focusing on the psychological mechanisms that might mediate this relationship. By understanding these connections, we hope to develop better interventions and support for individuals facing these challenges.
Who can participate?

- Individuals aged 18-30
- Internet users with a history of pornography consumption (whether deemed problematic or not)
- Those open to discussing personal experiences related to internet use, trauma, and related psychological treatments

What will you need to do?

- Complete an online survey that will take approximately 30-45 minutes
- The survey will include questions about childhood trauma, internet pornography use, attachment styles, coping mechanisms, and metacognitive beliefs

What's in it for you?

- Although there is no direct benefit to you, your participation will help further the understanding of psychological issues related to childhood trauma and internet pornography use

Is there any risk?
This study is considered minimal risk. However, some questions might be sensitive and could evoke emotional responses. You can skip any questions that cause discomfort and stop participating at any time. If you experience distress, support resources will be provided.

How is your information handled?

- Your responses will be completely anonymous and confidential
- Data will be stored securely and used only for research purposes

How can you participate?
If you're interested, please follow this link to access the survey: [Survey Link]
Thank you for considering participation in this important research. Your contribution could make a significant difference!
If you have any questions or need more information, feel free to contact the principal investigator at zkhou058@uottawa.ca.

Best regards,
Zaki Khouani
Saint Paul University, Ottawa, ON

Appendix C

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Implied Consent Form

Title of the study: The Impact of Childhood Trauma on Problematic Internet Pornography Use and the Mediating Role of Psychological Mechanisms

Principal Investigator: Zaki Khouani
Candidate, Master of Arts, Counseling and Spirituality
School of Counselling, Psychotherapy, and Spirituality Saint Paul University
Ottawa, ON
zkhou058@uottawa.ca

Supervisor: Guillaume Durand
Faculty of Human Sciences
School of Counselling, Psychotherapy, and Spirituality Saint Paul University
Ottawa, ON
gdurand@ustpaul.ca

Invitation to Participate:
You are invited to participate in the above-mentioned research study conducted by Zaki Khouani. This project is not funded.

Purpose of the Study:
This study aims to explore the correlation between childhood trauma and problematic internet pornography use, focusing on psychological factors that might mediate this relationship. We hope to understand better the underlying mechanisms that lead to problematic behaviors and provide data that may help develop targeted interventions.

Participation:
If you wish to participate in this study, please complete the following survey. Your decision to complete this survey will be interpreted as an indication of your consent to participate. The survey should take you approximately 30-45 minutes to complete. You do not have to answer any questions that you do not want to answer.

In this study, you will be asked to complete a few demographic questions, and complete the following measures: childhood trauma assessment, problematic pornography use questionnaire, attachment styles questionnaire, coping mechanisms scale, and metacognitive beliefs questionnaire. You will then receive a debriefing online explaining the purpose and objectives of the study. The debriefing will only be available at the very end of the study.

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Benefits:
Participation in this research will help further the field of psychological issues related to childhood trauma and their impact on internet pornography use.

Risks:
The present study is considered minimal risk. However, some questions in this study may be difficult to answer for some participants. Participants are free to refuse to answer any question that would cause discomfort and to stop the study without needing to provide any justification.
In case of psychological distress associated with this study, you can seek help by contacting the Tel-aide (514-935-1101; for Québec residents), Crisis line (1-866-996-0991; for Ontario residents), or Crisis Services Canada (1-833-456-4566; Canada wide).

Confidentiality and Anonymity:
The information that you will share will not allow to identify you in any way. Anonymity is guaranteed because you are not being asked to provide your name or any identifiable information that could be used to trace and/or identify you in any way. No one, including the principal investigator, will be able to identify participants, before or after publication. At the end of the study, the raw dataset will be published online on Open Science Framework, alongside the scientific article that will discuss the results.

Conservation of data:
The data will be kept indefinitely as it will be published online.
Please keep in mind that, given the anonymous nature of the study, it is not possible for participants to withdraw their data from the study as the researcher will be unable to retrace individual datasets.

Voluntary Participation:
You are under no obligation to participate and if you choose to participate, you may refuse to answer questions that you do not want to answer. Completion of the questionnaire by you implies consent.

Information about the Study Results:
Findings will be published in the form of a research article approximately 9 to 18 months after the end of the recruitment period.
If you have any questions or require more information about the study itself, you may contact the researcher at the e-mail mentioned herein.

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If you have any questions with regards to the ethical conduct of this study, you may contact the Office of Research and Ethics, Saint Paul University, 223 Main Street, Ottawa, ON K1S 1C4 Tel.: (613) 236-1393.

The present research was approved by the REB of Saint Paul University on [Approval Date] (file number [File Number]).

Please save or print a copy of the consent form for your records.

Thank you for your time and consideration.

Zaki Khouani

Appendix D

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UNIVERSITY

CERTIFICAT D'ÉTHIQUE
ETHICS CERTIFICATE

SPU-Ethics Certificate Number: 1360.1/24

Zaki Khouani
Student number: 8258253

'' The Impact of Childhood Trauma on Problematic Internet Pornography Use and the Mediating Role of Psychological Mechanisms''

June 19, 2024

Université Saint Paul University
223, Main Ottawa (Ontario) Canada K1S 1C4
Tel 613 236-1393 Fax 613 782-3005
ustpaul.ca

UNIVERSITÉ SAINT-PAUL UNIVERSITY

19-06-2024
dd-mm-yyyy

Comité d'éthique de la recherche (CER) | Research Ethics Board (REB)
Bureau de la recherche et de la déontologie (BRD) | Office of Research and Ethics (ORE)

CERTIFICAT D'ÉTHIQUE | ETHICS CERTIFICATE

SPU-REB Number: 1360.1/24

Last name	Name	Affiliation	Role
Khouani	**Zaki**	**Faculty of Human Sciences**	**MA Candidate**
Durand	Guillaume	Faculty of Human Sciences	Thesis Director

Type of project Master's Thesis
Title The Impact of Childhood Trauma on Problematic Internet Pornography Use and the Mediating Role of Psychological Mechanisms.

Approval date	Expiry Date	Decision (*)
dd-mm-yyyy	dd-mm-yyyy	
19-06-2024	**18-06-2025**	**1 (Approved)**

(*) **Approved**:

The Saint Paul University Research Ethics Board (SPU-REB) approved the project. Recruitment and data collection may begin as outlined in the application. Please use **SPU-REB Protocol 1360.1/24.** The SPU ethics approval applies for one year. However, any modification to Research Project must be approved by the REB before the changes can be implemented. The SPU-REB must be notified of all changes or unanticipated circumstances (Unanticipated issues / adverse events report) that have a serious impact on the conduct of the research, that relate to the risk to participants and their safety. An Annual Report for ongoing projects must be submitted. The researcher must provide a Final Report for projects that have been approved by the Research Ethics Board (REB) in order to close all REB-approved files.

- In accordance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans – TCPS 2 and other applicable laws and regulations, the Saint Paul University Research Ethics Board (REB) has examined and approved the application for an ethics certificate for this project for the period indicated and subject to the conditions listed above.
- Ethics approval is valid for the period indicated above and is subject to the conditions listed in the section entitled "Special Conditions or Comments". The "Renewal/Project Closure" form must be completed four weeks before the above-referenced expiry date to request a renewal of this ethics approval or closure of the file.
- Any changes made to the project must be approved by the REB before being implemented, except when necessary to remove participants from immediate endangerment or when the modification(s) only pertain to administrative or logistical components of the project. Investigators must also promptly alert the REB of any changes that increase the risk to participant(s), any changes that considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project or the safety of the participant(s).

Comité d'éthique de la recherche (CER) * UNIVERSITÉ SAINT-PAUL UNIVERSITY * Research Ethics Board (REB)

Louis Perron, Ph.D.
Chair
Saint Paul University
Research Ethics Board (REB)