Investigating the Functions and Psychological Correlates of Sexual Activity to Self-Injure (SASI) in Post-Secondary Students

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Master of Science by Research in Clinical Psychology

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2025

Acknowledgments

Firstly, I would like to thank the invaluable contributions of all participants who took part in this study and all those who expressed an interest in this work.

I would like to express my sincere and utmost gratitude to my supervisor, Dr. Jamie Kennedy-Turner, for his on-going counsel, support, and encouragement throughout this research. His patience, insightful discussions and leadership allowed me to gain confidence as an early-career researcher and continues to inspire my academic goals. I am grateful to have the opportunity to continue my academic career under his thoughtful guidance and clinical knowledge. His expertise and thoughtful feedback were instrumental in shaping this dissertation.

I also extend my thanks to the Department of Clinical and Health Psychology at the University of Edinburgh for providing the resources and support necessary to complete this project. Special thanks to my peers and lab members, including Eleanor White, Callum Stephenson, Dr. Mohsen Omrani and Dr. Nazanin Alavi for their continuous support and encouragement. Finally, I am deeply grateful to my family and friends for their unwavering support and patience during this journey. Your belief in me made this achievement possible.

I can confirm this dissertation is an original research project conducted by the PI for the assessment of a Master of Science in Research in Clinical Psychology at the University of Edinburgh under the direct supervision of Dr. Jamie Kennedy-Turner. The work has not been submitted for any other degree or professional qualification. All included publications references are indicated throughout the dissertation.

Sincerely,
Christina Holmes

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Abstract

Background: Sexual activity as self-injury (SASI) is an emerging concept in research that remains relatively underexplored. Recent literature suggests that sexual behaviours may serve a function like non-suicidal self-injury (NSSI). However, there is an ongoing debate regarding SASI categorization as either a direct or indirect form of self-injury. Current literature on SASI predominantly focuses on adolescent populations, with little attention given to post-secondary students who may be particularly prone to SASI due to increased mental health challenges expectations of sexual exploration. Moreover, a history of sexual and physical abuse is a known risk factor for self-injurious behaviours, therefore, understanding how these factors interact with SASI can aid in developing more effective interventions.

Objective: The present study aims to address the gap in literature surrounding SASI by exploring its prevalence and self-reported functions in post-secondary students. The study aims to address the following research questions:

1) Are post-secondary students more likely to engage in SASI behaviours to serve an indirect (e.g., emotional distress) or direct (e.g., physical harm) function?
2) Is there a significant association between SASI function endorsement (direct, indirect, or both) and the presence of comorbid NSSI behaviors among students?
3) Are certain risk factors associated with SASI, including self-esteem, abuse history, and mental health conditions (e.g., depression, anxiety)?

Methods: An anonymous cross-sectional survey was distributed via Qualtrics to 190 post-secondary students, aged 17–25, who were currently or previously sexually active. The survey included a combination of investigator-designed questions on SASI questions and standardized measures of NSSI, abuse, self-esteem, depression, and anxiety. Participants were categorized into four groups: NSSI+SASI (n=77), NSSI only (n=64), SASI only (n=26), and neither (n=23). Analyses included descriptive statistics, one-way ANOVA and MANOVA, McNemar's test, Spearman correlations, logistic regression, and chi-squared tests.

Results: The sample was predominantly female, bisexual, white, and undergraduate. Abuse history was most prevalent in SASI and NSSI+SASI groups, with all SASI participants reporting both sexual and physical abuse. SASI was significantly more likely to serve indirect functions, $\chi^2(1, N=174) = 10.00$, $p = .001$. Depression and abuse scores were highest in SASI and NSSI+SASI groups; self-esteem was lowest in NSSI+SASI. SASI was positively correlated with abuse, depression, and anxiety, and negatively with self-esteem. Logistic regression identified depression (OR = 1.13, $p = .009$) and abuse (OR = 1.60, $p < .001$) as significant predictors for SASI but not for NSSI. Chi-squared tests showed strong associations between SASI function and NSSI co-morbidity, and between study group and abuse history.

Conclusion: Findings highlight emotional distress, trauma, and depression as key correlates of SASI in post-secondary students. Future research should incorporate qualitative methods, longitudinal designs, and validated tools to deepen understanding and inform targeted interventions.

Introduction

The use of sexual activity to self-injure (SASI) is an emerging concept in modern self-harm research, which remains relatively underexplored. Literature suggests that the term "sexual activity to self-injure" is not widely recognized; however, when asked to define it, individuals are generally able to provide definitions which align with definitions accepted in the emerging academic literature (Mellin & Young, 2022). Early definitions suggest that SASI is marked by unbearable feelings, such as intense anxiety and high levels of distress (Jonsson et al., 2012; Fredlund et al., 2017). A proposed definition of SASI is: "when a person has a pattern of seeking sexual situations involving mental or physical harm to themselves. The behavior causes significant distress or impairment in school, work, or other important areas" (Jonsson et al., 2012; p. 3). More recently, SASI has been described as "having repetitive and recurrent intense feelings such as shame, guilt, anxiety, disgust and self-hatred that are confirmed and/or temporarily alleviated by repetitive and recurrent exposure to sexual and physical abuse, humiliation and violation" (Fredlund et al., 2017; p. 5). While these previous definitions allude to some important components of what SASI might entail (e.g., the seeking of sexual experiences which involve some form of harm and are associated with distress), they fail to clearly define SASI in a concise manner. Previous definitions do not specifically define SASI as a consensual act, which is an important consideration when accounting for rape or sexual assault victims who may have been made to experience non-consensual sexual activity that resulted in mental or physical harm, but whose experiences would not align with current understandings of SASI as being voluntarily sought.

Additionally, previous definitions do not consider consensual sexual fetishes such as BDSM (bondage, discipline/domination, submission/sadism, and masochism) in the overall conceptualization of SASI, as these acts generally are more related to erotic pleasure than self-injury but still may include some form of harm (e.g., humiliation, degradation, physical pain, etc.). Further, practices such as BDSM operate through the consent of all participants, and consent can be withdrawn at any point (Brown et al., 2020). The definition provided by Jonsson et al (2012) provides a general definition for SASI but should be adapted to consider implications of consent when conceptualizing SASI and the presence of consensual sexual fantasies such as BDSM. Further evidence on SASI is needed to determine how the behaviour should be defined. For the purpose of this study, the following definition of SASI was developed: "The seeking and consensual engagement of sexual situations that cause mental and/or physical harm to oneself during and/or following the action. These actions are NOT related to practices of consensual sexual fantasies (i.e. BDSM).

SASI and Non-Suicidal Self-Injury (NSSI)

The growing literature surrounding SASI has found that sexual behaviours may be used as a form of self-injurious behaviour, with functionality like non-suicidal self-injury (NSSI) and other forms of self-harm (Fredlund et al., 2017; Jonsson et al., 2019). Since being added to the DSM-5 in 2013, the concept of non-suicidal self-injury (NSSI) has become increasingly popular within mental health research. NSSI is defined as self-inflicted bodily damage without suicidal

intention and can be further divided into direct or indirect behaviours, which may occur co-morbidly or independent of one another (American Psychiatric Association, 2013). Direct behaviours refer to the deliberate destruction of bodily tissue (i.e., cutting, burning), whereas indirect behaviours can occur as a form of self-mistreatment without direct bodily tissue damage (i.e., eating disorders, substance abuse) (Muehlenkamp, 2005; Nock, 2010). Research has identified several functions of NSSI, including emotional regulation (e.g., mitigating negative feelings), sensation seeking, self-punishment, interpersonal influence, and avoidance (Nock et al., 2008; Hooley & St Germain, 2013; Wilkinson, 2013; Taylor et al., 2017). Direct and indirect self-injury often share common elements and functions, (e.g, emotional regulation) and individuals who engage in both direct and indirect forms of self-injury have demonstrated higher levels of pain endurance (Nock, 2010; Hooley & St. Germain, 2014; Germain & Hooley, 2012).

Current literature found that NSSI is closely linked to various mental health conditions, such as depression, and may be a predictor for future mental health problems (Lewis et al., 2025; Wang et al., 2024). NSSI behaviours often emerge as maladaptive coping strategies and those who endorse NSSI frequently report more severe depressive symptoms and heightened anxiety compare to their non-self-harming peers (Serra et al., 2022). The concept of NSSI is considered overall to be in need of further research. Despite recent growth in literature, many criticisms need to be addressed. The distinction between NSSI and suicidal self-harm is often debated, as many individuals who engage in NSSI often experience co-occurring suicidal thoughts or behaviours (Kapur et al., 2018; Nock, 2010; Andover & Gibb, 2010). Furthermore, individuals with a history of NSSI are often at a higher risk for suicide attempts (Kapur et al., 2018; Nock, 2010). The overlap between SASI and other forms of NSSI suggests that individuals who engage in SASI may also be at heightened risk for suicide attempts, particularly when emotional pain intensifies or coping mechanisms fail (Fredlund et al., 2017; Kapur et al., 2018). For those engaging in these behaviours, intention may not always be clear, further underscoring the fact that a binary classification of “non-suicidal’ and “suicidal” may be oversimplifying the complexity of the relationship between self-injury and suicide (Kapur et al., 2018; Nock, 2010; Andover & Gibb, 2010; Klonsky, 2007).

Both NSSI and SASI are not only psychological concerns but also have broader negative outcomes and public health burdens. Repeated self-injury increases the risk of physical harm and accidental death by misadventure, particularly when self-injury escalates severity (Haney, 2020). Individuals who engage in NSSI frequently utilise emergency departments and acute care services which increases healthcare costs and creates challenged to resource allocation (Lee et al., 2024). Similarly, individuals who engage in SASI through high-risk sexual behaviours are at an increased risk of sexually transmitted infections (STIs), unintended pregnancies, and physical trauma (Fredlund et al., 2017; Jonsson et al., 2019). These behaviours may result in a broader scope of public health burden, through increased demand for sexual health services and mental health care, frequent emergency department visits related to sexual trauma or psychological crises, and long-term costs associated with treating STIs, trauma-related disorders, and comorbid conditions (Fredlund et al., 2017;Lee et al., 2024). Recent global data highlights the scale of self-harm effects, with nearly 750,000 deaths attributed to self-harm in 2021 (Xie et al.,

2025). While SASI is not always captured in these statistics due to its underreporting and conceptual ambiguity, its contribution to the overall burden is likely underestimated and should be considered when assessing the larger effects of self-harm.

Although studies have found that SASI and other self-injurious behaviours share similar functions, SASI is generally not considered part of NSSI (Jonsson et al., 2017; Zetterqvist et al., 2018). This may be due to a lack of research and recognition on SASI, as well as the limited awareness of the motivations and mechanisms that the SASI behaviours may serve. SASI may not be currently classified within the NSSI framework due to the specific diagnostic criteria for NSSI within the DSM-5. SASI may not meet the specific requirements for intentionality and bodily harm that is required in the current definition of NSSI. This however, may lead to greater implications for diagnostic, clinical and policy level care, as individuals who utilise SASI remain undiagnosed with self-harm disorders and may find it more difficult to receive care. The lack of current treatments for SASI may result in the progression of SASI behaviours, increased sexual health risks and implications in legal settings, particularly within adolescent populations. One potential reason for the lack of acceptance of SASI within NSSI research is the ongoing debate regarding whether it should be conceptualized as a direct behaviour (involving deliberate destruction of bodily tissue), an indirect behaviour (involving deliberate self-mistreatment without bodily tissue destruction) or considered as both. Previous literature on the characterization of direct or indirect behaviours concerning SASI remains limited.

Currently, sexual risk-taking behaviours (i.e., engaging in unprotected sex) are often not included in the definition of NSSI but are instead considered an indirect form of self-injury (Muehlenkamp, 2005; Nock, 2010) or as a form of risk-taking behaviour rather than a form of self-harm (Vrouva et al, 2010). While SASI and sexual risk-taking behaviours may both involve potentially harmful sexual acts, their underlying motivations, psychological functions, and clinical implications are fundamentally different. Sexual risk-taking typically refers to behaviours such as unprotected sex, multiple sexual partners, or sex under the influence of substances. These behaviours are often driven by sensation seeking, impulsivity, peer influence, or lack of sexual education (Jonsson et al., 2019). In contrast, SASI is characterized by the intentional use of sexual activity to inflict emotional or physical harm on oneself**,** often in response to unbearable psychological states such as shame, guilt, anxiety, or self-hatred (Fredlund et al., 2017). Literature has suggested that SASI can include engaging in physically harmful sexual encounters without the main desired function being sexual gratification (i.e., choking, slapping, bruising, etc.), suggesting SASI may best be considered a more direct form of self-harm (Fredlund et al., 2017; Jonsson et al., 2017). Alternatively, it has been argued that SASI is more closely associated with indirect self-harm behaviours by serving to produce emotional distress or a mental punishment despite the act itself not being physically harmful (Fredlund et al., 2017; Jonsson et al., 2017).

Recent research indicates that SASI can serve the same function as NSSI for certain individuals (Fredlund et al., 2017; Jonsson et al., 2017; Zetterqvist et al., 2018). Within adolescents who reported engaging in both NSSI and SASI, the most common functions are affect regulation, such as “to stop bad feelings”, “to relieve feeling numb or empty,” or “to

punish oneself" (Fredlund et al., 2017; Jonsson et al., 2017; Zetterqvist et al., 2018). Social functions, such as "to get attention", were also more common in adolescents who endorsed SASI compared to other forms of NSSI (Jonsson et al., 2017; Zetterqvist et al., 2018). Within adolescents who endorse both NSSI and SASI, more severe forms of NSSI, higher perceived burdensomeness and higher distress levels were reported (Jonsson et al., 2017; Zetterqvist et al., 2018). One study found that 21.6% of informants reported using SASI to replace other forms of NSSI, as it was often more easily hidden and often convenient (Fredlund et al., 2019). Fredlund et al. (2017) determined that in a sample of adolescent high school students, 3.2% of females and 0.8% of males reported intentionally harming themselves using sex, with prevalence being associated with earlier sexual and/or physical abuse, depression, eating disorders and suicide attempts. Moreover, within a sample of U.S college students, 12% reported using sexual activity to self-injure through physical pain, reliving past trauma, proving self-worth, or confirming feeling wanted (Mellin & Young, 2022). While the findings of Mellin & Young (2022) suggest that SASI may be a present issue within University students, no other studies assess the phenomenon within this population.

The current study aims to address the present gap in knowledge surrounding the functionality and psychological correlates of SASI specifically within post-secondary students. Our current hypotheses are drawn from relevant knowledge on both NSSI and SASI research. We hypothesis that, similar to NSSI, emotional regulation will be the most frequently reported function and SASI will more likely serve an indirect function for post-secondary students. It is also hypothesized that SASI and NSSI will be frequently co-morbid and that SASI will be linked to various mental health conditions, like NSSI (Lewis et al., 2025; Wang et al., 2024).

Sexual Abuse and Traumagenic Dynamics

Given that early research links SASI with multiple negative outcomes, current literature has begun to investigate risk factors associated with SASI's development. Prior studies suggest that SASI is associated with earlier traumas, particularly sexual abuse (Fredlund et al., 2017; Jonsson et al., 2019; Mellin & Young, 2022). Sexual abuse is found to be a recurrent risk factor for engagement in SASI, and higher rates of sexual trauma often result in low self-esteem, greater self-contempt, and destructive sexual relationships (Fredlund et al., 2017; Zetterqvist et al., 2018; Fredlund et al., 2019). Child sexual abuse is frequently associated with increased risky sexual behaviours, higher number of sexual partners, earlier age of sexual debut and higher number of STIs (Fergusson et al., 1997; Lalor et al., 2010). As sexual risk-taking shares surface level similarities with SASI, the function these behaviours serve may indicate that these findings refer more to SASI over sexual risk-taking. Further research on the functions the behaviours serve is needed to explore child sexual abuse in relation to SASI versus sexual risk-taking.

In a study looking at the self-reported frequency of SASI in Swedish adolescents, 75% of adolescents engaging in SASI had been exposed to some form of sexual abuse, 82.8% of the females and 35.0% of the males. Participants engaging in SASI also reported higher exposure to penetrative sexual abuse, revictimization, and higher frequency of selling sex (Fredlund et al.,

2019). A further secondary analysis of the same population reported that 48.2% of informants attributed SASI to earlier sexual abuse as a way to cope with negative emotions or control memories (Fredlund et al., 2019). This is consistent with findings from Zetterqvist et al (2018), which found that 46.9% of adolescents who engage in both NSSI and SASI reported exposure to penetrative sexual abuse, when compared to 48.8% in the SASI only group and 11.9% in NSSI only. Furthermore, those who reported both NSSI and SASI had been exposed to more frequent sexual abuse than the other two groups (Zetterqvist et al., 2018). A study assessing SASI behaviours in U.S college students found childhood sexual abuse to be present for 15% of participants, and adult sexual abuse in 4% (Mellin & Young, 2022), suggesting that these findings may be applicable in other cultural contexts.

Current literature suggests that SASI may potentially be conceptualized in the context of trauma re-enactment (Zetterqvist et al., 2018; Fredlund et al., 2017). Some trauma theorists (e.g., Reiker & Carmen, 1986) conceptualise the propensity of some abuse victims to repeat traumatic situations in their adult lives as a way to replace the feelings of helplessness associated with the original trauma experience with a sense of control in subsequent traumatic situations. This theory suggests that self-injury and sexual revictimization may be forms of behavioural re-enactment of child sexual abuse (Zetterqvist et al., 2018; Penning and Collings, 2014). In support of this theory, Zetterqvist et al. (2018) found that SASI may be conceptualized as a form of indirect self-injury, where sexual behaviours are used as a maladaptive coping mechanism for experiences of prior sexual abuse and traumatic stress. Additionally, Jonsson et al., (2017) found that high endorsement of self-punishment is associated with higher levels of SASI behaviours. These findings suggest that self-injury and sexual revictimization in the context of SASI may be forms of re-enactment of child sexual abuse (Zetterqvist et al., 2018; Jonsson et al., 2017; Fredlund et al., 2017).

Multiple studies refer to Finkelhor & Brown's (1985) model of traumagenic dynamics to conceptualise how childhood sexual abuse can affect sexual behaviours (Fredlund et al., 2019; Fredlund et al., 2023; Zetterqvist et al., 2018). This model describes the traumatic effects of sexual violence in four psychosocial dynamics - traumatic sexualization, betrayal, stigmatization, and powerlessness (Finkelhor & Brown's, 1985). In reference to SASI, traumatic sexualization may lead to negative attitudes towards sexuality, sexual aggression or compulsive sexual behaviour (Fredlund et al., 2019; Zetterqvist et al., 2018). Stigmatization may be associated with feelings of shame or guilt, which results in self-destructive behaviours, such as SASI (Fredlund et al., 2022). Betrayal following sexual violence may lead to distrust of others, aversion to intimate relationships and warped judgements with regards to relationships (Fredlund et al., 2019). Finally, powerlessness may lead to the desire to regain control, which may occur through revictimization, re-enacting the abuse or a desire to dominate others (Finkelhor & Brown, 1985; Fredlund et al., 2022). These dynamics and a theoretical understanding of sexual abuse trauma may be beneficial to better understanding SASI, and how SASI behaviours may develop.

SASI in Sweden and Globally

The concept of SASI is well-established within Swedish society; indeed, the majority of early literature within this area has been conducted within Swedish academia. SASI is a widely accepted concept is Swedish society and has become a topic of psychiatric research within the country following the publication of the book “14 years and for sale”; which sparked the introduction of SASI as a concept within Sweden (Weigl, 2008). The book follows the experiences of Tessan, a 14-year old sex-worker who is reported to use sex as self-injury, seemingly coining the term and marking the starting point of SASI as a construct (Weigl, 2008; Fredlund, 2019). Since 2008, SASI has been introduced as a new way of categorizing behaviours that previously were considered sexual risk-taking (Fredlund et al., 2020; Jonsson et al., 2019; Zetterqvist et al., 2018). Although there remains no commonly accepted definition of SASI, it has been frequently mentioned within Swedish healthcare and media, suggesting it is a well-known and culturally accepted concept (Wall & Johnsdotter, 2022; Fredlund, 2019). Furthermore, a search of grey literature has found various bachelor’s theses conducted within Sweden, which indicates the clear interest and continued study of SASI as a phenomenon within Swedish society (Blomkvist & Vikman, 2015; Carlsson, 2012; Gimestam-Jarl & Thogersen, 2012; Gustavsson & Stojkovi, 2019; Johansson & Lindberg, 2015; Karlsson et al., 2013).

Although the lack of peer-review for these papers must be considered when analysing their contents, it is important to consider how these papers add to current knowledge on SASI research. All the papers are qualitative and use interviews or media to analyse the concept of SASI within Swedish society. Three of the papers discuss the concept of SASI from the perspective of professionals and therapists (Karlsson et al., 2013; Carlsson, 2012; Gimestam-Jarl & Thogersen, 2012). Two papers utilise narrative reviews to analyse the reports present in Swedish media regarding SASI (Blomkvist & Vikman, 2015; Gustavsson & Stojkovi, 2019) and one paper combined secondary and primary data collection approaches to interview professionals, as well as analyse current literature (Johansson & Lindberg, 2015). All the papers analysing SASI through the experiences of professionals suggest that SASI is a well-established concept within Swedish clinical settings, but suggest further research is needed (Carlsson, 2012; Gimestam-Jarl & Thogersen, 2012; Johansson & Lindberg, 2015; Karlsson, Lonnbohm & Soderberg, 2013). Karlsson et al. (2013) found that professionals consistently described the phenomenon as involving a pattern of sexual behaviour that is intentionally harmful to the self, often marked by emotional distress, particularly heightened anxiety. Furthermore, Carlsson (2012) found that professionals reported gendered differences in the presentation of SASI, with girls more likely to report internalizing symptoms such as anxiety and depression, and boys more likely to engage in externalizing behaviours or report less emotional awareness. These gendered patterns suggest that SASI may manifest differently across individuals, and that clinical approaches should be sensitive to these variations. This study further suggests that SASI fulfils the same type of function as other NSSI behaviours, such as affect regulation. Similarly, Gimestam-Jarl and Thogersen (2012) argue that alongside increased anxiety, those experiencing SASI often have low self-esteem and high levels of shame. Findings from Gustavsson and Stojkovi (2019) suggest that prior abuse and presence of mental illness may be predictors for later SASI behaviours. Blomkvist and Vikman (2015) found that all young women included in their narrative review reported high levels of self-hatred and utilise SASI due to high levels of anxiety. Johansson and Lindberg (2015) suggest that there is a connection between

NSSI and SASI, indicating that both behaviours may stem from similar emotional needs and represent multifaceted coping strategies. This study highlights the importance of the development of evidence-based treatments for SASI, as a majority of professionals reported low levels of confidence on their ability to adequately support those experiencing these behaviours (Johansson & Lindberg, 2015). Though currently unpublished, these dissertations demonstrate a sustained research interest in SASI in Sweden, and both support and add depth to the published research on the topic.

In addition to recognition in academic circles, the term SASI has been used in judgements within Swedish court cases surrounding cases of sexual assault (Svea Hovrätt 2015: B2517). Wall and Jonsson (2022) suggest that the current working definitions of SASI question the voluntariness and the validity of consent for individuals engaging in these behaviours. The lack of clear definitions on SASI and where consent falls under the concept may be used as a defence for abusers who seek to reframe their abusive sexual behaviour as a desired act by the victim. Legal proceedings may argue that victims played an active part in the sexual situations and in turn may favour the perpetrator. For instance, a highly violent case in the Malmo Court of Appeal outlined a 16-year-old girl who signed a slave contract and allowed herself to be whipped and locked up naked in a dog cage for two days in which the perpetrator argued that he cannot take responsibility for others' self-harming behaviors (Engvall, 2011b). This is a particular concern, as individuals experiencing SASI may be highly vulnerable and therefore be at greater risk for exploitation by sexual offenders (The Ministry of Justice, 2022; Wall & Johnsdotter, 2022). Given these concerns, further research and understanding into the concept of SASI is of vital importance, not only to researchers and clinicians, but to those in the legal system and those who may be vulnerable to exploitation.

Despite growing literature, limited research on SASI has been conducted outside of Sweden or with English speaking participants, a limitation frequently highlighted in published work on the subject (Fredlund et al., 2017; Fredlund et al., 2020; Jonsson et al., 2019; Zetterqvist et al., 2018). Further research into SASI in different cultural contexts is required to provide a better understanding of this phenomenon and to evaluate its validity outside the Swedish context. A recent study in the U.S focusing on SASI suggests that the construct may have cross-cultural relevance (Mellin & Young, 2022). Furthermore, the term SASI has been posted by multiple users on various social media platforms. One blog post from Canada discusses the phenomenon of SASI as a 'hidden' form of self-harm, broadly outlining what SASI is, why people may engage in these behaviours and how it may be addressed in therapy (Koncza Leblanc, 2025). Moreover, one mental health campaigner shared her personal experiences with SASI and how it impacted her life (Cornhill, 2022). Dr. Justin Lehmiller has also been vocal on his online platform about SASI and his experiences with treating patients experiencing these behaviours (2020). The media presence on the topic of SASI further exemplifies that it is a concept well grasped by those both in and outside of clinical settings on a larger scale. However, these media references are still only present in Western cultures and further exploration of SASI as a concept in more diverse populations is needed to better understand these behaviours in different cultural settings.

SASI and Post-Secondary Students

Alongside the lack of research investigating SASI as a whole, the majority of existing literature focuses on SASI within adolescent populations. This may be due to accessibility of participants in Sweden. Various studies on SASI were conducted utilizing data from a Swedish national questionnaire-based survey called "Youths, Sex and Internet—in a changing world", performed at the request of the Swedish Ministry of Health and Social Affairs (Fredlund et al., 2019). Adolescents within high school are an easily accessible population and in accordance with Swedish law, participants over the age of 15 do not need parental consent to participate (Fredlund et al., 2019).

Although information on adolescent groups is necessary to obtain a full understanding of SASI, there is a current gap in literature investigating other population groups. The sole focus on adolescents overlooks a population for whom SASI may be particularly relevant, namely post-secondary students. Among post-secondary students within the 21st century, there is an increased emergence of "hook-up" culture. This concept implies that university students are more frequently involved in sexual experiences without the expectation of a further relationship (Garcia et al., 2012; Pham, 2017). The rise in hook-up culture trends may be attributed to changes in traditional gender roles, later age of first marriage, and more permissive attitudes towards sex in general (Allison & Risman, 2014; Pham, 2017). Current research suggests that hookup culture is most prevalent within university scenes, where substantial emphasis is placed on sexual experiences and identity exploration (Monto & Carey, 2014; Arnett, 2004). The emphasis on mainstream hook-up culture reflects the expectation of a 'typical' University experience. Young adults are living near potential sexual partners, with alcohol or drug fueled social gatherings and no strings attached sex seen as the norm (Pham, 2017). Wade (2017) argued that students overestimate how many of their peers are "hooking up" and are often content with hook-up culture even if they are not actively partaking in it. This may influence how students approach sexual relationships with others and may result in anxiety, disappointment, and sexual violence within this population (Wade, 2017). The emphasis on sexual experiences and frequency of sexual partners within this population is an area that should be further explored in relation to SASI.

NSSI research on university students consistently indicates that there is a high prevalence of other forms of self-injurious behaviours within this population; often with high co-morbidity rates between NSSI and other mental disorders (Tull et al., 2012; Dahlström et al., 2015; Klonsky, 2007). University students often experience increased emotional distress and mental health difficulties due to high stress, life event changes, and other external factors (Klonsky, 2007; Hooley & St. Germain, 2014). The high prevalence rates of NSSI in university students and considerable mental health difficulties coupled with the increased likelihood of sexual encounters may increase the risk for post-secondary students to engage in SASI.

Currently, only one study has been conducted on the use of SASI in University students. This study suggests that certain students within the United States may engage in SASI and often report using sexual activity as a way to cause physical and/or psychological harm to themselves

(Mellin & Young, 2022). Despite the promising findings from this pilot study, the limitations must be addressed. The small sample size (n=50) may have limited generalizability. A larger and more diverse sample is needed to determine the prevalence of SASI in post-secondary students.

The Current Study

In conclusion, the literature on NSSI and SASI reveals significant gaps and complexities in understanding these behaviors. While NSSI is well-defined and extensively researched, SASI remains underexplored, particularly outside of Sweden. Studies indicate a strong link between SASI and past sexual abuse, with a substantial proportion of individuals engaging in SASI reporting histories of sexual trauma. This underscores the need for further research to refine definitions, understand underlying mechanisms, and explore what functions may be served by SASI. Moreover, the current sole focus on adolescent populations overlooks other vulnerable groups such as university students, who may be at increased risk of engaging in SASI due to the prevalence of hookup culture and emotional distress associated with this developmental life stage. Post-secondary students often face significant mental health challenges, and the intersection of these challenges with frequent sexual encounters should be further investigated in relation to SASI. Additionally, the trauma theory and the model of traumagenic dynamics provide valuable frameworks for understanding how childhood sexual abuse can influence self-injurious behaviors, including SASI. The current research project sought to answer the following research questions:

1) Are post-secondary students more likely to engage in SASI behaviours to serve an indirect (e.g., emotional distress) or direct (e.g., physical harm) function?
2) Is there a significant association between SASI function endorsement (direct, indirect, or both) and the presence of comorbid NSSI behaviors among students?
3) Are certain risk factors associated with SASI, including self-esteem, abuse history, and mental health conditions (e.g., depression, anxiety)?

Based on the limited existing evidence, the following hypotheses were made:

1) Students are expected to report engaging in SASI to serve functions similar to NSSI, with the main reported function being affect regulation.
2) It is expected that there will be a statistically significant association between SASI function endorsement (i.e., direct, indirect, or both) and the presence of comorbid NSSI behaviors among students..
3) Higher reported symptoms of depression and anxiety, lower self-esteem, and high prevalence of sexual and physical abuse history are expected to be associated with increased SASI engagement.

Given the limited research on SASI in post-secondary students, as well as the associations of SASI with other significant negative outcomes, a better understanding of SASI in terms of functions and psychological correlates is warranted. A greater understanding of SASI will aid in

developing an international concept of SASI, as well as develop intervention and support strategies for individuals engaging in it.

Methods

Design

The current study utilised a cross-sectional design, which aimed to analyse the functions and psychological correlates of those who engage in SASI, NSSI, NSSI+SASI or neither through pre-planned confirmatory comparisons. An online survey was designed and distributed using Qualtrics to a self-selecting sample of young adults. This study was internet-mediated psychological research, and as such followed best practice guidance outlined by (British Psychological Society, 2017), including informed consent, participant confidentiality, and systematic data collection. A priori protocol was designed and pre-registered to ensure transparency, reduced biases, enhance reproducibility and standardization and increase clarify of research (Holmes & Kennedy-Turner, 2025).

Ethical Approval

Ethical approval was obtained on November 20th, 2024 from the University of Edinburgh School of Health in Social Science Research Ethics Committee (Case # CAHSS2408/12) (see Appendix 2).

Participants & Recruitment

As this study is preliminary and no prior data exists to guide sample size calculation, a medium effect size (d=0.5) is assumed, in accordance with best practice (Cohen, 1988). Considering a power of 90% and a significance of p=0.05, a sample of 104 participants was determined through a priori power anlysis to be suitable for detecting a significant effect in a McNemar test. This Given the exploratory nature of this study and the lack of prior research, a larger sample was chosen to allow for subgroup analyses, improve estimate precision, and accommodate potential missing data. Given the novelty of the research area and absence of prior literature, this approach increases the robustness and generalizability of our findings.

To be included in this study, participants had to have met all of the following criteria at the time of their participation: i) be aged between 17-25 years old, ii) be currently enrolled in a post-secondary education program, either full or part-time, and iii) be currently or previously sexually active. For the purpose of this study, sexual activity was defined to participants during their online recruitment as any action, either alone or with partner(s), that elicits sexual arousal. The age range of participants is consistent with our general understanding of post-secondary aged individuals and aims to exclude mature students for the purpose of this study. This age range aligns with an expanded developmental definition of adolescence proposed by Sawyer et al. (2018), which suggests adolescence extends from ages 10 to 24 due to prolonged

biological maturation and delayed social role transitions. Including individuals up to age 25 captures those still navigating key developmental milestones such as identity formation, sexual exploration, and relational autonomy. Furthermore, research on hook-up culture trends within post-secondary students suggests the phenomenon is most prevalent within this age range (Garcia et al., 2012; Hatfield et al., 2020; Paul & Hayes, 2002).

Participants were recruited through advertisements on various online social media platforms, snowball sampling, flyers, student emailing lists, and referrals from relevant sources. Students were recruited globally to expand population diversity. Recruitment ran from December 2024 to May 2025. A total of 605 participants accessed the Qualtrics survey. Of these, 257 participants accessed the survey but didn't answer any questions. 25 completed the consent portion only and 38 completed the consent and demographic portions only. 22 participants did not meet eligibility criteria and 28 participants withdrew at some point in the study. Following data cleaning, 45 participants were removed for high percentage of incomplete data. 190 participants were retained for data analysis.

Procedure

The current project used the web-based survey software Qualtrics XM to create, publish and distribute the survey, and to collect responses. All responses were anonymous, and no identifiable data was collected. An online participant information sheet was provided, which included full disclosure on the purpose of the research, foreseeable risks to participants, procedures, benefits and expected time commitment of the study. Informed consent was obtained prior to a brief eligibility screening questionnaire to determine eligibility. Participants deemed eligible then proceeded to the rest of the survey, with those indicating that they were ineligible automatically redirected to a debrief page. The survey took approximately 20–30 minutes to complete. The survey flow function was utilised and screener questions were included prior to the questionnaires to ensure participants were only shown questions relevant to them.

Participants were informed of their right to confidentiality and their right to withdraw or terminate participation at any point prior to submission. Following the submission of answers participants were no longer able to withdraw their data from the study due to the responses being fully anonymous. Submitted surveys were anonymously stored and researchers had no way of identifying participant's answers. A 'withdraw' button was available at the bottom of each survey page. Answers within Qualtrics are automatically saved so participants are able to exit and return to the study. Participants were given seven days from the last saved response to return to the study; following the seven days all incomplete responses were recorded and partial answers were included in data analysis, provided participants had given sufficient data. Participants are also informed of their right to skip any questions they did not wish to answer. A final debrief sheet was provided following the completion of the research study. A copy of the researcher's contact information and information regarding additional psychological resources were provided to all participants on the Participant Information Sheet (PIS) and the Debrief Form (see Appendices 2 and 3). Given the potential for the topic of the survey to cause distress

to participants, extra consideration was given when designing the survey. The purpose of the study and its contents were described on the PIS, participants were informed they did not have to answer any questions they chose not to, and information on accessing supports and further resources was provided in the PIS, debrief page, and on the footer of each survey page.

Measures

The survey included both investigator-designed items and validated psychometric measures. Demographic information on age, gender identity, sexual orientation, year of study, and ethnicity were collected to characterise the sample and allow for comment of generalisability.

Sexual Activity as Self-Injury (SASI)

As no standardized measure of SASI behaviours exists, an investigator written tool was created to assess SASI symptoms based on a current review of literature; in particular, this involved developing a modified version of the questionnaires used in previous published research investigating SASI (Fredlund et al., 2017; Wall & Johnsdotter, 2022). The current SASI questionnaire (see Appendix 1) assessed the presence, frequency, and self-reported functions of SASI behaviours. Participants were asked if they have ever engaged in a sexual encounter because it felt like it was expected and if they have ever regretted a sexual encounter. Questions such as "have you ever engaged in sexual activities as a way to physically harm yourself?" and "have you ever engaged in sexual activities as a way to mentally harm yourself?" were included to determine whether participants engaged in SASI as a direct or indirect self-injurious behaviour; both these questions were coded as a binary response (i.e., yes [1] or no [0]). Regardless of response to the above questions, participants were asked if they could see themselves engaging in SASI in the future. Additional qualitative questions were asked with regards to intention of SASI, goal of SASI, frequency of SASI behaviours, and feelings and attitudes towards SASI behaviours, which provide a basis for future qualitative analysis on the topic.

To assess the degree to which SASI engagement served similar functions to NSSI, the Functional Assessment of Self-Mutilation (FASM) (FASM; Lloyd-Richardson et al., 1997) was adapted and used to assess the degree to which participants felt SASI served the four functions assessed by that measure, namely SNR, SPR, ANR and APR. Furthermore, Informants are asked if they have engaged in any SASI the behaviours in their lifetime if not in the last year. This was reported in a binary yes/no manner and a score was created to assess the prevalence of SASI lifetime vs past year. The FASM was chosen due to its validated and reliable measures when assessing NSSI behaviours. The FASM assesses both the methods and functions of NSSI to provide a more comprehensive understanding of underlying mechanisms of the behaviours (Nock & Prinstein, 2005). As no standard measure of SASI behaviours have been established, the FASM was chosen to assess if SASI behaviours can be potentially assessed in a similar manner to other NSSI behaviours. Participants were asked to report motivations for SASI behaviours on a 4-point Likert scale from never (0) to often (3). SASI group was determined by

coding those who reported indirect, direct, or both behaviours. A reliability analysis was then conducted on each independent domain for the SASI FASM. Poor internal consistency was shown for ANR (α = 0.51) and SNR (α = 0.51). Acceptable internal consistency was shown for SPR (α = 0.70). APR showed unacceptable internal consistency (α = 0.33). These results should be considered when interpreting the data. Low reliability for the SASI-FASM makes it difficult to define the concept the scale is capturing, which in turn limits validity of the scale and hinders meaningful interpretations of the scores.

Non-Suicidal Self-Injury (NSSI)

Participants who reported endorsing behaviours co-morbidly completed the FASM twice, once for SASI and once for NSSI – allowing for a domain-level comparison across groups. The FASM was used to evaluate motivations and functions of NSSI. Participants are asked to identify the behaviours of self-harm they have engaged in in the past year. Functional motivations for these behaviours are rated on a 4-point Likert scale from never (0) to often (3). Similar to the SASI measure, the FASM was chosen for its validity and reliability when measuring NSSI behaviours (Nock & Prinstein, 2005).

The FASM motivations were coded using the validated method by Nock & Prinstein (2004). The 22 items included in the questionnaire are grouped into four functional domains; Automatic Negative Reinforcement (ANR), to reduce or escape from negative internal states. Automatic Positive Reinforcement (APR), to generate desired internal sensations or experiences. Social Negative Reinforcement (SNR), to escape from interpersonal demands or avoid social situations. Social Positive Reinforcement (SPR), to gain attention, support, or influence others. This structure reflects the understanding that NSSI serves both intrapersonal and interpersonal functions, helping individuals regulate emotional states or navigate social dynamics (Nock & Prinstein, 2005). The same coding was utilised for the FASM adapted for SASI. The mean scores for each domain were computed and used for analysis.

To assess the internal consistency of the FASM for both NSSI, a reliability analysis was conducted on each of the four domains independently. ANR contained 4-items; however, the item “to feel relaxed” was removed due to a low item-total correlation (α = 0.69), which improved the internal consistency of the scale. The final scale, consisting of 3-items, showed acceptable internal consistency (α = 0.73). The 3-item scale for APR showed poor internal consistency (α = 0.30). SNR contained 4-items and showed acceptable internal consistency (α = 0.74). The final domain, SPR, contained 11-items and demonstrated good internal consistency (α = 0.87).

Self-Esteem

The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) is a validated global measure of self-worth with strong psychometric properties across clinical and non-clinical populations (Bartholomew et al., 2025). Self-esteem is self-reported through 10-items on 4-point Likert scale from strongly disagree (1) to strongly agree (4). Higher scores indicated higher self-

esteem. A total self-esteem score was determined by combining the scores of all 10 items. For this study, the RSE demonstrated excellent internal reliability (α = 0.90).

Abuse History

Prior trauma, particularly sexual abuse, has been widely reported to be risk factor for engaging in self-injurious sexual behaviours (Fredlund et al., 2017; Hedén et al., 2023). The Sexual and Physical Abuse Questionnaire (SPAQ) (Kooiman et al., 2002) is a self-reported measure of history of sexual and physical abuse, which provides a concise measure of the presence, timing and burden of sexual and physical abuse on victims. The SPAQ responses are binary and aim to report presence and timing of abuse. An SPAQ total score was generated by summing the answers to all SPAQ questions relating to instances of abuse. Possible scores ranging from 0 (answered No (0) to all of the above) to 6 (answered Yes (1) to all of the above). The SPAQ demonstrated excellent reliability for this study (α = 0.86).

Depression Symptoms

Studies have shown that individuals who engage in SASI often report high levels of depressive symptoms, and depression may exacerbate the emotional drivers of self-injurious sexual behaviour (Jonsson et al., 2019). The Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001) is a validated 9-item self-reported measure of severity of symptoms of depression. Presence of depression was rated on a 4-point Likert scale from not at all (0) to nearly every day (3), in which higher scores indicated higher levels of depressive symptoms. A total depression score was determined by combining the total score from each item. In this study, the PHQ-9 demonstrated excellent internal consistency (α = 0.86).

Anxiety Symptoms

As mentioned by Karlsson et al. (2013), professionals working with those experiencing SASI describe the behaviour as being marked by increased anxiety, reinforcing the relevance of anxiety assessment in this context. The Generalized Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006) is a validated 7-item self-reported measure of severity of anxiety symptoms and demonstrated excellent internal consistency for this study (α = 0.88). Participants reported anxiety symptoms on a 4-point Likert scale from not at all (0) to nearly every day (3), where higher scores indicate higher levels of anxiety. A total anxiety score was determined by combining the total score from each item.

Data Analysis

Analyses were designed to explore the prevalence and functional motivations of SASI, examine group differences and psychological correlates, and assess predictors of SASI engagement. All statistical tests for the present study were conducted on IBM SPSS Statistics for Mac, version 25 (IBM Corporation, Armonk, NY, USA). Before analysis, the collected data was assessed to identify missing values, structural errors, or outliers. Questionable cases were

identified and responses with high levels of missing data were excluded from analysis. No outliers were present in this sample following data cleaning. Assumptions for each test were checked individually prior to data analysis.

The data was analysed through descriptive statistics to compare demographic variables across four independent study groups (NSSI, SASI, NSSI+SASI, neither). As limited prior research on SASI, an in-depth descriptive analysis is both methodologically appropriate and strategically valuable for several reasons. As highlighted by Field (2013), descriptive statistics are particularly useful in exploratory research where the goal is to understand the structure and distribution of data and is essential in identifying trends for future hypotheses. The comparison of demographic variables across the independent groups additionally aims to assess whether certain characteristics (e.g., age, sexual orientation, gender) are disproportionately represented. This approach allows for data driven insights into how SASI may manifest across different behavioural and motivational dimensions. Internal consistency was assessed for all key variables using Cronbach's alpha. These included, RSE, GAD-7, PHQ-9, SPAQ and the FASM for both NSSI and SASI behaviours. An exploratory analysis was conducted to examine the mean scores across the four FASM domains for three independent groups: NSSI only, SASI only and NSSI+SASI. A secondary exploratory analysis was used to assess the mean differences in FASM motivations across those who use SASI as a means of physically (direct) or mentally (indirect) harming themselves, as well as those who endorse both. Descriptive statistics were used to assess patterns and frequencies of these groups.

A Spearman's correlational analysis was run to determine potential relationships between the research variables. Study group, as well as additional variables of interest such as, SASI group, abuse status, abuse total, depression score, anxiety score and self-esteem score were included in the analysis. In order to address the first research question, a McNemar's test was conducted to examine whether participants were more likely to engage in SASI to serve an indirect or direct function. To address the second research question regarding if students who engage in SASI more likely to endorse another form of NSSI behaviour co-morbidly, a chi-square test of independence was conducted to examine the relationship between SASI engagement and NSSI engagement To assess the third research question regarding if certain risk-factors are associated with SASI, a logistic regression model was utilised to assess if the total scores for the RSE, PHQ-9, GAD-7 and SPAQ-9 predicted whether someone may engage in SASI. A second logistic regression was run to assess whether the same set of predictors could predict engagement in NSSI. Furthermore, a chi-squared test of independence was conducted to examine the relationship between abuse status (physical, sexual, both, neither) and study group. Due to violation of expected cell count, two separate chi-squared tests of independence were conducted to assess the relationship between study group and physical/sexual abuse respectively.

Results

Descriptive Statistics

Demographic information for the total sample and each group is presented in Table 1. Most participants were 21 years old (n = 35), followed by 20 (n = 25) and 22 (n = 25). The mean age was 20.97 and remained relatively similar across individual groups. A one-way analysis of variance (ANOVA) was conducted to examine whether age differed significantly across the four study groups (NSSI, NSSI+SASI, SASI, neither). Prior to conducting the ANOVA, the assumption of homogeneity of variances was tested using Levene's Test. Results indicated that the assumption was met, $F(3, 184) = 1.10$, $p = 0.352$, suggesting that the variances of age across groups were not significantly different. The assumptions of linearity and multicollinearity were met and no outliers were identified. No statistically significant differences in age across the groups were observed, $F(3, 184) = 0.53$, $p = .660$. The effect size was extremely small ($\eta^2 = 0.009$), indicating that less than 1% of the variance in age was explained by group membership. These findings suggest that age is not a distinguishing factor among individuals in different study groups. However, the lack of significant differences may reflect the narrow age range of the sample or indicate that self-injurious behaviour endorsement is not age-dependent within this population.

When checking assumptions for chi-squared test, the assumption of expected cell frequencies was violated across all variables. Therefore, formal hypothesis testing was deemed inappropriate for the categorical variables. As a result, descriptive statistics including raw counts, percentages, and means were reported to provide a clear and interpretable summary of the data. This approach allows for meaningful comparison across groups while maintaining transparency regarding the limitations of the statistical analysis. Although inferential conclusions cannot be drawn, the descriptive patterns observed offer valuable insight into the distribution and prevalence of gender, sexual orientation, study level, relationship status and ethnicity, across study group. The sample was primarily female (n = 114), and females were the largest gender in each group except for the neither group, which had the most males (n = 11). The NSSI+SASI group was the only group to have more non-binary identifying individuals than males and had the most non-binary identifying participants out of any group (n = 16). In terms of sexual orientation, we found that most participants identified as bisexual (n = 88), followed by heterosexual (n = 64), homosexual (n = 19), other (n = 9) and asexual (n = 7). Neither group was predominantly heterosexual (n = 18; 82%) and male (n = 11; 50%). Most participants were in undergraduate degrees, which is consistent with our recruitment eligibility criteria of age 17-25 and the general assumption that undergraduate students fall within this age range. Majority of informants were white (n = 135) and reported monogamous relationship status (n = 109).

Majority of participants reported engaging in both SASI and NSSI behaviours co-morbidly (n = 77). Out of those who endorsed both behaviours, more participants reported using either indirect or direct forms of SASI (n = 41), over those who reported using both forms (n = 36). 26 participants reported engaging in SASI behaviours without engaging in another form of NSSI, with more participants reporting using one form of SASI (n = 15), over both forms (n = 11). 64 participants endorsed NSSI only, and 23 reported neither behaviour. Valid percentages were utilised to assess the frequency of SASI function (indirect, direct or both), SASI lifetime vs past year and abuse status (sexual, physical or both) across each group. The totals and percentages are reported in Table 2. Within the SASI and NSSI group, participants

reported endorsing SASI for both indirect and direct functions. In the SASI group, direct functions were more utilised than indirect, and in the NSSI+SASI group, indirect was more frequently used than direct. 27 informants reported engaging in SASI within their lifetime but not in the past year. Regarding abuse status, 115 informants reported experiencing both sexual and physical abuse. 100% of participants who completed the SPAQ in the SASI group reported experiencing both forms of abuse, followed by 85.7% in the NSSI+SASI 47.8% in the neither group and 43.8% in the NSSI group.

Table 3 outlines the descriptive statistics of the associated variables in the study. Total scores of depression, anxiety, self-esteem, and abuse were analysed. Individual scores for sexual and physical abuse, respectively, were also included. Higher scores indicate greater severity for depression, anxiety, and abuse and higher self-worth for self-esteem. Self-esteem scores were the lowest within the NSSI+SASI group (M = 13.57) and the highest in the SASI group (M = 18.27). Depression scores were the highest in the NSSI+SASI (M = 12.89) and the SASI group (10.55). Anxiety scores were relatively similar between the SASI (M = 9.27) and NSSI group (M = 9.57), but were higher in the NSSI+SASI group (M = 11.54). Abuse total scores were the highest in the SASI (M = 3.33) and NSSI+SASI group (M = 3.19) and lowest in the NSSI (M = 1.55) and the neither group (M = 1.30). Sexual (M = 2.58) and physical (M = 2.17) abuse scores were the highest in the SASI group.

A one-way multivariate analysis of variance (MANOVA) was conducted to examine whether there were significant differences between four groups on six psychological outcomes: self-esteem (RSE), depression (PHQ-9), anxiety (GAD-7), total abuse (SPAQ total), physical abuse (SPAQ_PA), and sexual abuse (SPAQ_SA). Prior to conducting the MANOVA, the assumption of homogeneity of variance was assessed using Levene's Test. Results indicated that the assumption was met for all dependent variables except for sexual abuse (SPAQ_SA), $F(3, 167) = 3.82$, $p = 0.011$, suggesting that results for this variable should be interpreted with caution. The assumptions of linearity and multicollinearity were met and no outliers were identified. The multivariate test revealed a statistically significant effect of group on the combined dependent variables, Wilks' $\Lambda = .644$, $F(18, 458.69) = 4.30$, $p < 0.001$, partial $\eta^2 = .137$. Follow-up univariate ANOVAs revealed significant group differences across all six dependent variables. There was a significant effect of group observed for self-esteem ($F(3, 167) = 6.69$, $p < 0.001$), depression ($F(3, 167) = 10.68$, $p < 0.001$), anxiety ($F(3, 167) = 5.43$, $p = 0.001$), total abuse scores ($F(3, 167) = 13.71$, $p < 0.001$), physical abuse ($F(3, 167) = 14.24$, $p < 0.001$), and sexual abuse, ($F(3, 167) = 12.39$, $p < 0.001$). These results suggest that group membership was associated with meaningful differences in psychological distress and abuse experiences, with moderate to large effect sizes observed across variables.

Table 1. *Demographic information of participants*

	Total (*n*=190)	SASI (*n*=26)	NSSI+SASI (*n*=77)	NSSI (*n*= 65)	Neither (*n*=22)
Age *M(SD)*					
	20.97 (2.21)	*21(2.38)*	*20.76(2.29)*	*21.05(2.34)*	*21.41(2.52)*
Gender					
	Male – 42 *Female – 114* *Non-binary – 33* *Other - 1*	*Male – 5* *Female – 16* *Non-binary – 5*	*Male – 14* *Female – 47* *Non-binary – 16*	*Male – 12* *Female – 41* *Non-binary – 11* *Other - 1*	*Male – 11* *Female – 10* *Non-binary – 1*
Sexual Orientation					
	Heterosexual – 64 *Homosexual – 19* *Bisexual – 88* *Asexual – 7* *Other – 9* *Prefer not to answer – 3*	*Heterosexual – 6* *Homosexual – 7* *Bisexual – 9* *Asexual – 2* *Other – 2*	*Heterosexual – 12* *Homosexual – 9* *Bisexual – 48* *Asexual – 3* *Other – 3* *Prefer not to answer – 2*	*Heterosexual – 28* *Homosexual – 3* *Bisexual – 29* *Asexual – 2* *Other – 2* *Prefer not to answer – 1*	*Heterosexual – 18* *Homosexual – 0* *Bisexual – 2* *Asexual – 0* *Other – 2*
Level of Study					
	Undergraduate – 137 *Postgraduate – 40* *Doctorate – 2* *Other – 10* *Prefer not to answer - 1*	*Undergraduate – 19* *Postgraduate – 6* *Other - 1*	*Undergraduate – 57* *Postgraduate – 13* *Doctorate – 1* *Other – 6*	*Undergraduate – 48* *Postgraduate – 13* *Doctorate – 1* *Other – 2* *Prefer not to answer - 1*	*Undergraduate – 13* *Postgraduate – 8* *Other – 1*
Ethnicity					
	Asian– 14 *Black– 4* *Mixed– 13* *White – 135* *Other - 24*	*Asian– 2* *Black– 1* *Mixed– 2* *White – 19* *Other - 2*	*Asian– 2* *Black – 1* *Mixed– 6* *White – 59* *Other - 9*	*Asian – 7* *Black – 1* *Mixed– 4* *White – 41* *Other - 12*	*Asian – 3* *Black – 1* *Mixed– 1* *White – 16* *Other - 1*
Relationship Status					
	Monogamous – 109 *Non-monogamous- 13* *Single – 60* *Other – 7* *Prefer not to answer - 1*	*Monogamous – 12* *Non-monogamous- 2* *Single – 9* *Other – 3*	*Monogamous – 43* *Non-monogamous- 8* *Single – 21* *Other – 4* *Prefer not to answer - 1*	*Monogamous – 42* *Non-monogamous- 2* *Single – 21*	*Monogamous – 12* *Non-monogamous- 1* *Single – 9*

Table 2. *SASI and Abuse Frequencies.*

	Total *n* = 190	NSSI 64(33.7)	NSSI+SASI 77(40.5)	SASI 26(13.6)	Neither 23(12.1)
SASI function					
Direct	20(10.5)		10(13.0)	10(38.50	
Indirect	36(18.9)		31(40.5)	5(19.2)	
Both	47(24.7)		36(46.8)	11(42.3)	
Neither	87(45.8)	64(100)			23(100)
SASI lifetime vs past year					
Lifetime but not past year	27(14.2)	3(4.7)	18(24.3)	4(30.8)	2(10.5)
Lifetime and past year	58(30.5)		49(66.2)	9(69.2)	
Past year but not lifetime	2(1.1)		2(2.7)		
never	71(37.4)	49(94.2)	5(6.8)		17(89.5)
Abuse status					
Physical	7(3.7)	5(7.8)	2(2.6)		
Sexual	7(3.7)	3(4.7)	1(1.3)		3(13.0)
Both	115(60.5)	28(43.8)	66(85.7)	12(100)	9(39.1)
No abuse	47(24.7)	28(43.8)	8(10.4)		11(47.8)

**Note. Valid percentages were used, and missing data were excluded from frequency totals.*

Table 3. *Descriptive statistics of associated variables.*

	Total			NSSI			NSSI+SASI			SASI			Neither		
	N	Mean (SD)	Range	N	Mean (SD)	Range	N	Mean (SD)	Range	N	Mean (SD)	Range	N	Mean (SD)	Range
Self-esteem	173	15.49(5.75)	4.00-29.00	63	16.38(5.08)	6.00 – 28.00	76	13.57(5.40)	4.00-28.00	11	18.27(6.37)	9.00-29.00	23	18.04(6.51)	4.00-29.00
Depression	171	10.36(6.00)	0.00-26.00	63	8.44(4.96)	1.00-25.00	76	12.89(5.94)	2.00-26.00	11	10.55(5.34)	2.00-19.00	21	6.81(5.84)	0.00-19.00
Anxiety	171	10.02(5.63)	0.00-21.00	63	9.57(5.58)	0.00-21.00	76	11.54(5.32)	0.00-21.00	11	9.27(3.72)	2.00-14.00	21	6.33(6.04)	0.00-18.00
Abuse score	176	2.36(1.98)	0.00-6.00	64	1.55(1.82)	0.00-6.00	77	3.19(1.87)	0.00-6.00	12	3.33(1.23)	1.00-5.00	23	1.30(1.66)	0.00-6.00
Sexual abuse	176	1.64(1.46)	0.00-4.00	64	1.08(1.40)	0.00-4.00	77	2.19(1.39)	0.00-4.00	12	2.58(0.90)	1.00-4.00	23	0.83(1.07)	0.00-4.00
Physical abuse	176	1.53(1.34)	0.00-4.00	64	0.98(1.21)	0.00-4.00	77	2.10(1.25)	0.00-4.00	12	2.17(1.03)	1.00-4.00	23	0.83(1.19)	0.00-4.00

**Note. Higher scores indicate greater severity for depression, anxiety, and abuse and higher self-worth for self-esteem.*

SASI Questionnaire

Although qualitative data was not analysed for the purpose of this study, frequency rates of the quantitative measures within the SASI questionnaire were assessed for descriptive trends. 146 participants said yes to having engaged in a sexual encounter because it felt like it was expected. Within the distinct groups, almost all participants responded yes to this question in the SASI (n = 23; 88.5%) and NSSI+SASI (n = 72; 93.5%) groups, as well as the NSSI (n = 37; 57.8%) and neither group (n = 14; 60.9%). Majority of participants reported having regretted a sexual encounter (*n* = 154). Rates were highest within the NSSI+SASI (93.5%) and SASI (92.3%) groups but were also the majority within the NSSI (65.6%) and neither (69.6%) groups. This suggests that despite group status, high levels of sexual regret exist within the population. When asked if they could see themselves engaging in SASI in the future, rates were overall lower (n = 87). 67.5% of those in the NSSI+SASI group responded yes, followed by 50% of the SASI group, 31.3% of the NSSI group and 8.7% in the neither group. This suggests that a percentage of those who have never endorsed SASI may in the future.

Exploratory Analysis

An exploratory analysis was conducted to examine the mean scores across the four FASM domains for three independent groups: NSSI only, SASI only and NSSI+SASI. Table 4 outlines the descriptive trends; as shown, participants in the NSSI+SASI group reported higher mean scores for social and automatic functioning in the NSSI FASM when compared to the NSSI only group. However, The SASI group reported higher means across all domains than NSSI+SASI for the SASI FASM. Combined means for the NSSI FASM and SASI FASM in the NSSI+SASI group found that the total FASM scores for all domains were lower than the SASI group and higher than the NSSI group, suggesting that functions may be more salient in those who engage in SASI.

Within the NSSI+SASI group, a higher mean score was reported for ANR (M = 2.07) and APR (M = 1.15) for the NSSI FASM, over the same domains in context to SASI. However, the group reported higher mean scores on the SASI FASM for SPR (M = 0.73) and SNR (M = 0.55), when compared to the NSSI domains. This suggests that social functions may play a more prominent role in the functional motivations for SASI over NSSI within participants who endorse both behaviours. ANR was the highest mean domain across all three groups; suggesting that automatic negative reinforcement may be a prominent function for self-injury.

Despite low internal consistency in some domains - particularly ANR, APR and SNR in the SASI context—these scales were retained in the exploratory analysis due to their theoretical relevance and to examine particular patterns in participant responses. Retaining these domains allowed for preliminary insights into underexplored aspects of self-injury, especially in the context of SASI, where no validated measures exist. Furthermore, low reliability may reflect genuine variability in how individuals interpret or experience these functions, rather than measurement error alone. Results should be interpreted with caution. Due to low internal reliability, the analysis was descriptive in nature and no inferential statistics were conducted to

test for group differences. Future research should aim to refine the measurement of functional motivations for SASI to improve psychometric properties. Although removal of the item "to feel relaxed" improved internal consistency for ANR in the NSSI context, the full 4-item scale was retained for exploratory analysis. This decision was made given the exploratory nature in how the scales were used. Retaining the full scale aims to preserve theoretical breadth and content validity for the ANR domain across both NSSI and SASI contexts.

Table 4. *Descriptive Statistics for FASM Domains by Study Group*

	NSSI FASM N(M)				**SASI FASM N(M)**			
	ANR	APR	SNR	SPR	ANR	APR	SNR	SPR
NSSI	52(1.39)	51(.85)	51(.27)	51(.42)	0	0	0	0
SASI	0	0	0	0	7(.97)	7(.75)	7(2.32)	7(1.71)
NSSI+SASI	75(2.07)	75(1.15)	76(.36)	76(.60)	51(.73)	50(.55)	51(1.91)	51(1.39)

**Note. Values represent means for each FASM domain (ANR, APR, SNR, SPR) and their SASI counterparts (SF_ANR, SF_APR, SF_SNR, SF_SPR) across four Study Groups: neither, NSSI, SASI and NSSI+SASI (both). Valid and missing N values are also reported.*

An exploratory analysis was also used to assess the mean differences in FASM motivations across those who use SASI as a means of physically (direct) or mentally (indirect) harming themselves, as well as those who endorse both. Descriptive trends as seen in Table 5, indicate that those in who report using SASI as a form of mental harm have lower mean scores across all FASM motivations. Those who report using SASI as physical harm reported highest means across most domains, except for SPR. Those who endorse both forms of harm reported the highest means for SPR.

Table 5. *Descriptive Statistics for FASM Domains by SASI Motivation Group*

	NSSI FASM N(M)				**SASI FASM N(M)**			
	ANR	APR	SNR	SPR	ANR	APR	SNR	SPR
Direct	9(2.53)	9(1.26)	10(.80)	10(.95)	6(2.46)	6(2.06)	6(.71)	6(.70)
Indirect	31(1.92)	31(.96)	31(.21)	31(.45)	19(1.70)	19(.98)	19(.38)	19(.58)
Both	35(2.08)	35(1.30)	35(.36)	35(.62)	33(2.02)	33(1.58)	32(.66)	33(.87)

**Note. Values represent means for each FASM domain for SASI (SF_ANR, SF_APR, SF_SNR, SF_SPR) across four SASI groups: neither, direct, indirect, and both. Valid and missing N values are also reported.*

Correlation Analysis

A Spearman's rank-order correlational analysis was run to explore potential relationships between the research variables. Before running the correlational analysis, assumptions were checked. Scatterplots indicted a monotonic relationship between all

variables. Normality was checked through assessing the Shapiro-Wilk test for each variable. All variables were not normally distributed ($p < 0.05$), therefore a Spearman's correlation is appropriate for this data. The interquartile range (IQR) method was used to detect outliers in the dataset. No outliers were detected in this data set. SASI presence, NSSI presence, history of sexual abuse, history of physical abuse, depression score, anxiety score and self-esteem score were included in the analysis.

The result of the Spearman correlation among the variables are presented in Table 6. Presence of SASI was significantly positively correlated with history of both sexual (ρ = 0.44, p < 0.001), and physical abuse (ρ = 0.46, p < 0.001). SASI presence was significantly negatively correlated with self-esteem (ρ = -0.28, p < 0.001), and moderately positively correlated to depression (ρ = 0.41, p <0 .001) and anxiety (ρ = 0.25, p = 0.002. NSSI presence is moderately positively correlated with anxiety (ρ = 0.215, p = 0.005) and moderately positively correlated with depression (ρ = 0.18, p = 0.020. History of sexual abuse was moderately positively correlated to a history of physical abuse (ρ = 0.46, p < 0.001), depression (ρ = 0.36, p < 0.001) and anxiety (ρ = 0.29, p <0 .001). Similarly, history of physical abuse was moderately positively correlated to both depression (ρ = 0.30, p < 0.001) and anxiety (ρ = 0.28, p <0 .001).

Self-esteem was strongly negatively correlated with depression (ρ = -0.64, p < 0.001) and moderately negatively correlated with anxiety (ρ = -0.47, p < 0.001). Depression was strongly positively correlated with anxiety (ρ = 0.61, p < 0.001). Abuse status was strongly positively correlated with abuse total (ρ = 0.83, p < 0.001), and moderately positively correlated with depression (ρ = 0.36, p < 0.001), and anxiety (ρ = 0.31, p < 0.001). Abuse total was also negatively correlated with self-esteem (ρ = –0.42, p < 0.001), and positively correlated with depression (ρ = 0.40, p < 0.001) and anxiety (ρ = 0.28, p < 0.001).

Table 6. *Correlation table*

	NSSI Presence	**SASI Presence**	**History of Sexual Abuse**	**History of Physical Abuse**	**Self-Esteem**	**Depression**	**Anxiety**
NSSI Presence	1	0.13 (p=.088)	0.01 (p=0.915)	0.10 (p=0.184)	-0.22 (p=0.004)**	0.18 (p=0.02)*	0.26 (p=0.005)**
SASI Presence	0.13 (p=0.09)	1	0.44 (p<0.001)**	0.46 (p<0.001)**	-0.28 (p<0.001)**	0.41 (p<0.001)**	0.25 (p=0.002)**
History of Sexual Abuse	0.01 (p=0.915)	0.44 (p<0.001)**	1	0.81 (p<0.001)**	-0.14 (p=0.069)	0.36 (p<0.001)**	0.29 (p<0.001)**
History of Physical Abuse	0.10 (p=0.184)	0.46 (p<0.001)**	0.81 (p<0.001)**	1	-0.11 (p=0.153)	0.30 (p<0.001)**	0.28 (p<0.001)**
Self-Esteem	-0.22 (p=0.004)**	-0.28 (p<0.001)**	-0.14 (p=0.069)	-0.11 (p=0.153)	1	-0.64 (p<0.001)**	-0.47 (p<.0.001)**

Depression	0.18(p=0.02)*	0.41 (p<0.001)**	0.36 (p<0.001)**	0.30 (p<0.001)**	-0.64 (p<0.001)**	1	0.61 (p<0.001)**
Anxiety	0.26 (p=0.005)**	0.25 (p=0.002)**	0.29 (p<0.001)**	0.28 (p<0.001)**	-0.47 (p<.0.001)**	0.61 (p<0.001)**	1

Indirect vs Direct SASI

A McNemar's test was conducted to examine whether participants were more likely to engage in SASI to serve an indirect (mental) or direct (physical) function. This test aimed to analyse the paired binary responses from each participant to test whether the proportion of endorsements differs between the two. All participants who reported endorsing a form of SASI were included in this analysis. The assumptions of binary variables, paired observations and sufficient discordant pairs were all met. The test revealed a statistically significant difference in endorsement rates, $\chi^2(1, N = 174) = 10.00$, $p = 0.001$, with a medium effect size ($w = 0.24$), indicating that participants were significantly more likely to report engaging in SASI as an indirect function than a direct.

While the McNemar's test looked at total participants, a chi-square test of independence was conducted to further examine the relationship between study group membership and SASI function type. This aimed to examine the relationship between SASI function and NSSI co-morbidity. Before conducting the analysis, several assumptions were checked. Both variables are categorical, and no cells had an expected count of less than 5, meaning all assumptions are met. The association was statistically significant, $\chi^2(2, N = 103) = 6.94$, p =0 .031. Participants in the SASI-only group were significantly more likely to report direct motivation (38.5%) compared to the NSSI+SASI group (13.0%), while participants in the NSSI+SASI group were more likely to report indirect motivation (40.3%) than those in the SASI group (19.2%). The proportion reporting both motivations was similar across groups. Participants most commonly reported using both indirect and direct functions co-morbidly in both the SASI-only (42.3%) and the NSSI+SASI group (46.8%).

Logistic Regression

A logistic regression model was utilised to assess if the total scores for the RSE, PHQ-9, GAD-7 and SPAQ predicted whether someone may engage in SASI. These variables were chosen to assess the key risk factors hypothesized to be associated with SASI engagement (Fredlund et al., 2017; Jonsson et al., 2017; Jonsson et al., 2019; Mellin & Young, 2022; Zetterqvist et al., 2018). Several assumptions were checked prior to running the analysis. Data was screened for missing values and cases with missing data were excluded from the analysis. The dependent variable was a yes/no binary outcome of whether participants have reported engaging in SASI within their lifetime, satisfying the requirement for logistic regression. All cases were independently observed, and no repeated measures were present in the data. Multicollinearity was checked by assessing Tolerance and Variance Inflation Factors (VIFs). All Tolerance values

were > 0.1 and all VIF values were below five, indicating no significant multicollinearity among predictors.

The linearity of the logit was tested for continuous predictors by creating interaction terms between each predictor and the respective natural logarithm. Non-significant interaction terms ($p > 0.05$) indicated that the assumption of linearity was met for all predictors. Outliers and influential cases were examined using standardized residuals, leverage value and Cook's distance. No cases violated expected thresholds for leverage values or Cook's distance. Cases with residuals greater than +/- 2.5 were reviewed. Three cases were found to have large residuals but following data inspection were determined to be valid. A sensitivity analysis was run to assess the influence of the residual. The overall results remained consistent, and the cases were retained in the model.

Following the checking of assumptions, a logistic regression was performed to assess the impact of self-esteem (RSE), depression (PHQ-9), anxiety (GAD-7) and abuse (SPAQ total score), on the likelihood that the informants would engage in SASI. The model was statistically significant, $\chi^2(4) = 51.32$, $p <.001$, indicating that the predictors reliably distinguished between those who reported having engaged in SASI and those who had not. The model explained 35.8% (Nagelkerke R^2) of the variance and correctly classified 73.2% of cases. Of the 4 predictors, anxiety ($p = 0.24$) and self-esteem ($p = 0.37$) were not statistically significant. Depression ($B = 0.122$, SE = 0.046, Wald = 6.88, $p = 0.009$, OR = 1.13, 95% CI [1.031, 1.237]), and abuse ($B = 0.469$, SE = 0.109, Wald = 18.697, $p < 0.001$, OR = 1.599, 95% CI [0.874, 1.035]) were statistically significant. These findings suggest that higher depression and abuse scores were associated with increased odds of engaging in SASI.

A second logistic regression was performed to examine whether self-esteem (RSE), depression (PHQ-9), anxiety (GAD-7) and abuse (SPAQ total score), could predict engagement in NSSI. (NSSI). All assumptions were checked prior to running the analysis using the same method as the first logistic regression. Data was screened for missing values and cases with missing data were excluded from the analysis. The overall model was statistically significant, $\chi^2(4) = 13.69$, $p = .008$, indicating that the predictors reliably distinguished between individuals who did and did not engage in NSSI. The model explained approximately 12.4% of the variance in NSSI engagement (Nagelkerke $R^2 = 0.124$). None of the predictors reached statistical significance, however self-esteem approached statistical significance, $B = –0.088$, SE = 0.046, Wald = 3.67, $p = .055$, Exp(B) = 0.92, 95% CI [0.84, 1.00], suggesting that higher self-esteem may be weakly associated with reduced odds of engaging in NSSI. Depression ($p=0.70$), anxiety ($p=.12$) and abuse (.53) were not significant predictors of NSSI engagement. These findings suggest that while the model distinguishes between NSSI groups, the included predictors may not fully account for the psychological factors underlying NSSI in this group.

Abuse Chi-squared

Abuse score was found to be highly significant in the logistic regression, therefore a further analysis of abuse status was conducted to develop a more robust understanding of how

abuse may be related to each study group. A chi-squared test of independence was conducted to examine the relationship between abuse status and study group. Before conducting the analysis, several assumptions were checked. The analysis found that 56.3% of cells had expected cell count lower than 5, violating the assumption. To address this, abuse status was re-coded into two separate binary variables: sexual abuse (yes/no) and physical abuse (yes/no). Two separate chi-squared tests of independence were conducted to assess the relationship between study group and type of abuse. This approach was taken to adhere to best practices and maintain statistic validity. The re-coded variables each met assumptions for the analysis.

The relationship between study group and sexual abuse was statistically significant, $\chi^2(3, N = 176) = 32.95$, $p < 0.001$, Cramér's $V = 0.43$, indicating a relatively strong association between group membership and reported sexual abuse. Sexual abuse was reported by 52.2% in the neither group, 48.4% in the NSSI group, 100.0% in the SASI group, and 87.0% in the NSSI+SASI group. Similarly, the relationship between study group and physical abuse was also statistically significant, $\chi^2(3, N = 176) = 37.71$, $p < .001$, Cramér's $V = 0.46$, suggesting a strong association between group membership and reported physical abuse. Physical abuse was reported by 39.1% in the neither group, 51.6% in the NSSI group, 100.0% in the SASI group, and 88.3% in the NSSI+SASI group. These findings indicate that both sexual and physical abuse are more commonly reported in the SASI and NSSI+SASI groups compared to the NSSI and neither groups. The strength and significance of the associations suggest that abuse history is meaningfully related to study group classification.

Discussion

The present study aimed to investigate the functions and psychological correlates of SASI in post-secondary students, to contribute to an overall better understanding of the behaviour. This study explored the functional motivations and psychosocial variables associated with SASI, as well as the relationship and comorbidity patterns between SASI and NSSI. Through a combination of descriptive statistics, inferential tests, and regression modelling, the study sought to identify the functional motivations behind SASI, the role of abuse history, and the predictive value of psychological variables such as depression, anxiety, and self-esteem. The findings offer valuable insights into the nuanced differences between individuals who engage in SASI, NSSI, both, or neither, and contribute to the growing literature on self-injurious behaviours and SASI.

The demographic findings demonstrate that group membership was significantly associated with differences in psychological distress and abuse-related experiences. The multivariate test revealed a robust overall effect, and follow-up univariate ANOVAs confirmed significant group differences in self-esteem, depression, anxiety, and all abuse-related variables, with moderate to large effect sizes. These results suggest that individuals in different self-injury groups experience distinct psychological profiles, particularly in terms of emotional distress and trauma exposure. However, age did not significantly differ across groups, suggesting that the psychological and abuse-related differences observed are not attributable to age-related variation, but rather reflect deeper experiential or psychological distinctions. It is possible that

these discrepancies are influences by the substantial size differences across study groups. Unequal group sizes can reduce statistical power, increase the risk of Type I or Type II errors, and caution is warranted when interpreting group contrasts. Future research should aim to recruit more balanced samples to ensure more stable estimates and to better capture the variability within smaller subgroups, such as those reporting SASI-only.

The present study suggests that within post-secondary students, some individuals do use sexual activity as a way to physically and/or mentally harm themselves. These findings are consistent with the previous research from Mellin and Young (2022), which found similar results within a U.S sample of university students. This suggests a cross-cultural consistency in how young adults conceptualize and experience SASI. These results should be considered when assessing how SASI is used and the populations at risk. Current literature on SASI further emphasises the need to recognize SASI as a legitimate form of self-injury, despite the presence of visible wounds. This supports the current finding that indirect harm is a valid and prevalent experience for students endorsing SASI, demonstrating the further need for research on SASI endorsement and post-secondary students.

The frequency rates of the SASI specific questions highlight some interesting findings. High feelings of expectation for engagement in sexual activity were reported across each distinct group, suggesting that post-secondary students may feel overall high pressure to engage in sexual activity. This is consistent with the concept of ‘hook-up’ culture, where students may feel as though it is typical to engage in frequent sexual experiences without further expectation for relationships (Garcia et al., 2012; Pham, 2017; Wade, 2017). The findings also highlight that majority of participants reported having regretted a sexual encounter. Literature on hook-up culture suggests that student’s current approach to sexual relationships may result in anxiety, disappointment, and sexual violence (Wade, 2017). The findings from the present study support this notion, as it was found that regardless of group status, high levels of sexual regret exist within the population. Furthermore, a high percentage of informants in the NSSI+SASI and SASI groups reported seeing themselves engage in SASI in the future. Although lower, certain participants in the NSSI and neither groups also reported yes to this question. This suggest that within some capacity, there is a risk for those who have not yet experienced SASI to do so in the future. The emphasis on sexual experiences and high levels of sexual regret within this population is an area that should be further explored in relation to SASI and how risk factors can be identified to prevent future engagement.

The results of the present study suggest that when looking at the functions separately, participants were significantly more likely to engage in SASI to serve an indirect function, rather than a direct one. This aligns with previous research suggesting that emotional regulation is a key function in NSSI (Nock et al., 2008; Hooley and St Germain, 2013; Wilkinson., 2013; Taylor et al., 2017) and growing literature suggesting SASI and NSSI share similar functions (Fredlund et al., 2017; Jonsson et al., 2019). The preference for indirect functions suggests that SASI may serve as a means of alleviating psychological distress rather than inflicting physical pain, distinguishing it from more overt forms of self-harm such as cutting or burning. However, when looking at the relationship between study group membership and SASI function, majority of

participants reported using SASI to serve both an indirect and direct function co-morbidly. This suggests that while indirect motivations may be the primary, many individuals experience a complex interplay of emotional and behavioural drivers behind their SASI engagement. Furthermore, participants in the SASI-only group were significantly more likely to report direct functions compared to those in the co-morbid group, whereas individuals who endorsed NSSI+SASI behaviours were more likely to report indirect functions. These findings highlight meaningful differences in motivational profiles between study groups and underscore the heterogeneity of self-injurious behavior.

Most informants reported endorsing both NSSI and SASI behaviours co-morbidly, indicating that individuals may be more likely to engage in SASI while also endorsing another form of NSSI. High co-morbidity rates among behaviours are consistent with previous self-harm literature, and indicates a need for more research and interventions for those who engage in NSSI (Tull et al., 2012; Dahlström et al., 2015; Klonsky, 2007). The present study's findings suggest that individuals who engage in one form of self-harm, such as SASI, may also be at risk of engaging in other forms, reinforcing the importance of comprehensive risk assessments and individualized safety planning. This aligns with recent research which suggests the use of multiple NSSI methods is a strong indicator of clinical severity and elevated risk, including suicidal behaviors (Reinhardt et al., 2025).

Difference in gender and sexual identity emerged across groups. 97% of participants who identified as no-binary reported some form of self-harm, followed by 93% of females. The overrepresentation of non-binary individuals may suggest that those who identify as non-binary could be at an increased vulnerability for NSSI behaviours. This aligns with existing literature which suggests elevated vulnerability to NSSI among gender-diverse populations, potentially due to minority stress, identity-related stigma, and limited access to affirming mental health care (Hounsome, 2024; Zetterqvist et al., 2018). Similarly, bisexuality was the largest reported sexuality and may be a consideration for future literature to determine if stigma and sexual exploration expectations within the bisexual community could influence those who engage in SASI. This finding warrants further exploration, as bisexual individuals often face unique stressors—including biphobia, erasure, and conflicting societal expectations—that may contribute to emotional distress and maladaptive coping strategies such as SASI (Hedén et al., 2023).

However, given the self-selecting nature of the sample and the inherent issues with self-report and social desirability, these findings are difficult to generalize on a broader scale. Scores for associated risk factors of depression and anxiety were higher in all self-harm groups than the neither group. The correlation analysis underscored the psychological correlates associated with SASI. SASI presence was significantly correlated with depression scores, indicating that individuals who engage in SASI are more likely to have exhibit depressive symptoms. Further logistic regression found that higher depressive symptoms were associated with a higher likelihood of SASI engagement. This is consistent with the current understanding that high comorbidity rates exist between NSSI and other mental disorders and that similar consistencies may be present for SASI (Dahlström et al., 2015; Klonsky, 2007; Tull et al., 2012). These findings

also suggest that interventions targeting depressive symptoms may be effective in reducing SASI behaviors.

The findings from the two logistic regression models suggest distinct psychological profiles associated with SASI and NSSI engagement. While depression and abuse emerged as significant predictors of SASI, none of the variables significantly predicted NSSI engagement, although self-esteem approached significance. This discrepancy suggests that while depression and abuse are robust predictors of SASI, they may not be sufficient to explain NSSI engagement, which is in direct contrast to current NSSI research (Dahlström et al., 2015; Klonsky, 2007; Tull et al., 2012). It is possible that NSSI is influenced by broader psychological and contextual factors that were not captured by the current measures. Importantly, these findings must be interpreted with consideration to the overlap between NSSI and SASI in this sample. Many individuals may engage in both behaviors simultaneously, which complicates the ability to isolate distinct predictors for each. Co-occurring engagement may reflect a shared underlying vulnerability, such as emotional dysregulation or trauma exposure, and suggests that the functions and psychological drivers of each behavior may differ even within the same individual. For example, SASI may serve more internalized functions, while NSSI may be more externally oriented. This overlap could dilute the predictive power of models that treat SASI and NSSI as mutually exclusive categories.

Self-esteem was strongly negatively correlated with depression and moderately correlated with anxiety, which suggests self-worth may be a risk factor for internalizing disorders within this population. Interestingly, self-esteem scores were the lowest within the NSSI+SASI group (M=13.57) and the highest in the SASI group (M=18.27), suggesting that those in the SASI group had the highest self-esteem. This is an interesting finding that may suggest that self-esteem is not associated with sexual activity and SASI in the same way as NSSI. This is directly in contrast to the findings of Mellin and Young (2022), who found that university students reported engaging in SASI due to negative self-worth. The discrepancy may reflect differences in sample characteristics, such as age, cultural context, or the presence of co-occurring psychological conditions but also raises questions about the functional motivations behind SASI. Further literature is needed to assess this finding in a more robust manner. Longitudinal studies and qualitative approaches could offer more nuanced insights into how self-worth interacts with different forms of self-injurious behavior, and whether SASI represents a distinct psychological profile from NSSI. Anxiety and self-esteem are not significant within the regression model; however, it is possible that their effects may be mediated by depression or abuse in this study. This highlights the complexity of psychological variables in the etiology of SASI and self-harm.

The results of the correlation analysis suggests that SASI presence is associated with higher levels of historic abuse, depressive symptoms and lower self-esteem, supporting the hypothesis that SASI may function as a maladaptive coping mechanism in response to trauma and emotional dysregulation. Current SASI research that suggests the behaviours may be forms of re-enactment of child sexual abuse, suggesting that higher levels of abuse history may result in more frequent SASI engagement (Fredlund et al., 2017; Jonsson et al., 2017; Zetterqvist et

al., 2018). Abuse total scores were the highest within the SASI group and closely followed by the NSSI+SASI group, reinforcing the link between trauma history and self-injurious behavior particularly in a sexual context. The association between abuse history and self-injury has been well-documented, and this study provides further evidence that SASI may share similar relationships through strong correlations and predictive factors (Gratz, 2003; Whitlock et al., 2006). Prior research on SASI suggests that historic sexual abuse is found to be a recurrent risk factor for SASI, and that SASI may be conceptualized in the context of trauma re-enactment (Fredlund et al., 2017; Fredlund et al., 2019; Zetterqvist et al., 2018). The present study found that higher abuse scores were associated with a higher likelihood of SASI engagement. These results support the findings from prior literature and highlight the need for further investigation on the associations between SASI and abuse. Additionally, significant associations were found between both physical and sexual abuse and SASI presence. These findings align with prior research suggesting that SASI may emerge as a maladaptive coping strategy in response to normalized sexual violence, dissociation, and shame (Hedén et al., 2023). This underscores the importance of trauma-informed approaches in clinical settings when supporting individuals experiencing SASI or self-injury.

An important consideration when interpreting these findings is that only 46.2% of participants who reported endorsing SASI-only completed the SPAQ questionnaire. 100% of participants who completed the questionnaire in this group reported experiencing both sexual and physical abuse in their lifetime. The low adherence rate within the SASI population is an important consideration. High incompletion rates are consistent with current literature on NSSI (Robinson & Wilson, 2020) and may be increased within this group due to high sensitivity to content, especially in an abuse context. Similarly, 85.7% of individuals who endorse both NSSI+SASI reported experiencing both forms of abuse. Although the rates of both abuses are also high in the NSSI group (60%), they remain lower than those who report SASI or NSSI+SASI. These findings suggest that SASI may be more associated with prior trauma and abuse than NSSI. This is consistent with Fredlund et al. (2017), who theorised that sexual abuse and other adverse events are important factors for having destructive sexual relationships.

Functional Motivations

A chi-squared test examined the relationship between SASI function and study group. The test revealed a significant association between the presence of NSSI and SASI function. These findings suggest that the functions of SASI may differ depending on the presence of NSSI, with indirect motivations being more prevalent among individuals who engage in NSSI+SASI. This highlights the importance of screening for and considering co-morbidity within self-injurious behaviors during assessment and treatment planning for SASI and/or NSSI. Individuals who endorse NSSI while also endorsing SASI may utilise SASI to serve a different function than NSSI. This finding is further supported by prior research, which suggests that those who endorse SASI may switch to SASI from another form of NSSI, as it is easier to hide from others (Zetterqvist et al., 2018). As further indicated by this study, participants most frequently reported using SASI for both indirect and direct functions co-morbidly, suggesting that many individuals experience complex and multifaceted drivers behind their self-injurious behavior.

The further exploratory analysis on the mean scores across the FASM domains revealed meaningful patterns on the functional behaviours of each individual group. Participants in the NSSI+SASI group reported overall higher mean scores across both social and automatic functions when compared to the NSSI-only group in the NSSI context. These findings suggest that individuals who experience NSSI and SASI co-morbidly, may be experiencing more multifaceted motivations for self-injury in comparison to those who endorse NSSI-only. However, in the SASI context, the SASI-only group reported higher mean scores across all domains than the NSSI+SASI group. These findings indicated that SASI may serve more distinct or intense functions when it occurs in isolation. When combining the mean scores of both FASM's in the NSSI+SASI group, the group's total remained lower than the SASI group and higher than the NSSI group, suggesting SASI may be associated with more salient overall functional motivations.

Differences in endorsement rates of specific functional domains were observed within the NSSI+SASI group. Automatic functions (ANR and APR) were more strongly reported in the NSSI context, while social functions (SPR and SNR) were more prominent in SASI context. These findings suggest that within those who endorse NSSI and SASI comorbidly, NSSI may be more internally driven (e.g., to reduce negative feelings), while SASI may be more socially driven. Future research should aim to analyse the potential interpersonal dynamic and social validation processes in relation to SASI. ANR was the highest reported domain across all groups, reinforcing the findings of prior literature which suggests negative reinforcement may play a central role in the functional model of self-injury (Nock, 2009). A secondary exploratory analysis examined the differences in FASM motivations between participants who reported endorsing SASI for direct, indirect or both functional motivations. The analysis indicated that those who endorse SASI as an indirect self-harm behaviour, reported the lowest mean scores across all domains when compared to the direct and both groups. In contrast, those who endorse SASI as a direct function, reported higher scores across most domains. Those who endorse both direct and indirect functions, reported the highest mean scores for SPR. These findings suggest that functional motivations for SASI may vary depending on whether the behaviour is endorsed as a direct or indirect form of self-harm.

Despite poor internal consistency scores across several FASM domains – especially in the SASI context, they were retained due to the exploratory nature of the analysis. Given the novel construct of SASI and the absence of validated measures, retaining these domains allowed for preliminary insights on the conceptualization and experiences of SASI which has yet to be explored. It is possible that low reliability reflects genuine variability within the study population rather than measurement errors alone. Findings should be interpreted with caution and no inferential statistics were conducted on group differences. Future research should aim to refine the measurement of SASI-specific functions to improve psychometric robustness and develop validated measures. The exploratory analysis' underscore the complexity of SASI in relation to self-injurious behaviours and highlight the need for nuanced and functionally informed assessments. The findings support the notion that SASI may share similar functions to NSSI, but additionally highlight the potential distinct motivational components of SASI that warrant further investigation.

Clinical Implications

The results of this study report preliminary findings that may have several important implications for clinical practice. The discrepancies found in the logistic regressions reinforces the need for comprehensive assessments that explore the full spectrum of self-injurious behaviors. Treatment approaches should be flexible enough to address both shared and distinct mechanisms, particularly in individuals who present with co-morbid self-harm profiles. The preference for indirect functions of SASI suggests that interventions may benefit from focusing on enhancing emotional regulation skills and alternative coping mechanisms. The findings also suggest that interventions targeting depressive symptoms and abuse may be particularly effective in reducing SASI behaviors, given the strong associations between the variables and SASI. Evidence-based treatments for depression such as Cognitive Behavioral Therapy (CBT) and Interpersonal Therapy (IPT) have demonstrated efficacy in reducing depressive symptoms and improving emotional regulation (Beck, 2020; Wright, 2004). Furthermore, the strong association between history of abuse and self-injury highlights the further need for trauma informed care. Abuse history should be assessed, and considerations should be made for its impact on psychological functions and self-injurious behaviours. For individuals with histories of abuse, trauma-focused therapies—such as Trauma-Focused CBT, Eye Movement Desensitization and Reprocessing (EMDR), and supportive psychotherapy have shown effectiveness in alleviating trauma-related distress (Schwarz et al., 2021). These interventions may reduce SASI indirectly by addressing the emotional dysregulation, dissociation, and trauma-related coping mechanisms that often underlie the behaviour. By improving psychological stability, fostering self-worth, and facilitating the processing of traumatic experiences, such treatments may diminish the emotional drivers that compel individuals to engage in SASI. Moreover, therapies that promote bodily autonomy, relational safety, and self-compassion may help reframe sexual behavior from a form of self-injury to one of agency and connection. Future research should explore integrated treatment models that combine trauma-informed care with emotion regulation strategies tailored to the unique dynamics of SASI.

Lastly, given the consistent research demonstrating the high prevalence of self-injurious behaviours and co-morbid mental disorders within post-secondary students, increased considerations should be adopted in relation to SASI in students (Dahlström et al., 2015; Klonsky, 2007; Tull et al., 2012). Early identification of risk-factors such as depressive symptoms and abuse history may reduce the likelihood of SASI engagement. Universities and colleges should aim to implement comprehensive mental health programs for a wide range of behaviours including SASI. These programs should be rooted in evidence-based treatments to reduce stigma and increase early intervention treatments. Embedding accessible interventions strategies within campus mental health services may promote early detection and reduce stigma, encouraging students to seek help before behaviors escalate. Future research should explore integrated models that combine trauma-informed care with targeted emotion regulation strategies to address the unique psychological mechanisms of SASI.

Strengths & Limitations

The present study is a novel exploration of SASI which remains relatively under-explored and a conceptually complex phenomenon. To our knowledge, this was the first study to look at the functions and psychological correlates of SASI within post-secondary students. By incorporating quantitative research methods from a large sample of post-secondary students, the study aims to provide a nuanced and more robust understanding of the functional motivations of SASI. The collected data aims to serve as a foundation for future research. The current paper focuses primarily on descriptive and exploratory trends, however a substantial portion of collected data remains unanalysed. Subsequent studies have the opportunity to conduct more advanced statistical modelling and an in-depth qualitative analysis. The collected data contributes to the immediate understanding of SASI as well as the broader research agenda which aims to refine theoretical models and improve clinical interventions for SASI.

The use of validated psychometric measures such as the PHQ-9, GAD-7 RSE, FASM and SPAQ, further enhances the reliability of the findings. Additionally, the present study tested the validated measure of the FASM in the context of SASI behaviours, which offers several benefits for both research and clinical practice. The application of a well-established framework developed for NSSI allowed for us to assess whether similar functional motivations, such as affect regulation, are relevant to SASI. This finding may be consistent with current literature on the conceptual overlap between direct and indirect forms of NSSI and further suggests that SASI may serve similar psychological functions, however internal consistency of the measure must be considered. This allowed for a structured method for capturing psychological functions of SASI to identify patterns which are otherwise difficult to quantify due to the complex and sensitive nature of the concept. The FASM allowed for comparability across study groups and enabled the examination of similarities and differences between NSSI and SASI. However, low internal consistency highlights the need for a more refined and validated SASI specific functional assessment tool. A more in-depth measure of NSSI may have been beneficial in analysing the functions of SASI. Future research could use a tool such as the Inventory of Statements About Self-Injury (ISAS) to assess behaviours and motivations in a more in-depth manner. The further development of a psychometrically validated tool tailored to the unique experiences of SASI is needed to improve diagnostic accuracy and inform targeted intervention strategies.

Despite various strengths in support of this study, there are limitations which must be considered when interpreting the findings. One methodological limitation comes from the comprehension of the term ‘sex as self-injury’. Given the novelty and sensitivity of the topic, it was anticipated that difference in interpretations would emerge. To combat this, a working definition of SASI was developed and provided to all participants prior to beginning the survey, to establish a shared understanding of the topic. Future research should aim to assess if difference in interpretations of the term SASI exists across different populations and how this may influence how individuals report SASI.

Furthermore, large sample size discrepancies exist between the independent groups. The NSSI (n=70), NSSI+SASI (n=77), SASI (n=26), and neither (n=22) groups varied considerably in size,

which may impact robustness of comparisons. These discrepancies are important to consider when interpreting results of the findings. The study utilised exploratory analyses and descriptive trends to decrease size discrepancy influences in the findings. Furthermore, the size discrepancies between the groups may indicate that SASI is particularly likely to occur co-morbidly with another form of NSSI. Prior research has suggested that those who endorse SASI may switch to SASI from another form of NSSI as it is easier to hide from others (Zetterqvist et al., 2018). This is a factor that should be assess in future literature. Additionally, the present study focused solely on post-secondary students, limiting generalizability to the broader population within the same age range. Future research should expand on the work of this study to assess if similar findings are seen across the non-student population. The cross-sectional design of the study limits our ability to identify causal relationships. Additional longitudinal studies are needed to assess causal relationships and establish temporal sequences.

Moreover, the reliance on self-report measure of the study allows for the possibility of recall and report biases. Given the sensitive nature of the study content, some participants may not be comfortable disclosing certain information or fear judgement due to the taboo nature of the research. Participants alternatively may not wish to share traumatic experiences or those that they feel are embarrassing. An anonymous, online format was chosen to promote full and honest disclosure. It has been established that when dealing with sensitive or potentially embarrassing topics, participants are likely to express their thoughts and experiences more honestly and openly when compared to face-to-face interviews (Barker & Barker, 2013). Despite this consideration, participants may have under- or over-reported their experiences, which may affect the accuracy of the findings. All responses were completely anonymous and extra consideration was given to survey responses with high percentage of unanswered questions. The online survey platform aimed to allow for participants to feel more comfortable answering vulnerable questions, however this format does not allow for follow-up questions which would have helped to obtain a more well-rounded understanding of SASI and NSSI. Future research should aim to use a more adaptive interview approach to develop a deeper and more personal understanding of these behaviours.

The demographic information from the participants must be taken into consideration when interpreting the findings. Majority of participants were females (n=114), which may reflect the broader notion that women are more likely than men to respond to surveys, as highlighted in previous research (Becker & Glauser, 2018; Smith, 2008). Moreover, the majority of participants were white (n=135), which may limit generalizability of the findings across other ethnic groups. One possibility for this limitation may be due to the eligibility criteria of the study. As our eligibility criteria was targeted towards English-speaking participants, this may have limited accessibility for participants of other cultural identities to participate. Therefore, non-English speaking participants of different ethnic and cultural background were excluded from the study. Future research should aim to include more diverse samples to examine potential cultural and gender differences in SASI behaviours. No location demographic information was collected for this study, preventing analysis of regional or cultural influences on SASI. Expanding demographic representation is essential for both generalizability and for uncovering nuanced patterns of vulnerability and resilience. For example, gender-diverse individuals and ethnic

minorities may experience unique forms of stigma and trauma that shape their engagement in self-injurious behaviors. A more intersectional approach to SASI research could highlight these dynamics and inform culturally competent prevention and intervention strategies. Another methodological issue that arose was the low internal consistency of certain FASM scale domains used in the study, particularly in the SASI context. While these scales were retained for exploratory purposes due to theoretical considerations, the findings should be interpreted with caution. Future research is needed to develop and validate empirically grounded measures specifically designed to assess the functions of SASI.

Future Directions

The findings of this study generate a foundational basis for future research. Building on the findings of the present study, several suggestions for future research emerge on how to deepen our understanding of SASI on a broader scale.

First, future studies should employ longitudinal research designs to examine the temporal sequences and developmental trajectories of SASI. This would allow researchers to develop a better understanding of casual mechanisms of SASI and identify associated risk and protective factors. Such designs are necessary to provide critical insights to inform the development of targeted early interventions. Additionally, future research should assess whether differences in interpretation of the term SASI exist across populations and how these interpretations may affect how individuals report SASI. Although a standardized definition was provided within this study, the novelty of SASI as a concept may result in various understandings of the definition across the participants, which could influence how participants report their experiences. An exploration of interpretation differences could enhance the accuracy and cultural sensitivity of future assessments and research. To address this, a Delphi study could be employed to systematically gather expert consensus on the definition, core features, and culturally sensitive dimensions of SASI. The Delphi method is particularly well-suited for emerging or poorly defined constructs, as it facilitates structured, iterative feedback from a diverse panel of experts—including clinicians, researchers, and individuals with lived experience (Brady, 2015; Constantinou & Nikitara, 2023). This approach would allow for the refinement of SASI's conceptual boundaries and ensure that future measures and interventions are grounded in both empirical evidence and cultural competence. Moreover, incorporating culturally diverse perspectives through a Delphi process could help identify culturally specific expressions of SASI and reduce the risk underreporting in marginalized populations.

Research should also explore the role of gender identity and sexual orientation in SASI behaviours. The current study found that non-binary individuals were overrepresented in the NSSI+SASI group, suggesting that gender minority status may confer additional risk. Furthermore, the high proportion of bisexual individuals within each self-harm group is a factor that should be analysed in future research. A more in-depth assessment on the unique stressors faced by gender and sexual minorities may offer valuable insights into the etiology of SASI and self-injurious behaviours as a whole. The present study's sole focus on post-secondary students limits the generalizability of the findings and future research should aim to expand on

the current findings within the non-student populations. Future research should also look to expand current knowledge on SASI within post-secondary students to assess why this population may be particularly at risk. Associations between socio-cultural factors and the concept of ‘hook-up’ culture should me more deeply investigated. The lack of geographical data within this study further limits the ability to assess regional or cultural influences on SASI, which should be addressed in future research.

Qualitative research is needed to compliment the quantitative findings of this study and provide a more robust understanding of specific experiences of SASI. The collected qualitative information within the dataset of the current study should be analysed in a thematic analysis to assess trends and themes present in the sample. A qualitative analysis on participants experiences of engaging and self-reported functions of SASI is needed to explore the lived experiences of individuals who endorse SASI and help generate a more comprehensive understanding of the concept. Additionally, a more adaptive, interview-based approach four future studies would allow for deeper understanding of SASI experiences with the potential for follow-up questions. This format would address some of the limitations of self-report surveys and generate a more robust image of SASI behaviours. Moreover, the potential interpersonal dynamics and social validation processes associated with SASI should be further investigated. The current study suggests that social functions may play a more prominent role in SASI over NSSI, particularly in the NSSI+SASI group. Deeper understanding of these dynamics could inform the development of interventions that address these difference and identity-based factors. Future research should consider modeling SASI and NSSI engagement as interacting or nested behaviors, rather than independent outcomes, to better capture the complexity of self-injury and improve predictive accuracy.

Efforts should be made to improve the psychometric properties of existing measures and develop new tools tailored specifically for SASI. While the FASM was adapted for use in SASI context within this study, several domains – particularly ANR, APR and SNR – demonstrated low internal consistency within the SASI context. Future research may aim to use a more in-depth NSSI measure such as the ISAS to assess behaviours and motivations. On a larger scale, future research should aim to refine the measurement of SASI-specific functions to improve psychometric robustness and develop validated measures. This includes refining the measurement of functional motivations for SASI to improve psychometric robustness and ensure conceptual clarity on a validated scale. Reliable and validated measurement tools are essential for advancing research and clinical practices in this area.

Conclusion

The present study contributes to the underexplored and emerging literature on SASI, particularly within post-secondary students, highlighting its psychological correlates and functional motivations alongside traditional NSSI. While NSSI has been increasingly examined in modern literature, SASI remains under investigated. The present study aims to address a current gap in literature by providing a comprehensive examination of the demographic statistics’ psychological underpinnings, and functional motivations of SASI and NSSI. The

findings highlight the importance of emotional regulation, trauma history and depressive symptoms in understanding SASI and self-injurious behaviours. Ultimately, the present study highlights the urgency for a broader and more nuanced investigation into SASI, with the use of more diverse populations and complex psychosocial variables. A more in-depth understanding of SASI's functions and psychological correlates, particularly its relationship to abuse status and emotional dysregulation, is needed to assist clinicians and researchers in identifying and supporting individuals at risk. Targeted therapeutic intervention, strategies addressing trauma and depressive symptoms may assist in mitigating self-injurious behaviours in the SASI context. By addressing complex interplay of various psychological factors and unique individual experiences, we can develop more effective strategies to support those who endorse SASI and prevent future engagement in at risk groups. While limitations exist within the study, it offers valuable and novel insights into the underlying mechanisms of SASI and lays foundational groundwork for future clinical interventions and research.

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Appendix 1: Survey Questionnaires

Prevalence and Functionality of Sexual Activity to Self-Injure (SASI) Behaviours in a Sample University Students

SASI Definition: "The seeking and consensual engagement of sexual situations that cause mental and/or physical harm to oneself during and/or following the action. These actions are NOT related to practices of consensual sexual fantasies (i.e. BDSM (Bondage, Discipline/Dominance, Submission/Sadism/Sadomasochism, Masochism))."

1. Eligibility:
    a. How old are you?
    b. Are you currently enrolled in a post-secondary course either full-time or part-time? (Y/N)
    c. Are you currently or have you previously been sexually active?
    d. Are you a fluent or native English speaker?
2. Demographic information
    a. How old are you?
    b. What is your gender?
        i. Male
        ii. Female
        iii. Nonbinary
        iv. Other
    c. What is your sexual orientation?
        i. Heterosexual
        ii. Homosexual
        iii. Bisexual
        iv. Asexual
        v. Other
    d. Level of study?
        i. Undergraduate
        ii. Postgraduate
        iii. Doctorate
        iv. other
    e. What is your ethnicity?
        i. Asian, Asian British, Asian Welsh
        ii. Black, Black British, Black Welsh, Caribbean or African
        iii. Mixed or Multiple
        iv. White
        v. Other ethnic group
    f. What is your current relationship status?

i. Monogamous relationship
ii. Non-monogamous relationship
iii. Single
iv. Other

3. SASI Questionnaires
    a. In the last 6 months have you been sexually active? (Y/N)
    b. Have you ever engaged in sexual activity because you felt like it was expected? (Y/N)
        i. Share your experience
    c. Have you ever regretted a sexual encounter? (Y/N)
    d. What is your main reason for seeking out sexual encounters either current or past:
    e. Thinking back to your previous sexual encounters; Have you ever intentionally or unintentionally used sexually activity as a form of self-harm either with a partner or alone?
    f. Could you see yourself using sexual activity as a form of self-harm in the future either with a partner or alone?
    g. “have you ever engaged in sexual activities as a way to **physically** harm yourself?” (Y/N)
        i. Age of first instance
        ii. Occurrences in the last year/total
        iii. With partner or alone?
        iv. Feelings/attitude before behaviour
        v. Feelings/attitude following behaviour
        vi. Goal of behaviour
        vii. Share your experience:
    h. “have you ever engaged in sexual activities as a way to **mentally or emotionally** harm yourself?” (Y/N)
        i. Age of first instance
        ii. Occurrences in the last year/total
        iii. With partner or alone?
        iv. Feelings/attitude before behaviour
        v. Feelings/attitude following behaviour
        vi. Goal of behaviour
        vii. Share your experience:
    i. Have you ever heard of SASI as a concept before this study?

Functional Assessment of Self-Mutilation (FASM) (Lloyd, Kelley, & Hope, 1997)

A. In the past year, have you engaged in the following behaviors to deliberately harm yourself (check all that apply):

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	NO	YES	HOW MANY TIMES	HAVE YOU HAD MEDICAL TREATMENT
1. cut or carved on your skin				
2. hit yourself on purpose				
3. pulled your hair out				
4. gave yourself a tattoo				
5. picked at a wound				
6. burned your skin (i.e., with a cigarette, match or other hot object)				
7. inserted objects under your nails or skin				
8. bit yourself (e.g., your mouth or lip)				
9. picked areas of your body to the point of drawing blood				
10. scraped your skin				
11. "erased" your skin				
12. other: ________________				

B. If not in the past year, have you EVER done any of the above acts?

Yes

No

If yes to any of the above behaviors in the past year, please complete the questions (C-H) below:

C. While doing any of the above acts, were you trying to kill yourself?

Yes

No

D. How long did you think about doing the above act(s) before actually doing it?

none
“a few minutes”
< 60 minutes
> 1 hour but < 24 hours
more than 1 day but less than a week

greater than a week

E. Did you perform any of the above behaviors while you were taking drugs or

alcohol?

Yes

No

F. Did you experience pain during this self-harm?

severe pain

moderate pain

little pain

no pain

G. How old were you when you first harmed yourself in this way?

H. Did you harm yourself using the above acts for any of the reasons listed below? (check all reasons that apply):

	0 - Never	1 - Rarely	2 – Some	3 - Often
To avoid school, work, or other activities				

To relieve feeling "numb" or empty				
To get attention				
To feel something, even if it was pain				
To avoid having to do something unpleasant you don't want to do				
To get control of a situation				
To try to get a reaction from someone, even if it's a negative reaction				
To receive more attention from your parents or friends				
To avoid being with people				
To punish yourself				
To get other people to act differently or change				
To be like someone you respect				
To avoid punishment or paying the consequences				
To stop bad feelings				
To let others know how desperate you were				

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To feel more a part of a group				
To get your parents to understand or notice you				
To give yourself something to do when alone				
To give yourself something to do when with others				
To get help				
To make others angry				
To feel relaxed				
Other				

I. If not in the past year, have you EVER engaged in any form of sexual activities to physically or mentally harm yourself?

J. Did you harm yourself using sexual activity for any of the reasons listed below? (check all reasons that apply):

	0 - Never	1 - Rarely	2 – Some	3 - Often
To avoid school, work, or other activities				
To relieve feeling "numb" or empty				
To get attention				
To feel something, even if it was pain				
To avoid having to do something unpleasant you don't want to do				

To get control of a situation				
To try to get a reaction from someone, even if it's a negative reaction				
To receive more attention from your parents or friends				
To avoid being with people				
To punish yourself				
To get other people to act differently or change				
To be like someone you respect				
To avoid punishment or paying the consequences				
To stop bad feelings				
To let others know how desperate you were				
To feel more a part of a group				
To get your parents to understand or notice you				
To give yourself something to do when alone				
To give yourself something to do when with others				

To get help				
To make others angry				
To feel relaxed				
Other				

Rosenberg Self-Esteem Scale (RSES)

Below is a list of statements dealing with your general feelings about yourself. There are four possible answers for each of the 10 questions, from "strongly agree" to "strongly disagree. Tap the box to indicate how strongly you agree or disagree with each statement.

		Strongly Agree	Agree	Disagree	Strongly Disagree
1	On the whole, I am satisfied with myself	**3**	**2**	**1**	**0**
2	At times, I think I am no good at all	**0**	**1**	**2**	**3**
3	I feel that I have a number of good qualities	**3**	**2**	**1**	**0**
4	I am able to do things as well as most other people	**3**	**2**	**1**	**0**
5	I feel I do not have much to be proud of	**0**	**1**	**2**	**3**
6	I certainly feel useless at times	**0**	**1**	**2**	**3**
7	I feel that I'm a person of worth, at least on an equal plane with others	**3**	**2**	**1**	**0**
8	I wish I could have more respect for myself	**0**	**1**	**2**	**3**
9	All in all, I am inclined to feel that I am a failure	**0**	**1**	**2**	**3**
10	I take a positive attitude toward myself				

Sexual and Physical Abuse Questionnaire (SPAQ) (Kooiman et al, 2002)

This is a questionnaire about certain events that may have occurred during your childhood and later years. The questions relate to negative sexual experiences and experiences of being beaten or physical abuse.

The questions cover subjects which could be experienced as difficult. Nevertheless, we would like to ask you to answer these questions as honestly as possible. Your answers will be treated with strict confidentiality. Read the questions through carefully. If you are unsure of the answer, fill in the answer which you feel is most applicable to you.

1. Has anyone ever touched your sex organs in a sexual manner and against your will?
    a. No
    b. Yes, if yes how old were you when it happened

i. Less than 6 years old
ii. 6 years or older but less than 12 years old
iii. 12 years old or older but less than 16 years old
iv. 16 years old or older

2. Has anyone ever forced you touch his or her sex organs in a sexual manner and against your will?
   a. No
   b. Yes, if yes how old were you when it happened
      i. Less than 6 years old
      ii. 6 years or older but less than 12 years old
      iii. 12 years old or older but less than 16 years old
      iv. 16 years old or older
3. Has anyone ever tried to force you to have sexual intercourse against your will?
   a. No
   b. Yes, if yes how old were you when it happened
      i. Less than 6 years old
      ii. 6 years or older but less than 12 years old
      iii. 12 years old or older but less than 16 years old
      iv. 16 years old or older
4. Have you ever had another unwanted or threatening sexual experience that is not named above?
   a. No
   b. Yes, if yes can you give a short description:
   c. If yes how old were you when it happened
      i. Less than 6 years old
      ii. 6 years or older but less than 12 years old
      iii. 12 years old or older but less than 16 years old
      iv. 16 years old or older
5. If you have had one of the above experiences, have you ever discussed it with anyone? (check all that apply)
   a. No
   b. Yes, if yes, with whom?
      i. With a relative
      ii. With a boyfriend(s), girlfriend(s) or partner(s)
      iii. With non-medical workers
      iv. With medical workers
6. Have you ever intentionally been treated by someone in such a way that you suffered physical injury?
   a. No
   b. Yes, if yes how old were you when it happened
      i. Less than 6 years old
      ii. 6 years or older but less than 12 years old

    iii. 12 years old or older but less than 16 years old
    iv. 16 years old or older

7. Have you ever experienced something that is not listen above which you perceived as violent?
    a. No
    b. Yes, if yes can you give a short description:
    c. If yes how old were you when it happened
        i. Less than 6 years old
        ii. 6 years or older but less than 12 years old
        iii. 12 years old or older but less than 16 years old
        iv. 16 years old or older
8. If you have experienced one of these things (question 6 and 7), have you ever discussed it with anyone?
    a. No
    b. Yes, if yes, with whom?
        i. With a relative
        ii. With a boyfriend(s), girlfriend(s) or partner(s)
        iii. With non-medical workers
        iv. With medical workers
9. If you have had one of the above experienced, would you like to talk to someone about it?
    a. No
    b. Yes, with:
    c. Don't know
    d. Not applicable

The Patient Health Questionnaire – 9 (PHQ-9)

Little interest or pleasure in doing things?

- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Feeling down, depressed, or hopeless?

- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Trouble falling or staying asleep, or sleeping too much?

- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Feeling tired or having little energy?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Poor appetite or overeating?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Feeling bad about yourself - or that you are a failure or have let yourself or your family down?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Trouble concentrating on things, such as reading the newspaper or watching television?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Thoughts that you would be better off dead, or of hurting yourself in some way?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

The General Anxiety Disorder – 7 (GAD-7)

Feeling nervous, anxious or on edge?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Not being able to stop or control worrying?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days

- ☐ Nearly every day

Worrying too much about different things?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Trouble relaxing?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Being so restless that it is hard to sit still?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Becoming easily annoyed or irritable?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

Feeling afraid as if something awful might happen?
- ☐ Not at all
- ☐ Several days
- ☐ More than half the days
- ☐ Nearly every day

The Relationship Structures Questionnaire (ECR-RS) (Fraley et al., 2014)

This questionnaire is designed to assess the way in which you mentally represent important people in your life. You'll be asked to answer questions about your close relationships in general, your parents, your romantic partners, and your friends. Please indicate the extent to which you agree or disagree with each statement by checking a number for each item.

Please read each of the following statements and rate the extent to which you believe each statement best describes your feelings about **close relationships in general:**

a. It helps to turn to people in times of need.
   - ☐ 1 – strongly disagree
   - ☐ 2
   - ☐ 3
   - ☐ 4
   - ☐ 5
   - ☐ 6

- ☐ 7 – Strongly agree

b. I usually discuss my problems and concerns with others.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

c. I talk things over with people.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

d. I find it easy to depend on others.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

e. I don't feel comfortable opening up to others.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

f. I prefer not to show others how I feel deep down.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

g. I often worry that other people do not really care for me.

- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

h. I'm afraid that other people may abandon me.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

i. I worry that others won't care about me as much as I care about them.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

2. Please answer the following questions about your mother or a mother-like figure

a. It helps to turn to this person in times of need.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

b. I usually discuss my problems and concerns with this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

c. I talk things over with this person.

- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

d. I find it easy to depend on this person.

- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

e. I don't feel comfortable opening up to this person.

- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

f. I prefer not to show this person how I feel deep down.

- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

g. I often worry that this person doesn't really care for me.

- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

h. I'm afraid that this person may abandon me.

- ☐ 1 – strongly disagree
- ☐ 2

- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

i. I worry that this person won't care about me as much as I care about him or her.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

3. Please answer the following questions about your father or a father-like figure

j. It helps to turn to this person in times of need.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

k. I usually discuss my problems and concerns with this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

l. I talk things over with this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

m. I find it easy to depend on this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3

- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

n. I don't feel comfortable opening up to this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

o. I prefer not to show this person how I feel deep down.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

p. I often worry that this person doesn't really care for me.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

q. I'm afraid that this person may abandon me.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

r. I worry that this person won't care about me as much as I care about him or her.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

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- ☐ 6
- ☐ 7 – Strongly agree

4. Please answer the following questions about your dating or marital partner. Note: If you are not currently in a dating or marital relationship with someone, answer these questions with respect to a former partner or a relationship that you would like to have with someone.

s. It helps to turn to this person in times of need.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

t. I usually discuss my problems and concerns with this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

u. I talk things over with this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

v. I find it easy to depend on this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

w. I don't feel comfortable opening up to this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4

- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

x. I prefer not to show this person how I feel deep down.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

y. I often worry that this person doesn't really care for me.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

z. I'm afraid that this person may abandon me.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

aa. I worry that this person won't care about me as much as I care about him or her.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

5. Please answer the following questions about your best friend

bb. It helps to turn to this person in times of need.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

- ☐ 6
- ☐ 7 – Strongly agree

cc. I usually discuss my problems and concerns with this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

dd. I talk things over with this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

ee. I find it easy to depend on this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

ff. I don't feel comfortable opening up to this person.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

gg. I prefer not to show this person how I feel deep down.
- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

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hh. I often worry that this person doesn't really care for me.

- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

ii. I'm afraid that this person may abandon me.

- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

jj. I worry that this person won't care about me as much as I care about him or her.

- ☐ 1 – strongly disagree
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7 – Strongly agree

Appendix 2: Ethical Approval

School of Health in Social Science Research Ethics Application

The supervisor or primary investigator must complete and sign this form after checking that all relevant sections are completed, and relevant documents are attached. For all undergraduate (UG) and MSc student projects, it is the supervisor's responsibility to submit this form and all attachments. Please note that failure to do this will result in the application being returned (and not processed) causing your research to be delayed.

Supervisor (name and UUN: Dr. Jamie Kennedy-Turner **(UUN: jkenned6)**	
Primary Investigator (name and UUN): Christina Holmes s2358480	
List of all collaborators (with affiliated institutions in brackets): Hayley Handscombe (School of Philosophy, Psychology and Language Sciences, University of Edinburgh)	
Student's programme of study (if applicable): Masters of Science by Research – Clinical Psychology	
Project Title: Prevalence and Functionality of Sexual Activity to Self-Injure (SASI) Behaviours in University Students	
Case Number (if known – assigned by Administrator at time of 1st submission): CAHSS2408/12	
Proposed Project Start Date: September 1st, 2024	**Proposed Project End Date:** August 31st, 2025

Please indicate whether the primary investigator on this project is staff or student <u>and</u> select your subject area:

☐ Staff ☒ UG or MSc Student ☐ DClin Student ☐ PhD Student

☐ CPASS ☒ Clinical Psychology ☐ Nursing Studies

This is a:

☒ New application for ethical review – first submission

☐ Resubmission following reviewer comments

☐ Resubmission with requested amendments

Has been reviewed by an external ethical board, such as NHS IRAS or a UK HEI (multi-site studies only) with a favourable opinion? Level 1 *

☐ IRAS (NHS research ethics) ☐ Other: ____________________

Please tick <u>one option</u> that best describes your application:

☒ Collecting or generating new data involving other people: Level 2

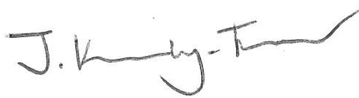
☐ Extracting, re-coding and analysing existing data that contains sensitive information (i.e. identifiable information): Level 2

☐ Analysing secondary (archival) data that is routinely collected or is an existing anonymised dataset: Level 1
☐ Collecting new data BUT an external ethical review board (such as NHS IRAS; UK HEI – for multi-site studies; etc) has fully reviewed this project and generated a favourable opinion: Level 1

This application is complete with the following attachments (tick all that apply):

Advert/flyer ☒	Caldicott application stating what data was requested ☐	Caldicott signed approval ☐		Consent form/s ☒
Data collection tools (e.g. interview guides) ☒	Debrief with signposting ☒	IRAS application ☐	IRAS opinion letter ☐	NGO or local authority letters ☐
Participant Information Sheet/s ☒	Participant Information Sheet (young person version) ☐	R&D application ☐	R&D approval ☐	Researcher Checklist (C-19) ☐
Risk assessment ☐	Standardised recruitment email ☐	Sponsorship Letter OR Email to confirm no sponsorship needed / statement explaining why sponsorship is not needed. ☒		

Other attachments (please specify):

To be completed by primary investigator or project supervisor
By signing this front sheet, I confirm that I have prepared and/or reviewed this ethics application and related documents in accordance with ethical guidelines. I also confirm I have checked that all relevant sections of the application form are completed and relevant documents are attached.
Supervisor or/PI Signature: 
Student signature:
Date: 24 October 2024

On completion, this Word document along with the relevant attachments should be submitted to ethics.hiss@ed.ac.uk.

Note: **Please note all undergraduate and MSc applications MUST been signed and submitted by the project supervisor.**

Contents

LEVEL 1 and 2 – Confidentiality and Handling of Data
Section 1: Introduction
Section 2: Security-sensitive material
Section 3: Copyright
Section 4: Good conduct in collaborative research
Section 5: Good conduct in publication practice
LEVEL 2 ONLY – Participant Risk and Information
Section 6: Potential risks to participants and researchers
Section 7: Participants and data subjects.
Section 8: Participant or data subject information and consent

This section is to be completed after review only
ISSUES ARISING FROM THE PROPOSAL – to be completed by Ethics Reviewer

Thank you for your application. The review process has generated the following queries regarding your application. Please address the following items, and provide a note underneath each comment letting us know how you have addressed them:

24-25CLPS 009
Ethics Application

Can you please select "new application" instead of "resubmission following reviewer comments.
The application is not signed by applicant or supervisor. Please include these.

Q1
SONA in HiSS is linked to postgraduate students, not undergraduate. (Not an ethics issue, just a clarification). Please specify if you are planning to use the SONA system in Clinical Psychology, or whether you are expecting to use the SONA system in PPLS (you may need separate permission to use this).
Please include information about data handling in this answer, as requested in the question.
The form states that researchers will have no way to identify participant answers, but it also states that participants are able to withdraw their data. Please clarify how data withdrawal will be possible.

- I am aiming to use the SONA system within HiSS as well as the system within PPLS to obtain a more well-rounded and robust sample. I am in the process of obtaining PPLS ethical approval. An application for ethical approval has been submitted to PPLS in coordination with a 4th year undergraduate psychology student who has joined the research team.
- Thank you for bringing this to our attention; the query has prompted a revision to our protocol and guidance to participants which is detailed in the following sentence, as well as in revised participant-facing documents. Participants are able to withdraw their data only prior to submission of answers. A 'withdraw' button is available at the bottom of each survey page. Participants have the option to withdraw at any point prior to completing the survey. As the information collected is anonymous, once submitted, researchers will have no way of identifying individual participants to withdraw answers. Answers within Qualtrics are automatically saved so participants are able to exit and return to the study. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be recorded and may be used for data analysis. Participants will be reminded of their right to withdraw their information and be informed again that they are unable to withdraw their data following submission, as well as being informed that incomplete responses will be recorded and may be used in data analyses unless participants click the withdraw button.

Q7
"*all participant identifiable information will be removed once submission is completed*" can you please clarify why you are collecting this information if it is deleted on submission? And which identifiable information are you collecting?
This section states that identifiable information will be removed, however elsewhere it states that identifiable information will not be collected. Please clarify this.

- Our apologies for the confusion, to clarify, identifiable information will not be collected. Person-level information will be anonymised. For instance, age will be collected but we will not ask for date of birth. As there is a qualitative component of the study, there is a risk that participants may share identifiable information. Participants are reminded to avoid sharing any identifiable information and all information that could be potentially identifiable will be anonymized.

Q9

Please clarify where are these password protected folders. Do you mean OneDrive?
Please specify if you are downloading data to personal computers , saved again to OneDrive and deleted from the computers again, to ensure no data will be stored in personal computers.

- Survey data containing anonymous participant responses will be uploaded as a file within a password-protected OneDrive folder hosted by the University of Edinburgh to ensure no data will be stored on personal computers.

Q21

Please clarify if a participant withdraws, will their data be retained for analysis?

- A 'withdraw' button is available at the bottom of each survey page. Participants have the option to withdraw at any point prior to completing the survey. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be recorded and may be used for data analysis. Participants are informed of this in the Participant Information Sheet.

Q39

Please clarify if a participant withdraws, will their data be retained for analysis?

- A 'withdraw' button is available at the bottom of each survey page. Participants have the option to withdraw at any point prior to completing the survey. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be recorded and may be used for data analysis. Participants are informed of this in the Participant Information Sheet.

Q43

Can you clarify if you intend to use NHS locations to recruit participants? This may not be possible unless you have NHS research ethics.

- Participants will be recruited from locations outside of the NHS; no NHS recruitment will take place. This has been further highlighted in the below application.

Q45

Clarify point 3, if a participant withdraws, will their data be retained for analysis?

- Participant data from those who withdraw will not be retained for data analysis. A 'withdraw' button will be available at the bottom of each survey page. Participants have the option to withdraw at any point prior to completing the survey. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be recorded and may be used for data analysis. Participants are informed of this in the Participant Information Sheet.

Flyers

Please clarify surveys are completed online and anonymously(if they are anonymous?).

- Surveys are completed online and anonymously

Consent Form

Clarify point 3, if a participant withdraws, will their data be retained for analysis?

- Participant data from those who withdraw will not be retained for data analysis. A 'withdraw' button will be available at the bottom of each survey page. Participants have the option to withdraw at any point prior to completing the survey. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be

recorded and may be used for data analysis. Participants are informed of this in the Participant Information Sheet.

Please clarify what you mean by "Credits" – does this mean University course credits or SONA system credits

- SONA credits; students will not be penalized for withdrawing

PIS

Please make it clear on the PIS that you are looking for people to take part whether or not they have engaged in SASI themselves.

- Added to first paragraph and highlighted

In the "What will happen if I do decide to take part" section remind participants what NSSI stands for.

- Added the full term 'non-suicidal self-injury'.

Do I have to take part?

Please clarify how much time participants have to withdraw.

- You are able to withdraw your data prior to submission of answers. A 'withdraw' button is available at the bottom of each survey page. Participants have the option to withdraw at any point prior to completing the survey. As the information collected is anonymous, once submitted, researchers will have no way of identifying individual participants to withdraw answers. Answers within Qualtrics are automatically saved so participants are able to exit and return to the study. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be recorded and may be used for data analysis. Participants will be reminded of their right to withdraw their information and be informed again that they are unable to withdraw their data following submission.

Can you clarify what the randomized ID number will be used for?

- This is to allow for an organization of responses. As we aim to analyse participants in four distinct groups; those who engaged in SASI, NSSI, both or neither. Qualtrics automatically generates a randomized string of letters and numbers to each saved response. Responses will be saved and organized in accordance with these ID numbers and will retain no personal or identifiable data. As we are collecting qualitative data as well as quantitative data, these ID numbers will prevent duplicate data being analysed in future research.

Under "Are there any risks or disadvantages…" it states that no identifiable information will be collected. However later in this section it states that participants will provide an email (which is identifiable). Please clarify this.

- Correction to PIS form: "It is unlikely that taking part will pose any risk to you, though it is possible some of the questions might be upsetting to think about given the nature of the survey. Your wellbeing is very important. If you feel affected by the content of the survey, then there are some resources for further support available on the debrief form at the end of the survey, and in the footer of each survey page."

the debrief form following your completion of the study and will additionally be sent to your provided email

This is not stated in the Ethics application form. How will you store participant emails? (separate to their data, for how long, where, etc). You are mentioning a QR code. Can you please clarify.

- Apologies for all confusion, participant emails will **not** be collected. A QR code is available for participants with a link to our research findings should they be interested; participants will be advised to save this QR code if they are interested in finding out more about the results at a later

date. Furthermore, the PIS and Debrief forms will be available to be downloaded by the participants.

There are no anticipated physical injuries that could occur during your participation.
Consider removing this statement. It is not necessary for an online anonymous survey.

- Removed

WILL MY TAKING PART BE KEPT CONFIDENTIAL?
Can you provide more detail here about anonymous surveys and data storage.

- No personal and identifiable data will be collected to ensure anonymity of data. Survey responses will be exported from Qualtrics and uploaded as a file within a password-protected OneDrive folder hosted by the University of Edinburgh to ensure no data will be stored on personal computers. It is possible that members of the research team will access the secure folder using personal laptops in order to run data analyses while away from the University. In these instances, a VPN connection to the University of Edinburgh servers will be used to ensure data security.

HOW WILL WE USE INFORMATION ABOUT YOU?
Please add anonymous data will be kept for 10+ years.

- Added and highlighted

FREEDOM TO WITHDRAW OR PARTICIPATE
Please explain why data cannot be withdrawn.

- Please see the following text in the PIS: "As the information collected is anonymous, once submitted, researchers will have no way of identifying individual participants to withdraw answers."

Please add a link to the CALM webchat that is mentioned.

- added

Check spelling and grammar, some minor typos identified.
Signpost participants to a support service that supports people with these experiences of sexual violence (such as Rape Crisis).

- Added

Same as in the Debrief form.

As you are advertising internationally, it would be good to have at least one support service that is international.

- Added three worldwide support resources

Debrief Sheet
Can you please remind participants what NSSI stands for.

- Added

This study will analyse the differences between individuals who promote SASI, NSSI, both or neither behaviours. A secondary analysis of the functionality of SASI behaviours will be completed to determine if there is a significant association between the functionality of the behaviour and SASI. This allows for a separate assessment of each possible function of SASI and creates a more detailed understanding of these associations.
This paragraph is very technical, can you consider writing it for a lay audience?
Please make sure that anything written on the debrief sheet will be understandable to a general audience.
You do not need to write about the analyses you will be conducting

- Replaced the paragraph with the following: "This study aims to explore differences between participants who have engaged with SASI, NSSI, both or neither behaviours. The study will also explore the reasons why people might engage in SASI and/or NSSI, to help us understand these behaviours better."

Right to Withdraw Participation

Can you please write this in an alternative way. At this stage answers have been submitted. Please let participants know their data can no longer be withdrawn and why.

- Replaced the paragraph with the following: "Once answers have been submitted, it is no longer possible to withdraw participation. As the information collected is anonymous, once submitted, researchers will have no way of identifying individual participants to withdraw answers. No identifiable data is collected and responses remain anonymous at all points of the study."

Please clarify what the service HOPELINE can provide.

- Removed as more relevant resources were included instead. Added three international resources and the hyperlink for CALM.

As you are advertising internationally, it would be good to have at least one support service that is international.

- Added three worldwide support resources

Questionnaires

Age

Consider asking a full question? How old are you (in years)?

In general, all demographic questions should be asked as full questions: what is your gender?

- All questions have been updated to be asked in full and in a manner that avoids collecting identifiable information; e.g, How old are you?, What is your gender?, etc

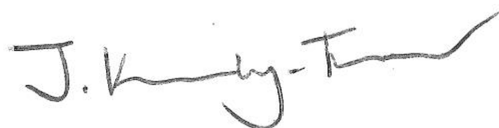
Signature: Dr Leonor Rodriguez E.

Position: Ethics & Integrity Co-Lead

Date: 24/10/2024

APPLICANT'S SIGNATURE FOLLOWING REVISIONS – to be completed by applicant

I confirm that I have addressed all of the queries generated during the ethical review process of my application. I have outlined in the box above underneath each comment how each request was addressed and/or provided further clarification.



Supervisor/PI Signature:

Student signature:

Date: 18 November 2024

CONCLUSION TO ETHICAL REVIEW – to be completed by Ethics Lead

The applicant's response to our request for further clarification or changes has now satisfied the requirements for ethical practice and the application has therefore been given a favourable opinion.

OR

Thank you for providing responses to our comments. Some outstanding questions remain:

Signature:

Position:

Date:
that a favourable opinion has been provided for this project (for example as an attachment to MSc dissertations).

NOTE: Once reviewed please include the page on which this box appears as a formal document demonstrating that favourable opinion has been provided for this project (for example as an attachment to MSc dissertations).

If you are applying for amendments to a previously reviewed and processed project, please use the below form to detail the amendments you wish to make:

This section is to be completed for amendments only
AMENDMENT/S: REQUEST FOR APPROVAL – to be completed by applicant
I would like to apply for the following amendments to this previously processed project which had generated a favourable opinion: **Supervisor/PI Signature:** **Student signature:** **Date:**
CONCLUSION TO ETHICAL REVIEW OF AMENDMENT – to be completed by Ethics Lead
The requested amendment satisfies the requirements for ethical practice and it has therefore received a favourable opinion. OR Additional information is required related to: **Signature:** **Position:** **Date:**

NOTE: Once reviewed please include the page on which this box appears as a formal document demonstrating that favourable opinion has been provided for this project (for example as an attachment to MSc dissertations).

LEVEL 1 and 2 – Confidentiality and Handling of Data
Section 1: Introduction

External Research Ethics Approval:

Does your research project require the approval of any other institution and/or ethics committee, nationally or internationally?

Note: It is each researcher's responsibility to check whether their project requires Sponsorship, Caldicott Approval, R&D approval, and/or IRAS (see https://www.ed.ac.uk/health/research/ethics-and-integrity). The principal investigator is responsible for ensuring compliance with any additional ethical requirements that might apply, and/or for compliance with any additional requirements for review by external bodies.

☒ This research project does not require external ethics approval.
OR

If you require external approval, please state the name of the review body:
☐ IRAS (NHS research ethics) ☐ Local Authority ☐ Other: ____________________

NB: If you require external approval from IRAS/NHS/Caldicott, **you must have external approval before submitting your application for School of Health in Social Science Research Ethics approval**. You can only submit your application to us once external approval has been obtained, and you must include all documentation including your application to and approval of external approval as an attachment. If you require approval from a **local authority**, you must first receive ethics approval from the School of Health in Social Science Research Ethics Committee, before submitting your application to the local authority.

Q1. Project summary

Please provide a brief summary of your proposed study. Do not exceed 1500 words. Our interest is in areas of your methodology where ethical issues may arise so please focus your detail on areas such as recruitment, consent, describing your participants and the nature of their involvement, and data handling.

Background
The use of sexual activity to self-injure (SASI) is an emerging concept in modern research which remains relatively underexplored. The growing literature base surrounding SASI has found that sexual behaviours may be used as a form of self-injurious behaviour, with functionality similar to NSSI. Currently, risky sexual behaviours (i.e, engaging in unprotected sex) are often not included in the definition of NSSI but are instead considered an indirect form of self-injury or alternatively, as a form of risk-taking behaviour. Recent research indicates that SASI can serve the same function as NSSI for certain individuals. Although SASI is generally accepted as NSSI, one of the current challenges facing SASI research is the ongoing debate on whether it should be categorized as a direct behaviour, an indirect behaviour or both. This debate stems from the notion argument that SASI can include engaging in physically harmful sexual encounters that do not provide any form of sexual gratification (i.e, choking, slapping, bruising, etc). Alternatively, it has been argued that SASI is more closely associated with indirect self-harm behaviours by serving to produce emotional distress or a mental punishment despite the act itself not being physically harmful. Previous literature does not consider whether the function of SASI is direct or indirect and the functionality of SASI remains poorly characterized. The present study aims to address the lack of literature surrounding the functionality of SASI to develop a more cohesive understanding of SASI as a concept.

The present study aims to address the current gap in literature by investigating the prevalence of direct and indirect self-injury through sexual behaviours. Alongside the lack of research investigating SASI as a whole, the majority of existing literature focuses on SASI within adolescent populations. Although information on adolescent groups is necessary to obtain a full understanding of SASI, there is a current gap in literature surrounding other population groups. The sole focus on adolescents overlooks a population to whom SASI may be particularly relevant; university aged students. Among university aged students within the 21st century, there is an increasing focus on the concept of “hook-up” culture. This concept implies that university students are involved in more frequent sexual experiences without the expectation of a further relationship. Current research suggests that hookup culture is most prevalent within university scenes, where there is a large emphasis on sexual experiences and identity exploration. NSSI research on university students consistently indicates that there is a high prevalence of other forms of self-injurious behaviours within this population; often with high comorbidity rates between NSSI and other mental disorders. Further research is needed to see if similar SASI patterns emerge within the university populations. Furthermore, university students often experience high levels of emotional distress and mental health difficulties due to increased stress levels, life event changes, and other external factors. The high prevalence rates of NSSI in university students and considerable mental health difficulties coupled with the increased likelihood of sexual encounters increased the risk for university students to engage in SASI behaviours. The emphasis on sexual experiences and frequency of sexual partners within this population is an area that should be further explored in relation to SASI.

Aims
The proposed study aims to investigate the prevalence of sexual activity to self-injure (SASI) and its direct and indirect functionality in a representative university-aged population. The secondary aim is to study the association between self-reported experiences of SASI and possible risk factors such as self-esteem, other NSSI characteristics, and history of abuse. The following research questions will be analyzed:

1. Are University students who engage in SASI more likely to engage in the behaviours to serve a direct, indirect function, or both?
2. Are students who report engaging in SASI likely to engage in other forms of NSSI?
3. Is there a correlation between self-reported identifiable risk factors and SASI

engagement?

This study will utilize a cross-sectional design and aims to recruit a sample population of 273 participants from the university population, who currently are or previously were sexually active.

Recruitment
Participants will be recruited from various university populations. The study aims to utilize SONA as a main form of recruitment within the University of Edinburgh's undergraduate student population. To expand our population diversity, we will aim to recruit participants from university populations not exclusive to the University of Edinburgh. Social media advertising will be utilized through student Facebook groups, reddit threads, Instagram posts, and more. These posts will not be specific to the University of Edinburgh and will allow for the recruitment of a wider sample through students from various institutions. Furthermore, physical posters and leaflets will be administered throughout various locations and the research teams academic, professional and personal social networks will be included in the recruitment efforts.

Procedure
Participants will be initially screened for eligibility following giving informed consent and inclusion criteria for participants is as follows: 1. Aged 17-25, 2. Enrolled in a University course either full-time or part-time. 3. Currently or previously sexually active. 4. English speaking/native English speaker. Screening will include a brief questionnaire to determine eligibility. The age range of participants is consistent with our general understanding of 'university-aged' individuals and aims to exclude mature students for the purpose of this study. Screening will include a brief questionnaire to determine eligibility. Participants deemed eligible will then proceed to the rest of the survey. As there is no scientifically based definition of "sexual activity to self-injure" the theoretical framework for this study will draw on current literature and previous research to determine the most relevant definition for SASI. For the purpose of this study, SASI will be defined using the definition "The seeking and consensual engagement of sexual situations that cause mental and/or physical harm to oneself during and/or following the action. These actions are NOT related to practices of consensual sexual fantasies (i.e., BDSM (Bondage, Discipline/Dominance, Submission/Sadism/Sadomasochism, Masochism))." Previous definitions do not specifically define SASI as a consensual act which is an important consideration when accounting for rape or sexual assault victims who may have engaged in non-consensual sexual behaviours that resulted in mental or physical harm. Additionally, this definition excludes consensual sexual fetishes such as BDSM in the overall explanation of SASI, as these acts generally are more related to erotic pleasure than self-injury but still may include physical or psychological harm. Furthermore, this definition aims to broadly include participants with both direct and indirect SASI behaviours to prevent confounding the findings towards one measure.

As no standardized measure of SASI behaviours exists, an investigator written tool will be created to assess SASI symptoms based on a current review of literature. Demographic information will be collected first, to gain more insight on the population of interest. This information will include age, gender, sexual preference, ethnicity and more. The SASI questionnaire will draw from previous research in the field; particularly modifying versions of previous questionnaires used in 2017 and 2022. This will include questions aiming to investigate both direct and indirect functions of SASI. Questions such as "have you ever engaged in sexual activities as a way to physically harm yourself?" and "have you ever engaged in sexual activities as a way to mentally harm yourself?" will be included as base determinants of direct and indirect behaviours of SASI. Additional questions will be asked to assess specifics regarding intention of SASI, goal of SASI, frequency of behaviours, feelings

and attitudes towards behaviours. Furthermore, risk factors for SASI will be investigated through additional standardized questionnaires. To assess NSSI characteristics, the Functional Assessment of Self-Mutilation (FASM) (Lloyd, Kelley, & Hope, 1997), will be used to assess the frequency, severity, functions and other characteristics of self-injurious behaviours. This instrument is necessary in measuring reported NSSI behaviours, severity of behaviours and motivation behind NSSI; which can be used to assess the overlap of SASI and other NSSI characteristics. Next, the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965) will be utilised to measure positive and negative feelings about the self. This will provide a greater understanding into the role self-esteem may play in SASI and the mechanisms of SASI as a whole. Next, the Sexual and Physical Abuse Questionnaire (SPAQ) (Kooiman et al, 2002) will be delivered to assess the prevalence of lifetime history of sexual and physical abuse. This will generate a greater understanding of abuse prevalence rates among those who endorse SASI and how sexual and physical abuse affect the likelihood an individual will engage in SASI. The Patient Health Questionnaire – 9 (PHQ-9) and General Anxiety Disorder – 7 (GAD-7) will be administered to collect additional information on mental health conditions within participants. These questionnaires aim to assess symptoms of depression and anxiety, respectively and will establish a better overall understanding of the mental condition of each participant and how different mental health concerns relate to SASI. Lastly, The Relationship Structures Questionnaire (ECR-RS) (Fraley et al., 2014) will administered to assess participant's general attachment styles. This scale will allow for us to gain a general understanding of participants attachment anxiety and avoidance scores. This will establish a basis for the potential risk factors associated with different attachment styles in relation to likelihood individuals will engage in SASI.

Informed consent will be obtained from each participant which will include full disclosure on the purpose of the research, foreseeable risks to participants, procedures, benefits and expected time commitment of the study. Contact information will be provided should participants wish to obtain further information regarding the research. Participants will be informed of their right to confidentiality and their right to withdraw or terminate participation at any point prior to submission. Participants will be informed that following the submission of answers they will no longer be able to withdraw their data from the study. Submitted surveys will be anonymously stored and researchers will have no way of identifying participant's answers. Participants are able to withdraw their data at any point prior to submission of answers. A 'withdraw' button will be available at the bottom of each survey page. Answers within Qualtrics are automatically saved so participants are able to exit and return to the study. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be recorded and may be used for data analysis. Participants will be reminded of their right to withdraw their information and be informed again that they are unable to withdraw their data following submission. Participants will be made aware of this on the participant information sheet. Participants are also informed of their right to skip any questions they do not wish to answer. A final debrief will be provided following the completion of the research study. This aims to confirm the participants understanding of the research conducted and further discuss the study procedure as well as their role in the research. A copy of the researcher's contact information and information regarding additional psychology resources will be provided to all participants on the Participant Information Page (PIP) and the Debrief Form. Participant information will remain confidential and each participant will be assigned a number to further protect their identity. Surveys will remain anonymous and no names will be collected or included in any future publications. Despite ethical considerations, the topics disclosed in the proposed study may be uncomfortable or damaging to certain individuals. Therefore, extra consideration must be given to obtaining full and informed consent as well as providing a thorough debrief to all participants. Information to further resources will be included in the PIP, debrief form, and on the footer of each page of the questionnaire.

Analyses
Participants will be categorized into four independent groups 1) Students who endorse SASI only; 2) Students who endorse both SASI and at least one other form of NSSI; 3) Students who endorse at least one form of NSSI, not including SASI; and 4) Students who endorse neither SASI nor NSSI. Those who report experiencing SASI behaviours will be further asked information on the functionality of the behaviours to determine if they are direct and/or indirect. Responses will be recorded through a secure online survey system. Further information will be obtained through additional standardized questionnaires to assess for potential risk-factors of SASI. The proposed study aims to analyse the four independent groups. A one-way ANOVA will be used to to determine statistical differences between the means of prevalence rates between the four independent groups. The test will be used to analyse the variance in individuals who endorse SASI, NSSI, both or neither behaviour. A secondary analysis of the functionality of SASI behaviours will be completed using a chi-squared test for independence, to determine if there is a significant association between the functionality of the behaviour and SASI. This allows for a separate assessment of each possible function of SASI (direct, indirect or both), and creates a more detailed understanding of these associations. Lastly, a hierarchal multiple regression analysis will be utilised to explore associations between the variables of interest and SASI rates. Risk factors such as, motivation and severity of NSSI, self-esteem levels, and prevalence of sexual and physical abuse will be analysed to determine if these risk factors are associated with higher levels of SASI in a student population. The hierarchal model allows for the examination of each risk factor's incremental contribution to SASI rates. A cross-sectional design was chosen due to its ability to examine the prevalence of an outcome across a large population size at a fast and inexpensive rate. Due to the limited duration of the MSc program, data must be collected efficiently and quickly in order to allow for a full and proper analysis of the information. One limitation of the proposed study is the challenge associated with self-report measures. Due to the self-report measures of the study and the sensitive questionnaire material there is a possibility for recall and report biases to exist. The anonymity provided through the online survey platform aims to reduce report biases within the proposed study. Extra consideration will be given when assessing participant responses to exclude answers with a high percentage of unanswered questions.

Q2. Will you collect or use NHS data?

☐ Yes ☒ No

If "yes" – what NHS data will you collect or use?

Q3. What information about participants/data subjects will you collect and/or use?

1. A demographic questionnaire will be administered to assess factors such as age, sexual orientation and gender identity
2. An investigator written tool will be created to assess SASI symptoms based on a current review of literature. The questionnaire will draw from previous research in the field; particularly modifying versions of previous questionnaires used in 2017 and 2022. This will include questions aiming to investigate both direct and indirect functions of SASI. Questions such as "have you ever engaged in sexual activities as a way to physically harm yourself?" and "have you ever engaged in sexual activities as a way to mentally harm yourself?" will be included as base determinants of direct and indirect behaviours of SASI. Additional questions will be asked to assess specifics regarding intention of

SASI, goal of SASI, frequency of behaviours, feelings and attitudes towards behaviours. Qualitative and Quantitative data will be collected to allow for a deeper understanding of independent functions of SASI for each participant.
3. The functional Assessment of Self-Mutilation (FASM) (Lloyd, Kelley, & Hope, 1997), will be used to assess the frequency, severity, functions and other characteristics of self-injurious behaviours. Two modified versions of the FASM will be available in this study. Those who endorse NSSI will receive the original version. Those who endorse SASI will receive a modified version specific to SASI. Those who endorse both NSSI and SASI will receive both versions.
4. The Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965)
5. the Sexual and Physical Abuse Questionnaire (SPAQ) (Kooiman et al, 2002)
6. The Patient Health Questionnaire – 9 (PHQ-9)
7. The General Anxiety Disorder – 7 (GAD-7) questionnaire
8. The Relationship Structures Questionnaire (ECR-RS) (Fraley et al., 2014)

Informed consent will be obtained from each participant which will include full disclosure on the purpose of the research, foreseeable risks to participants, procedures, benefits and expected time commitment of the study.

Q4. What training will staff who have access to the data receive on their responsibilities for its safe handling? Have all staff and students who have access completed the mandatory data protection training on the self-enrolment page of Learn?

All staff and students have completed the mandatory data protection training on the self-enrolment page of Learn.

The Primary researcher (CH) has additionally completed The Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2) Course on Research Ethics (CORE). This course provides ethics guidance that applies to all research involving human participants – including their data and/or biological materials.

Q5. Will the information include special categories of personal data (health data, data relating to race or ethnicity, to political opinions or religious beliefs, trade union membership, criminal convictions, sexual orientations, genetic data and biometric data)?

☒ Yes ☐ No

If "yes" – Explain what safeguards e.g. technical or organisational you have in place; including any detailed protocols if this requires special and/or external processing, storage, and analysis.

Sexual orientation information will be collected within the demographic questionnaire. This will not affect the eligibility of participants and an option of non-disclosure will be available to all participants. This information will be collected to help characterize the sample, and to determine whether certain demographic factors make individuals more likely to endorse SASI engagement.

Q6. Please indicate how your research is in the public interest:

☒ Your research is proportionate
☒ Your research is subject to a governance framework
☐ Research Ethics Committee (REC) review (does not have to be a European REC)
☐ Peer review from a funder
☐ Confidentiality Advisory Group (CAG) recommendation for support in England and Wales or support by the Public Benefit and Privacy Panel (PBPP) for Health and Social Care in Scotland
☐ Other

Q7. It is essential that you identify, and list all risks to the privacy of research participants. You will then need to consider the likelihood of the risks actually manifesting and the severity of harm if the risks actually manifest.

Risk	Likelihood of risk manifesting			Severity of harm		
	Remote	Possible	Probable	Minimal	Significant	Severe
Identifiable due to data linkage	☒	☐	☐	☒	☐	☐
Identifiable due to low participant numbers	☒	☐	☐	☒	☐	☐
Identifiable due to geographical location	☒	☐	☐	☒	☐	☐
Identifiable due to transfer of data	☒	☐	☐	☒	☐	☐
Identifiable due to access of data	☐	☒	☐	☒	☐	☐
Insert more rows as appropriate	☐	☐	☐	☐	☐	☐

Please use this text box to record any other risks and the likelihood of them occurring, along with the severity of harm. Please also use this when dealing with secondary data.

Identifiable information will not be collected. Person-level information will be anonymised. For instance, age will be collected but we will not ask for date of birth. As there is a qualitative component of the study, there is a risk that participants may share identifiable information. Participants are reminded to avoid sharing any identifiable information and all information that could be potentially identifiable will be anonymized.

Please identify measures you could take to reduce or eliminate risks identified as possible/significant or probable/severe.

N/A

Q8. Will information containing personal, identifiable data be transferred to, shared with, supported by, or otherwise available to third parties outside the University?

☒ Yes ☐ No

If "yes" - Please explain why this necessary and how the transfer of the information will be made secure. If the third party is based outside the European Economic Area please obtain guidance from the Data Protection Officer.

The project will use the web-based survey software Qualtrics XM to create, publish and distribute the survey, and to collate responses. The College of Arts, Health and Social Sciences at the University of Edinburgh have licensed Qualtrics as their preferred survey tool and have agreed robust and fully compliant data and use agreements to protect researchers, respondents, and their data.

Q9. Other than the use by third parties, will the data be used, accessed or stored away from University premises?

☒ Yes ☐ No

If "yes" - Describe the arrangements you have put in place to safeguard the data from accidental or deliberate access, amendment or deletion when it is not on University premises, including when it is in transit, and (where applicable) it is transferred outside the EEA.

Anonymous research data in the form of survey responses will be exported from Qualtrics and uploaded to separate password protected folders on OneDrive hosted by the University of Edinburgh, which will be accessible only by the research team. Survey data containing anonymous participant responses will be uploaded as a file within a password-protected OneDrive folder hosted by the University of Edinburgh to ensure no data will be stored on personal computers

It is possible that members of the research team will access the secure folder using personal laptops in order to run data analyses while away from the University. In these instances, a VPN connection to the University of Edinburgh servers will be used to ensure data security.

Q10. Will feedback of findings be given to your research project participants or data subjects?

☒ Yes ☐ No

If "yes" - How and when will this feedback be provided?

Following submission or withdrawal, participants will be provided a QR code with a link to our research teams wiki page. The QR code will be included on the debrief form and available to all participants. Following the completion of the study; the results and findings will be posted on this page. No identifiable data will be presented in the findings and all participants will remain confidential.

If "no" - Please provide rationale for this.

Q11. How do you intend to use/disseminate the results of your research project?

The results of this study will be used as the basis for the PI’s MSc dissertation. The research team also aims to publish the findings in an international peer-reviewed journal following completion. A summary of the findings will be made public and will be made available to organizations who assist with recruitment and participants who took part. Information from the findings of this study will be submitted to be presented at relevant NSSI research and suicide science conferences. Following submission or withdrawal from the study, participants will be provided with a QR code to our research teams wiki page. Participants will be asked to save the link and it will additionally be provided on the debrief form. Following the completion of the study; the results and findings will be posted on this page

Section 2: Security-sensitive material

The Terrorism Act (2006) outlaws the dissemination of records, statements and other documents that can be interpreted as promoting or endorsing terrorist acts.

Q12. Does your research involve the storage on a computer of any such records, statements or other documents?

☐ Yes ☒ No (if you answered no to this question please jump to section 3)

If "yes" - Please type 'Yes' to indicate that you agree to store all documents on that file store

Q**13. Might your research involve the electronic transmission (for example, as an email attachment) of such records or statements?**

☐ Yes ☐ No

If "yes" - Please type 'Yes' to indicate that you agree not to transmit electronically to any third party documents stored in the file store

Q14. Will your research involve visits to websites that might be associated with extremist, or terrorist, organisations?

☐ Yes ☐ No

If "no", please proceed to Question 15.

If "yes" - You are advised that such sites may be subject to surveillance by the police. Accessing those sites from University IP addresses might lead to police enquiries. Please type 'Yes' to acknowledge that you understand this risk

By submitting to the ethics process, you accept that your School Research Ethics Officer and the convener of the University's Compliance Group will have access to a list of titles of documents (but not the contents of documents) in your document store. *Please type 'Yes' to acknowledge that you accept this.*

Please confirm that you have contacted your School Research Ethics Officer to discuss security-sensitive material by ticking 'Yes'

☐ Yes, I have contacted my School's Research Ethics Officer
☐ No, I have not contacted my School's Research Ethics Officer

Section 3: Copyright

Q15. Does your project require use of copyrighted material?

☒ Yes ☐ No

If “yes” please give further details

All questionnaires utilized in this study will be cited and credit will be given to the respective authours. For measures that are not available for use of research purposes, consent from the respective authours will be obtained via email.

Section 4: Good conduct in collaborative research

Q16. Does your project involve working collaboratively with other academic partners?

☐ Yes ☒ No (if you answered no to this question please jump to section 5)

If "yes" - Is there a formal agreement in place regarding a collaborative relationship with the academic partner(s)?

If "no" - Please explain why there is no formal agreement in place

Q17. Does your project involve working collaboratively with other non-academic partners?

☐ Yes ☒ No

If "yes" - Is there a formal agreement in place regarding a collaborative relationship with the non-academic partner(s)?

If "no" - Please explain why there is no formal agreement in place.

Q18. Does your project involve employing local field assistants (including guides/translators)?

☐ Yes ☒ No

If "yes" - Is there a formal agreement in place regarding the employment of local field assistants (including guides and translators)?

If "no" - Please explain why there is no formal agreement in place

Q19. Will care be taken to ensure that all individuals involved in implementing the research adhere to the ethical and research integrity standards set by the University of Edinburgh?

☒ Yes ☐ No

If "no" - Please explain why care will not be taken

Q20. Have you reached agreement relating to intellectual property?

☒ Yes ☐ No

If "no" - Please explain why you have not reached agreement

Section 5: Good conduct in publication practice

In publication and authorship, as in all other aspects of research, researchers are expected to follow the University's guidance on integrity and research publications and copyright policy. By ticking yes, you confirm that full consideration of the items described in this Section will be addressed as applicable

☒ Yes ☐ No

If you intend to collect new data, please continue completing the Level 2 application in the next page.

If you are NOT collecting any new data, you have now completed the Level 1 application. Please submit this document alongside all attachments to ethics.hiss@ed.ac.uk .

LEVEL 2 ONLY – Participant Risk and Information

The following Sections are to be completed if you are collecting new data. Please do not complete it if you are using existing data.

Section 6: Potential risks to participants and researchers

Q21. Is your research project likely or possible to induce any psychological stress or discomfort in the participants or others, indirectly associated with the research?

☒ Yes ☐ No

If "yes" state the types of risk and what measures will be taken to deal with such problems

The topics disclosed in the proposed study may be uncomfortable or distressing to certain individuals. Topics relating to self-harm and sexual experiences may cause psychological stress or discomfort to participants. Therefore, extra consideration must be given to obtaining full and informed consent as well as providing a thorough debrief to all participants. Information to further resources will be included in the PIP, debrief form, and on the footer of each page of the questionnaire. Furthermore, participants will be reminded that they have the right to skip any questions they do not wish to answer and are able to withdraw from the study at any point without penalty. - A 'withdraw' button is available at the bottom of each survey page. Participants have the option to withdraw at any point prior to completing the survey. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be recorded and may be used for data analysis.

Q22. Does your research project require any physically-invasive or potentially physically harmful procedures?

☐ Yes ☒ No

If "yes" give details and outline procedures to be put in place to deal with potential problems.

Q23. Does your research project require the use of privacy-invasive technology, such as CCTV, biometrics, facial recognition, vehicle tracking software?

☐ Yes ☒ No

If "yes" - Give details and outline procedures to be put in place to deal with potential problems.

Q24. Does your research project involve the investigation of any illegal behaviour or activities?

☐ Yes ☒ No

If "yes" - Give details of any illegal behavior or activities you may investigate

Q25. Is it possible that your research project will lead to awareness or the disclosure of information about child abuse or neglect?

☐ Yes ☒ No

If "yes" - Indicate the likelihood of disclosure and the procedures to be followed if you become aware that a child has been or may be at risk of harm

Q26. Is it likely that dissemination of research findings or data could adversely affect participants or others indirectly associated with the research?

☐ Yes ☒ No

If "yes" - Describe the potential risk for participants/data subjects of this use of the data. Outline any steps that will be taken to protect participants.

Q27. Could participation in this research adversely affect participants and others associated with the research in any other way?

☐ Yes ☒ No

If "yes" - Describe the possible adverse effects and the procedures to be put in place to protect against them.

Q28. Is this research expected to benefit the participants, directly or indirectly?

☒ Yes ☐ No

If "yes" - Give details of how this research is expected to benefit the participants.

The aim of this research is to generate a greater understanding of SASI and its functionality. SASI remains poorly understood, however, recent literature suggests that it may pose a significant threat to the mental health of university students. This research aims to increase knowledge on how SASI effects the university-aged population and determine how these behaviours can be treated. A greater understanding of SASI can lead to further research into associated risk factors, as well as informing health promotion, prevention and intervention for those affected.

Q29. Will the true purpose of the research be concealed from the participants/data subjects?

☐ Yes ☒ No

If "yes" - Explain what information will be concealed and why.

Q30. Will participants/data subjects be debriefed at the conclusion of the study?

☒ Yes ☐ No

If "no" – Why will participants / data subjects not be debriefed?

Q31. At any stage in this research could researchers' safety be compromised, or could the research induce emotional distress in the researchers?

☐ Yes ☒ No

If "yes" - Give details and outline procedures to be put in place to deal with potential problems.

Please tick to confirm you agree with the following:

I will adhere to School guidance on risk assessment and health and safety and will seek advice on project and travel insurance prior to project commencement.

☒ I agree

☐ I do not agree

☐ Not applicable

Section 7: Participants and data subjects.

Q32. How many participants or data subjects are expected to be included in your research project?

The present study is a cross-sectional design which aims to recruit a representative sample of 273 university aged students. Statistical Package for the Social Sciences (SPSS) was used to determine power and sample size estimation for a one-way ANOVA with a 0.90 confidence level, a 0.05 margin of error and a 0.25 reasonable assumption of population variability. Since there is no standardized estimation of prevalence rates of SASI among college students, prior literature on SASI and NSSI research will be used to determine recommended sample size.

Q33. What criteria will be used in deciding on the inclusion and exclusion of participants/data subjects in your research project?

1. Aged 17-25, 2. Enrolled in a University course either full-time or part-time. 3. Currently or previously sexually active. 4. English speaking/native English speaker. Screening will include a brief questionnaire to determine eligibility.

Q34. Are any of the participants or data subjects likely to be under 16 years of age?

☐ Yes ☒ No

If "yes" - Explain and describe the measures that will be used to protect and/or inform participants/data subjects.

Q35. Are any of the participants or data subjects likely to be children in the care of a Local Authority?

☐ Yes ☒ No

If "yes" - Explain and describe the measures that will be used to protect and/or inform participants/data subjects.

Q36. Are any of the participants or data subjects likely to be known to have additional support needs?

☐ Yes ☒ No

If "yes" - Explain and describe the measures that will be used to protect and/or inform participants/data subjects.

Q37. In the case of participants with additional support needs, will arrangements be made to ensure informed consent?

☐ Yes ☐ No ☒ N/A

If "yes" – What arrangements will be made?

If "no" – Please explain why not

Q38. Are any of the participants or data subjects likely to be physically or mentally ill?

☒ Yes ☐ No

If "yes" - Explain and describe the measures that will be used to protect and/or inform participants/data subjects.

The research study aims to recruit participants with and without a history of self-harm; given that self-harm has strong associations with mental health difficulties, coupled with the prevalence of mental health difficulties in university-aged people, it is likely that a proportion of the sample will be experiencing mental health difficulties. All participants will be provided with a debrief form which includes a list of resources accessible to them should additional support be required.

Q39. Are any of the participants or data subjects likely to be vulnerable or likely exposed to harm in other ways?

☒ Yes ☐ No

If "yes" - Explain and describe the nature of the vulnerability and the measures that will be used to protect and/or inform participants/data subjects.

This study has the potential to result in uncomfortable feelings and memories for some participants. Participants will be informed of their right to skip any questions they do not wish to answer and their right to withdraw from the study at any time. Informed consent will be obtained at the start of the survey, and participants will read the Participant Information Sheet prior to participation so will be fully informed about the content of the survey and the potential for distress. Participants will also be directed to appropriate supports on the participant information sheet, debrief form, and in the footer of each survey page. A 'withdraw' button is available at the bottom of each survey page. Participants have the option to withdraw at any point prior to completing the survey. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be recorded and may be used for data analysis.

Q40. Are any of the participants or data subjects likely to be unable to communicate in the language in which the research is conducted?

☐ Yes ☒ No

If "yes" - Explain and describe the measures that will be used to protect and/or inform participants/data subjects.

Q41. Are any of the participants or data subjects likely to be in a relationship (i.e., professional, student-teacher, other dependent relationship) with the researchers?

☐ Yes ☒ No

If "yes" - Explain and describe the measures that will be used to protect and/or inform participants/data subjects.

Q42. Are any of the participants or data subjects likely to have difficulty in reading and/or comprehending any printed material distributed as part of the study?

☐ Yes ☒ No

If "yes" - Explain and describe the measures that will be used to protect and/or inform participants/data subjects.

Q43. Describe how the sample will be recruited.

Participants will be recruited from advertisements across campus, on social media and online platforms. We hope to utilize SONA to recruit our target population of university students. We will also aim to obtain consent to advertise our flyers in relevant professional settings such as sexual health clinics outside of the NHS. No NHS locations will be used for recruitment purposes.

Q44. Will participants receive any financial or other material benefits as a result of participation?

☒ Yes ☐ No

If "yes" - What benefits will be offered to participants and why?

We hope to offer credit compensation for the students who chose to participant through SONA. Credits will be automatically granted following submission of surveys. Researchers will have no access to participant information or credit delivery to ensure anonymity of participants.

Section 8: Participant or data subject information and consent

Q45. Will written or oral consent be obtained from all participants or data subjects?

☒ Yes ☐ No

If "yes" – attach participant information sheet and consent form and detail the process you will follow.

If "no" – explain why not and what process you will follow regarding consent, or if consent cannot or should not be sought for some reason, please provide a clear case and rationale for this (e.g. in international contexts where speaking to foreign researchers is prohibited).

Participants will receive a participant information sheet which outlines the purpose of the study as well as information on

- Why they have been contacted to partake in the research
- Right to withdraw or refuse to participate
- Expectations of participants should they choose to partake
- Possible benefits and risks of taking part
- How information will be kept confidential
- Additional resources to how their information will be stored and used.
- Organizing and funding of the research
- Who has reviewed the study
- Who can be contacted for relevant questions
- What will happen as a result of this study

Participants will then receive a formal consent form which obtains written consent from each participant. The from will ask the for participants to agree or disagree to the following questions:

1. I confirm that I have read and understood the Participant Information Sheet (Version 2 dated 18 Sept 2024) for the above study.
2. I have been given the opportunity to consider the information provided, ask questions and have had these questions answered to my satisfaction.
3. understand that my participation is voluntary and that I can withdraw from the study at any time without giving a reason and without my SONA credits or standing within the University being affected. Participant data from those who withdraw will not be retained for data analysis. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be recorded and may be used for data analysis.
4. I understand that my anonymised data will be stored for a minimum of 10 years and may be used in future ethically approved research.

5. I understand that relevant sections of my data collected during the study may be looked at by individuals from the Sponsor (University of Edinburgh), where it is relevant to my taking part in this research. I give permission for these individuals to have access to my data.

Please tick the appropriate box

6. By ticking this box I agree to take part in the above study.

Q46. Have you made arrangements to tell participants what information you will hold about them and for how long?

☒ Yes ☐ No

If "yes" - what arrangements have been made?

Anonymised data will be stored for a minimum of 10 years and may be used in future ethically approved research. No identifiable data will be presented in the findings and all participants will remain confidential. Participants will be assigned a random generated ID number and all stored information will be completely anonymous. Data will be stored initially on Qualtrics and once submitted, will be transferred to a secure password protected folder hosted on University of Edinburgh OneDrive server. Data will only be accessible to the research team. Information on data collection and maintained will be provided to participants in the participant information sheet and the debrief form.

If "no" – why not?

Q47. Have you made arrangements to tell participants whether you will disclose the information to other organisations?

☐ Yes ☐ No ☒ N/A

If "yes" - What arrangements have been made?

If "no" – why not?

Q48. Have you made arrangements to tell participants whether you will combine that information with other data?

☐ Yes ☐ No ☒ N/A

If "yes" - What arrangements have been made?

Q49. In the case of children participating in the research, will the consent or assent of parents be obtained?

☐ Yes ☐ No ☒ N/A

If "yes" - Explain how this consent or assent will be obtained

If "no" – Please explain why you won't be obtaining consent

Q50. Will the consent or assent of children participating in the research be obtained?

☐ Yes ☐ No ☒ N/A

If "yes" - Explain how this consent or assent will be obtained

If "no" – Please explain why not

Q51. In the case of participants who are not proficient in the language in which the research is conducted, will arrangements be made to ensure informed consent?

☐ Yes ☐ No ☒ N/A

If "yes" – What arrangements will be made?

If "no" – Please explain why not

Q52. Does the activity involve using cookies or tracking individual's activity on a website or the Internet in general?

☐ Yes ☒ No

If "yes" – Describe the arrangements you have put in place to obtain informed consent for the use of these tools

You have now completed the Level 2 application. Please submit this document alongside all attachments to ethics.hiss@ed.ac.uk .

Appendix 3: Participant Information Sheet

PARTICIPANT INFORMATION SHEET

Prevalence and Functionality of Sexual Activity to Self-Injure (SASI) Behaviours in Post-Secondary Students

Principle Investigator: Christina Holmes, MScR Candidate
Co-Principal Investigator: Dr. Jamie Kennedy-Turner

You are being invited to participate in a research study directed by Christina Holmes (MScR Candidate), under the supervision of Dr. Jamie Kennedy-Turner. The aim of this study is to investigate sexual activity to self-injure (SASI) and whether it is associated with other factors, such as self-esteem, non-suicidal self-injury (NSSI), and history of abuse. Participants are welcome to take part, whether or not they have ever self-harmed or engaged in SASI. If you are a student aged 17-25, we want to hear from you!

Before you decide whether to take part it is important you understand why the research is being conducted and what it will involve. Please take time to read the following information carefully.

WHAT IS THE PURPOSE OF THE STUDY?

Sexual activity to self-injure (SASI) is the seeking of and consensual engagement in sexual situations that cause mental and/or physical harm to oneself during and/or following the action. This study aims to look at the prevalence and function of SASI in young adults aged 17-25, to address an important gap in our understanding of SASI within this age group.

This study aims to determine how common SASI is in post secondary students, and why someone might engage in SASI. This study also aims to determine if SASI is associated with other factors, such as self-esteem, history of abuse and mental health.

Better understanding of what functions SASI serves and what factors might contribute to it may lead to better supports for people affected.

WHY HAVE I BEEN INVITED TO TAKE PART?

You are invited to participate in this study because you have expressed an interest in taking part in our research study titled "**Prevalence and Functionality of Sexual Activity to Self-Injure (SASI) Behaviours in University Students".** To be eligible to take part, you must be between the age of 17-25, either be currently sexually active or have been sexually active previously, be enrolled in a Post secondary course either full or part time and be a fluent or native English speaker.

DO I HAVE TO TAKE PART?

No – it is entirely up to you. If you do decide to take part, you are still free to withdraw at any time and without giving a reason. If you are a University of Edinburgh student, deciding not to take part or withdrawing from the study will not affect your SONA credits or standing within the University. You will be given 7 days from the last saved response to return to the study. After 7 days, all incomplete responses will be recorded and may be used for data analysis.

WHAT WILL HAPPEN IF I DECIDE TO TAKE PART?

If you do decide to take part, please download or screenshot this Information Sheet (available for download here). You will be asked to complete a consent form to show that you understand your rights in relation to the research, and that you are happy to participate.

If you consent to take part in our study, you will first be asked some questions to collect demographic information. This will include your age, gender, sexual orientation, level of study, ethnicity, and relationship status; this will take around 5 minutes. Following this, you will be asked a series of questionnaires which will take between 20-40 minutes total to complete. You have the right to skip any questions you do not feel comfortable answering. A 'prefer not to answer' option will be available for each question and can be used at any point throughout the research study. Choosing to not answer questions does not affect your eligibility to complete the study and will not affect your participation.
The first set of questions are relating to your sexual activity history and experiences. This survey will ask you if you have ever engaged in SASI and what function it served. It will also ask questions regarding intention of SASI, goal of SASI, frequency of behaviours, feelings and attitudes towards behaviours. If you engage in SASI, you will be asked a series of questions about the frequency, severity, functions and other characteristics of self-injurious behaviours. If you engage in non-suicidal self-injury characteristics (NSSI), you will receive a similar set of questions tailored to NSSI behaviours. The survey will ask you how you feel about yourself, whether you have experienced any form of abuse in the past, how you feel towards others in your life and about your broader mental health. Please avoid sharing any identifiable information in the free text response boxes; any potentially identifiable information shared will be anonymised prior to data analysis. Responses will be recorded through a secure online survey system.
If you experience any distressing feelings, you are encouraged to reach out to the appropriate services for additional help. There are no anticipated expenses associated with your participation in this study.

WHAT ARE THE POSSIBLE BENEFITS OF TAKING PART?

While you may not benefit directly from participating, results from this study will help us to better understand SASI and related factors, which may lead to improved support for people affected by these issues. If you are a University of Edinburgh student and are accessing the study through SONA, you will be rewarded course credits for your participation. Receiving course credits is optional and the decision to do receive credits or not will not affect your eligibility to take part.

ARE THERE ANY RISKS OR DISADVANTAGES ASSOCIATED WITH TAKING PART?

There is very unlikely that your privacy is at risk, as there is no identifiable information collected in the survey. Additionally, all online participant information is password protected to further ensure answers remain anonymous and unidentifiable. You will be asked personal questions while taking part in this study and may have some unwanted thoughts at times. It is unlikely that taking part will pose any risk to you, though it is possible some of the questions might be upsetting to think about given the nature of the survey. Your wellbeing is very important. If you feel affected by the content of the survey, then there are some resources for further support available on the debrief form at the end of the survey, and in the footer of each survey page. Additionally, you might be asked questions about self-harm and/or suicide during the survey. This is, of course, a sensitive and personal issue. Additional mental health resources are provided at the bottom of this form, on the debrief form, and on the footer of each survey page. We encourage you to seek support as needed if affected by the issues raised in this survey.

WILL MY TAKING PART BE KEPT CONFIDENTIAL?

All the information we collect during the course of the research will be kept confidential and there are strict laws which safeguard your privacy at every stage. No personal and identifiable data will be collected to ensure your data is fully anonymous. Any potentially identifiable information recorded will be anonymised. Survey responses will be exported from Qualtrics and uploaded as a file within a password-protected OneDrive folder hosted by the University of Edinburgh to ensure no data will be stored on personal computers. It is possible that members of the research team will access the secure folder using personal laptops in order to run data analyses while away from the University. In these instances, a VPN connection to the University of Edinburgh servers will be used to ensure data security.

HOW WILL WE USE INFORMATION ABOUT YOU?

We will need to use information from you for this research project. This information will include your:

- Age
- Ethnicity
- Sexual orientation
- Gender
- Education history
- Relationship status
- Self-harm history
- Abuse history
- Mental health information
- Relationship structure information

People will use this information to do the research. No names or identifiable information will be collected. Therefore, answers will remain completely anonymous, and all data will be referred to by a random and unique participant number. We will keep all

information about you safe and secure and anonymised data will be kept for 10+ years. Your data will only be viewed by the researcher/research team. All electronic data will be stored on a password-protected computer file. Your consent information will be kept separately from your responses to minimise risk.

Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study.

FREEDOM TO WITHDRAW OR PARTICIPATE

Your participation in this study is voluntary. You may withdraw your data from this study at any time prior to answer submission without providing a reason and your withdrawal will not affect your academic studies or prospects in any way.
If you do decide to take part, you are able to withdraw your data, but must do this before you submit your survey. This is because the information we collect in this survey is anonymous; this means that once submitted, researchers will have no way of identifying your response in order to remove your answers. A 'withdraw' button will be available at the bottom of each survey page; you must click this button before you submit your survey if you would like your answers to be deleted.
Answers within Qualtrics are automatically saved so you can exit and return to the study later if you would like. You will be given 7 days from the last saved response to return to the study. After 7 days, all incomplete responses will be recorded and may be used for data analysis.
Please note that your data may be used in the production of formal research outputs (e.g., journal articles, conference papers, theses and reports). No identifiable data will be collected and responses are completely anonymous.

Where can you find out more about how your information is used?

For further information about data privacy for research participants please refer to:

- https://data-protection.ed.ac.uk/privacy-notice-research
- by asking one of the research team
- by sending an email to [s2358480@ed.ac.uk]
- The participant debrief form

The University of Edinburgh is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. The University of Edinburgh will keep your anonymized data for a minimum of 10 years.

THE UNIVERSITY *of* EDINBURGH

WHAT WILL HAPPEN WITH THE RESULTS OF THIS STUDY?

The results of this study may be summarised in published articles, reports and presentations. You will not be identifiable from any published results. With your consent, your anonymised information may also be kept for future research. A summary of the findings from the study will be made available through a QR code at the end of the survey and within the debrief form which is linked to our research findings page. The page will be updated as relevant information becomes available.

WHO IS ORGANISING AND FUNDING THE RESEARCH?

This study has been organised by Dr. Kennedy-Turner and Christina Holmes MScR in Clinical Psychology Candidate and sponsored by the University of Edinburgh. This study has not received any funding.

WHO HAS REVIEWED THE STUDY?

The study proposal has been reviewed by the University of Edinburgh School of Health in Social Science Research Ethics Committee and was granted approval on (20/11/2024).

WHO CAN I CONTACT?

If you have any questions about the research, please do not hesitate to contact the research team. You can get in touch with the Principal Investigator Christina Holmes via email using the below address: **s2358480@ed.ac.uk**

If you would like to contact the academic supervisor of this work, you can contact Dr Jamie Kennedy-Turner at: Jamie.Kennedy-Turner@ed.ac.uk.

If you would like to discuss this study with someone not involved in the research project, you can contact Dr Helen Griffiths. Helen works at the University of Edinburgh. Her email address is Helen.Griffiths@ed.ac.uk.

If you would like to make a complaint about this study, you can email the Head of the School of Health in Social Science at University of Edinburgh, Professor Matthias Schwannauer, on hos.health@ed.ac.uk.

If you do not wish to participate in this study but believe you require additional support, please investigate some of these locally available resources that you may find helpful:

- Contact your General Practitioner (GP), local doctor, or other healthcare professional;
- Call NHS24 for advice on 111;
- Call 999 in an emergency;

- Call 116 123 to talk to Samaritans, or email: jo@samaritans.org for a reply within 24 hours
- Text "SHOUT" to 85258 to contact the Shout Crisis Text Line
- Call 0800 585 858 to talk to Calm (if you're 15 years old or over) or use CALM webchat, both available from 5pm to midnight every day
- The NO MORE Global Directory is a comprehensive international directory of domestic and sexual violence resources in almost every UN-recognized country and territory in the world.

For resources outside of the UK:

- The International Federation of Telephone Services brings together National Associations of Telephone emergency services
- Befrienders Worldwide provided confidential support for emotional crises or distress
- Lifeline International aims to make quality suicide prevention support accessible worldwide

Additional Mental Health Resources:

1. **Mind;**
   - https://www.mind.org.uk/information-support/types-of-mental-health-problems/self-harm/about-self-harm/
   - call 0300 123 3393 or text 86463 (9am to 6pm on weekdays)
2. **Harmless;**
   - https://harmless.org.uk/
   - email info@harmless.org.uk
3. **YoungMinds;**
   - https://www.youngminds.org.uk/professional/resources/responding-to-self-harm/
   - call 0808 802 5544 (9.30am to 4pm on weekdays)
4. **National Self Harm Network forums;**
   - https://www.nshn.co.uk/
5. **Mental Health Foundation:**
   - https://www.mentalhealth.org.uk/explore-mental-health/a-z-topics/self-harm

Sexual Health and Assault Resources:

1. **The Sexual Health Hub;** https://digital.thesexualhealthhub.co.uk/
2. **RAINN;** https://rainn.org/
3. **The Survivours Trust**; https://thesurvivorstrust.org/

Thank you again for your participation in and contribution to this research study.

THE UNIVERSITY of EDINBURGH

Appendix 4: Participant Debrief Sheet

PARTICIPANT DEBRIEF SHEET

Prevalence and Functionality of Sexual Activity to Self-Injure (SASI) Behaviours in Post-Secondary Students

Principle Investigator: Christina Holmes, MScR Candidate
Co-Principal Investigator: Dr. Jamie Kennedy-Turner

Thank you for participating in this research study exploring the prevalence and functionality of sexual activity as self-injury (SASI) and how it relates to other possible risk factors such as self-esteem, non-suicidal self-injury (NSSI) and history of abuse.

Your participation will help our team to explore what functions SASI serves, as well as helping us to better understand these behaviours in the hope of developing better supports for those who engage in them.

This study aims to analyse four in groups of students:

1) Students who endorse SASI only
2) Students who endorse both SASI and at least one other form of NSSI
3) Students who endorse at least one form of NSSI, not including SASI
4) Students who endorse neither SASI nor NSSI.

This study will explore differences between participants who engage in SASI, NSSI, both or neither behaviours. The study will also explore the reasons why people might engage in SASI and/or NSSI, to help us understand these behaviours better.

We aim to use this study's findings to develop a greater knowledge on the functions SASI serves and the mechanisms that contribute to these behaviours, so that we can help to develop better intervention and treatment methods for SASI and in turn promote more healthy and less distressing lives for those endorsing SASI.

If you think someone you know might wish to take part in the survey, please share the following link with them: (insert link when Qualtrics is made) or email the Principal Investigator Christina Holmes at: s2358480@ed.ac.uk

A QR code to our research findings page will be provided to all participants after submission for those interested. A copy of the QR code is also found in the footer of this form.

We hope that taking part in this study has been interesting, however, if you live in the UK and feel in need of additional support, please consider the following:

- Contact your General Practitioner (GP), local doctor, or other healthcare professional;
- Call NHS24 for advice on 111;
- Call 999 in an emergency;
- Call 116 123 to talk to Samaritans, or email: jo@samaritans.org for a reply within 24 hours
- Text "SHOUT" to 85258 to contact the Shout Crisis Text Line
- Call 0800 585 858 to talk to Calm (if you're 15 years old or over) or use CALM webchat, both available from 5pm to midnight every day
- The NO MORE Global Directory is a comprehensive international directory of domestic and sexual violence resources in almost every UN-recognized country and territory in the world.

For resources outside of the UK:

- The International Federation of Telephone Services brings together National Associations of Telephone emergency services
- Befrienders Worldwide provided confidential support for emotional crises or distress
- Lifeline International aims to make quality suicide prevention support accessible worldwide

If you have any questions about the research, please do not hesitate to contact the research team. You can get in touch with the Principal Investigator Christina Holmes via email using the below address:
s2358480@ed.ac.uk
If you would like to contact the academic supervisor of this work, you can contact Dr Jamie Kennedy-Turner at: Jamie.Kennedy-Turner@ed.ac.uk.

If you would like to discuss this study with someone not involved in the research project, you can contact Dr Helen Griffiths. Helen works at the University of Edinburgh. Her email address is Helen.Griffiths@ed.ac.uk.

If you would like to make a complaint about this study, you can email the Head of the School of Health in Social Science at University of Edinburgh, Professor Matthias Schwannauer, on hos.health@ed.ac.uk.

Additional Resources

If you live in the UK and feel the need for additional support or information, please find some sexual and mental health support and resources below which may be of help to you. Please feel free to take a screenshot of this page so you can refer back to it after closing the survey. This sheet will also be emailed to you for your personal record.

Mental Health Resources:

6. **Mind;**

- https://www.mind.org.uk/information-support/types-of-mental-health-problems/self-harm/about-self-harm/
- call 0300 123 3393 or text 86463 (9am to 6pm on weekdays)

7. **Harmless;**
   - https://harmless.org.uk/
   - email info@harmless.org.uk
8. **YoungMinds;**
   - https://www.youngminds.org.uk/professional/resources/responding-to-self-harm/
   - call 0808 802 5544 (9.30am to 4pm on weekdays)
9. **National Self Harm Network forums;**
   - https://www.nshn.co.uk/
10. **Mental Health Foundation:**
    - https://www.mentalhealth.org.uk/explore-mental-health/a-z-topics/self-harm

Sexual Health and Assault Resources:

4. **The Sexual Health Hub;** https://digital.thesexualhealthhub.co.uk/
5. **RAINN;** https://rainn.org/
6. **The Survivours Trust**; https://thesurvivorstrust.org/

<u>Right to Withdraw Participation</u>

Once answers have been submitted, it is no longer possible to withdraw participation. As the information collected is anonymous, once submitted, researchers will have no way of identifying individual participants to withdraw answers. No identifiable data is collected and responses remain anonymous at all points of the study.

Thank you again for your participation in and contribution to this research study.

Appendix 5: Participant Consent Form

PARTICIPANT CONSENT FORM (online research)

PLEASE TAKE A SCREENSHOT OF THIS FORM FOR YOUR RECORDS

Study Title: Prevalence and Functionality of Sexual Activity to Self-Injure (SASI) Behaviours in University Students

Principle Investigator: Christina Holmes, MScR Candidate
email: s2358480@ed.ac.uk
Supervisor and Co-Principal Investigator: Dr. Jamie Kennedy-Turner
email: Jamie.Kennedy-Turner@ed.ac.uk

Please read the below statements carefully. If you wish to take part in this study, please click "Agree" to each statement.

If you do not wish to take part in the study, you can close your browser window, or click "Disagree" to any of the below statements.

Please tick the appropriate box

Statement		
1. I confirm that I have read and understood the Participant Information Sheet (Version 2 dated 18 Sept 2024) for the above study.	Agree	Disagree
2. I have been given the opportunity to consider the information provided, ask questions and have had these questions answered to my satisfaction.	Agree	Disagree
3. I understand that my participation is voluntary and that I can withdraw from the study at any time without giving a reason and without my SONA credits or standing within the University being affected. Participant data from those who withdraw will not be retained for data analysis. Participants will be given 7 days from the last saved response to return to the study, following the 7 days all incomplete responses will be recorded and may be used for data analysis.	Agree	Disagree
4. I understand that my anonymised data will be stored for a minimum of 10 years and may be used in future ethically approved research.	Agree	Disagree

5. I understand that relevant sections of my data collected during the study may be looked at by individuals from the Sponsor (University of Edinburgh), where it is relevant to my taking part in this research. I give permission for these individuals to have access to my data.	Agree	Disagree
6. By ticking this box I agree to take part in the above study.	Agree	Disagree