International Journal of Clinical and Health Psychology 25 (2025) 100535

Contents lists available at ScienceDirect

International Journal of Clinical and Health Psychology

journal homepage: www.elsevier.es/ijchp

Original article

A short screen for lifetime sexual victimization experiences: Expanding research on the Sexual Abuse History Questionnaire (SAHQ) across cultures, genders, and sexual identities

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ARTICLE INFO

Keywords:
Sexual abuse
Cross-cultural
Sexual and gender minorities
International sex survey (iss)
Sexual abuse history questionnaire

ABSTRACT

The Sexual Abuse History Questionnaire (SAHQ), a widely used screening tool for childhood sexual abuse (CSA) and adolescent/adult sexual assault (AASA) experiences, has limited examination of its psychometric properties in diverse populations. Our study assessed the SAHQ's psychometric properties (i.e., structural validity and measurement invariance across demographic groups, know-group validity, and internal consistency) and estimated the frequencies of various types of sexual victimization across 42 countries and in diverse gender-, trans-status-, and sexual-identity-based groups that were previously missing from measurement-focused studies. We used a large, non-representative sample (N = 81,465; 57 % women, 3.4 % gender-diverse individuals, M_{age}=32.34 years, SD=12.48) from the International Sex Survey, a 42-country cross-sectional, multi-language, online survey. The SAHQ demonstrated excellent structural validity in all country-, gender-, sexual-identity-, and trans-status-based groups, as well as acceptable reliability and known-group validity. Occurrence estimates for six CSA and AASA types were reported across sociodemographic groups, corroborating previous evidence that women and gender- and sexual-minority individuals are at greater risk of CSA and AASA. Pansexual and queer individuals emerged as a particularly vulnerable group. Associations between different types of CSA and AASA revealed that participants who experienced any form of CSA were at least twice as likely to experience AASA. The findings have significant implications for policy and interventions, especially for marginalized groups.

Introduction

Sexual violence is present across different cultures, age groups, sexual identities, and gender identities, with a high lifetime prevalence in the general population, especially among women and sexual and gender minorities (Dworkin et al., 2021; Rothman et al., 2011; Sterzing

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https://doi.org/10.1016/j.ijchp.2024.100535
Received 23 August 2024; Accepted 4 December 2024
Available online 10 January 2025
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et al., 2017; Walters et al., 2013; WHO, 2021). Considering the overarching effects of sexual violence on almost all areas of well-being and function, and the high risk of revictimization (Walker et al., 2019), screening for a variety of unwanted sexual experiences is important for research, epidemiologic, and clinical purposes. However, few scales assess both childhood and later-in-life sexual victimization, and thus revictimization. Even fewer of such scales have been validated across different languages, countries, and a diverse group of gender and sexual identities, and most published data are from WEIRD (Western, Educated, Industrialized, Rich and Democratic) countries. To address these gaps, the present study examined the psychometric properties of the Sexual Abuse History Questionnaire (SAHQ; Leserman et al., 1995) and estimate the occurrence rates of childhood, adolescent, and adult unwanted sexual experiences (e.g., unwanted touching of sexual organs) across 42 countries and in a variety of sexual and gender-diverse groups that were previously missing from measurement-focused studies.

Definitions and outcomes of adult/adolescent sexual assault and child sexual abuse

Sexual violence, which includes but is not limited to child, adolescent, and adult unwanted sexual experiences, is defined as any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic or otherwise directed against a person's sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work (Krug et al., 2002). Specifically, child sexual abuse is defined as the involvement of a child in sexual activity that they do not fully comprehend and to which a child is unable to give informed consent, or for which the child is not developmentally prepared, or violates the laws or social taboos of society (WHO, 1999). Sexual violence towards adults, adolescents (such as adolescent/adult sexual assault,AASA), and children (such as child sexual abuse, [CSA]) is a complex and diverse phenomenon, involving a spectrum of experiences from unambiguously unwanted sexual experiences to forms of violence where the victims' compliance is obtained via manipulation, emotional coercion, deception, or abuse of power (Kelly, 1987). The instrument examined in this study assesses six types of unwanted sexual experiences (i.e., someone exposing their sexual organs, threatening with rape, touching one's sexual organs non-consensually, being forced to touch someone's sexual organs, being forced to have intercourse, and "any other unwanted sexual experiences") in two developmental stages (childhood and adolescence/adulthood) (Leserman et al., 1995).

Broadly speaking, AASA has been associated with numerous negative mental, physical, and social outcomes that may include several psychiatric conditions, such as depression, anxiety disorders, post-traumatic stress disorder, eating disorders, substance use disorders (Dworkin, 2020; Dworkin et al., 2017), sexual dysfunctions (Steel & Herlitz, 2007), and suicidal thoughts and behavior (Dworkin et al., 2022). CSA has been associated with depression, anxiety disorders (Amado et al., 2015; Maniglio, 2010), post-traumatic stress disorder, eating disorders, suicide attempts and ideation (L. P. Chen et al., 2010), borderline personality disorder (de Aquino Ferreira et al., 2018), sexual compulsivity (Slavin, Scoglio et al., 2020), lower sexual functioning (Gewirtz-Meydan & Opuda, 2022; Pulverman et al., 2018), insecure attachment styles (Labadie et al., 2018), and lower educational level (de Jong et al., 2015). In addition, individuals who experienced CSA are also more likely to encounter unwanted sexual experiences later in life (Walker et al., 2019).

Cross-cultural prevalence of AASA and CSA

The cross-cultural prevalence of both CSA and AASA vary highly in the literature as methodological differences (e.g., the definition of sexual abuse or assault, acts included, the choice of age cut-off), and the relatively low number of studies from non-WEIRD countries hinder advances in this area (Dunne et al., 2009). According to a systematic review summarizing data outside of North America, the lifetime prevalence of AASA ranged between 0.3–55.8 % in Europe, 0–51.9 % in Latin America, 0.6–77.6 % in Asia, and 15–16.5 % in Africa, with women generally reporting higher rates of victimization than men (Dworkin et al., 2021).

Systematic reviews and meta-analyses report that 15–35 % of girls and 5–20 % of boys have experienced CSA worldwide (Andersson et al., 2020; Barth et al., 2013; Finkelhor et al., 2015; Kloppen et al., 2016; Ma, 2018; Pereda et al., 2009; Stoltenborgh et al., 2011). These wide ranges of estimates may be affected by the age cut-off and the type of abuse studied, with generally higher rates for non-contact CSA than contact CSA (i.e., sexual abuse involving vs. not involving physical contact). Importantly, some authors note that the lower rates of men disclosing sexual victimization, especially CSA, may partially be due to underreporting (Pereda et al., 2009).

Prevalence of AASA and CSA across Gender- and Sexual minorities

Research including gender minority (specifically, transgender, nonbinary or other gender-diverse individuals) and sexual minority participants (specifically, lesbian, gay, bisexual or other non-heterosexual identities) suggests that they report higher rates of both childhood and later-in-life sexual victimization compared to cisgender and heterosexual individuals, suggesting an important health disparity (Canan et al., 2021; Dworkin et al., 2021; Friedman et al., 2011; Rothman et al., 2011). A systematic review of sexual- and gender-minority samples from four continents revealed a wide range of self-reported assault prevalence estimates. Past-year victimization ranged between 14.8 to 38.3 % in Africa, 17.5 % in Asia, 2 to 3 % in Europe, and 1.5 to 54.1 % in Latin America (Dworkin et al., 2021). A systematic review of 75 US studies observed estimates ranging between 11.3–53.2 % for women and 10.1–44.7 % for men who identify as gay or lesbian (Rothman et al., 2011). Another epidemiological study estimated even higher prevalence in groups of sexual minority women, with 63 % of lesbian and 80 % of bisexual women reporting some form of sexual assault compared to 44 % of heterosexual women (Canan et al., 2021). While it seems bisexual individuals are at a higher risk of experiencing various forms of AASA than those who identify as gay or lesbian, available data show that other plurisexual individuals (e.g., pansexual, queer) may be even more vulnerable than their bisexual peers (Flanders et al., 2019).

Compared to heterosexual individuals, sexual-minority individuals in Canadian and US samples reported experiencing CSA 2.5–5.7 times more often (Baams, 2018; Friedman et al., 2011). Regarding gender-minority status, transgender adolescents are 2–4.4 times more likely to experience CSA compared to their cisgender counterparts (Baams, 2018; Thoma et al., 2021). Considering the intersections of gender- and sexual-minority status, transgender and gender-non-conforming youth may be at even higher risk for CSA than cisgender sexual-minority individuals (Sterzing et al., 2017; Tobin & Delaney, 2019).

Implications for measurement

These findings underscore the importance of re-examining the psychometric properties of sexual victimization measures with the inclusion of gender- and sexual-minority groups and adopting a more nuanced approach to represent diverse individuals. This could involve the inclusion of underrepresented emerging sexual identities such as pansexual, hetero- and homoflexible, or asexual individuals. Previously, smaller sample sizes posed challenges in exploring less prevalent sexual identities due to low representation within general population samples (Borgogna et al., 2019). The traditional approach of compiling these distinct groups into a general sexual-minority category or omitting them from comparative and psychometric studies may render an incomplete picture. The availability of psychometrically sound, brief but sensitive

screening for sexual victimization experiences in survey studies is important for identifying and understanding the prevalence of sexual victimization, and consequently, to address its pervasive impact on individuals and communities. To address this gap, we examined the psychometric properties of the Sexual Abuse History Questionnaire (SAHQ; Leserman et al., 1995) in a large cross-cultural sample that includes respondents from non-WEIRD countries, as well as a variety of sexual and gender minorities.

The sexual abuse history questionnaire (SAHQ)

The SAHQ is a concise, easy-to-read, low-burden screening tool that retrospectively measures a set of unwanted sexual experiences during childhood (13 years or younger; CSA scale) and adolescent/adult years (14 years or older; AASA scale). Historically, the SAHQ has been used in both clinical and general population settings, regardless of individuals' gender identity or sexual orientation (e.g., Estlein et al., 2024; Leserman et al., 1995; Slavin et al., 2020). Five items ask about five specific forms of sexual victimization (i.e., someone exposing their sexual organs to the victim, threatening with rape, touching one's sexual organs, being forced to touch someone's sexual organs, and being forced to have intercourse) and one item assesses "any other unwanted sexual experiences." The measure asks the same questions twice, first regarding childhood, then adolescent and adult years. Respondents indicate if a given type of victimization happened to them in childhood and/or later in life by providing a yes or no answer on both scales separately. For the wording of the instructions and items in English, see Table S6 in the Supplementary Materials.

Although there is some evidence that individuals who experienced multiple types of sexual violence (i.e., contact and non-contact) report more detrimental mental health outcomes than survivors of exclusively contact or non-contact sexual abuse (e.g., Landolt et al., 2016), we sought to validate the SAHQ as a screening tool that is used to detect a range of unwanted sexual experiences. Following previous conventions (e.g., Chiang et al., 2016; Dunne et al., 2009; Hamby et al., 2004), no total score was calculated for the dichotomous questions on either scale, with the consideration that a higher score may not equate with more severe trauma and that we cannot know if saying yes to multiple items refers to separate experiences of victimization or aspects of the same experience. Instead, we reported and compared occurrences of different CSA and AASA experiences separately. However, we acknowledge that previous studies have scored and interpreted the SAHQ diversely, with some using a composite score to create categorical variables (i.e., victimized/ not victimized; e.g., Grossi et al., 2018; Slavin et al., 2020; Toomey et al., 1993), some calculating a sum score of the number of yes answers (e.g., Estlein et al., 2024), and some proposing a weighted aggregate scoring method for a modified version of the SAHQ (Godbout et al., 2019; Vaillancourt-Morel et al., 2015). This inconsistency warrants further examination.

Characteristics and appropriate use of the SAHQ

The SAHQ is a short measure that can be useful for the rapid screening of sexual victimization in two developmental stages. In comparison to other widely-used multi-lingual self-report measures assessing sexual victimization (e.g., the VACS, ICAST-R, and JVQ, Chiang et al., 2016; Dunne et al., 2009; Hamby et al., 2004), its main contribution is the simultaneous assessment of CSA and AASA experiences and its ability to detect revictimization (i.e., victimization both as a child and as an adolescent/adult). Like most instruments, the SAHQ has advantages and limitations that should be considered when choosing the most appropriate survey measure.

Assessing different types of sexually violent acts provides more nuanced information on how victimization may occur and may help individuals to label, recall and thus report experiences of sexual victimization more accurately (United Nations, 2014). Nevertheless, the SAHQ does not address all important aspects of victimization (e.g., frequency, perpetrator, disclosure, etc.), and does not cover all forms of sexual violence that constitute CSA (where the definition does not involve consent) or AASA. Although unwanted sexual experiences are present in childhood (e.g., implied by the relatively high ratios of peer-perpetrated sexual violence), and calls have been made by scholars to recognize the complexity of unwanted sexual experiences at this age (Gewirtz-Meydan & Finkelhor, 2020), it is important to note that the WHO definition (1999) of CSA does not involve the lack of consent as a criterion. The language used in the SAHQ ("when you did not want it") may not be sensitive enough to detect survivors who do not recognize or label their CSA experiences as unwanted, even retrospectively.

The SAHQ uses a standard age cutoff of 14 years old to distinguish between CSA and AASA experiences. The standard age-cutoff is important for comparative cross-population research, but notably, does not align with the legally defined age of consent in all jurisdictions. As there is no clear-cut empirical evidence to indicate which age is the best cutoff point to distinguish between the developmental stages in which trauma may be experienced, the authors of the SAHQ chose a commonly used age cutoff (Leserman et al., 1995). Supporting this cutoff, a recent large, nationally representative U.S. study's findings suggest that sexual violence perpetrated by peers (as opposed to adults) becomes the predominant form of victimization around this time (Gewirtz-Meydan & Finkelhor, 2020).

The SAHQ may be best used in research aiming to identify the form of victimization, revictimization research, cross-cultural comparative studies, and studies comparing the potential effects of certain types of victimization at different developmental stages. Its brief format is advantageous in long survey batteries, for populations with shorter attention spans, when aiming to minimize the emotional burden brought on by questions about unwanted sexual experiences (often a requirement from ethical boards), or in populations in which higher-than-usual participant distress may be expected from such inquiry (as opposed to more comprehensive interviews that provide more detail but may cause higher participant distress). In appropriate settings, it may be used as a brief, low-burden screening instrument before a more thorough follow-up interview.

Aims and hypotheses

In this study, we examined the psychometric properties of the SAHQ and estimated the occurrence of various types of sexual victimization across different countries, gender, and sexual identities, including often underrepresented non-WEIRD countries, and gender and sexual minorities. First, we examined the CSA and AASA scales' factor structure in country-, gender-identity-, trans-status-, and sexual-identity-based groups to test whether their dimensionality was similar across populations. Second, we assessed the reliability, as well as known-group validity with empirically relevant constructs (i.e., depression and anxiety, which have a robust and well-documented association with CSA and AASA in previous studies, see Amado et al., 2015; Dworkin, 2020; Maniglio, 2010). Then, we reported and compared occurrence estimates of six types of CSA and AASA experiences across the gender-identity-,

trans-status-, and sexual-identity-based groups.[1] Based on previous studies (Baams, 2018; Flanders et al., 2019; Friedman et al., 2011; Rothman et al., 2011; Thoma et al., 2021; Walters et al., 2013), we expected that (a) participants who identified as women or gender-diverse (e.g., non-binary, genderqueer)[2] would report more CSA and AASA than participants who identified as men, (b) transgender participants would report more CSA and AASA than cisgender individuals, and (c) sexual-minority individuals, especially plurisexual (e.g., bisexual, pansexual) individuals, would report more CSA and AASA than heterosexual individuals. Lastly, we examined the associations between different types of CSA and AASA experiences. As the literature indicates that survivors of CSA appear at greater risk of unwanted sexual experiences later in their life (Walker et al., 2019), we expected to observe a significant positive association in our sample as well.

Method

Procedure

The International Sex Survey (ISS, https://www.internationalsexsurvey.org/), a 42-country[3] cross-sectional, multi-language, self-report survey provided the data for this study (for detailed study protocol see Bőthe et al. (2021), preregistered study design: https://osf.io/uyfra, list of publications: https://osf.io/jb6ey). The study was conducted in 26 languages. The English survey battery was translated by the study's native-speaking collaborating researchers following a pre-established translation protocol (Beaton et al., 2000).

The study was conducted in accordance with the Declaration of Helsinki. All collaborating countries' national/institutional ethics review boards approved the study or considered the study exempt as it had already been approved by the ethics committees of the principal investigators' institutions: https://osf.io/n3k2c. The study sample was collected between October 2021 and May 2022 via news media appearances, research panels, and social media ads with the help of standard multi-lingual advertisement material created by the core research team and distributed by the collaborators in each participating country (e.g., templates of emails and articles to contact news websites, study advertisement text, and study advertisement posters).[4] The advertisement materials explicitly stated that participation in the study is completely anonymous, and anyone meeting the eligibility criteria can participate in the study, promoting inclusivity and encouraging participants to share sensitive information. Participants who provided informed consent completed a self-report, anonymous survey on a secure online platform (Qualtrics Research Suite), taking approximately 25 to 45 min. As an incentive, all participants were informed that at the end of the survey they could choose to donate 50 US cents to a global sexual health organization, up to 1000 USD of donation.

Participants

Participants had to be at least 18 years old (or the legal age to provide informed consent) and understand any of the survey languages. Participants who gave incorrect answers to at least two attention-testing questions out of three and/or produced unengaged response patterns (e.g., giving the same response to all items in questionnaires with reverse-coded items, indicating a longer romantic relationship than their age, etc.) were excluded from the final dataset. For a detailed description of the data-cleaning procedure, see https://osf.io/8kdzv/?view_only=dadcfc82666140a6ab5a1c3f63b679be.

The original dataset contained 82,243 participants (M_{age}=32.39 years, SD=12.52), out of which 81,465 participants completed the SAHQ (M_{age}=32.34 years, SD=12.48). A total of 56.96 % of the sample identified as women, 39.62 % as men, and 3.37 % as gender-diverse individual (e.g., non-binary, genderfluid); 4.3 % reported trans identity (i.e., trans woman, trans man or trans gender-diverse individual); 68.26 % reported being heterosexual, 5.6 % gay or lesbian, 9.35 % bisexual, 3.55 % queer or pansexual, 8.18 % homo- or heteroflexible, 1.30 % asexual, 0.98 % another sexual identity, and 2.37 % of respondents were unsure about or questioning their sexual identity. A detailed description of the analyzed sample is presented in Table 1. The sociodemographic description of each country's sample is available at https://osf.io/cj658.

Measures

The wording and translations of all questionnaires used in this study, including the SAHQ, can be found at https://osf.io/jcz96.

Participant characteristics

The survey battery included several sociodemographic and sexuality-related questions (e.g., age, gender, sex, trans status, sexual identity, relationship status, number of children, education and work status, place of residence, subjective socio-economic status, ethnic minority status, and religious affiliation). For the complete list of variables included in the survey battery, refer to the study protocol (Bőthe et al., 2021).

Participants self-reported their sex assigned at birth, gender identity, trans status, and sexual identity using a range of options provided in the survey (see Table 1).[5] Following the preregistered study plan, we defined analytic groups based on these variables. We created three groups based on self-reported gender identity: men, women, and gender-diverse individuals (participants who identified as genderqueer,

[1] Although we report the occurrence estimates of CSA and AASA in country-based groups, we did not examine their differences due to the large number of groups and the potential bias associated with convenience sampling and varying sample sizes. Furthermore, prior epidemiological research has highlighted a wide range of reported occurrence estimates across different nations. These variations may be attributed to differences in the definitions of sexual victimization utilized by previous studies, the diverse array of observed abusive acts, the lack of cross-culturally validated scales, and the relative scarcity of robust data from non-WEIRD countries. This would introduce potential bias into the comparison of our findings with those of previous studies.

[2] In our study, we consistently and exclusively use the term "gender-diverse individuals" for gender minorities who do not identify with the binary genders of 'men' and 'women,' regardless of their trans status (e.g., genderqueer, genderfluid, non-binary, indigenous or other cultural gender minority identity [e.g., two-spirit], and other gender identities). The term "gender minority individual" is used more broadly, referring to both non-binary gender identities and transgender individuals.

[3] Egypt, Iran, Pakistan, and Romania were included in the study protocol paper as collaborating countries (Bőthe et al., 2021); however, it was not possible to get ethical approval for the study in a timely manner in these countries. Chile was not included in the study protocol paper as a collaborating country (Bőthe et al., 2021) as it joined the study after publishing the study protocol. Therefore, instead of the planned 45 countries, only 42 individual countries were considered in the present study; see details at https://osf.io/n3k2c.

[4] Advertisement materials and examples of media coverage can be accessed at https://www.internationalsexsurvey.org/ and https://www.facebook.com/internationals3xsurvey.

[5] In our study, *gender identity* refers to an individual's self-perception of their gender. It exists on a continuum and may not always align with one's sex assigned at birth (Warner, 2016). *Trans status* refers to whether an individual identifies as trans. *Sexual identity* refers to how individuals define themselves sexually. It is a multidimensional construct that may encompass sexual orientation, behavior, gender identity, socio-sexual identity, and erotic identity (Crowell, 2020). Participants in this study self-reported their sex assigned at birth, gender identity, trans status, and sexual identity. The terms were not predefined for them; rather, participants categorized themselves based on their own understanding and identification with the provided options.

Table 1
Sociodemographic characteristics of the total sample.

Variables	N = 80,434–81,465	%
Country of residence		
Algeria	23	0.03
Australia	633	0.78
Austria	742	0.91
Bangladesh	357	0.44
Belgium	641	0.79
Bolivia	377	0.46
Brazil	3488	4.28
Canada	2526	3.10
Chile	1163	1.43
China	2423	2.97
Colombia	1872	2.30
Croatia	2363	2.90
Czech Republic	1632	2.00
Ecuador	274	0.34
France	1695	2.08
Germany	3247	3.99
Gibraltar	62	0.08
Hungary	11,102	13.63
India	186	0.23
Iraq	99	0.12
Ireland	1676	2.06
Israel	1318	1.62
Italy	2377	2.92
Japan	559	0.69
Lithuania	1997	2.45
Malaysia	1163	1.43
Mexico	2096	2.57
New Zealand	2797	3.43
North Macedonia	1236	1.52
Panama	331	0.41
Peru	2626	3.22
Poland	9848	12.09
Portugal	2246	2.76
Slovakia	1124	1.38
South Africa	1839	2.26
South Korea	1451	1.78
Spain	2313	2.84
Switzerland	1141	1.40
Taiwan	2666	3.27
Turkey	806	0.99
United Kingdom	1398	1.72
United States of America	2387	2.93
Other	1165	1.43
Language		
Arabic	141	0.17
Bangla	316	0.39
Croatian	2494	3.06
Czech	1576	1.93
Dutch	515	0.63
English	13,868	17.02
French	3919	4.81
German	3470	4.26
Hebrew	1300	1.60
Hindi	15	0.02
Hungarian	10,840	13.31
Italian	2413	2.96
Japanese	463	0.57
Korean	1424	1.75
Lithuanian	2074	2.55
Macedonian	1286	1.58
Mandarin – simplified	2469	3.03
Mandarin – traditional	2683	3.29
Polish	10,294	12.64
Portuguese – Brazil	3556	4.37
Portuguese – Portugal	2260	2.77
Slovak	2104	2.58
Spanish – Latin America	8775	10.77
Spanish – Spain	2296	2.82
Turkish	839	1.03
Sex assigned at birth		
Male	32,973	40.48
Female	48,481	59.51
Gender (original answer options in the survey)		
Masculine/Man	32,278	39.62
Feminine/Woman	46,404	56.96
Indigenous or other cultural gender minority identity (e.g., two-spirit)	162	0.20
Non-binary, gender-fluid, or something else (e.g., genderqueer)	2291	2.81
Other	295	0.36
Gender (categories used in the analyses)		
Man	32,278	39.62
Woman	46,404	56.96
Gender-diverse individuals	2748	3.37
Trans status		
No, I am not a trans person	78,540	96.4
Yes, I am a trans man	353	0.4
Yes, I am a trans woman	294	0.4
Yes, I am a non-binary trans person	869	1.1
I am questioning my gender identity	1126	1.4
I don't know what it means	260	0.3
Intersection of sex assigned at birth, gender identity and trans status		
Cis man	31,388	38.5
Cis woman	45,403	55.7
Trans man	272	0.3
Trans woman	195	0.2
Not trans, gender-diverse individual	1242	1.5
Trans. gender-diverse individual	811	1.0
Questioning	1123	1.4
Sexual identity (original answer options in the survey)		
Heterosexual/Straight	55,608	68.26
Gay or lesbian	4563	5.60
Heteroflexible	6140	7.54
Homoflexible	527	0.65
Bisexual	7616	9.35
Queer	950	1.17
Pansexual	1944	2.39
Asexual	1058	1.30
I do not know yet or I am currently questioning my sexual orientation	1934	2.37
None of the above	795	0.98
I don't want to answer	298	0.37
Sexual identity (categories used in the analyses)		
Heterosexual	55,608	68.26
Gay or lesbian	4563	5.60
Bisexual	7616	9.35
Queer and pansexual	2894	3.55
Homo- and hetero-flexible identities	6667	8.18
Asexual	1058	1.30
Questioning	1934	2.37
Other	795	0.98
Highest level of education		
Primary (e.g., elementary school)	989	1.21
Secondary (e.g., high school)	20,123	24.70
Tertiary (e.g., college or university)	60,334	74.06
Currently being in education		
Not being in education	49,259	60.47
Being in primary education (e.g., elementary school)	62	0.08
Being in secondary education (e.g., high school)	1553	1.91
Being in tertiary education (e.g., college or university)	30,548	37.50
Work status		
Not working	20,691	25.40
Working full time	42,559	52.24
Working part-time	11,242	13.80
Doing odd jobs	6950	8.53
Socioeconomic status		
My life circumstances are among the worst	216	0.27
My life circumstances are much worse than average	765	0.94
My life circumstances are worse than average	4194	5.15
My life circumstances are average	26,462	32.48
My life circumstances are better than average	31,298	38.42
My life circumstances are much better than average	14,600	17.92
My life circumstances are among the best	3921	4.81
Residence		

(continued on next page)

Table 1 (*continued*)

Variables	*N* = 80,434–81,465	%
Metropolis (population is over 1 million people)	26,199	32.16
City (population is between 100,000–999,999 people)	29,615	36.35
Town (population is between 1000 and 99,999 people)	20,917	25.68
Village (population is below 1000 people)	4719	5.79
Ethnic minority status		
No	75,844	93.10
Yes	5594	6.87
Relationship status		
Single	27,291	33.50
In a relationship	27,245	33.44
Married or common-law partners	24,070	29.55
Widow or widower	417	0.51
Divorced	2418	2.97
Having children		
No	57,486	70.57
Yes, 1	8299	10.19
Yes, 2	10,213	12.54
Yes, 3	3774	4.63
Yes, 4	1000	1.23
Yes, 5	282	0.35
Yes, 6–9	124	0.15
Yes, 10 or more	23	0.03
	M	*SD*
Age	32.34	12.48

Note. Percentages might not add up to 100 % due to missing data. *M* = mean, SD = standard deviation.

genderfluid, non-binary, indigenous or other cultural gender-minority identity [e.g., two-spirit], and other gender identity). Based on the intersection of self-reported sex at birth, gender identity and trans status, we created seven groups to examine different groups of cis- and trans-gender individuals (i.e., *cis* men, trans men, *cis* women, trans women, non-trans gender-diverse individuals, trans gender-diverse individuals, and participants questioning their gender identities). Sexual identity was grouped into eight categories: heterosexual, gay or lesbian, bisexual, queer or pansexual, homo- or hetero-flexible, asexual, other sexual identity, and respondents who were unsure about or questioning their sexual identity. Further details on creating gender-identity-, trans-status- and sexual-identity-based groups can be found in the preregistration document (https://osf.io/8kdzv/?view_only=dadcfc82666140a6ab5a1c3f63b679be). See Table 1 for a full list of the original response options and the categories used in our analysis.

Sexual victimization

Detailed description of the Sexual Abuse History Questionnaire (Leserman et al., 1995) and its two scales (i.e., CSA and AASA scales) can be found in the introduction. Upon previous psychometric examinations, the SAHQ demonstrated acceptable test-retest reliability, internal consistency, and validity (Buczo et al., 2024; Leserman et al., 1995). For the wording of the instructions and items in English, see Table S6 in the Supplementary Materials.

Anxiety and depression

The six-item anxiety and the six-item depression subscales from the short version of the Brief Symptom Inventory (BSI-18; Asner-Self et al., 2006; Derogatis, 2001) were used to assess anxiety and depression symptoms, respectively, in the past seven days. The subscales have demonstrated excellent reliability (α=0.90 for both) and measurement invariance across the countries, languages, and gender and sexual identities in the International Sex Survey (Quintana et al., 2024). Participants indicated their answers on a five-point Likert scale (*0*="*not at all*", *4*="*extremely*"). Higher scores on these subscales indicate more severe depression and anxiety.

Statistical analyses

Descriptive analyses and missing data

The data analysis followed a preregistered analytic plan (https://osf.io/8kdzv/?view_only=dadcfc82666140a6ab5a1c3f63b679be). Statistical tests were conducted in SPSS v.26 and R. Descriptive statistics were calculated for all items of the SAHQ, and the proportions of participants reporting victimization were reported. Missing values were present on SAHQ items and on gender and sexual identity variables. Participants who did not respond to any of the SAHQ items were excluded from analyses ($n = 778$), but partial missingness was allowed. Responses were not missing at completely random based on Little's Missing Completely at Random Test (MCAR, $\chi2$=29,178.31, df=3222, p<.001, rates ranging from 0 to 5.6 %). We used the pairwise present method, a similar approach to the full-information maximum likelihood (FIML) method, to handle missing data (Newman, 2014).

Test of structural validity and dimensionality

The CSA and AASA subscales of the SAHQ were treated as two separate one-factor scales during analyses as recent evidence from a large Hungarian sample indicated that this model is the most appropriate (Buczo et al., 2024). Using the total sample, we conducted confirmatory factor analysis (CFA) on both subscales and used common goodness-of-fit indices to evaluate the model fit: Comparative Fit Index (CFI; ≥.95 for good, ≥.90 for acceptable), Tucker–Lewis Index (TLI; ≥.95 for good, ≥.90 for acceptable), and Root-Mean-Square Error of Approximation (RMSEA; ≤.06 for good, ≤.08 for acceptable) with its 90 % confidence interval (Browne & Cudeck, 1992; Schermelleh-Engel et al., 2003). We used the weighted least square mean- and variance-adjusted estimation method (WLSMV) as it is recommended when assumptions of normality are violated, especially in the case of dichotomous items (Brown, 2015).

Further, to assess structural validity, we examined dimensionality of the CSA and AASA scales across country-, gender-identity-, trans-status-, and sexual-identity-based groups. To ensure that a group had an appropriate minimum sample size for CFA, we conducted Monte Carlo simulations (see details: https://osf.io/8kdzv/?view_only=dadcfc82666140a6ab5a1c3f63b679be). A minimum of 510 participants were required to be included in each subgroup for the SAHQ-CSA and 460 for the SAHQ-AASA. Additionally, we conducted measurement invariance analysis to assess construct validity across country-, gender-identity-, trans-status-, and sexual-identity-based groups following our pre-registered analysis plan. Given the scale's dichotomous answer options, only configural and scalar invariance could be tested (Muthén & Muthén, 1998). For further details, please refer to the Supplementary materials (Table S5).

Test of known-group validity and reliability

Having experienced CSA or AASA has been consistently linked to higher levels of depression and anxiety symptoms (Amado et al., 2015; Dworkin, 2020; Maniglio, 2010). Therefore, to examine know-group validity, we compared respondents who answered yes to any of the twelve SAHQ items vs. respondents who said no by anxiety and depressive symptoms. Significant differences with an effect size around 0.20 were considered small, around 0.50 medium, and around 0.80 large (J. Cohen, 1988). Cronbach's alphas and McDonald's omegas were calculated separately for the CSA and AASA scales to assess reliability.

Occurrence estimates and group comparisons

Occurrence estimates of CSA and AASA are reported and compared across countries, genders, and sexual identities. The occurrence estimates in country-based groups are reported in Table 3, while those in the gender-, trans-status-, and sexual-identity-based groups are reported in Table 4. Post-hoc pairwise chi-square tests with Bonferroni-corrected p values for the gender-, trans-status-, and sexual-identity-based groups are presented in Tables 5,6,7. These differences may also be examined as

a source of validity evidence, compared to patterns of demographic disparities reported in prior literature (e.g., Baams, 2018; Craig et al., 2020; Dworkin et al., 2021; Rothman et al., 2011; Smith et al., 2018; Thoma et al., 2021; Walters et al., 2013). We did not examine country differences due to the large number of groups, the potential bias associated with the study's non-probabilistic sampling methods and the highly varying sample sizes across countries.

Associations between different types of CSA and AASA

We calculated odds ratios (ORs) with confidence intervals for each item pair of the SAHQ, where an OR>1 indicated an increased likelihood of a certain type of CSA or AASA experience with exposure to another type (see Table 8).

Results

Test of structural validity and dimensionality for the CSA and the AASA scale in the total sample and in country-, gender-identity-, Trans-status-, and sexual-identity-based groups

A first-order, one-factor model was tested on the total sample, separately for the CSA and the AASA scales (Buczo et al., 2024). The CFA demonstrated an excellent fit for both scales (*CSA*: CFI=0.997, TLI=0.995, RMSEA=0.029 [90 % CI=0.027 to 0.031]; *AASA*: CFI=0.997, TLI=0.995, RMSEA=0.028 [90 % CI=0.026 to 0.030]). Standardized factor loadings ranged from adequate to good, ranging between 0.53 – 0.94 for the CSA and 0.51 – 0.89 for the AASA scales. Although still within the adequate range (Comrey & Lee, 1992), three items exhibited slightly lower factor loadings, indicating a relatively weaker representation of the underlying construct. Among the items, item 6 ("*Have you had any other unwanted sexual experiences not mentioned above"?*) demonstrated the lowest factor loadings across both scales (*CSA*: 0.53; *AASA*: 0.51). Additionally, item 1 in the AASA scale ("*Has anyone ever exposed the sex organs of their body to you when you did not want it?"*) exhibited a factor loading of 0.68. Descriptive data of all items, standardized factor loadings, and inter-factor correlations are reported in Table 2.

CFAs were conducted for both scales in country-, gender-identity-, trans-status-, and sexual-identity-based groups. The one-factor models showed excellent fit in all groups for both scales (CFIs>0.95, TLIs>0.95, RMSEAs<0.08), indicating that the SAHQ subscales have similar structures across different populations. Model fit indices for all country-, gender-identity-, trans-status-, and sexual-identity-based groups are reported in Table S1a-S4b in the Supplementary Materials). Measurement invariance testing yielded scalar invariance across all examined populations (see Table S5 in the Supplementary Materials).

Tests of criterion validity and reliability

Respondents who experienced any form of sexual victimization reported significantly higher anxiety ($t(74{,}481.68)=-46.96$, $p<.001$, $d=0.34$) and depression ($t(74{,}388.22)=-41.96$, $p<.001$, $d=0.34$) symptoms, with a small effect size (J. Cohen, 1988). In the total sample, both scales demonstrated acceptable internal consistency (*CSA*: α=0.73, ω=0.75; *AASA*: α=0.75, ω=0.76). Cronbach's alpha and McDonald's omega coefficients are presented in Table 2.

Gender-, sexual-identity-, and trans-status-based group comparisons

We observed significant differences between gender and sexual identities and *cis* vs. trans individuals in the ratios of all types of CSA and AASA experiences reported. Numbers and ratios of respondents reporting any form of CSA or AASA are presented in Tables 3-4. Bonferroni-corrected pairwise chi-square comparisons are reported in Tables 5-7. We have not conducted multi-group chi-square comparisons as, given the number of groups and the sample size of the study, they required an unusually large computational capacity, while being less informative than the pairwise comparisons.

Table 2
Standardized factor loadings in the confirmatory factor analysis and reliability indices of the sexual abuse history questionnaire (SAHQ) in the total sample.

Items	Standardized Factor Loadings	α	ω
Child Sexual Abuse			
1. Showing genitalia	0.802	0.73	0.75
2. Verbal threat	0.871		
3. Touching genitalia	0.862		
4. Forcing to touch genitalia	0.939		
5. Forced intercourse	0.930		
6. Other unwanted sexual experience	0.534		
Adolescent and Adult Sexual Assault			
1. Showing genitalia	0.675	0.75	0.76
2. Verbal threat	0.832		
3. Touching genitalia	0.861		
4. Forcing to touch genitalia	0.888		
5. Forced intercourse	0.866		
6. Other unwanted sexual experience	0.509		

Note. All factor loadings were statistically significant at $p<.001$; α = Cronbach's alpha, ω = McDonald's omega.

All chi-square pairwise comparisons between genders were significant, with men reporting significantly lower occurrence rates of all types of CSA and AASA than women, and gender-diverse individuals reporting significantly higher rates than both men and women. Considering gender and trans status, *cis* men reported significantly fewer CSA and AASA experiences than all other groups. There was greater variability in the results regarding other pairwise comparisons, but a pattern emerged whereby *cis* women reported significantly less CSA and AASA than trans and non-trans gender-diverse individuals and questioning individuals, but they did not differ significantly from trans women and trans men. An important exception from this pattern was CSA with forced intercourse, where all trans, gender-diverse, and questioning individuals reported significantly higher estimates than *cis* women.

Examining occurrence estimates in sexual-identity-based groups, heterosexual participants typically reported the lowest rates of all types of CSA and AASA, differing significantly from all other groups. An exception was CSA involving unwanted touching of an individual's sexual organs (CSA item 3) and forced intercourse (CSA item 5), where asexual participants, although reporting numerically higher rates, did not differ significantly from heterosexual participants. Queer and pansexual individuals reported the highest rates, differing significantly from even bisexual participants, who, as a general pattern, reported the second highest rates of some types of CSA (item 1, 3, and 6) and all AASA experiences. In CSA involving verbal threats (CSA item 2), being forced to touch a perpetrator's sexual organs (CSA item 4), and forced intercourse (CSA item 5) – where gay or lesbian individuals reported higher rates than bisexual individuals, but lower than queer or pansexual individuals – there were no significant differences between the gay/lesbian and queer/pansexual groups.

Associations between different types of CSA and AASA

ORs were calculated for all item pair (Table 8). The highest ORs were observed between CSA-CSA (ORs=4.47–56.93) and AASA-AASA (ORs=3.34–19.65) item pairs. This may reflect the accumulation of different types of victimization within survivors' experiences in either childhood or adolescent and adult years. The strongest association was observed between verbal threats of CSA and CSA involving penetration, and between AASA involving unwanted touching of genitalia and being forced to touch someone's genitalia.

ORs between CSA and AASA items were also relatively high (ORs=1.75–13.40), indicating a positive association between childhood

Table 3
Occurrence rates of CSA and AASA across country-based groups.

	n	CSA 1.	CSA 2.	CSA 3.	CSA 4.	CSA 5.	CSA 6.	AASA 1.	AASA 2.	AASA 3.	AASA 4.	AASA 5.	AASA 6.
							%						
Algeria	23	34.78	13.64	43.48	21.74	13.04	8.70	35.00	9.52	20.00	10.00	5.00	5.00
Australia	633	26.48	9.18	20.55	14.49	8.44	9.09	36.35	23.42	38.09	22.33	22.04	15.86
Austria	742	18.13	3.30	12.97	7.14	3.03	4.22	27.85	11.75	33.65	16.94	13.93	9.87
Bangladesh	357	32.15	11.57	36.47	23.67	10.32	5.26	23.53	9.52	25.31	14.06	10.22	5.25
Belgium	641	19.09	4.27	13.85	7.63	4.46	3.26	26.27	8.56	22.10	11.92	9.71	7.99
Bolivia	377	20.99	5.82	29.28	12.50	6.13	6.34	22.19	9.50	34.73	12.96	14.44	10.00
Brazil	3488	35.92	15.99	29.93	19.52	10.53	7.24	29.22	18.18	33.57	17.39	16.31	9.53
Canada	2526	23.71	7.51	19.31	12.10	7.92	5.06	33.56	21.52	41.10	24.26	25.71	13.76
Chile	1163	19.16	3.48	18.90	9.25	4.72	5.43	17.09	6.04	27.42	9.89	12.12	7.15
China	2423	14.91	5.63	15.11	8.53	5.88	3.35	11.90	7.34	14.52	11.02	7.34	4.23
Colombia	1872	21.71	5.27	24.44	11.50	5.56	4.42	15.81	6.45	22.02	8.46	9.49	5.61
Croatia	2363	18.75	4.16	11.12	5.36	2.17	4.34	32.85	13.65	24.54	13.67	14.32	9.70
Czech Republic	1632	13.96	2.76	9.43	5.43	1.64	1.52	20.21	10.30	21.60	13.33	12.82	3.45
Ecuador	274	18.59	5.97	23.68	9.63	6.67	5.02	16.29	8.30	24.81	6.23	11.32	5.47
France	1695	21.75	6.88	16.34	9.37	7.35	2.50	30.24	17.68	27.86	17.49	20.34	6.78
Germany	3247	16.58	2.57	13.94	6.29	2.86	4.88	19.86	9.48	26.90	12.26	11.14	8.67
Gibraltar	62	18.33	6.78	11.86	6.67	3.45	3.39	37.29	28.81	30.00	13.33	13.33	8.33
Hungary	11102	15.67	1.38	9.74	4.05	1.57	4.35	19.61	6.67	20.08	8.97	9.34	7.31
India	186	24.58	6.63	31.49	21.79	6.15	7.87	28.89	6.67	29.89	18.64	10.50	8.00
Iraq	99	27.55	11.46	25.77	13.40	8.25	5.15	24.47	11.34	25.26	9.57	5.21	3.16
Ireland	1676	22.35	6.34	17.78	9.99	4.42	6.15	39.35	20.36	44.41	23.88	18.33	18.13
Israel	1318	23.68	3.19	15.01	6.54	2.56	8.34	27.67	11.34	26.23	16.40	8.99	17.16
Italy	2377	18.44	2.03	13.39	6.95	1.77	3.85	26.38	10.09	28.10	15.91	12.09	9.48
Japan	559	13.45	4.57	17.84	5.69	2.46	5.48	18.17	11.91	27.70	13.64	14.62	12.06
Lithuania	1997	20.13	3.34	12.76	5.48	1.80	5.28	23.62	15.87	22.68	12.91	9.25	10.06
Malaysia	1163	16.59	2.99	20.61	8.23	2.53	4.52	22.05	8.51	22.81	14.16	10.70	6.90
Mexico	2096	31.11	7.26	35.97	17.80	9.41	10.77	31.53	9.86	38.04	15.98	19.38	14.09
New Zealand	2797	24.49	9.31	21.81	15.22	8.31	7.41	35.59	25.39	42.79	24.60	25.15	15.71
North Macedonia	1236	16.43	2.86	7.56	4.02	1.43	2.74	20.47	9.99	16.33	11.89	8.89	5.49
Panama	331	25.63	8.60	28.03	15.87	9.32	9.45	19.87	10.16	27.65	10.86	12.58	5.33
Peru	2626	25.74	5.91	32.19	13.58	7.01	8.66	21.34	8.36	28.48	10.49	13.52	9.33
Poland	9848	20.30	2.90	12.59	4.55	1.70	6.08	28.34	10.74	26.52	12.84	15.65	11.29
Portugal	2246	22.82	4.31	16.56	7.93	3.32	4.69	29.37	9.71	24.95	11.75	12.34	9.71
Slovakia	1124	15.78	3.20	7.99	4.02	1.29	2.95	23.76	11.23	21.40	11.06	16.35	7.24
South Africa	1839	21.48	5.76	19.71	11.59	3.85	4.67	26.75	15.05	31.95	17.24	13.09	11.51
South Korea	1451	18.48	6.40	22.85	9.01	4.51	4.92	13.18	13.64	22.02	13.31	17.46	5.76
Spain	2313	15.71	2.20	11.14	4.98	2.82	3.56	24.11	7.26	28.22	11.18	10.86	9.98
Switzerland	1141	18.73	3.84	14.73	6.78	4.92	3.53	28.70	14.07	30.28	16.47	18.03	8.79
Taiwan	2666	9.50	1.95	14.05	4.13	1.83	0.27	10.37	4.03	13.00	5.78	5.59	1.01
Turkey	806	24.28	4.92	24.40	14.11	5.93	8.59	18.58	8.21	24.14	12.17	17.38	8.64
United Kingdom	1398	23.96	6.95	17.43	9.53	4.11	6.67	35.86	20.37	38.32	19.97	20.59	13.75
United States of America	2387	26.12	10.36	23.72	15.78	7.63	7.34	34.50	22.02	39.42	23.64	20.14	13.58
Other	1165	26.05	7.02	22.50	12.45	7.29	8.20	29.49	14.13	30.07	15.13	15.37	12.35

Note. CSA = child sexual abuse; *AASA* = adolescent and adult sexual assault; *n* = sample size; $\chi 2$ = Chi-squared coefficient; $^{*}p < .001$; 1 = Showing genitalia, 2 = Verbal threat, 3 = Touching genitalia, 4 = Forcing to touch genitalia, 5 = Forced intercourse, 6 = Other unwanted sexual experience; occurrence estimates are listed. Only countries with an appropriate minimum sample sizes (in bold) were tested for dimensionality. The minimum sample sizes were determined with Monte Carlo simulation. Darker cells indicate higher prevalence estimates.

and later-in-life unwanted sexual experiences. Respondents who experienced any form of CSA were almost twice as likely to experience AASA. For example, verbal threats of sexual violence and forced intercourse in childhood were both highly associated with verbal threats, being made to touch someone's genitalia and forced intercourse in later life stages. However, we observed wide confidence intervals as a consequence of the large sample size and the relatively low occurrence of certain experiences. This reflects the inherent sensitivity of OR estimates in such scenarios and warrants caution in the interpretation of the results.

Discussion

There is a large corpus of evidence that underrepresented groups of sexual and gender minorities are more vulnerable to sexual victimization than their non-minority peers (Baams, 2018; Dworkin et al., 2021; Friedman et al., 2011; Rothman et al., 2011; Tobin & Delaney, 2019; Walters et al., 2013). Still, to our knowledge, psychometric examinations of survey measures used to screen for sexual victimization in general populations did not include sexual and gender minority groups. Populations from non-WEIRD countries were also often missing from previous psychometric work. The present study aimed to address this gap by validating the SAHQ across many countries (Leserman et al.,

Table 4
Occurrence rates of sexual victimization experiences in gender-, trans-status-, and sexual-identity-based groups.

	n	CSA 1.	CSA 2.	CSA 3.	CSA 4.	CSA 5.	CSA 6.	AASA 1.	AASA 2.	AASA 3.	AASA 4.	AASA 5.	AASA 6.
							%						
Gender													
Men	32,278	14.25	3.51	12.22	6.78	3.56	2.96	12.80	4.70	17.01	5.87	5.27	3.61
Women	46,404	24.02	5.19	19.41	9.23	4.11	6.48	32.83	15.92	33.27	18.75	19.22	13.03
Gender-diverse individuals	2748	31.43	12.14	28.21	15.81	10.21	12.02	37.69	26.91	43.79	27.35	26.77	20.17
Trans status													
Cis man	31,388	13.97	3.31	11.91	6.58	3.41	2.85	12.49	4.35	16.64	5.54	4.94	3.43
Cis woman	45,403	24.02	5.12	19.41	9.15	4.04	6.48	32.92	15.91	33.28	18.72	19.24	13.02
Trans man	272	31.11	14.55	31.46	20.07	12.31	10.85	29.10	26.77	39.39	22.10	22.64	15.23
Trans woman	195	28.50	9.33	27.37	15.26	10.22	7.14	34.74	17.37	35.60	22.87	19.25	15.93
Not trans gender-diverse individual	1242	31.86	10.82	26.82	14.81	8.46	10.16	37.47	23.06	43.97	25.35	26.56	18.56
Trans gender-diverse individual	811	32.54	14.29	31.15	17.87	12.77	14.23	42.21	35.42	47.37	31.63	30.63	25.64
Questioning	1123	29.36	10.25	25.23	13.24	7.19	10.34	33.70	21.97	38.18	22.84	21.00	16.81
Sexual identity													
Heterosexual	55,608	17.72	3.43	14.65	6.81	2.97	4.04	21.14	8.82	22.41	10.85	10.73	7.06
Gay or lesbian	4563	24.62	9.10	21.30	14.45	8.68	6.19	28.81	14.03	31.71	16.07	14.74	9.08
Bisexual	7616	27.18	8.04	22.75	13.27	6.99	7.96	35.17	20.79	40.11	22.61	23.99	16.11
Queer and pansexual	2894	33.58	11.11	26.40	15.88	9.72	10.80	43.26	29.81	49.79	31.85	31.37	22.92
Homo- and hetero-flexible identities	6667	24.46	5.09	18.97	8.35	4.13	7.27	33.38	15.30	35.77	17.93	18.91	13.77
Asexual	1058	22.33	6.52	17.86	11.01	4.68	8.12	28.70	19.80	30.57	18.56	18.29	13.88
Questioning	1934	23.34	6.31	21.44	9.81	4.49	7.84	30.47	14.00	35.02	17.93	18.17	14.65
Other	795	25.29	8.15	22.15	11.75	6.46	12.93	27.75	15.93	34.16	19.45	18.56	20.41

Note. CSA = child sexual abuse; *AASA* = adolescent and adult sexual assault; *n* = sample size; 1 = Showing genitalia, 2 = Verbal threat, 3 = Touching genitalia, 4 = Forcing to touch genitalia, 5 = Forced intercourse, 6 = Other unwanted sexual experience.

Table 5
Pairwise comparisons of the occurrence estimates of sexual victimization experiences across gender-based groups.

	CSA 1.	AASA 1.	CSA 2.	AASA 2.	CSA 3.	AASA 3.	CSA 4.	AASA 4.	CSA 5.	AASA 5.	CSA 6.	AASA 6.
						χ^2						
Man vs. Woman	858.005	3008.481	109.560	2073.380	558.324	1852.652	126.381	2291.040	11.655	2690.371	411.150	1705.213
Man vs. Gender-diverse individual	469.194	1045.718	432.400	1908.030	461.570	952.167	262.153	1529.265	259.167	1656.014	477.226	1230.804
Woman vs. Gender-diverse individual	60.880	19.515	220.203	186.803	100.606	88.074	114.293	100.421	210.480	74.157	98.814	79.212

Note. CSA = child sexual abuse; *AASA* = adolescent and adult sexual assault; 1 = Showing genitalia, 2 = Verbal threat, 3 = Touching genitalia, 4 = Forcing to touch genitalia, 5 = Forced intercourse, 6 = Other unwanted sexual experience; $\chi 2$ = Chi-squared coefficient; Colored cells indicate significant differences between groups after Bonferroni correction.

1995), with the inclusion of underserved and underrepresented populations.

Psychometric evaluation

Both the SAHQ-CSA and SAHQ-AASA demonstrated excellent structural validity in all country-, gender-, sexual-identity-, and trans-status-based groups. Measurement invariance testing yielded scalar invariance across all examined populations, indicating that the SAHQ-CSA and the SAHQ-AASA measure the underlying construct similarly regardless of gender, trans status, sexual identity, and country. Both scales showed appropriate criterion validity with clinically relevant constructs (i.e., depression and anxiety symptoms), as well as acceptable reliability. Additionally, the observed pattern of group differences in the CSA and AASA occurrence estimates aligned with well-documented demographic disparities (e.g., Baams, 2018; Craig et al., 2020; Dworkin et al., 2021; Rothman et al., 2011; Smith et al., 2018; Thoma et al., 2021; Walters et al., 2013), further supporting the validity of the scales.

The SAHQ has been scored diversely since its development, reflecting the ongoing lack of consensus in the literature. Some studies have calculated composite scores to create categorical variables (e.g., Grossi et al., 2018; Slavin et al., 2020; Toomey et al., 1993), others have summed the number of "yes" answers (e.g., Estlein et al., 2024), while some others have proposed weighted aggregate scoring methods for modified versions of the SAHQ (e.g., Godbout et al., 2019; Vaillancourt-Morel et al., 2015). To address this inconsistency, we tested the SAHQ from multiple scoring perspectives: including statistics related to both the continuous and dichotomous scoring. Our results (i.e., acceptable-to-moderate values of internal consistency, factor-loadings, and model fit indices) suggest that the items are not closely related to each other but are not independent either. These findings, supported by the high between-items correlations within each scale, may imply that the aggregated scores may represent a latent construct. Furthermore, the scalar invariance we established across country-, gender-identity-, trans-status-, and sexual-identity-based groups suggests that an aggregated score could be meaningfully compared across these groups. Still, we caution against using a simple sum score due to potentially problematic interpretations. The information obtained from the SAHQ does not enable us to interpret whether participants who say yes to multiple items within the CSA or AASA subscales indicate different forms of victimization during multiple, separate events or one event. Higher scores calculated by simply summing the number of yes answers represent being victimized by multiple forms of sexual violence but may not equate with more severe trauma. To avoid misrepresenting trauma severity, we recommend using the SAHQ-CSA and SAHQ-AASA items to create categorical variables (i.e., experienced CSA or not) or weighted total scores (e.g., Godbout et al., 2019; Vaillancourt-Morel et al., 2015).

Table 6
Pairwise comparisons of the occurrence estimates of sexual victimization experiences across trans-status-based groups.

	CSA 1.	AASA 1.	CSA 2.	AASA 2.	CSA 3.	AASA 3.	CSA 4.	AASA 4.	CSA 5.	AASA 5.	CSA 6.	AASA 6.
						χ^2						
Cis man vs. Cis woman	891.390	3053.486	128.160	2169.232	596.052	1898.328	138.212	2365.076	15.438	2773.898	428.131	1738.624
Cis man vs. Trans man	55.801	59.097	96.018	298.537	82.584	79.672	71.498	127.802	58.347	159.682	51.601	94.852
Cis man vs. Trans woman	28.261	73.067	19.360	70.083	35.831	40.908	19.765	95.795	21.595	71.688	9.278	74.584
Cis man vs. Not trans, gender-diverse individual	257.224	532.191	178.697	794.621	204.518	496.979	112.645	725.522	78.826	931.821	165.804	576.225
Cis man vs. Trans, gender-diverse individual	185.450	527.143	253.888	1487.786	228.498	434.223	138.405	873.774	181.013	937.699	268.820	844.760
Cis man vs. Questioning	164.500	365.595	135.583	667.689	140.239	290.619	62.896	523.499	37.571	504.085	159.640	441.314
Cis woman vs. Trans man	6.131	0.776	45.498	20.322	20.267	2.763	35.089	1.619	44.344	1.421	7.305	0.818
Cis woman vs. Trans woman	1.708	0.178	6.266	0.175	5.959	0.320	7.138	1.374	15.437	0.000	0.040	0.902
Cis woman vs. Not trans, gender-diverse individual	32.394	7.039	72.649	35.508	34.094	40.891	41.374	26.915	54.931	30.533	19.679	20.338
Cis woman vs. Trans, gender-diverse individual	24.973	22.445	123.458	188.803	56.312	49.751	62.713	72.368	141.850	54.879	60.155	79.590
Cis woman vs. Questioning	11.841	0.359	51.246	24.708	16.676	8.623	17.599	10.079	23.380	1.868	19.886	9.748
Trans man vs. Trans woman	0.192	0.826	2.029	4.199	0.558	0.264	1.320	0.000	0.388	0.552	1.315	0.001
Trans man vs. Not trans, gender-diverse individual	0.006	3.451	2.531	1.509	1.670	1.021	3.814	0.688	3.421	1.034	0.155	0.700
Trans man vs. Trans, gender-diverse individual	0.056	8.369	0.004	4.171	0.002	3.037	0.559	6.079	0.001	4.533	0.962	7.551
Trans man vs. Questioning	0.353	1.118	3.640	2.237	3.560	0.022	7.373	0.018	7.080	0.167	0.090	0.148
Trans woman vs. Not trans, gender-diverse individual	0.459	0.206	0.169	2.023	0.003	2.382	0.001	0.365	0.305	3.281	0.998	0.281
Trans woman vs. Trans, gender-diverse individual	0.630	2.085	2.324	15.647	0.639	4.644	0.449	4.175	0.755	7.373	4.770	4.911
Trans woman vs. Questioning	0.000	0.018	0.021	1.437	0.312	0.223	0.430	0.000	1.527	0.268	1.125	0.018
Not trans, gender-diverse individual vs. Trans, gender-diverse individual	0.048	3.341	4.457	28.139	3.096	1.500	2.449	7.532	8.510	3.504	5.893	10.681
Not trans, gender-diverse individual vs. Questioning	1.568	1.747	0.193	0.155	0.812	4.210	1.212	1.217	1.260	6.430	0.006	0.489
Trans, gender-diverse individual vs. Questioning	1.883	9.085	6.329	30.961	6.610	9.497	6.637	13.837	15.441	17.433	5.000	14.970

Note. CSA = child sexual abuse; *AASA* = adolescent and adult sexual assault; 1 = Showing genitalia, 2 = Verbal threat, 3 = Touching genitalia, 4 = Forcing to touch genitalia, 5 = Forced intercourse, 6 = Other unwanted sexual experience; $\chi 2$ = Chi-squared coefficient; Colored cells indicate significant differences between groups after Bonferroni correction.

Gender-, sexual-identity-, and trans-status-based group differences

We observed significant differences between genders with gender-diverse (e.g., non-binary, genderqueer) individuals consistently reporting the highest, and women reporting the second highest occurrences of all six types of unwanted sexual experiences both in childhood and later in life. The most common manifestation of both CSA and AASA were perpetrators exhibiting sexual organs and unwanted touching of an individual's sexual organs across all genders. Findings from our multinational sample are consistent with the existing literature regarding differences between men, women (Dworkin et al., 2021; Smith et al., 2018), and gender-minority individuals (Baams, 2018; Thoma et al., 2021). To date, sexual victimization of gender-diverse individuals has mainly been studied in North American and British populations, and they have mostly been compared to binary trans identities (i.e., trans men and trans women) (Newcomb et al., 2020; Rimes et al., 2019; Scandurra et al., 2019). Our study provides new cross-cultural evidence that gender-diverse individuals may be associated with higher rates of both CSA and AASA globally.

Taking a closer look at the intersection of gender identity, sex assigned at birth and trans status, we found that overall, trans individuals, non-trans gender-diverse individuals, and participants who reported questioning their gender identity more frequently reported CSA and AASA than cisgender men and women. Specifically, trans men and trans gender-diverse individuals reported the highest rates of all types of CSA and AASA. However, these were only consistently significantly different in comparison with cisgender men. For example, trans women and *cis* women only differed significantly with respect to CSA involving forced intercourse, but not concerning other types of victimization.

Consistent with previous results and our hypotheses, we observed significantly higher frequencies of all types of CSA and AASA in sexual-minority participants (Dworkin et al., 2021; Rothman et al., 2011; Walters et al., 2013), except for CSA involving unwanted touching of individuals' genitals and forced intercourse, where asexual and heterosexual participants did not significantly differ. To date, research on childhood and later-in-life sexual victimization has rarely focused on plurisexual identities other than bisexuality, although it was thought that pansexual, queer and other plurisexual individuals may be at even higher risk of victimization than bisexual individuals (Craig et al., 2020; Flanders et al., 2019). In our sample, pansexual and queer participants reported the highest rates of unwanted sexual experiences, significantly differing from bisexual, heterosexual, and homo- and hetero-flexible participants across all types of CSA and AASA, and from gay/lesbian, asexual and "questioning" identities across most types of CSA and AASA.

A potential explanation for the vulnerability of sexual- and gender-minorities that we observed in this large, cross-cultural sample is the often multifaceted and far-reaching effects of stigmatization and discrimination of these individuals. According to the Routine Activity Theory, victimization occurs when three elements converge: a motivated offender, a suitable target, and the absence of a capable guardian (L. E. Cohen & Felson, 1979). The marginalization, isolation, and rejection by family and peers may result in limited social support, unstable or unsafe living situations, or mental health challenges that promote vulnerability to sexual victimization (e.g., Cusack et al., 2023). The internalized stigma and potential need to conceal their identities may lead minoritized individuals to seek sexual partners and relationships outside of protected networks. In the absence of sexuality education tailored to their needs, they may take more risk while exploring their diverse sexualities. Additionally, perceived sexual- or gender-minority identity may also motivate sexual violence in some cases (Blondeel et al., 2018).

There is little research as to why plurisexual individuals may be at an even greater risk of sexual victimization than other sexual-minority

Table 7
Pairwise comparisons of the occurrence estimates of sexual victimization experiences across sexual-identity-based groups.

	CSA 1.	AASA 1.	CSA 2.	AASA 2.	CSA 3.	AASA 3.	CSA 4.	AASA 4.	CSA 5.	AASA 5.	CSA 6.	AASA 6.
						$\chi 2$						
Heterosexual vs. Gay or lesbian	108.967	109.200	342.479	118.067	119.379	149.956	325.179	96.139	389.572	57.523	41.006	19.750
Heterosexual vs. Bisexual	310.365	570.498	344.564	924.675	271.256	851.967	354.174	746.822	297.364	951.789	194.933	595.740
Heterosexual vs. Queer and pansexual	374.332	607.907	412.634	1227.157	245.514	892.893	302.014	1024.971	363.809	999.073	237.768	768.993
Heterosexual vs. Homo- and hetero-flexible identities	149.773	402.798	45.119	263.440	75.329	454.892	20.598	258.282	25.346	345.505	127.324	312.656
Heterosexual vs. Asexual	12.351	27.538	26.532	133.002	7.319	29.291	25.727	54.582	9.038	52.597	37.506	60.324
Heterosexual vs. Questioning	31.080	79.805	40.751	56.207	52.844	136.885	22.382	85.980	12.869	97.359	55.105	134.937
Heterosexual vs. Other	22.912	14.466	44.524	42.586	26.262	45.068	24.837	49.071	27.419	40.668	127.948	170.561
Gay or lesbian vs. Bisexual	6.579	35.904	3.803	72.284	2.456	56.843	3.023	61.861	10.620	120.971	9.860	94.996
Gay or lesbian vs. Queer and pansexual	50.725	110.192	6.727	220.894	19.691	159.165	2.170	202.937	1.881	234.196	38.187	209.514
Gay or lesbian vs. Homo- and hetero-flexible identities	0.002	19.812	62.103	3.539	6.326	15.446	89.249	6.397	89.461	29.155	4.147	47.335
Gay or lesbian vs. Asexual	1.666	0.000	6.320	18.204	4.347	0.268	6.862	3.304	16.473	6.932	4.353	18.455
Gay or lesbian vs. Questioning	1.033	1.948	12.656	0.010	0.000	6.144	22.217	3.466	30.997	11.555	4.401	37.394
Gay or lesbian vs. Other	0.030	0.293	0.782	1.643	0.067	1.127	3.659	4.213	4.049	5.757	36.761	73.101
Bisexual vs. Queer and pansexual	30.708	37.674	21.562	73.559	12.061	49.688	10.024	72.406	19.618	43.974	15.568	47.000
Bisexual vs. Homo- and hetero-flexible identities	8.682	2.639	43.546	56.590	21.485	16.009	73.542	36.389	47.703	41.114	1.378	10.546
Bisexual vs. Asexual	7.556	10.826	2.477	0.505	9.030	21.904	3.176	6.700	6.752	13.010	0.062	2.240
Bisexual vs. Questioning	8.620	8.379	5.826	34.997	1.381	8.616	14.272	14.368	14.012	21.249	0.007	1.370
Bisexual vs. Other	1.070	11.914	0.000	8.189	0.201	6.871	1.300	3.472	0.301	9.630	18.685	7.296
Queer and pansexual vs. Homo- and hetero-flexible identities	60.312	53.185	101.078	213.112	50.054	101.641	102.584	175.779	102.856	136.644	23.196	87.321
Queer and pansexual vs. Asexual	31.514	41.478	15.744	29.156	22.313	66.715	11.750	48.473	22.288	47.748	3.790	26.243
Queer and pansexual vs. Questioning	42.162	47.427	28.359	121.118	12.494	57.099	31.112	83.959	39.962	74.955	8.313	33.697
Queer and pansexual vs. Other	14.234	38.735	5.296	44.558	4.968	35.182	7.127	33.928	7.276	36.857	2.477	1.258
Homo- and hetero-flexible identities vs. Asexual	1.683	6.178	2.981	10.277	0.540	7.629	6.851	0.119	0.445	0.233	0.762	0.002
Homo- and hetero-flexible identities vs. Questioning	1.051	3.325	3.395	1.520	3.361	0.112	2.946	0.001	0.277	0.280	0.377	0.812
Homo- and hetero-flexible identities vs. Other	0.044	7.610	10.168	0.095	2.556	0.781	7.814	0.536	7.065	0.128	24.449	18.824
Asexual vs. Questioning	0.171	0.876	0.028	12.825	3.419	4.789	0.970	0.062	0.022	0.001	0.079	0.240
Asexual vs. Other	1.224	0.203	1.200	3.360	3.192	1.561	0.078	0.083	1.995	0.000	8.372	9.942
Questioning vs. Other	0.692	1.913	2.212	1.121	0.064	0.322	1.658	0.363	3.467	0.000	13.620	9.580

Note. CSA = child sexual abuse; *AASA* = adolescent and adult sexual assault; 1 = Showing genitalia, 2 = Verbal threat, 3 = Touching genitalia, 4 = Forcing to touch genitalia, 5 = Forced intercourse, 6 = Other unwanted sexual experience; $\chi 2$ = Chi-squared coefficient; Colored cells indicate significant differences between groups after Bonferroni correction.

Table 8
Associations between the manifestations of sexual victimization represented by an odds ratio matrix.

	CSA 1.	CSA 2.	CSA 3.	CSA 4.	CSA 5.	CSA 6.	AASA 1.	AASA 2.	AASA 3.	AASA 4.	AASA 5.	AASA 6.
CSA 1.		2.5-125.9	1.29-65.22	3.35-168.84	3.11-156.71	0.67-33.65	0.63-31.66	0.51-25.91	0.35-17.55	0.41-20.6	0.38-19.35	0.28-13.95
CSA 2.	17.73		3.07-154.93	3.61-181.83	8.02-404.16	1.07-54.04	0.68-34.44	1.68-84.67	0.56-28.19	0.73-37.01	0.72-36.13	0.4-20.01
CSA 3.	9.19	21.82		4.57-230.22	5.89-296.63	0.77-38.85	0.39-19.72	0.48-23.99	0.46-22.98	0.4-20.15	0.4-20.21	0.25-12.45
CSA 4.	23.78	25.61	32.43		7.78-392.3	0.86-43.49	0.45-22.49	0.58-29.46	0.41-20.63	0.66-33.04	0.5-25.01	0.27-13.46
CSA 5.	22.07	56.93	41.78	55.26		1.11-55.75	0.53-26.83	0.83-42.07	0.52-26.16	0.73-36.99	0.91-45.66	0.34-17.24
CSA 6.	4.74	7.61	5.47	6.13	7.85		0.37-18.69	0.46-23.37	0.31-15.6	0.36-18.39	0.37-18.4	1.89-95.1
AASA 1.	4.46	4.85	2.78	3.17	3.78	2.63		1.05-52.9	0.81-40.74	1.05-53.09	0.77-38.96	0.47-23.71
AASA 2.	3.65	11.93	3.38	4.15	5.93	3.29	7.45		1.67-84.35	1.78-89.59	2.33-117.65	0.63-31.55
AASA 3.	2.47	3.97	3.24	2.91	3.68	2.20	5.74	11.88		2.77-139.52	2.08-104.82	0.61-30.92
AASA 4.	2.90	5.21	2.84	4.65	5.21	2.59	7.48	12.62	19.65		2.46-124.1	0.61-30.7
AASA 5.	2.73	5.09	2.85	3.52	6.43	2.59	5.49	16.57	14.77	17.48		0.62-31.18
AASA 6.	1.97	2.82	1.75	1.90	2.43	13.40	3.34	4.44	4.36	4.32	4.39	

Note. Lower triangle values represent the odds ratio for answering yes to both items in a pair. Upper triangle values represent 95 % confidence intervals. *CSA* = child sexual abuse; *AASA* = adolescent and adult sexual assault; 1 = Showing genitalia, 2 = Verbal threat, 3 = Touching genitalia, 4 = Forcing to touch genitalia, 5 = Forced intercourse, 6 = Other unwanted sexual experience. Darker colors draw attention to higher odds ratios. The area within the dashed-line-demarcated rectangle presents associations between CSA and AASA experiences.

individuals (Flanders et al., 2019). However, they may face discrimination from both heterosexual and sexual-minority groups (McInnis et al., 2022), resulting in greater social isolation. Additionally, they are often stereotyped as hypersexual and promiscuous, which may be used by perpetrators to justify assaults (Flanders et al., 2017).

Associations between different types of CSA and AASA

In line with previous research and our hypothesis, we observed significant positive associations between all measured types of CSA and AASA. Respondents who experienced any form of unwanted sexual experiences in childhood were at least twice as likely to have experienced sexual assault in their adolescent or adult years. We also noted an even stronger association between different manifestations of AASA-AASA

and especially, CSA-CSA experiences, which might indicate a co-occurrence or accumulation of different types of victimization in the experiences of survivors. For example, the likelihood of sexual victimization involving forced intercourse was most closely associated with threats of sexual violence, unwanted touching of sexual organs, and being forced to touch the sexual organs of a perpetrator in both CSA and AASA. We note, however, that answering yes to multiple CSA or AASA scale items did not necessarily refer to separate events; it could refer to different manifestations of violence suffered throughout one or multiple experiences of victimization. Survivors often experience abuse or assaults in relational, prolonged contexts (e.g., CSA by a family member or other guardian, or adult intimate-partner sexual violence), and more severe forms of violence (e.g., rape) are often preceded and accompanied by other abusive acts (e.g., verbal threats of sexual violence) (Andersson et al., 2020; Walters et al., 2013).

Limitations and recommendations for future research

The generalizability of our results to the broader population may be restricted due to the non-representative sampling, and the adoption of online sampling methods might have introduced selection bias. Although we employed standardized recruitment materials (e.g., posters, online advertisements) and provided standard recruitment guidelines to our collaborators, sample equivalence across countries could not be ensured. For example, individuals who do not have access to the internet may be underrepresented in the study and even more underrepresented in some countries than others as limited internet access and related inequities vary internationally. We collected self-report data, including data on participants' sexual identity, which may not always align with their sexual behavior (Mishel, 2019). Although self-identification is an important facet of sexuality and our study contributed significantly to the literature with the inclusion of a broad spectrum of previously underrepresented identities, future studies may provide a more comprehensive picture of participants' sexual lives by incorporating questions regarding sexual attraction (Which gender(s) are you attracted to?) and sexual behavior (Which gender(s) do you have sexual relationships with?). General limitations associated with the ISS are described on the study's OSF page (https://osf.io/n3k2c).

Additionally, measurement biases may occur when measuring sexual victimization retrospectively. Evoking and sharing trauma is a difficult and complex process that may be influenced by many factors (Tener & Murphy, 2015). Memories related to sexual victimization, especially CSA, may become consciously inaccessible due to traumatic mechanisms (e.g., repression, dissociation) (Geraerts et al., 2006). Survivors may be unaware of the event, be unsure if it happened, have difficulty remembering it accurately, not recognize whether what occurred constitutes abuse/assault (Dorahy & Clearwater, 2012; Lab & Moore, 2005; Sorsoli, 2010).

Similarly to many other CSA and AASA scales (Chiang et al., 2016; Dunne et al., 2009; Gil-Llario et al., 2020; Koss et al., 2007; Swahnberg & Wijma, 2003), the SAHQ refers to unwanted sexual experiences. The phrasing "when you did not want it" or "against your will," however, might exclude some cases of child or adolescent grooming (i.e., a process by which a perpetrator isolates and prepares an intended victim to be compliant with the abuse; Bennett & O'Donohue, 2014), or intimate-partner sexual violence, as they often happen in a context where sexual want and consent are deemed ambiguous, even by the survivor (Fernet et al., 2021). Notably, the criterion of unwanted or non-consensual experience is not needed for the WHO definition of CSA, and sexual interaction between an adult and a child are per se abusive according to the laws of many countries (WHO, 1999).

Although the SAHQ asks about five different forms of sexual victimization, the literature indicates that a wider range of sexual experiences may be considered abusive or otherwise traumatic for individuals (Dworkin et al., 2021). A recent qualitative study analyzed open-ended text responses related to the SAHQ's sixth item ("*Have you had any other unwanted sexual experiences not mentioned above?*") and identified at least seven additional forms of sexual violence not captured by the first five items: groping, non-physical coercion, lack of consent due to altered consciousness, verbal abuse, physical harm in the context of consensual sexual activity, violations of consent regarding sexual health and the reproductive system, and breach of ongoing consent (Buczo et al., 2024).

Additionally, the SAHQ provides no information about potential sexual violence that happens in the digital realm. This needs to be addressed in further measurement development as technology-facilitated sexual violence are increasingly common, especially among sexual-minority and gender-nonconforming youth (Gámez-Guadix & Incera, 2021; Hillier et al., 2012), and is reported to be associated with similar outcomes as in-person violence (Patel & Roesch, 2022). Furthermore, sexual and gender minority individuals may face specific forms of sexually violent acts such as homophobic or transphobic sexual harassment or bias-motivated sexual violence in both the online and offline sphere (Messinger & Koon-Magnin, 2019). There is a need for instruments screening for lifetime sexual victimization and revictimization that include a wider range of sexually violent acts to align with recent evidence and the WHO definitions of CSA and AASA.

We note that the impact of sexual victimization may be affected by many characteristics of the experience that the SAHQ does not aspire to cover, such as the exact age of occurrence, the relationship to the perpetrator, the duration and frequency of the victimization, the severity of violence, or the potential disclosure and its consequences (e.g., Ullman, 2007). Although a more comprehensive measure would benefit our understanding of sexual victimization outcomes, ethical review boards often raise concerns about surveying respondents' traumatic experiences in such depth without readily available expert help. Participant distress research shows that those with a history of sexual victimization indeed respond to trauma-related questions with more distress than non-victims. However, this distress was found to be low to moderate on an absolute scale, and they also reported personal benefits from participating in trauma research (Jaffe et al., 2015).

Conclusions and implications

With our study, we aimed to fill a methodological gap and re-examine a widely used screening measure for lifetime sexual victimization. Overall, the psychometric assessment of the SAHQ demonstrated its utility in diverse populations according to gender, sex, and culture. Our cross-country results regarding demographic differences between gender-identity-, trans-status-, and sexual-identity-based groups corroborated previous evidence from WEIRD samples that women, trans or gender-diverse individuals, and sexual minorities appear at greater risk of both CSA and AASA (e.g., Baams, 2018; Canan et al., 2021; Friedman et al., 2011). Findings further revealed a vulnerable group of pansexual and queer individuals beyond the previously identified group of bisexual individuals (e.g., Walters et al., 2013). Additionally, results provided support for the positive association between CSA and AASA experiences and demonstrated that different forms of violence are clustered in a diverse sample involving minoritized subgroups previously often neglected in the sexual victimization literature.

Our study uniquely covered CSA and AASA of various types and severity in a large cross-cultural sample, including non-WEIRD populations where prior data were scarce. Through the course of the study, we made translations in 26 languages freely available to advance cross-cultural research on sexual victimization (see translations at https://osf.io/jcz96). The translation and cross-country validation of the concise SAHQ can offer consistency and standardization in cross-cultural trauma research. The diverse study sample allowed us to report occurrence estimates of various gender- and sexual-minority identities (e.g., pansexual individuals, non-binary individuals) that were previously underrepresented or merged with other minority identities, losing nuance in the process. With this approach, we provided detailed insights

into different manifestations of sexual victimization for researchers and clinicians globally. Moreover, we hope to raise awareness about a range of abusive acts and vulnerable populations, and thus inform future prevention and intervention efforts, as well as evidence-based policy creation, including the effective and equitable allocation of resources.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the authors used OpenAI's ChatGPT in order to improve the readability and language of the manuscript. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

Funding

The research was supported by the Hungarian National Research, Development, and Innovation Office (Grant numbers: KKP126835). L.N. and M.K. were supported by the ÚNKP-22–3 New National Excellence Program of the Ministry for Culture and Innovation from the source of the National Research, Development and Innovation Fund.; S.W.K. was supported by the Kindbridge Research Institute; Z.D. was supported by the Hungarian National Research, Development, and Innovation Office (Grant numbers: KKP126835); M.N.P. was supported by the Connecticut Council on Problem Gambling; BB was supported by the FRQSC – Research Support for New Academics (NP) Program during the finalization of this article; C.Y.L. was supported by the Wordwide Universities Network (WUN) Research Development Fund (RDF) 2021 and the Higher Education Sprout Project, the Ministry of Education at the Headquarters of University Advancement at the National Cheng Kung University (NCKU); C.L., J. Billieux and D.J.S. received support from the WUN Research Development Fund (RDF) 2021; G.O. was supported by the ANR grant of the Chaire Professeur Junior of Artois University and by the Strategic Dialogue and Management Scholarship (Phase 1 and 2); G.C.Q.G. was supported by the SNI #073–2022 (SENACYT, Republic of Panama); H.F. was supported by the Grant-in-Aid for Transformative Research Areas (A) (Japan Society for The Promotion of Science, JP21H05173), Grant-in-Aid for Scientific Research (B) (Japan Society for The Promotion of Science, 21H02849), and the Smoking Research Foundation; J.B.G. was supported by grants from the International Center for Responsible Gaming and the Kindbridge Research Institute; K. Lukavská was supported by the Charles University institutional support programme Cooperatio-Health Sciences; K. Lewczuk was supported by Sonatina grant awarded by National Science Centre, Poland, (2020/36/C/HS6/00,005); K.R. was supported by a funding from the Hauts-de-France region (France) called "Dialogue Stratégique de Gestion 2 (DSG2)"; L.C. was supported by the National Social Science Foundation of China (19BSH117); M.G. was supported by National Science Centre, Poland (2021/40/Q/HS6/00,219); R.C. was supported by Auckland University of Technology, 2021 Faculty Research Development Fund; R. G. was supported by Charles University's institutional support programme Cooperatio-Health Sciences; S.B. was supported by a Tier 1 Canada Research Chair; Sungkyunkwan University's research team was supported by Brain Korea 21 (BK21) program of National Research Foundation of Korea.

Ethics

The authors assert that all procedures contributing to this work comply with the relevant national and institutional committees' ethical standards on human experimentation and the Helsinki Declaration. The study was approved by all collaborating countries' national/institutional ethics review boards: https://osf.io/e93kf

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

SWK discloses that he has received funding from the International Center for Responsible Gaming, MGM Resorts International, Center for the Application of Substance Abuse Technologies, Taylor Francis, Springer Nature, The Nevada Problem Gambling Project, Sports Betting Alliance, and Kindbridge Research Institute. MNP discloses that he has consulted for and advised Game Day Data, Addiction Policy Forum, AXA, Idorsia, Baria-Tek, and Opiant Therapeutics; been involved in a patent application involving Novartis and Yale; received research support from the Mohegan Sun Casino, Children and Screens and the Connecticut Council on Problem Gambling; consulted for or advised legal and gambling entities on issues related to impulse control, internet use and addictive behaviors; provided clinical care related to impulse-control and addictive behaviors; performed grant reviews; edited journals/journal sections; given academic lectures in grand rounds, CME events and other clinical/scientific venues; and generated books or chapters for publishers of mental health texts. The University of Gibraltar receives funding from the Gibraltar Gambling Care Foundation, an independent, not-for-profit charity. J. Burkauskas works as a consultant at Cronos. ELTE Eötvös Loránd University receives funding from Szerencsejáték Ltd. (the gambling operator of the Hungarian government) to maintain a telephone helpline service for problematic gambling. However, these funding sources are not related to this study, and the funding institutions had no role in the study design or the collection, analysis, and interpretation of the data, the writing of the manuscript, or the decision to submit the paper for publication. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

The authors would like to thank Anastasia Lucic and Natasha Zippan for their help with project administration and data collection, and Abu Bakkar Siddique, Anne-Marie Menard, Clara Marincowitz, Club Sexu, Critica, Digital Ethics Center (Skaitmeninės etikos centras), Día a Día, Ed Carty, El Siglo, Jakia Akter, Jayma Jannat Juma, Kamrun Nahar Momo, Kevin Zavaleta, Laraine Murray, L'Avenir de l'Artois, La Estrella de Panamá, La Voix du Nord, Le Parisien, Lithuanian National Radio and Television (Lietuvos nacionalinis radijas ir televizija), Mahfuzul Islam, Marjia Khan Trisha, Md. Rabiul Islam, Md. Shahariar Emon, Miriam Goodridge, Most. Mariam Jamila, Nahida Bintee Mostofa, Nargees Akter, Niamh Connolly, Rafael Goyoneche, Raiyaan Tabassum Imita, Raquel Savage, Ricardo Mendoza, Saima Fariha, SOS Orienta and Colegio de Psicólogos del Perú, Stephanie Kewley, Sumaiya Hassan, Susanne Bründl, Tamim Ikram, Telex.hu, Trisha Mallick, Tushar Ahmed Emon, Wéo, and Yasmin Benoit for their help with recruitment and data collection.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.ijchp.2024.100535.

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