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Initial validation of Hanson Sex Attitude Questionnaire (HSAQ) in Portuguese perpetrators of child sexual abuse and perpetrators of non-sexual crimes

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ABSTRACT

Cognitive distortions (CDs) are a crucial element in the etiology of child sexual offending, with most of the intervention programs targeting them to reduce the risk of sexual recidivism in perpetrators of child sexual abuse (CSA). Researchers have developed the Hanson Sex Attitude Questionnaire (HSAQ) to assess CDs. With a total sample of 256 participants, the Portuguese version of the HSAQ revealed a two-factor structure. The HSAQ subscales demonstrated good to acceptable psychometric properties in terms of internal consistency, as well as discriminant validity. One of the subscales also demonstrated convergent validity. Additionally, the two subscales exhibited differences between perpetrators of CSA with and without previous interventions, indicating known-groups validity. Overall, our findings partially support the use of the HSAQ in the forensic Portuguese population, underscoring its significance for clinical and research purposes. Nevertheless, particular caution is advised, especially regarding factor two.

KEYWORDS

Cognitive distortions; child sexual offending; exploratory factor analysis; assessment

Cognitive distortions

Beck (1963) was the first to use the term "cognitive distortions" (CDs) to describe the patterns of wrong thinking in persons with depression. He demonstrated that these patterns of thinking significantly trigger, reinforce, and perpetuate negative emotions about themselves and the world (Beck, 1963). Subsequently, researchers identified similar thinking patterns in individuals exhibiting sex-abusive behaviors (Abel et al., 1984). This discovery prompted Abel and his colleagues in 1984 to extend the use of the term "CDs" to the field of sexual offending. They defined CDs as any justifications, perceptions, or judgments employed by individuals who have committed sexual offenses to rationalize their behavior (Abel et al., 1984).

However, the term CDs has suffered from unclear definitions over the years (Mann & Beech, 2003). Abel and his colleagues (1984) stated that CDs had a double function (i.e., pre- and post-offense): they serve to alleviate the tension between an offense-related sexual

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interest and one's cultural/social norms and to diminish the feelings of shame after the crime. However, some authors claim that post hoc excuses and minimizations about offensive actions are common and serve to protect their self-concept (Maruna & Mann, 2006). In this way, Nunes and Jung (2013) stated that excuses/minimizations and CDs are different constructs (Nunes & Jung, 2013). Additionally, Ward and colleagues (1997) described the CDs as surface-level cognitive products (that is, conscious outputs) that originate from deeper structures (i.e., implicit theories) (Ward, 1997). These authors proposed the existence of beliefs about the world, the self, and offense-supportive (Ward, 2000), and identified five types of CDs associated with child sexual offending: (1) children are sexual beings, (2) sexual acts with children do not harm them, (3) the sexual drive is uncontrollable and one cannot successfully control their sexual acts, (4) the world is a dangerous place and only children are trustworthy and innocent, (5) and men have the right to perform sexual acts on children. More recently, Ciardha C and Ward (2013) offered a working definition, considering CDs as beliefs that disrupt usually accepted norms of rationality, which play an important role in the onset and maintenance of sexual offending (Ciardha C & Ward, 2013).

Based on previous research, CDs about child sexual abuse are more common in perpetrators of child sexual abuse (CSA) than in other groups of individuals with other sexual convictions (Boillat et al., 2017; Feelgood et al., 2005; Katsuta & Hazama, 2016; Merdian et al., 2014; Petruccelli et al., 2022). Besides, CDs are a key feature in the etiology of child sexual abuse (Marshall & Barbaree, 1990; Ward & Beech, 2006) and a common intervention target in cognitive-behavioral treatment programs (Gannon et al., 2019; Sousa et al., 2022). Thus, the study of CDs in CSA perpetrators is extremely important for promoting effective and targeted assessment and treatment strategies (D'Urso et al., 2019).

Measuring cognitive distortions

There are two approaches to assessing for CDs: (1) explicit measures, such as psychometric scales, and (2) implicit measures, where the presence of beliefs supporting the offense is deduced from differences in someone's response latencies (Merdian et al., 2014). Many researchers have developed questionnaires to measure cognitive distortions concerning perpetrators of CSA, with explicit measures as the most used approach. One widely used example in the assessment and in evaluating the effectiveness of perpetrators' participation in the intervention (e.g., D'Urso et al., 2019; Price & Karl Hanson, 2007) is the Hanson Sex Attitude Questionnaire (HSAQ; Hanson et al., 1994). The HSAQ is a 47-item self-report measure, using a five-point Likert-type scale ranging between 1 (completely disagree) and 5 (completely agree). The original scale contains six subscales: frustration (e.g., "I am often sexually frustrated"), affairs (e.g., "Sexual faithfulness is not essential for a happy marriage"), sexual entitlement (e.g., "A person should have sex whenever it is needed"), sex/affection confusion (e.g., "Sex is a necessary part of intimacy"), sexy children (e.g., "Some children are mature enough to enjoy sex with adults"), and sexual harm (e.g., "Sometimes it is possible for an adult to teach children about sex by having sex with them"). In the original study, Hanson and colleagues (1994) provided evidence of validity with good internal consistency for almost all the subscales (α's > 0.80), except the sex/affection confusion scale (α's = .62) and the affairs scale (α's= .67).

Current study

The need to adapt the HSAQ to the Portuguese forensic population is based on the shortage of measurement instruments that assess CDs in the Portuguese context. Overall, the current literature has shown the importance of CDs in the onset and maintenance of child sexual offending. A valid measure is thus needed to operationalize CDs to facilitate future work on this topic. Besides, instruments in this field are required to assess intervention needs and changes in cognitive distortions toward CSA after psychological intervention. The subscales of HSAQ psychometric properties (i.e., reliability) make it a promising tool for assessing CDs.

This study was conducted with the aim of validating the HSAQ, describing the dimensions of the construct, the psychometric properties of the instrument, and its relationship to similar and opposite constructs such as psychopathy and social desirability. Moreover, the present study was to examine known-groups validity of HSAQ.

Method

Participants

A total of 110 perpetrators of CSA and 146 perpetrators of non-sexual crimes participated in the current study. We applied specific inclusion and exclusion criteria to establish these groups. The perpetrators of CSA group consisted of male individuals convicted of CSA with good reading and writing skills to answer the instruments. The group of individuals without sexual offenses consisted of males convicted of non-sexual crimes, all of whom had good reading and writing skills for completing the assessment instruments.

Perpetrators of CSA were recruited from prison ($n = 66$; 60%) and the community ($n = 44$; 40%). Individuals in the community were serving non-custodial measures ($n = 37$; 84.09%) or were in supervision by probation services ($n = 7$; 15.90%). The mean age of the participants was 45.18 ($SD = 14.56$), and almost half of them were married/cohabiting ($n = 46$; 41.8%) at the time of the study. Educational background was relatively varied among participants, with primary school ($n = 32$; 29.1%) and sixth grade ($n = 29$; 26.4%) being the most prevalent in our sample. Regarding professional status, about half of the sample was employed at the moment of the incident ($n = 58$; 52.7%). Of the perpetrators of CSA, 79.1% ($n = 87$) had selected exclusively female victims, 14.5% ($n = 16$) had exclusively boys, and 6.4% ($n = 7$) had victims of both sexes. Besides, 53.6% ($n = 59$) of the participants abused children who do not belong to their families. The average sentence length imposed by the court was 78.86 months ($SD = 47.24$), that is, around six and a half years. Almost half of the perpetrators of CSA had already undergone psychological intervention ($n = 48$; 43.6%).

Perpetrators of non-sexual crimes were only recruited from prison, and the mean age of them was 40.57 ($SD = 9.65$). Almost half of the participants in this group were single ($n = 61$; 41.8%), and more than half ($n = 79$; 54.1%) were unemployed at the moment of the incident. Concerning educational level, 56 (38.4%) had completed the 6th grade and 36 (24.7%) had completed the 9th grade. They were convicted for different crimes, including homicide, threat, robbery, coercion, and possession of a prohibited weapon, among others. The mean sentence length applied by the court was 123.55 months ($SD = 68.515$), ranging from 14 months to 300 months, that is, from around one year to 25 years (the maximum length in Portugal). Participants' characteristics are presented in Table 1.

Table 1. Participants characteristics.

	Perpetrators of CSA (n = 110)	Perpetrators of non-sexual crimes (n = 146)
	M (SD)	M (SD)
Age	45.18 (14.56)	40.57 (9.65)
	N (%)	N (%)
Single	39 (35.5)	66 (45.2)
Married/Cohabiting	62 (56.4)	65 (44.5)
Divorced/Separated	9 (8.2)	14 (9.6)
Single	38 (34.5)	61 (41.8)
Married	46 (41.8)	43 (29.5)
Divorced/Separated	25 (22.7)	41 (28.1)
Employee	58 (52.7)	59 (40.4)
Unemployed	36 (32.7)	79 (54.1)
Retired	8 (7.3)	1 (0.7)
Student	6 (5.5)	5 (3.4)
Education		
4^{th} grade	32 (29.1)	25 (17.1)
6^{th} grade	29 (26.4)	56 (38.4)
9^{th} grade	24 (21.8)	36 (17.8)
12^{th} grade	20 (18.2)	26 (17.8)
More than 12^{th} grades	5 (4.5)	3 (2.1)
Prior history of alcohol and drug abuse		
Yes	33 (30.0)	101 (69.2)
No	77 (70.0)	44 (30.1)
Previous contact with justice system		
Yes	40 (36.4)	115 (78.8)
No	70 (63.6)	31 (21.1)

Procedure

Translation and back translation of HSAQ

Permission was obtained from the authors of the original scale to initiate the validation process, with the first author of the scale granted consent. Subsequently, a team of three psychology researchers, proficient in Portuguese and English and possessing scientific expertise in the field, undertook the translation procedure. Two researchers translated the items into Portuguese, while the other performed the back-translation into English. These translated versions were then compared to identify any discrepancies in meaning, and items were revised as necessary until no semantic differences were discernible between the English and Portuguese versions.

Data collection

Initially, the project was submitted to be approved by the Ethics Commission of the University where the study was developed. Then, permission to collect data on the justice system was requested from the General Directorate of Reintegration and Prison Services—Ministry of Justice (Direção Geral de Reinserção e Serviços Prisionais—Ministério da Justiça). After approvals, the different institutions from the justice system were contacted to start data collection, helping to identify the group of perpetrators of CSA.

Seventy-two perpetrators of CSA were identified in prisons, and 46 were identified in the community. Among the potential participants, six individuals in prison and two in the community refused to participate in the study. Data concerning individuals in the community (i.e., individuals with non-custodial measures) were collected in four services in the North of Portugal (i.e., probation services). Data concerning institutionalized individuals were collected in six national prisons.

Through the personal files of individuals without sexual convictions, the first author of this paper was able to identify the individuals who met the inclusion criteria. The participation rate was 93%, and data were collected in two national prisons.

All potential participants were informed about the study's conditions (i.e., their responses would not be communicated to their treatment staff) and the voluntary nature of the participation (i.e., no consequences for noncooperation for prison decisions nor other harm anticipated, neither no monetary compensation). All the participants who agreed to collaborate in the research signed an informed consent. The instruments were administered individually in an office for medical/psychological services, and institutional files were also used to collect data about sociodemographic and penal information.

Measures

Hanson sex attitude questionnaire (HSAQ)

The HSAQ (Hanson et al., 1994) is a 47-item scale that contains five subscales: sexual entitlement, sexy children, frustration, affairs, sex/affection confusion, and sexual harm. The items are scored on a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*). In the original version, the Sexual Entitlement subscale (SE) contains 9 items (e.g., "A person should have sex whenever it is needed"), addressing expectations of having one's sexual urges fulfilled. The Sexy Children (SC) assesses the ability to perceive children as sexually attractive and sexually motivated and has 12 items (e.g., "Some Children are mature enough to enjoy sex with adults"). The Frustration (F) subscale contains 5 items (e.g., "I am often sexually frustrated"), which measure sexual frustration, and the Affairs (A) subscale has 3 items (e.g., "Sexual faithfulness is not essential for a happy marriage"). The remaining subscales contain 8 and 10 items (Sex/Affection Confusion (SAC) and Sexual Harm (SH), respectively). The SAC assesses the confusion between sex and affection, and the SH the knowledge about the harm caused by the sexual abuse. The subscales were internally consistent, except for the SAC and A (Hanson et al., 1994). The HSAQ does not have a total score, as only the subscales are considered in its usage. Internal consistency reliability statistics for the HSAQ subscales will be given later in this paper.

Marlowe-crowne social desirability scale – short form (MCSDS-SF)

The MCSDS-SF comprises 12 items and serves as a scale for evaluating individuals' inclination to exhibit socially desirable responses (Ballard, 1992; Pechorro et al., 2012). The items are categorized as true or false by the participant. The Portuguese version has shown an acceptable internal consistency (Kuder-Richardson = .60) (Pechorro et al., 2012), and, in the present study, the coefficient alpha was .72.

Self-report psychopathy scale – short form (SRP-SF)

The SRP-SF (Paulhus et al., 2016) is a self-report scale comprising 29 items. This instrument evaluates psychopathic traits utilizing the factor structure established by the PCL-R, encompassing interpersonal (INT), affective (AFF), lifestyle (LIF), and antisocial (ANT) factors (Hare, 1991). Responses to items are recorded on a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The INT subscale evaluates characteristics associated with psychopathy, including manipulation and pathological lying (e.g., "I would get a kick out of 'scamming' someone"). AFF gauges affective traits of psychopathy, such as

compromised empathy and a lack of guilt and concern for others (e.g., "I never feel guilty over hurting others"). LIF pertains to impulsive and reckless behaviors (e.g., "I keep getting in trouble for the same things over and over"), while ANT assesses antisocial behaviors (e.g., "I have threatened people into giving me money, clothes, or makeup"). The psychometric properties of the SRP-SF were scrutinized within a substantial southern European (Portuguese) sample, revealing favorable outcomes in terms of both validity and reliability (Seara-Cardoso et al., 2019). The internal consistency for the current study, estimated by Cronbach's alphas, was: INT = .79; AFF = .58; LIF = .79; ANT = .59; total = .89. We chose to exclude the AFF and ANT subscales from our analysis because of their low internal consistency (Nunnally & Bernstein, 1994).

Sociodemographic questionnaire

Sociodemographic data were assessed using a questionnaire specifically designed for this study. Details pertaining to the legal proceedings and the legal status of participants were gathered through individual file reviews.

Statistical analysis

Initially, differences between the groups (perpetrators of CSA and perpetrators of non-sexual crimes) were calculated for all items of the HSAQ using the non-parametric Mann-Whitney test in Statistical Package for Social Sciences (SPSS; IBM SPSS Statistics. Version 27.0). A p-value <.10 was considered marginally significant. Additionally, means, standard deviations were computed.

Then, the Exploratory Factor Analysis was calculated with FACTOR software with only the items which showed differences between the groups. As per the latest guidelines on factor analyzes (Lloret-Segura et al., 2014; Matsunaga, 2010), the Exploratory Factor Analyzes were performed using Unweighted Least Squares, along with parallel analysis, Promax rotation, and a polychoric correlation matrix. Reliability was assessed using McDonald's omega and Cronbach alpha. Furthermore, commonalities, and explained variances were computed. Items with loadings on more than one factor and those with loadings lower than .30 in the Exploratory Factor Analysis were excluded.

To determine the convergent validity, Pearson correlations were conducted between each HSAQ subscale and SRP-SF total score and SRP-SF INT, and LIF facets since these constructs are related according to the literature (Bouffard & Miller, 2023; Chabrol et al., 2011). Discriminant validity was assessed through Pearson correlations between each HSAQ subscale and the desirability scale, given that these constructs are not expected to exhibit a significant relationship.

Known group validity was evaluated by comparing each score of HSAQ between perpetrators of CSA with previous intervention and without previous intervention using independent sample t test. We hypothesize that CSA perpetrators who have undergone prior interventions will exhibit fewer cognitive distortions, as these interventions have demonstrated favorable outcomes in terms of belief reduction (e.g., Gannon et al., 2019). Besides, effect sizes were calculated using Cohen's d. Cohen's criteria were employed to interpret the effect size: a value of 0.10 is deemed small, 0.30 moderate, and 0.50 large (Cohen, 1992).

Results

Exploratory factor analysis (EFA)

Tests of differences revealed that only 21 items showed differences between perpetrators of CSA and perpetrators of non-sexual crimes (see Table 2). So, we performed a EFA with these items.

The adequacy of the data for factor analysis was assessed through the Bartlett test and Kaiser-Meyer-Olkin (KMO) measure. The Bartlett test and the KMO results showed that our data is adequate for analysis (KMO = 0.82; Bartlett's test, $\chi 2$ (210) = 1116.4, $p < .001$).

Table 2. Means, Standard Deviations, median and results of differences between groups in items.

	M	SD	Mdn	*U*	*p*
Item 1	1.09	.425	1.00	7145.00	.003
Item 2	2.31	1.40	2.00	6157.50	.002
Item 3	2.81	1.26	3.00	6953.00	.110
Item 4	1.54	1.01	1.00	6834.00	.029
Item 5	2.83	1.28	4.00	5346.00	<.001
Item 6	1.30	.731	1.00	6941.50	.110
Item 7	1.37	.879	1.00	7195.00	.088
Item 8	3.45	1.48	4.00	5256.00	<.001
Item 9	1.75	1.37	1.00	7758.50	.785
Item 10	1.84	1.22	1.00	6961.50	.088
Item 11	1.28	.634	1.00	7644.50	.553
Item 12	1.76	1.10	1.00	7455.50	.410
Item 13	3.67	1.55	4.00	7852.50	.954
Item 14	1.26	.621	1.00	7532.00	.484
Item 15	4.06	1.20	4.00	7342.00	.312
Item 16	2.67	1.35	3.00	4935.00	<.001
Item 17	1.73	1.11	1.00	6834.00	.059
Item 18	2.71	1.29	3.00	6644.50	.110
Item 19	3.48	1.34	4.00	5830.50	<.001
Item 20	2.04	1.41	1.00	7222.50	.213
Item 21	3.11	1.44	3.00	6941.00	.096
Item 22	1.56	.873	1.00	6837.00	.030
Item 23	1.64	1.10	1.00	6676.50	.018
Item 24	1.29	.724	1.00	7312.00	.137
Item 25	1.93	1.46	1.00	7294.00	.233
Item 26	1.33	.853	1.00	7435.00	.247
Item 27	1.24	.628	1.00	7788.50	.796
Item 28	1.89	1.19	1.00	5894.50	<.001
Item 29	1.20	.551	1.00	7653.00	.519
Item 30	1.26	.762	1.00	7459.00	.299
Item 31	3.68	1.39	4.00	6936.00	.087
Item 32	3.41	1.36	4.00	5802.00	<.001
Item 33	1.99	1.19	2.00	6482.50	.009
Item 34	1.35	.726	1.00	7771.50	.796
Item 35	2.28	1.21	2.00	7752.00	.811
Item 36	2.27	1.38	2.00	7174.50	.234
Item 37	1.49	.919	1.00	7757.00	.785
Item 38	2.06	1.29	2.00	6050.00	<.001
Item 39	1.81	1.12	1.00	7131.00	.148
Item 40	1.54	.972	1.00	7214.00	.150
Item 41	2.18	1.29	2.00	5207.50	<.001
Item 42	2.07	1.36	2.00	7724.50	.767
Item 43	2.13	1.24	2.00	4874.50	<.001
Item 44	3.25	1.45	3.00	5497.50	.110
Item 45	1.99	1.15	2.00	7294.50	.276
Item 46	1.52	.892	1.00	6932.00	.046
Item 47	4.29	1.04	5.00	7068.50	.112

Parallel analysis indicated a two-factor model. Hence, two-model analyzes with Promax rotation were conducted. An examination of the factor loadings and communalities reveals that some items did not load at least at the .30 level, which lead to the removal of 12 items. Table 1 displays factor loadings, and communalities. These results show good psychometric properties of the questionnaire.

The first component, Sexual drive/Preoccupation—explained 38.5% of the variance, with a good reliability (Ω = .75, α = .74). The second component—Misconceptions about CSA explained 25.2% of the variance, and showed acceptable reliability (Ω = .67, α = .67). These two factors explained 63.7% of the variance.

The factors in our sample were positively intercorrelated, but weak as we predicted since they are different types of cognitive distortions (see Table 4).

Convergent and discriminant validity

The convergent validity of the HSAQ F1 with SRP-SF subscales and its total score showed a significant positive correlation (see Table 3). However, no significant differences were found between HSAQ F2 and the subscales and total psychopathy. As expected, the discriminant validity of the subscales with social desirability revealed mostly weak or nonexistent associations (see Table 4).

Table 3. Results of the Factor Analysis, Means, Loadings and Communalities of the HSAQ.

	Loadings	Communalities
Sexual drive/Preoccupation		
5. Sex is a necessary part of intimacy.	.697	.478
8. Quite often I would like to have sex but I cannot.	.618	.378
19. I don't have sex as often as I would like to.	.638	.410
31. Everyone is entitled to sex.	.634	.422
32. Sex makes all relationships stronger.	.722	.519
Misconceptions about CSA		
4.Some children are so willing to have sex that it difficult to stay away from them.	.593	.346
7. Some children like to sexually tease me.	.715	.501
10. Children are often able to understand an adult's needs better than other adults can.	.616	.390
17. Children don't tell others about sexual activity because they do not want it to stop.	.524	.300

Table 4. Convergent and Discriminant Validity of HSAQ with SRP-SF, and social desirability.

	HSAQ F1	HSAQ F2
HSAQ F1	1	-
HSAQ F2	.172**	1
SRP-SF INT	.359**	.114
SRP-SF LIF	.336**	−.039
SRP-SF total score	.389**	.081
Social desirability	−.243**	−.013

HSAQ F1 = "Sexual drive/Preoccupation" factor; HSAQ F" = Misconceptions about CSA;" SRP-SF INT = Facet 1 (Interpersonal) of Self-Report Psychopathy—Short Form; SRP-SF LIF = Facet 3 (Lifestyle) of Self-Report Psychopathy —Short Form; SRF-SF total score = total score of Self-Report Psychopathy—Short Form; ** $p < .001$.

Known-Groups Validity

The use of the Independent Student's t-test showed statistically significant differences between the groups in the beliefs about the "sexual drive/preoccupation" dimension ($t = -2.58$, $p < .006$) and "misconceptions about CSA" ($t = -1.766$, $p < .04$), with the effect size of .50 and .34, respectively. Perpetrators of CSA without previous intervention scored higher in the two factors compared with perpetrators of CSA with previous interventions. The average scores in the two factors of perpetrators of CSA without previous intervention was 17.07 ($SD = 5.07$) and 7.50 ($SD = 3.45$), respectively. By contrast, perpetrators of CSA with previous intervention scored 14.67 ($SD = 4.44$) for factor one and 6.40 ($SD = 2.92$) for factor two.

Percentiles for each scale based on type of perpetrator are shown in Table 5.

Table 5. Percentiles for each Subscale of the HSAQ.

	Perpetrators of CSA with intervention		Perpetrators of CSA without intervention		Perpetrators of non-sexual crimes	
	Sexual drive/ Preoccupation	Misconceptions about CSA	Sexual drive/ Preoccupation	Misconceptions about CSA	Sexual drive/ Preoccupation	Misconceptions about CSA
10	9	4	9.0	4.0	13.0	4.0
20	9.8	4	13.0	4.0	15.0	4.0
30	11.7	4	15.0	4.3	17.0	4.0
40	14.0	4	16.0	6.0	19.0	4.0
50	15.0	6	17.0	7.0	20.0	5.0
60	16.0	6	18.0	8.0	21.0	6.0
70	17.0	7.3	20.0	9.0	22.0	7.0
80	19.0	9.0	22.8	10.8	23.0	8.0
90	21.0	10.1	23.0	12.9	25.0	9.0

Discussion

The current study aimed to provide an initial validation of the HSAQ, a scale to assess CDs concerning sexuality and CSA. Given the limited availability of validated measures in Portugal for assessing CDs and recognizing their critical role in the onset and perpetuation of child sexual offending (Ciardha C & Ward, 2013; Seto et al., 2023), their adaptation for use with forensic samples is of paramount importance.

As far as we know, this is the first study that conducted a factor structure of HSAQ. The factor analysis showed a two-dimensional measurement, which does not follow the structure proposed by the authors when developing the scale (Hanson et al., 1994). Thus, the Portuguese version of the HSAQ consists of two factors: the "Sexual Drive/ Preoccupation" factor comprising 5 items, and the "Misconceptions about CSA" factor comprising 4 items. The "Sexual Drive/Preoccupation" subscale encompasses beliefs about sexual frustration and sexual drive, while "Misconceptions about CSA" includes statements concerning the perception of children as sexually attractive and sexually motivated. Items were not included if they had loadings below 0.30 or loaded on more than one factor, resulting in the removal of 12 items. Indeed, the initial study where the scale was proposed already highlighted problems with some subscales, namely in their ability to differentiate between perpetrators of sexual and non-sexual crimes (Hanson et al., 1994).

Moreover, the Portuguese version of the scale showed good reliability for the first factor (Cronbach's alpha = .74; McDonald's omega = .74) and only an acceptable value for the factor 2 (Cronbach's alpha = .67; McDonald's omega = .67). In addition, evidence of convergent validity was found by the correspondence between the "Sexual Drive/Preoccupation" subscale of HSAQ and a measurement of psychopathy. These results follow previous research linking cognitive distortions and psychopathy in forensic and non-forensic samples (Bouffard & Miller, 2023; Chabrol et al., 2011). However, the non-significant relations between "Misconceptions about CSA" and psychopathy subscales were unexpected. There are some possible explanations for these results, namely some variables that were not controlled in the present study seem to influence the distortions, such as moral disengagement (Petruccelli et al., 2022). Future studies should use other measures to assess the convergent validity of this dimension.

With regard to discriminant validity, the HSAQ subscales showed the expected non-significant correlations with social desirability because these are nonoverlapping constructs. The only significant correlation does not undermine the discriminant validity of the subscale, as the statistically significant correlation is minimal, indicating that the explained variance between social desirability and "Misconceptions about CSA" is lower.

Perpetrators of CSA without previous intervention were found to have higher scores on "Sex Drive/Preoccupation" and on "Misconceptions about CSA" than perpetrators of CSA with previous intervention, which are expected. Interventions have demonstrated positive effects in mitigating distorted beliefs and reducing recidivism rates when applied (e.g., Barros et al., 2022; Gannon et al., 2019; Sousa et al., 2022). These results confirm the validity of the instrument across known groups.

However, current results should be considered in light of some limitations. First, the relatively small sample size is a limitation since conditioned that the confirmatory factor analysis (CFA) could be used (both Type I and II errors are much more likely with small samples). Secondly, the internal consistency of the "Misconceptions about CSA" subscale in the current sample is deemed only acceptable, and the convergent validity of this subscale has not been confirmed. Thus, further psychometric procedures should be done in the future (e.g., confirmatory factor analysis and convergent analysis for the "Misconceptions about CSA" factor). Third, the measures in the present study were based on self-report, and answers may be compromised by social desirability.

Conclusions

Our findings offer partial endorsement for employing the HSAQ within the forensic Portuguese population. The validation of this questionnaire holds significance for both clinical and research applications, albeit with cautious consideration particularly regarding factor two. Within the research field, the HSAQ is a very useful questionnaire that may be used to offer insight into the content of offense-supportive cognitions in perpetrators of CSA and non-CSA. As for clinical/practice implications, as cognitive distortions are often targets of intervention (Sousa et al., 2022), it will be a useful tool for assessing perpetrators and evaluating the effectiveness of their participation in the intervention. However, given that the psychometric characteristics of the "misconceptions about CSA" subscale did not meet anticipated standards, it is advisable to employ it in conjunction with other metrics for evaluating cognitions linked to sexual abuse.

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References

Abel, G. G., Becker, J. V., & Cunningham-Rathner, J. (1984). Complications, consent, and cognitions in sex between children and adults. *International Journal of Law and Psychiatry*, *7*(1), 89–103. https://doi.org/10.1016/0160-2527(84)90008-6

Ballard, R. (1992). Short forms of the Marlowe-Crowne social desirability scale. *Psychological Reports*, *71*(3_suppl), 1155–1160. https://doi.org/10.2466/pr0.1992.71.3f.1155

Barros, S., Oliveira, C., Araújo, E., Moreira, D., Almeida, F., & Santos, A. (2022). Community intervention programs for sex offenders: A systematic review. *Frontiers in Psychiatry*, *13*, 949899. https://doi.org/10.3389/fpsyt.2022.949899

Beck, A. T. (1963). Thinking and depression: Idiosyncratic content and cognitive distortions. *Archives of General Psychiatry*, *9*(4), 324–333. https://doi.org/10.1001/archpsyc.1963.01720160014002

Boillat, C., Deuring, G., Pflueger, M. O., Graf, M., & Rosburg, T. (2017). Neuroticism in child sex offenders and its association with sexual dysfunctions, cognitive distortions, and psychological complaints. *International Journal of Law and Psychiatry*, *54*, 83–89. https://doi.org/10.1016/j.ijlp.2017.05.010

Bouffard, J. A., & Miller, H. A. (2023). Mediators of the link between psychopathy and sexual coercion: The role of rape myth acceptance, arousal, and misperception of sexual interest. *Violence Against Women*, *29*(12–13), 2348–2371. https://doi.org/10.1177/10778012231189480

Chabrol, H., van Leeuwen, N., Rodgers, R. F., & Gibbs, J. C. (2011). Relations between self-serving cognitive distortions, psychopathic traits, and antisocial behavior in a non-clinical sample of adolescents. *Personality and Individual Differences*, *51*(8), 887–892. https://doi.org/10.1016/j.paid.2011.07.008

Ciardha C, Ó., & Ward, T. (2013). Theories of cognitive distortions in sexual offending: what the current research tells us. *Trauma, Violence & Abuse*, *14*(1), 5–21. https://doi.org/10.1177/1524838012467856

Cohen, J. (1992). Statistical power analysis. *Current Directions in Psychological Science*, *1*(3), 98–101. https://doi.org/10.1111/1467-8721.ep10768783

D'Urso, G., Petruccelli, I., Costantino, V., Zappulla, C., & Pace, U. (2019). The role of moral disengagement and cognitive distortions toward children among sex offenders. *Psychiatry, Psychology, and Law: An Interdisciplinary Journal of the Australian and New Zealand Association of Psychiatry, Psychology and Law*, *26*(3), 414–422. https://doi.org/10.1080/13218719.2018.1506718

Feelgood, S., Cortoni, F., & Thompson, A. (2005). Sexual coping, general coping and cognitive distortions in incarcerated rapists and child molesters. *Journal of Sexual Aggression*, *11*(2), 157–170. https://doi.org/10.1080/13552600500073657

Gannon, T. A., Olver, M. E., Mallion, J. S., & James, M. (2019). Does specialized psychological treatment for offending reduce recidivism? A meta-analysis examining staff and program variables as predictors of treatment effectiveness. *Clinical Psychology Review*, *73*, 101752. https://doi.org/10.1016/j.cpr.2019.101752

Hanson, R., Gizzarelli, R., & Scott, H. (1994). The attitudes of incest offenders: Sexual entitlement and acceptance of sex with children. *Criminal Justice and Behavior*, *21*(2), 187–202. https://doi.org/10.1177/0093854894021002001

Hare, R. D. (1991). *The hare psychopathy checklist-revised*. Multi-Health Systems.
Katsuta, S., & Hazama, K. (2016). Cognitive distortions of child molesters on probation or parole in Japan. *Japanese Psychological Research*, *58*(2), 163–174. https://doi.org/10.1111/jpr.12107
Lloret-Segura, S., Ferreres-Traver, A., Hernández-Baeza, A., & Tomás-Marco, I. (2014). El análisis factorial exploratorio de los ítems: una guía práctica, revisada y actualizada. *Anales de Psicología*, *30* (3), 1151–1169. https://doi.org/10.6018/analesps.30.3.199361
Mann, R. E., & Beech, A. R. (2003). Cognitive distortions, schemas, and implicit theories. In T. Ward & D. R. Laws & S. M. Hudson (Eds.), *), Sexual deviance: Issues and controversies* (pp. 135–153). SAGE.
Marshall, W. L., & Barbaree, H. E. (1990). An integrated theory of the etiology of sexual offending. *Handbook of sexual assault: Issues, theories, and treatment of the offender* (pp. 257–275). Springer US.
Maruna, S., & Mann, R. E. (2006). A fundamental attribution error? Rethinking cognitive distortions. *Legal and Criminological Psychology*, *11*(2), 155–177. https://doi.org/10.1348/135532506X114608
Matsunaga, M. (2010). How to factor-analyze your data right: Do's, don'ts, and how-to's. *International Journal of Psychological Research*, *3*(1), 97–110. https://doi.org/10.21500/20112084.854
Merdian, H. L., Curtis, C., Thakker, J., Wilson, N., & Boer, D. P. (2014). The endorsement of cognitive distortions: Comparing child pornography offenders and contact sex offenders. *PSYCHOLOGY Crime\& LAW*, *20*(10), 971–993. https://doi.org/10.1080/1068316X.2014.902454
Nunes, K. L., & Jung, S. (2013). Are Cognitive Distortions Associated with Denial and Minimization Among Sex Offenders? *Sexual Abuse: Journal of Research and Treatment*, *25*(2), 166–188. https://doi.org/10.1177/1079063212453941
Nunnally, J., & Bernstein, I. (1994). *Psychometric theory*. McGraw-Hill.
Paulhus, D. L., Neumann, C. S., & Hare, R. D. (2016). *The SRP-4: Self- report* psychopathy *scale* (4th ed.). Multi-Health Systems.
Pechorro, P., Vieira, R., Poiares, C., & Marôco, J. (2012). Contributos para a validação duma versão curta da Escala de Desejabilidade Social de Marlowe-Crowne com adolescentes portugueses. *Arquivos de Medicina*, *26*(1), 11–17.
Petruccelli, I., D'urso, G., Cataldi, S., De Risio, A., Grilli, S., Abrunhosa Gonçalves, R., Sousa, M., Lucania, L., & Bonaiuto, M. (2022). Adverse childhood experiences related to cognitive and emotional states: a study on sexual offenders in italy and portugal. *Revista de Cercetare si Interventie Sociala*, *76*(76), 93–110. https://doi.org/10.33788/rcis.76.7
Price, S. A., & Karl Hanson, R. (2007). A modified Stroop task with sexual offenders: Replication of a study. *Journal of Sexual Aggression*, *13*(3), 203–216. https://doi.org/10.1080/13552600701785505
Seara-Cardoso, A., Queirós, A., Fernandes, E., Coutinho, J., & Neumann, C. (2019). Psychometric properties and construct validity of the short version of the Self-Report Psychopathy Scale in a Southern European sample. *Journal of Personality Assessment*, *102*(4), 457–468. https://doi.org/10.1080/00223891.2019.1617297
Seto, M. C., Augustyn, C., Roche, K., & Hilkes, G. (2023). Empirically-based dynamic risk and protective factors for sexual offending. *Clinical Psychology Review*, 102355. https://doi.org/10.1016/j.cpr.2023.102355
Sousa, M., Andrade, J., Castro-Rodrigues, A., & Gonçalves, R. A. (2022). The Effectiveness of Psychological Treatment in Adult Male Convicted for Sexual Offenses Against Children: A Systematic Review. *Trauma, Violence & Abuse*, *24*(3), 1867–1881. https://doi.org/10.1177/15248380221082080
Ward, T. (1997). Cognitive distortions in sex offenders: An integrative review. *Clinical Psychology Review*, *17*(5), 479–507. https://doi.org/10.1016/S0272-7358(97)81034-3
Ward, T. (2000). Sexual offenders' cognitive distortions as implicit theories. *Aggression and Violent Behavior*, *5*(5), 491–507. https://doi.org/10.1016/S1359-1789(98)00036-6
Ward, T., & Beech, A. (2006). An integrated theory of sexual offending. *Aggression and Violent Behavior*, *11*(1), 44–63. https://doi.org/10.1016/j.avb.2005.05.002