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Stigma Consciousness Questionnaire (SCQ-PT): Validation in a Portuguese Sample of Sexual Minorities

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Abstract

Introduction Stigma assessment is particularly important due to the strong relationship between stigma and mental health, including sexual minorities. There is no measure of stigma consciousness for the Portuguese sexual minority population.

Methods The present study aimed to explore the factor structure and psychometric properties of the Stigma Consciousness Questionnaire–European Portuguese version (SCQ-PT) for sexual minorities. A total sample of 514 nonheterosexual individuals, recruited between January and March 2020, are randomly divided for EFAs ($n=257$) and CFA, convergent and discriminant validities, and reliability ($n=257$). Additionally, multigroup analyses were done.

Results A second-order two-factor model (stigma consciousness devised into stigma experiences and stigma beliefs) presented the best adjustment and an acceptable reliability. This model also proved its invariance across gender and sexual orientation. Furthermore, the SCQ-PT revealed small to moderate correlations with other types of stigma, satisfaction with life and mental health indicators, and discriminated levels of depression and anxiety symptoms.

Conclusions The results of this study suggest that SCQ-PT is a valid measure that might be useful in research and clinical contexts.

Policy Implications The coverage of SCQ-PT allows its use in several contexts, measuring different aspects of stigma consciousness. Measuring this phenomenon accurately can improve the knowledge of sexual minorities' experiences and contribute to the development of political and clinical tools for relieving the impact of stigma on mental health.

Keywords SCQ-PT · Stigma consciousness · Sexual minorities · Psychometric properties · Factor structure · Measurement invariance · Discriminant validity

Introduction

The definition of *stigma* can be considered complex. Recently, Worthen (2020) in her norm-centered stigma theory (NCST) referred two keywords to understand this concept: norms and social power. *Norms* represent ideas about how people should or should not behave, identify, and think in a particular society, based on known trends and patterns (Goffman, 1963; Worthen, 2020); *social power* refers to (Worthen, 2020): "privilege based on access to and embodiment of social, cultural, economic, and political advantages afforded to certain beliefs, behaviors and identities, and not others" (p.10).

The relationship between norms and stigma is organized by social power dynamics between the stigmatized and the stigmatizers (Worthen, 2020). In other words, stigma alludes to negative social meaning or stereotypes assigned to people when their attributes are considered different from and/or inferior to societal norms (Dudley, 2000), taking the form of stereotyping, discrimination, devaluation, denigration, and/or violence (Worthen, 2020). Stigma against sexual minorities individuals can be traced to wider ideologies and power relations within society. *Heteronormativity* is the assumption that heterosexuality is the standard for defining normal sexual behaviour (Hegarty, 2018). *Heterosexism*

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is the ideological system which denies and stigmatizes any nonheterosexual form of behavior, identity, relationship, or community (Bell, 2014). Stigma against sexual minority individuals has deleterious effects on these individuals' mental health. Accordingly, the main premise of the *Minority Stress Model* is that sexual minority individuals are subjected to chronic stress related to stigmatization in a heterosexist society (Meyer, 2013). The unique stressors related to sexual minority stigmatized social status—discrimination events, expectation of rejection (stigma perceived or consciousness), concealment of sexual orientation, and internalized stigma (e.g., homo-bi-negativity)—help to explain why they are at increased risk for mental health problems in comparison to heterosexual people (Meyer, 2013).

In Portugal, although legal advances have been made in terms of sexual and gender equality since the 1990s, prejudice and stigma against sexual minority individuals are still a deep and transversal reality (European Union for Fundamental Rights, 2021; Moleiro et al., 2016). Studies in different contexts confirm both the presence of stigma episodes and the lack of inclusive polices: schools (Gato et al., 2020), workplaces (Beatriz & Pereira, 2022), and health (Pieri & Brilhante, 2022). Additionally, in the last election, an extreme right-wing political party assumed as third political force and one study that assessed the sexual stigma among Portuguese political sample found overall moderate levels of sexual stigma, namely, in people from right-wing (Ferros & Pereira, 2021).

Taken together, it is urgent to have a valid and reliable measure to assess the stigma-related phenomenon in this population, clarification of its specificities, and those that may contribute to preventing negative outcomes.

Understanding Stigma Perceived and Assessment

Regarding the assessment of stigma against sexual minority individuals, a distinction has been drawn between the concepts of stigma consciousness and enacted stigma. *Stigma consciousness* refers to the degree to which individuals anticipate they will be stereotyped, i.e., objective self-awareness of self-stigmatized status (Pinel, 2004; Pinel & Bosson, 2013). *Enacted stigma*, sometimes called sexual stigma, refers to overt behaviours directed at nonheterosexual individuals (Herek et al., 2009; Strizzi et al., 2016) and represents the direct or indirect experience of homophobic acts (such as shunning, ostracism, verbal/physical aggressions, discrimination, and violence (Herek et al., 2009; Pala et al., 2017). In sum, enacted stigma refers to the actual interpersonal experiences of discrimination that someone is victim and stigma consciousness is about the individual's awareness of societal stigma.

The *Stigma Consciousness Questionnaire* (SCQ) was first developed in the English language by Elizabeth Pinel (1999), to generally assess the degree to which participants anticipate being stereotyped. The author developed two versions, one for women and another one for gay and lesbian people, both with 10 items in a single-factor structure (Pinel, 1999). Theoretically, the SQC has been conceptualized with two dimensions—stigma experiences and stigma beliefs—but exploratory factor analysis revealed only one factor—total stigma consciousness (Pinel, 1999). If stigma consciousness is about the conscious recognition of one's own stigmatized status, stigma experiences translate this self-awareness in consequence of stigma interpersonal experiences (or enacted stigma), and stigma beliefs are related to the perceptions of being judged based on sexual orientation, as well as stereotypes' beliefs that reinforce the recognition of minority status.

Over time, this scale was validated for different populations and contexts, such as stigma consciousness among adolescents with learning disabilities (SCQ-LD, 12-items, two-factor; Daley & Rappolt-Schlichtmann, 2018) and stigma consciousness among women undergoing assisted reproductive technology treatment (SCQ-ART, 10-items, single-factor; Imtiaz & Batool, 2022). Also, an in particular for sexual minority individuals, Strizzi et al. (2016) translated and adapted the SCQ' items to consider bisexual experiences (plus gay and lesbian experiences), in a two-country sample (Spain and United States). These versions (SCQ-ES and SCQ-US) were composed of eight of the original 10 items in a two-factor structure, corroborating the original theorical framework: stigma experiences and stigma beliefs. This two-factor structure is confirmed in SCQ-ES and SQC-US with good psychometric properties.

Current Study

Therefore, the general aim of this study was to validate the SCQ in a sample of Portuguese sexual minority individuals (SCQ-PT). Specifically, the following aspects were explored: construct validity (factorial analyses, measurement invariance, convergent, and discriminant validities) and reliability (internal consistency and composite reliability). We hypothesize that SCQ-PT will have a good fit indexes in two-factor factorial structure, corroborating the theorical framework (H1); it will reveal structural invariance both across gender an sexual orientation (H2); the SCQ-PT will have a significant, positive, and moderate correlation with enacted stigma, stigma sensitivity, depression, and anxiety symptoms; and a significant, negative and moderate correlation with satisfaction with life (H3); the stigma levels will vary depending on low and higher levels of depression and anxiety (H4); and the SCQ-PT will present good indexes of Cronbach's alpha and composite reliability (H5).

Methods

Sample

The total sample was composed of 514 Portuguese self-identified sexual minority individuals (lesbian, gay, bisexual, pansexual, and asexual individuals). The total sample was randomized into two subsamples to run an exploratory (subsample 1, $n = 257$) and a confirmatory (subsample 2, $n = 257$) factor analyses. Subsample 2 was also used to test convergent validity and differences in psychopathological indicators. Additionally, considering that invariance analyses require a balanced size group, another two subsamples were randomly created from the total sample to examine gender (subsample 3, $n = 409$) and sexual orientation (subsample 4, $n = 360$) invariance. Most of participants were cisgender (between 86.7 and 95.8% across samples), single (between 84 and 86.9% across samples), and without children (between 98.1 and 98.5% across samples). The samples are described in Table 1.

Procedures

Data for the present cross-sectional study were collected between January and March 2020 using a web-based survey in the context of a larger research. Confidentiality and voluntary participation were assured. Participants were given written information about the study. After reading it, they gave their informed consent and completed the research protocol. Inclusion criteria were to self-identify as a sexual minority, to be Portuguese, to be aged between 18 and 65 years, and the complete filling-in of the self-report instruments. There was no financial compensation for the participation. The study was conducted in accordance with ethical standards, and the protocol was approved by the Ethics and Deontology Commission of the hosting institution. Concerning the SCQ, all participants completed the modified original 10-item version. Original version is only for gay men and lesbian women. Similar to SCQ-ES and SCQ-US, the items were modified for including the bisexual individuals after permission from the main author was obtained. Translation was done by the authors and backtranslation was done by a bilingual Portuguese person. After the original and the translation versions were compared, no major differences were found, and only minor semantic adjustments were made (e.g., original: "Never worry that my behaviours will be viewed as *stereotypical of LGB* people", translate: "Eu nunca me preocupo que os meus comportamentos sejam vistos como típicos de pessoas LGB", backtranslation: "Never worry that my behaviours will be viewed as *seen as typical of LGB* people").

Instruments

Sociodemographic Information

Participants were asked about sociodemographic characteristics such as age, gender ("woman," "man," "non-binary," and "other (please specify)"), gender identity ("cisgender," "transgender," and "other (please specify)"), sexual orientation ("lesbian", "gay," "bisexual," "pansexual," "asexual," and "other (please specify)"), marital status ("single," "married/living together as a couple," "divorced," and "widowed"), parental status, educational level ("middle school or less," "intermediate school," "graduate degree," "master degree," "doctorate," and "post-doctorate"), employment status ("unemployed," "student," "part-time employed," "full-time employed," and "working students"), and if they were receiving psychological treatment. Regarding sexual and gender identity questions, the "Other" option enabled to follow an affirmative and inclusive perspective (American Psychological Association (APA), 2015, 2020). Participants who register option "Other" in gender, sexual orientation, or gender identity, stayed encoded as "Other," since there were very few.

Stigma Consciousness Scale–European Portuguese Version (SCQ-PT)

Participants completed the experimental version of the SCQ-PT, which assesses the extent to which individuals focus on and feel self-conscious about their stereotyped status as a sexual minority. While the original SQC (Pinel, 1999) has 10 items in a single-factor, the Spanish and the United States versions of the SCQ (SCQ-ES and SQC-US; Strizzi et al., 2016) is composed of eight items distributed across two-factors: stigma experiences (e.g., "When interacting with heterosexuals who know of my sexual preference, I feel like they interpret all my behaviours in terms of the fact that I am a lesbian, gay or bisexual") and stigma beliefs (e.g., "Most heterosexuals have a lot more homophobic thoughts than they actually express"). Participants rated their answers on a 5-point Likert scale from *strongly disagree* (1) to *strongly agree* (5), with higher mean scores indicating higher stigma consciousness. This study aimed to validate the SQC for Portuguese sexual minority individuals.

Minority Stress Scale (MSS)

Originally devised by Pala and colleagues (2017), the *Minority Stress Scale* is composed by eight subscales: structural stigma, enacted stigma, expectations of discrimination, sexual orientation concealment, internalized homophobia toward others, internalized homophobia toward oneself,

Table 1 Participants' sociodemographic characteristics

Characteristic	Subsample 1 ($n=257$)		Subsample 2 ($n=257$)		Subsample 3 ($n=409$)		Subsample 4 ($n=360$)	
	n	%	*n*	%	*n*	%	*n*	%
GENDER								
woman	91	45.5	127	40.4	205	50.1	199	55.3
man	92	46	163	51.9	204	49.9	131	36.4
non-binary	17	8.5	24	7.6	0	0	23	6.4
GENDER IDENTITY								
cisgender	176	88.0	281	89.5	392	95.8	312	86.7
transgender	15	7.5	23	7.5	16	3.9	34	9.4
other	9	4.5	10	3.2	1	0.2	8	2.2
SEXUAL ORIENTATION								
lesbian	75	37.5	138	43.9	91	22.2	90	25
gay	47	23.5	62	19.7	171	41.8	90	25
bisexual	44	22	69	22	101	24.7	113	31.4
pansexual	29	14.5	35	11.1	40	9.8	64	17.8
asexual	1	0.5	3	1	0	0	0	0
other	2	1	6	1.9	6	1.3	3	0.8
MARITAL STATUS								
single	168	84	273	86.9	345	84.4	309	85.8
married/living together as a coupled	28	14	35	11.1	55	13.4	44	12.2
divorced	3	1.5	6	1.9	8	2	7	1.9
widowed	1	0.5	0	0	1	.2	0	0
CHILDREN[a]	8	4	14	4.5	21	5.1	15	4.2
EDUCATIONAL LEVEL								
(until) middle school	43	21.5	46	14.6	2	0.4	1	0.3
intermediate school	11	5.5	17	5.4	92	22.5	80	22.2
graduate	82	41	111	35.4	151	36.9	136	37.8
master	56	28	127	40.4	146	35.7	128	35.6
PhD	5	2.5	11	3.5	15	3.7	12	3.3
post-PhD	3	1.5	2	0.6	3	0.7	3	0.8
EMPLOYMENT								
unemployed	19	9.5	26	8.3	33	8.1	30	8.3
student	59	29.5	67	21.1	104	25.4	98	27.2
part-time employed	5	2.5	32	10.2	28	6.8	28	7.8
full-time employed	84	42	161	51.3	196	47.9	165	45.8
Working students	32	16	28	8.9	47	11.5	39	10.8
PREVIOUS PSYCHOLOGICAL TREATMENT[a]	43	21.5	77	24.5	97	23.7	39	22.5

The total sample was composed of 514 individuals, randomly divided into two subsamples: in subsample 1 (EFA), participants were on average 27.6 years old ($SD=7.8$, $Min=18$, $Max=65$), and in subsample 2 (CFA), participants were on average 28.7 years old ($SD=7.7$, $Min=18$, $Max=58$). The other subsamples were randomly created ensuring the balance size for gender (subsample 3) and sexual orientation (subsample 4) to conduct invariance analyses

[a]The number and percentage of participants answering "yes" to this question

and stigma awareness. Participants report their answers on a 5-point Likert scale from *never* (1) to *always* (5). Higher mean scores indicate more enacted stigma experiences. Cronbach's alphas in the original version ranged between 0.81 and 0.96. In this study, only the enacted stigma (three items) subscale was used, assessing experiences of objective manifestations of sexual orientation stigma (e.g., "Because of my sexual orientation: I was/have been discriminated against"). Since no psychometric data were available for the Portuguese population, the three items were subjected to

translation and backtranslation, with the authors' permission. In this process, minor discrepancies were found and minor adaptations were made regarding the content of the items (e.g., from "verbal aggression" to "verbal abuse"). In this study, the internal consistency of the subscale enacted stigma was 0.77.

The Lesbian, Gay, and Bisexual Identity Scale (LGBIS)

This scale, originally from Mohr and Kendra (2011) and with a Portuguese version from Oliveira and colleagues (2012), has 33 items distributed in seven subscales: identity dissatisfaction, identity uncertainty, concealment motivation, difficult process, identity centrality, stigma sensitivity, and identity superiority. Cronbach's alphas ranged between 0.62 and 0.83. In this study, only the subscale stigma sensitivity was used, which assesses the degree to which participants experience anxious expectations of rejection based on their sexual orientation (e.g., "I think a lot about how my sexual orientation affects the way people see me"). The participants rated items on a 7-point Likert scale from *totally disagree* (1) to *totally agree* (7), with higher mean scores indicating more anxious expectations of rejection based on sexual orientation. In this sample, Cronbach's alpha of the stigma sensitivity was 0.83.

Depression, Anxiety, and Stress Scales 21-Item Version (DASS-21)

Originally from Lovibond and Lovibond (1995), and with a Portuguese version from Pais-Ribeiro and colleagues (2004), this scale has 21 items divided into three subscales—depression, anxiety, and stress symptoms—with Cronbach's alphas between 0.74 and 0.81. Participants rated items using a 4-point Likert scale from *did not apply to me at all* (0) to *applied to me very much or most of the time* (3), with higher mean scores indicating greater negative affect. In this study, only depression (symptoms usually associated with negative mood, e.g., "I could see nothing in the future to be hopeful about") and anxiety (physical arousal symptoms, panic attacks and fear, e.g., "I was aware of the action of my heart in the absence of physical exertion") symptoms subscales were used. Cronbach's alphas of 0.93 and 0.89 were found for the depression and the anxiety symptoms subscales, respectively.

Satisfaction with Life Scale (SWLS)

This scale has 5 items that assess subjective well-being. In the original version from Diener and colleagues (1985) and the Portuguese version from Laranjeira (2009), participants use a 7-point Likert scale, from *strongly disagree* (1) to *strongly agree* (7), to complete the questionnaire. Higher mean scores indicate higher satisfaction with life (e.g., "If I could live my life over, I would change almost nothing"). Cronbach's alpha was 0.89 in the Portuguese version and 0.88 in this study.

Data analysis

All data analyses were conducted on IBM SPSS Statistics v.27 (IBM, 2020), IBM AMOS v.27 (Arbuckle, 2020), and MPLUS software v.8.1 (Muthén & Muthén, 2017). According to Kline (2016), a sample size of more than 200 cases is acceptable for most analyses. Outliers were identified using boxplots (Rousseeuw & Hubert, 2011). The normality of data distribution was examined through Skewness (*Sk*) and Kurtosis (*Ku*)'s values. Only values above |3| and |10| for *Sk* and *Ku*, respectively, were considered to represent severe violations of normal distribution (Kline, 2016; Marôco, 2014). To test the psychometric proprieties of the SCQ-PT, the researchers analyzed construct validity: factorial validity (EFAs and CFAs), multigroup invariance (gender and sexual orientation), and convergent and discriminant validities, as well as reliability (internal consistency and composite reliability).

Two EFAs were conducted of the SCQ 10 items, considering a one- and two-factor solution of the theoretical framework. We considered cross-loading when two items loaded in more than one factor with difference below 0.30 (Garson, 2013). In order to analyze the best-fitting model, three CFAs were tested: two-factor model (only two factors), second-order model with two factors (total score divided into two factors), and bifactor model (general factor and two factors). The estimation method used both for EFAs and CFAs was maximum likelihood robust (MLR), which considers errors and produce estimators that are more robust (Bertsimas & Nohadani, 2019). The fit indices ascertained were Chi-square (χ^2), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). Chi-square should be non-significant, which is rarely obtained when the sample is large (van de Schoot et al., 2012). For comparative (CFI and TLI) fit indices, values between 0.80 and 0.89 are poor and between 0.90 and 0.95 reflect a good fit (Marôco, 2014; Schumacker & Lomax, 2016). Values between 0.05 and 0.08 for RMSEA and above 0.05 for SRMR are acceptable (Schumacker & Lomax, 2016). Additionally, for comparing different models, Akaike Information Criterion (AIC) values were considered lowest values indicating a better fit (Kline, 2016). Factor loadings should not be considered if below 0.32 (Comrey & Lee, 1992).

Multigroup analyses were performed to explore the equivalence of SCQ-PT across gender (participants that self-identified as women and men) and sexual orientation (monosexual and plurisexual) groups. Other gender identifications were not considered due to the reduced number of participants in non-binary categories. Three types of

invariance were explored: configural, measurement, and structural invariance. Configural measurement at baseline or totally free multiple group model, through Multisample Confirmatory Factors Analysis (MCFA) tested if the same basic factor structure exists in all groups. Measurement invariance comprised the metric (equivalence of factor loadings), scalar (equality of the intercept terms in the equations explaining the measured variables), and strict (the measurement error variance in the indicators is equivalent among groups) invariance. Finally, structural invariance refers to the equality of the co-variances and variances of the constructs across the groups. Significant $\Delta\chi^2$ was used as a criterion to reject the null hypothesis (Hair et al., 2019; Marôco, 2014).

For convergent validity, Pearson's *r* correlation coefficients were interpreted according to (Cohen, 1988): a correlation coefficient of 0.1 represents a low association, of 0.3 a moderate association, and of 0.5 a high association. In discriminant validity, differences in stigma consciousness depending on low and high levels of depression and anxiety symptoms were examined through independent sample *t*-tests. Cut-off points of, respectively, 10 and 7 in the depression and anxiety symptoms of the DASS-21 (Moreira et al., 2021) were used to find individuals with scores above these values and to constitute the groups with low or high levels of depression and anxiety symptoms for the analysis of the discriminant validity. To examine the effect sizes of specific mean differences Cohen's *d* recommendation was used (0.2 = small effect, 0.5 = medium effect, and 0.8 = large effect; Cohen, 1988).

Internal consistency was assessed through Cronbach's alpha. According to Hair and colleagues (2019), values between 0.60 and 0.70 define the lower limit of acceptability. For composite reliability, values should be between 0.70 and 0.95 (Hair et al., 2019; Marôco, 2014).

Results

Preliminary Results

The independence of observations was ensured by the randomization of samples. No variables indicated severe violations of normal distribution ($|Sk| < 2$ and $|Ku| < 2$). A few outliers were found in stigma consciousness (1), stigma beliefs (1), enacted stigma (3), anxiety (5), and depression (2) symptom measures. However, as these outliers showed up in the SPSS boxplots (IBM, 2020) as mild outliers (and not extreme), and to ensure ecological validity, it was the decision of the authors to keep them in the sample.

Regarding sexual identity variables, there were some missing data in sexual orientation. Researchers decided to keep these participants because they self-identified as nonheterosexual (even though they have not specified). There was no missing data in scale variables.

Current Validity

Factor Validity: Exploratory Factor Analyses and Confirmatory Factor Analyses

EFAs testing a one- and two-factor models were conducted with the 10 items of the original version (subsample one). The one-factor solution revealed an unsatisfactory adjustment with indexes bellow the cut-off recommendations. One the other hand, the two-factor solution showed a good adjustment. Additionally, AIC value was smaller in the two-factor model. AIC values are presented in Table 2. Factor one (F1) seemed to be related to self-perception: how people feel that stereotypes about sexual minorities have an impact on their nonheterosexual identity (self and behaviors). That is, F1 corresponded to stigma experiences, and it was composed of items 1, 2, 5, 6, and 7, whose factor loadings were significant ($p < 0.001$) and above 0.33. Factor two (F2) seemed to refer to how sexual minorities think about the way heterosexual people think about nonheterosexual people. That is, F2 corresponded to stigma beliefs and comprised items 4, 8, 9, and 10, all with significant ($p < 0.001$) factor loadings above 0.43. Item three significantly loaded on both factors (cross-loading), however, we decided to include it in F1 (stigma experiences factor) due to its relationship with self-perception, akin to the other items of this factor. Therefore, the models to be confirmed in the subsequent CFAs included item 1, 2, 3, 5, 6, and 7 in F1 and item 4, 8, 9, and 10 in F2.

Accordingly, three CFAs were conducted (subsample two): two-factor model, second-order model with two factors, and bifactor model (general factor and two factors). Although the bifactorial model showed adequate fit indexes, the model yielded inadmissible estimates due to a linear dependency among latent variables, in this case, between stigma consciousness and stigma experiences (Geiser, 2013). For that reason, the bifactor model was no longer considered. Comparing the other models, the two-factor model and the second-order model presented similar fit indexes. The researchers decided to choose a second-order model, corroborating the original theorical framework, that is, stigma consciousness includes stigma experiences and stigma beliefs. All factor loadings were significant ($p < 0.001$) and above 0.34. F1 and F2 showed significant loadings toward the second-order factor (stigma consciousness total score), 0.74 and 0.72 respectively. The EFAs and CFAs estimates and fit indexes are presented in Table 2.

Invariance Analyses: Multigroup Analyses by Gender and Sexual Orientation

The equivalence of the second-order model in different genders was tested with multigroup analysis in subsample three ($n = 409$). Configural invariance (model

Table 2 Factors loadings for all items in different EFAs and CFAs for the SCQ-PT

SCQ item content	Factor loading									
	EFA ($n=257$) One-factor model	EFA ($n=257$) Two-factor model		CFA ($n=257$) Two-factor model		CFA ($n=257$) 2nd-order model		CFA ($n=257$) Bifactor model		
	Single factor (SC)	F1: SE	F2: SB	F1: SE	F2: SB	F1: SE	F2: SB	General factor (SC)	F1: SE	F2: SB
1. Unaffected by stereotypes (*R*)	0.52	0.44		0.42		0.42		0.26	0.32	
2. Unconcern about stereotypes (*R*)	0.43	0.49		0.34		0.34		0.13	0.33	
3. Stereotyped behaviours interpretation	−0.50	−0.33*	0.27*	−0.53		−0.53		−0.40	−0.37	
4. Perception of no judgment (*R*)	0.57		0.43		0.58		0.58	0.58		999**
5. No influence in interaction (*R*)	0.47	0.53		0.49		0.49		0.16	0.49	
6. No thoughts in interaction (*R*)	0.61	0.68		0.73		0.73		0.34	0.66	
7. No influence in treatment (*R*)	0.73	0.73		0.75		0.75		0.42	0.62	
8. Homo-bi-phobic thoughts	−0.47		0.66		−0.59		−0.59	−0.61		999**
9. Unfair accusation (*R*)	−0.48		0.52		0.55		0.55	0.40		999**
10. Difficulty in equality	−0.42		0.69		−0.63		−0.63	−0.69		999**
χ^2 (*df*)	132.21 (35)	62.55 (26)		44.10 (34)		44.10 (34)		37.46 (25)		
p-value	< 0.001	< 0.001		0.115		0.115		0.05		
CFI	0.78	0.92		0.98		0.98		0.97		
TLI	0.72	0.86		0.97		0.97		0.94		
RMSEA	0.10	0.07		0.03		0.03		0.04		
[90% CI]	[0.085, 0.123]	[0.051, 0.098]		[0.000, 0.060]		[0.000, 0.060]		[0.000, 0.072]		
SRMR	0.07	0.04		0.04		0.04		0.03		
AIC	7651.38	7583.24		7575.57		7575.57		7582.03		

Reverse-scored items are denoted with an (*R*)

SC stigma consciousness, *SE* stigma experiences, *SB* stigma beliefs

*Cross-loading; **Inadmissible estimates

structure) was established based on acceptable fit indices attained in the group of participants that identified as women ($n = 205$, $\chi^2_{(34)} = 70.02$, $p < 0.001$, CFI = 0.92, TLI = 0.89, RMSEA = 0.07) and participants that identified as men ($n = 204$, $\chi^2_{(34)} = 63.62$, $p = 0.002$, CFI = 0.93, TLI = 0.91, RMSEA = 0.07) separately. Thereafter, nested model comparisons were tested with each step imposing a more restrictive level of invariance across the samples. In metric invariance testing, differences between chi-square were non-significant ($\Delta\chi^2_{(8)} = 5.34$, $p = 0.72$) and equal factor loadings across the samples were assumed. For scalar invariance, the *p*-value was non-significant, meaning that scalar invariance (intercepts or means scores) was supported ($\Delta\chi^2_{(10)} = 13.08$, $p = 0.22$). Strict invariance (error variance) was also supported ($\Delta\chi^2_{(3)} = 1.53$, $p = 0.68$). The SCQ-PT kept structural invariance ($\Delta\chi^2_{(10)} = 8.50$, $p = 0.58$). In short, this scale is operating in the same way, and the underlying constructs have the same factorial and metric structure among the two gender groups. Table 3 presents all invariance's coefficients.

The equivalence of the second-order model in different sexual orientations was tested with multigroup analysis in subsample four ($n = 360$). Configural invariance (model structure) was established based on acceptable fit indices attained in the group of monosexual people ($n = 180$, $\chi^2_{(34)} = 47.18$, $p = 0.066$, CFI = 0.96, TLI = 0.95, RMSEA = 0.05) and plurisexual people ($n = 180$, $\chi^2(34) = 68.34$, $p < 0.001$, CFI = 0.91, TLI = 0.88, RMSEA = 0.08) separately. Thereafter, nested model comparisons were tested with each step imposing a more restrictive level of invariance across the samples. In metric invariance testing, differences between chi-square were non-significant ($\Delta\chi^2_{(8)} = 4.27$, $p = 0.83$) and equal factor loadings across the samples were assumed. For scalar invariance, the *p*-value was non-significant, meaning that scalar invariance (intercepts or means scores) was supported ($\Delta\chi^2_{(10)} = 16.77$, $p = 0.08$). Strict invariance (error variance) was also supported ($\Delta\chi^2_{(3)} = 0.75$, $p = 0.86$). The SCQ-PT kept structural invariance ($\Delta\chi^2_{(10)} = 8.55$, $p = 0.58$). In short, this scale is operating in the same way, and the underlying constructs have the same factorial and metric structure among the two sexual orientation groups. Table 3 presents all invariance's coefficients.

Convergent Validity: Correlations with Other Measures

To assess convergent validity, correlations of the SCQ-PT total score and two factors, with enacted stigma (the only subscale of the MSS used), stigma sensitivity (the only scale of the LGBIS used), depression and anxiety symptoms, and satisfaction with life were performed. All coefficients were significant except the correlation between stigma experiences and anxiety symptoms. Total score of stigma consciousness showed a moderate and positive correlation with stigma sensitivity ($r = 0.52$). Depression and anxiety symptoms had low correlations with stigma consciousness ($0.15 < r < 0.24$). Satisfaction with life was negatively correlated with all the other variables (the stronger correlation with stigma variables was with stigma beliefs). Table 4 presents descriptive statistics and all Pearson's coefficients.

Table 3 Fit indices for gender (subsample 3, $n = 409$) and sexual orientation (subsample 4, $n = 360$) invariance analysis

	χ^2	*df*	CFI	TLI	RMSEA
Gender					
1. Configural invariance					
Women ($n = 205$)	**70.02***	**34**	.92	.89	.07
Men ($n = 204$)	**63.62****	**34**	.93	.91	.07
2. Measurement invariance					
Metric	5.34	8			
Scalar	13.08	10			
Strict	1.53	3			
3. Structural invariance	8.50	10			
Sexual orientation					
1. Configural invariance					
Monosexual ($n = 180$)	47.18	34	.96	.95	.05
Plurisexual ($n = 180$)	**68.34***	**34**	.91	.88	.08
2. Measurement invariance					
Metric	4.27	8			
Scalar	16.77	10			
Strict	0.86	3			
3. Structural invariance	8.55	10			

*$p < .01$; **$p < .001$

Discriminant Validity: Differences in Stigma Consciousness as a Function of Depression and Anxiety Symptoms Levels

Individuals with higher levels of depression symptoms (score > 10) presented significantly higher levels of stigma consciousness ($t_{(347)} = -3.68$, $p < 0.001$, $d = 0.63$), stigma experiences ($t_{(347)} = -2.98$, $p = 0.003$, $d = 0.79$), and stigma beliefs ($t_{(347)} = -3.24$, $p < 0.001$, $d = 0.71$). Comparatively to their counterparts with lower levels of anxiety symptoms, individuals with higher levels of anxiety symptoms (scores > 7) presented significantly higher levels of stigma consciousness ($t_{(347)} = -2.55$, $p = 0.011$, $d = 0.64$) and stigma beliefs ($t_{(347)} = -3.17$, $p = 0.002$, $d = 0.71$). No differences were found in stigma experiences ($t_{(347)} = -1.53$, $p = 0.127$). All effect sizes were medium.

Reliability

Internal Consistency and Composite Reliability

Both the total scale and the two factors showed acceptable internal consistency with Cronbach alpha of 0.75, 0.72, and 0.68, for stigma consciousness, stigma experiences, and stigma beliefs, respectively. The mean and standard deviation of each item, item–total correlation, and alpha if the item is deleted are detailed in Table 5. No item when removed improved the scale's alpha value. Item–total correlations ranged between 0.33 and 0.57 in stigma experiences and between 0.45 and 0.48 in stigma beliefs. Considering the composite reliability, the values obtained were 0.72 and 0.68 for stigma experiences and stigma beliefs, respectively. The subscales showed a moderate intercorrelation ($r = 0.36$).

Discussion

The aim of the present study was to validate the *Stigma Consciousness Questionnaire–the European-Portuguese Version for Sexual Minorities* (SCQ-PT). The total scale (stigma consciousness) was composed of two factors: stigma experiences and stigma beliefs. The first factor is related to experiences related to interactions with people with a different sexual orientation (e.g., the way heterosexuals act with sexual minority individuals). The second factor includes items related to perceptions of judgment based on sexual orientation and beliefs about how heterosexual people stereotype sexual minority individuals. The moderate association between both factors ($r = 0.36$, $p < 0.01$) indicated that these two constructs might indeed be measuring different aspects of stigma consciousness, reinforcing the second order two-factor structure of the instrument. In this way, H1 was corroborated. The difference between stigma experiences and stigma beliefs found in this study is in line with the Minority Stress Model (Meyer, 2013) according to which discrimination/violence and perceived stigma are two different processes. That is, experiencing stressful events differs from expectations and anticipation of discrimination (perceived stigma; Meyer, 2013). This finding is also in line with the SCQ-ES (Strizzi et al., 2016), indicating a cultural convergence between neighboring countries Portugal and Spain. In general, all latent measures showed acceptable reliability reflecting that the constructs seem to be measuring what they are intended to measure, corroborating H5.

The researchers also investigated the equivalence of the second-order two-factor SQC-PT model solution across two groups (gender: participants that identified as women or men, and sexual orientation: monosexual or plurisexual people). This powerful and versatile approach (Steenkamp & Baumgartner, 1998) for testing measurement invariance allowed to verify that individuals of different groups ascribed the same meanings to scale items and confirmed that the SCQ-PT is measuring the same construct in all groups, adding to the ecological validity of the instrument. These results corroborated H2.

Taken together, correlations result partially corroborated H3. Specifically, stigma experiences presented a moderate association with stigma sensitivity ($r = 0.52$, $p < 0.01$), suggesting that the presence of stigma experiences in the

Table 4 Descriptive statistics and correlations between study variables

Variable	*M*	SD	1	2	3	4	5	6	7	8
1. Stigma consciousness	3.1	0.7	—							
2. Stigma experiences	2.8	0.8	0.91***	—						
3. Stigma beliefs	3.5	0.7	0.72***	0.36***	—					
4. Enacted stigma	5.0	2.0	0.33***	0.32***	0.21***	—				
5. Stigma sensitivity	3.6	1.7	0.52***	0.52***	0.28***	0.20**	—			
6. Depression symptoms	5.8	5.6	0.24***	0.18**	0.23***	0.24***	0.26***	—		
7. Anxiety symptoms	4.2	4.8	0.15*	0.10	0.18**	0.21***	0.20**	0.73***	—	
8. Satisfaction with life	22.3	6.9	−0.30***	−0.20**	−0.33***	−0.24***	−0.25***	−0.57***	−0.40***	—

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Table 5 Descriptive statistics, item-total correlation, and Cronbach's alpha

	Mean	Standard deviation	Item–total correlation	α if item deleted	Coefficient α
F1: *Stigma experiences*					.72
1. Unaffected by stereotypes (*R*)	3.2	1.3	0.38	0.70	
2. Unconcern about stereotypes (*R*)	2.5	1.2	0.33	0.71	
3. Stereotyped behaviors interpretation	2.2	1.2	0.44	0.68	
5. No influence in interaction (*R*)	3.1	1.3	0.42	0.69	
6. No thoughts in interaction (*R*)	2.6	1.3	0.57	0.64	
7. No influence in treatment (*R*)	2.9	1.1	0.57	0.64	
F2: *Stigma beliefs*					0.68
4. Perception of no judgment (*R*)	3.6	1	0.45	0.62	
8. Homo-bi-phobic thoughts	3.6	1	0.46	0.62	
9. Unfair accusation (*R*)	3.6	1	0.44	0.63	
10. Difficulty in equality	3.3	1.1	0.48	0.60	
Total: *Stigma consciousness*					0.75

interaction with others and expectations of rejection based on one's sexual orientation are related. Considering one study which found that stigma-based rejection sensitivity works as the psychological process through which some individuals learn to anticipate rejection due to previous experiences of prejudice and discrimination from a group of peers (Mendoza-Denton et al., 2002), it is understandable that people with a non-normative sexual orientation may have more expectations of rejection based on more experiences of stigma they went through.

Stigma beliefs was the factor that correlated more negatively with satisfaction with life (moderate correlation, $r=-0.33$, $p<0.01$). This finding highlights the importance of the individual's perceptions about the way others see them based on their sexual orientation, and it is in line with psychotherapeutic frameworks, such as Compassion Focused Therapy, which highlight the role that complex cognitive processes (such as anticipation, self-criticism, rumination, and self-conscious emotions) in the development of psychological suffering (Gilbert, 2019). Also, Hatzenbuehler' model (2009) reinforce the role of cognitive processes (such as hopelessness, pessimism, and negative self-schemas) together to proximal processes (such as expectation of rejection/stigma consciousness) underlying increase vulnerability of sexual minority individuals for psychopathology (Hatzenbuehler, 2009; Lattanner et al., 2022).

The majority of studies focusing on psychopathology indicators report that sexual minority individuals have lower mental health indicators when compared with heterosexual individuals (e.g., Baptiste-Roberts et al., 2017; Bostwick et al., 2010; Conron et al., 2010; Gilman et al., 2001; Valdiserri et al., 2018). However, in this study, depression and anxiety symptoms showed a non-significant and a significant but low association with the SCQ-PT subscales. In fact, these values ($0.18<r<0.23$) are in the same line with a meta-analyses that found an effect model of 0.20 in the relationship between multiple forms of perceived discrimination and mental health (Pascoe & Richman, 2009). These results suggest that stigma beliefs might be associated with satisfaction with life but not necessarily with mental health indicators. It could be that the differences in depression and anxiety symptoms are exacerbated by other processes of minority stress (Meyer, 2013) as internalized stigma, concealment, and violence/discrimination (and not necessarily stigma). This raises some interesting reflections, namely that a society which privileges heterosexuality and simultaneously stereotypes other sexual orientations (Bell, 2014; Hegarty, 2018) might, in fact, contribute to increasing sexual minorities' dissatisfaction with life (even in a community/non-clinical sample, such as the one in the present study). It is also possible that these correlations (depression and anxiety symptoms with stigma variables) may be stronger in a clinical sample.

The SCQ-PT total score (stigma consciousness) revealed a moderate association with enacted stigma ($r=0.33$, $p<0.01$) and with stigma sensitivity ($r=0.52$, $p<0.01$). In general, the perception of personal experiences of being stereotyped, discriminated against, and treated with prejudice (stigma consciousness) is related with the way sexual minority individuals interpret how others see (beliefs) and act (experiences) towards them based on their sexual orientation. Worthen (2020) presents stigma as a spectrum, considering identity, beliefs, and behaviors. When identities, beliefs, and behaviours are stigmatized, there is illegitimacy, invisibility, and denigration. Finally, a clear connection can be made between Worthens' norm-centered stigma theory (Worthen, 2020) and our results. That is, consciousness regarding a stigmatized sexual orientation (also referred to as identity in Worthen's model) contains two interrelated and corresponding dimensions: experiences (corresponding to behaviours in the NCST) and beliefs (also called beliefs

in the NCST) and supporting a consistent understanding of stigma in literature.

Weak associations between SCQ-PT and measures of depression and anxiety symptoms were found, as discussed previously. However, the SCQ-PT allowed to discriminate individuals with low and high levels of depression and anxiety symptoms, corroborating H4. That is, stigma consciousness, stigma experiences, and stigma beliefs were significantly higher in sexual minority with high levels of depression symptoms and significantly lower in sexual minority individuals with low levels of depressive symptoms. In anxiety symptoms levels, the same significant differences were found in stigma consciousness and stigma beliefs. These findings are in line with the Minority Stress Model (Meyer, 2013) which refers stigma as one of the processes responsible for poorer levels of mental health in minority populations. Doyle and Molix (2018) showed how stigma consciousness modulates cortisol reactivity related to anxiety in social stress situations. In fact, stigma consciousness refers to how one is conscious or expects being victim of stereotyping (Pinel, 2004) by others in social contexts. With a stronger effect size, depression stands out in this context once social insecurities and elevated competitive behaviour, defeats and lack of affiliative relations are key sources of depressed states in humans (Gilbert, 2006).

Regarding implications for practice, SCQ-PT might be a useful tool once it translates the multidimensionality of stigma consciousness, thus contributing to understanding its specificity and, consequently, its impact on the lives of sexual minority individuals. Future research might be able to test the relationship between stigma experiences and stigma beliefs and internalized sexual stigma, which has been found to be strongly linked to suicidal ideation in lesbian and gay young adults (Baiocco et al., 2014) and other crucial variables such as binge drinking and even individuals' sense of connectedness to the LGBTQIA + community (Baiocco et al., 2010). Moreover, the negative impact of stigma consciousness on the development of a positive identity for lesbian, gay, and/or bisexual individuals might also be explored (Petrocchi et al., 2020). Considering the positive and significant associations found in this study of levels of stigma with mental health indicators and with life satisfaction in sexual minority individuals, it may be important to assess stigma consciousness in some contexts (e.g., vulnerable situations and clinical context) and take into account that high scores in this scale might be a sign of minority stress.

Considering the policy implications, the possibility to use SCQ-PT in several contexts and to specify different aspects of stigma consciousness can be useful for evaluate this construct and help to rethinking combat strategies. Although Portugal has advanced legislation, stigma is still socially present (European Union for Fundamental Rights, 2021; Moleiro et al., 2016). This measure can be used in universities, workplaces, and health services allowing map this phenomenon to potentiate the comprehension and adjust different interventions measures in different contexts.

Notwithstanding its contributions, some limitations of this study should be considered. It is important to collect a wider and more balanced sample regarding sexual orientation groups since definitions are evolving and self-identification of one's sexual orientation is always the preferable method (APA, n.d.), e.g., asexual, demisexual, and queer. Furthermore, only the impact of stigma consciousness on depression and anxiety was examined. Thus, future studies might use this measure to understand how stigma is experienced by individuals with different sexual orientations, to explore its relationship with other minority stress processes and to explore its relationship with other psychopathology measures (e.g., shame, anger, stress, and social isolation) in clinical samples.

In conclusion, the SQC seems to be a valid, reliable, and useful measure to assess stigma consciousness in Portuguese sexual minority individuals. This questionnaire is important to better understand the perceived stigma phenomenon and its impact on mental health and can also be considered a useful clinical tool.

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Availability of Data and Material Data are available from authors upon a reasonable request.

Declarations

Ethical Approval All procedures performed were in accordance with the ethical standards of the Ethics and Deontology Commission of the Faculty of Psychology and Educational Sciences of University of Coimbra (approved on November 2nd 2019) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Conflict of Interest The authors declare no competing interests.

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