Validity Evidences of the Internalized Homophobia Scale for Brazilian Gays and Lesbians

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Abstract
This article gathered evidence of the validity of the Internalized Homophobia Scale (EHI) for Brazilian gays and lesbians. Study 1 found evidence of content validity (performed by two area judges and 10 gay and lesbian people), based on the internal structure and still sought reliability/precision indicators of the instrument. Based on an online survey, 261 participants, with a mean age of 27.6 years (SD = 7.72), answered IHS and sociodemographic questions. Study 2 replicated the factorial solution from study 1, through confirmatory factorial analysis, in addition to seeking complementary evidence of construct validity and reliability, being carried out with 303 gays and lesbians, with a mean age of 30.6 years (SD = 8.29). The results of the two studies suggest a modified version of the IHS with 19 items and two dimensions (Internal Perception of Stigma and Perception [α = 0,814] of Social Oppression [α = 0,622]) because it presented evidence of validity and reliability/precision of the instrument.
Key-words: Internalized homophobia; social opression; gays; lesbians; evidence of validity.

Evidências de Validade da Escala de Homofobia Internalizada para Gays e Lésbicas Brasileiros

Resumo
Este artigo reuniu evidências de validade da Escala de Homofobia Internalizada (EHI) para gays e lésbicas brasileiros. O Estudo 1 verificou evidências de validade de conteúdo (realizada por dois juízes da área e 10 pessoas gays e lésbicas), baseadas na estrutura interna e ainda buscou indicadores de confiabilidade/precisão do instrumento. Com base em um inquérito online, 261 participantes, com média de idade de 27,6 anos (DP = 7,72) responderam a EHI e a perguntas sociodemográficas. O Estudo 2 replicou a solução fatorial do estudo 1, através de análise fatorial confirmatória e confiabilidade, sendo realizado com 303 gays e lésbicas, com média de idade de 30,6 anos (DP = 8,29). Os resultados dos dois estudos sugerem uma versão modificada da EHI com 19 itens e duas dimensões (Percepção Interna do Estigma [α = 0,814] e Percepção da Opressão Social [α = 0,622]), pois apresentou evidências de validade e de confiabilidade/precisão do instrumento.
Palavras-chave: homofobia internalizada; opressão social; gays; lésbicas; evidências de validade.

Las Evidencias de la Validez de la Escala de Homofobia Internalizada para Gays y Lésbicas Brasileños

Resumen
Este artículo reunió evidencias de validez de la Escala de Homofobia Internalizada (EHI) para gays y lesbianas brasileños. El Estudio 1 verificó evidencias de validez de contenido (realizada por dos jueces del área y 10 personas gays y lesbianas), basadas en la estructura interna y aún buscó indicadores de confiabilidad/precisión del instrumento. Con base en una encuesta en línea, 261 participantes con una edad promedio de 27.6 años (DP =7.72), responderieron las perguntas EHI y sociodemográficas. Es estudio 2 replicó la solución factorial del estudio 1, a través del análisis factorial confirmatoria, además de buscar evidencias complementares de validez del constructo y confiabilidad, siendo realizado con 303 gays y lésbicas, con una edad promedio de 30.6 (DP = 8.29). Los resultados de los dos estudios sugieren una versión modificada de la EHI con 19 ítems y dos dimensiones (Percepción Interna del Estigma [α = 0,814] y Percepción de la Opresión Social [α = 0,622]), pues presentó evidencias de validez y confiabilidad/precisión del instrumento.
Palabras clave: homofobia internalizada; opresión social; gays; lésbicas; evidencia de validez.

Introduction

Despite increasing visibility and social and legal recognition, lesbian and gay couples (LGs) still live under varying degrees of adversity, especially in the homophobic context of discrimination, oppression and even violence based on their sexual orientation (Puckett et al., 2017). In this way, negative social attitudes affect the lives of sexual minorities on a daily basis, which can result in an internalization process of stigma associated with sexual orientation. These negative self-directed feelings about sexual orientation have been conceptualized in the literature as Internalized Homophobia - IH (Meyer & Dean, 1998).

IH is related to socially constructed myths and stereotypes about homosexuality; and, furthermore, it constitutes a stressor that can lead people to self-devalue and direct negative feelings back to themselves, resulting in psychic conflict and low self-esteem (e.g., Meyer & Dean, 1998). It can manifest in many ways in LG people, namely: discomfort with the disclosure of sexual orientation and social isolation (Newcomb & Mustanski, 2011);

moral and religious condemnation of homosexuality (Ross & Rosser, 1996); and negative attitudes towards homosexuality in general (Newcomb & Mustanski, 2011). In its extreme form, IH can lead people to deny their sexual orientation (Frost & Meyer, 2009).

Thus, IH is described by the literature as one of the main risk factors of the LG population leading to negative physical, mental and well-being health outcomes (e.g., Berg, Munthe-Kaas & Ross, 2016). Studies have shown, for example, that internalized homophobia is positively associated with depression and anxiety (e.g., Mereish & Poteat, 2015); low self-esteem (e.g., Peterson & Gerrity, 2006); suicidal thoughts and behaviors, especially in LGB adolescents and the elderly (e.g., Livingston et al., 2015); substance abuse and risky sexual behavior (e.g., Herrick et al., 2013); as well as interpersonal challenges such as reduced social connectivity, lack of sexual orientation, and difficulty in conjugal intimacy (Meyer & Dean, 1998; Wight, LeBlanc, & Badgett, 2013).

However, it is important to be careful not to pathologize LG people, because not all people who experience internalized homophobia develop psychic disorders. Scientific evidence indicates that the presence of protective resources can ameliorate the effects of IH on the psychological suffering of sexual minorities, such as coping strategies, community connection, disclosure of sexual orientation to friends, and social support (e.g., Mereish & Poteat, 2015). In addition, researchers should not associate IH with individual pathology. That is, internalized homophobia is not a disease, or a personality trait, much less a condition of a single individual. It is a response to the social circumstances of oppression and marginalization of sexual minorities (Strizzi, Fernández-Agis, Parrón-Carreño, & Alarcón-Rodríguez, 2016).

Internalized homophobia is a widely debated construct due to the complexity involved in its concept and operationalization. In general, the scales constructed to measure it, involve three main dimensions (see Berg et al., Review study, 2016): 1) negative feelings of LG people about themselves based on their sexual orientation (which may include elements such as shame, discomfort with sexual orientation, rejection of sexual orientation itself), 2) another dimension refers to the difficulty of public disclosure / identification of sexual orientation; and (3) perception of negative attitudes toward gays and lesbians for their sexual orientation, i.e. the perception of social oppression involving the lives of sexual minorities.

One of the main operational difficulties of the IH construct, however, is related to the question whether *outness* (disclosure of sexual orientation – "to come out of the closet") is a measurement of IH. Studies have shown that disclosure of sexual orientation can be a risk mechanism in a given context, especially in environments marked by homophobic prejudice, with concealment being an adaptive strategy and not necessarily an indicator of high IH (e.g., Williamson, 2000). On the other hand, studies indicate that accepting and disclosing sexual orientation is a necessary issue in the identity affirmation process (Rosario, Hunter, Maguen, Gwadz, & Smith, 2001) and that *outness* may even be related to high rates of victimization, but in contrast may also be positively associated with high self-esteem, contributing to a lower depression rate, such as Koswiw et al. (2015) evidenced in their study of LGBT youth.

The Internalized Homophobia Scale - IHS was originally developed in the USA for the population of men who have sex with men - MSM (Ross & Rosser, 1996). A total of 184 gay and bisexual men with a mean age of 37 years participated in the study. Using an Exploratory Factor Analysis, the instrument with 26 items presented four factorial dimensions: public identification as gay (10 items; α = 0.85); perception of the stigma associated with being gay (6 items; α = 0.69); social comfort with gay men (6 items; α = 0.64); and beliefs regarding religious and moral acceptance of homosexuality (4 items; α = 0.62). These last two factors show reliability indices below the minimum level of 0.70. However, according to Marôco (2011), in some social science research scenarios, an α of 0.60 may be acceptable, especially in studies that seek evidence of validity of the instrument. In addition, the study was also limited by the size of the sample, compared to the size of the instrument (26 items).

Afterwards, in 2005, the scale presented evidence of validity for the Portuguese population with Pereira and Leal (2005) for homosexual and bisexual men (N = 304), and obtained a solution with two factorial dimensions: internal perception of stigma associated with homosexuality (19 items, α = 0.82) and the external perception of stigma associated with homosexuality (7 items; α = 0.65). More recently, Costa, Pereira, and Leal (2013) evaluated the psychometric parameters of the instrument for the Portuguese population, in which 580 self-identified LGB men and women participated. Some changes were proposed by the authors: items that mentioned gays were reformulated to include lesbians as well as bisexual people (e.g., Item 15: "Society still punishes

people for being gay, lesbian or bisexual"); they omitted gender orientation (e.g., Item 5: "I do not feel confident in 'making eyes at' a person of the same sex as myself). And finally, one item was included in the scale, referring exclusively to lesbians (item 25: "Obviously masculine lesbian women make me feel uncomfortable."). From the Exploratory Factor Analysis, the analysis produced only three factors: public identification as homo(bi)sexual (n = 15 items; α = 0.79); internal perception of the stigma associated with homo(bi)sexuality (n = 6 items; α = 0.70); and perception of social oppression (n = 5 items, α = 0.69).

Although the internalized homophobia construct is widely used in international samples, even if it has been translated into Portuguese from Portugal, no national studies using the IHS have been identified so far. Thus, we sought to find evidence of validity of the Internalized Homophobia Scale in a sample of Brazilian gays and lesbians. Two studies were carried out. In the first one, we searched for evidence of validity based on content and internal structure, as well as searching for reliability/accuracy parameters in a sample of 261 LG people. In the second study, with a different sample of 303 LG individuals, we chose to gather evidence of validity based on the internal structure, through the confirmatory factorial analysis and to verify the reliability/precision indexes.

It is important to emphasize that we have chosen to work with lesbians and gays because it is considered that these populations constitute the majority of individuals who identify themselves as homosexuals (Lyons, 2015). Trans people (transvestites and transsexuals) can both assume homosexual and heterosexual sexual orientation. Even though the literature has often grouped the lesbian, gay, bisexual and transgender experiences under the LGBT umbrella (especially in the attempt to give visibility to this population), it has to be recognized that experiences of sexual orientation and identity among these groups are different.

Method

Study 1: Evidence of validity based on content and internal structure

Study 1 aimed to find evidence of the validity of the internalized homophobia scale in the Brazilian population. To this end, the instrument sought evidence of validity based on content and internal structure (through Principal Component Analysis). Finally, the reliability/precision levels were verified.

Participants

265 people who declared themselves to be lesbians (41.5%) and gays (58.5%), who were in a stable marital relationship, with an average period of 48.23 months of relationship (SD = 41.69), residents of several Brazilian cities (North [5.2%], Northeast [22.7%], Midwest [7.2%], Southeast [49.8%], and South [15.1%]). The participants' ages ranged from 18 to 59 years (M = 27.63; SD = 7.72). The majority of the respondents cohabited with their partners (54.4%), an average of 48.23 months (SD = 41.685), worked (69.6%), had a monthly individual income averaging 4,058.46 (SD = 3414.82), had graduated (59%), with only 4.2% of the sample having children. Participants who failed to respond to more than 10% of the instrument items were coded as incomplete and excluded from the analysis. Based on this procedure, four protocols (1.51%) were removed and, thus, 261 participants were part of the analysis of this study. This excluded group did not differ significantly from the analytical sample in terms of sociodemographic characteristics.

Instruments

Internalized Homophobia Assessment Scale (Costa, Pereira, & Leal, 2013; Ross & Rosser, 1996): Used as a measurement instrument to evaluate internalized homophobia, with the tested version of Costa et al. (2013), since it is written in the Portuguese language and also because the authors cover, in addition to gays and bisexuals, female homosexuality (lesbian), through the inclusion of item 25, as previously mentioned. In this version, composed of 27 items and distributed into 3 factors, the authors proposed to exclude an item from the instrument (Item 14). However, because it is a study that seeks to find evidence of validity for Brazilian gays and lesbians, it was decided to maintain the matrix with 27 statements related to internalized homophobia. All items are written affirmatively and measured on a 4-point Likert scale, from 0 - totally disagree to 3 - strongly agree. In the exploratory factorial analysis, following the principal components method and varimax rotation, the analysis produced three factors: Public identification as homo(bi)sexual (α = 0.79); Internal perception of the stigma associated with homo(bi) sexuality (α = 0.70); Perceptions of social oppression (α = 0.69) and explained 37% of the total variance.

Even though the instrument is written in Portuguese and since 2009 the Portuguese Language Orthographic Agreement came into effect that unifies the writing of Portuguese in countries in which

this language is official, before the application of the questionnaires as such, the IHS had been submitted to content evaluation, being the subject of a discussion with four lesbians and four gays, residents of Fortaleza and with different educational levels. In addition, two judges, field professionals, answered the instrument and evaluated the content of the test. Some modifications and adaptations were handled by researchers for the purpose of improving the instrument. The main modification was the inclusion of both male and female genders, simultaneously, in the items of the scales, in order to consider both gays and lesbians.

Sociodemographic questionnaire: This questionnaire was composed of 24 questions specific to the objectives of this study. It This questionnaire sought to characterize sociodemographically the participants (age, sex, schooling, socioeconomic level, occupation, cohabitation, number of children, among others).

Data Collection Procedures

The first Portuguese author (Costa et al., 2013) was asked for permission to investigate the evidence of validity of a Brazilian version of the IHS, and authorization was granted. For data collection, a website was developed, using Google Docs, to host the sociodemographic questionnaire and the Internalized Homophobia Scale. Protocols were available for 11 months for completion. A non-response to a question was allowed and participants could return to correct the response given to the questionnaire item before finalizing the submission. The electronic address was disclosed in the researchers' social networks and data collection took place from March 2015 to February 2016.

Participants were informed about the bioethical principles, and also about the objectives and procedures of the study when invited to participate voluntarily in the research, having signed the Terms of Free and Informed Consent form - TFIC. The research project was approved by the Ethics Committee of the author's place of study (Ruling 715.705) and the Committees of the partner universities in this research project.

Data Analysis Procedures

The analyzes were performed in the IBM SPSS Statistic program (version 22) and followed three stages: 1) *Psychometric sensitivity*, i.e., the ability of the instrument items to discriminate between structurally different participants (Marôco, 2011) was evaluated by considering the items of the variables that revealed distribution of

values between the minimum and the maximum of the scale and the consideration of the absolute values of asymmetry and kurtosis (sk < 3, ku < 7; Kline, 2004; Marôco, 2010); 2) *Exploratory Analysis*: Exploratory analysis was carried out and the component extraction method used was the Principal Components Analysis (PCA), with oblique rotation and Kaiser normalization. In order to extract the components, we observed the values equal to or greater than 1 (Kaiser's criterion), Horn's parallel analysis (1965) and the interpretability of the extracted components (Garson, 2012). For the observation of the results the Kaiser-Meyer-Olkin adequacy measurement (KMO> 0.7), the Bartlett sphericity test (p <0.05) and the factor loads of the items (λ> 0.30) were considered. When an item presented factorial loads in one or more components, it was chosen to be retained in the component with the highest saturation or to eliminate it when the difference between the factor loads were less than 0.10 (Bryman & Cramer, 2011); 3) *Reliability/Precision*: The measurement of internal consistency was evaluated through Cronbach's alpha (α> 0, 6, Marôco, 2011).

Results

Considering the psychometric sensitivity, all the points of the scale were used (Min = 0; Max = 3), with scores near the center point of the scale. Regarding the values of asymmetry and kurtosis, it was observed that item 9 ("When I think of gay men, lesbian women or bisexual people, I think of negative situations") showed a deviation from normality in its distribution (sk = 3.086; ku = 10.372), justifying the exclusion of this item for future analysis. As the other items did not show large deviations in their distribution indicating problems of psychometric sensitivity, the PCA was followed with the other 26 items.

Adequacy measurements of sampling were considered satisfactory, allowing for the continuation of the analyzes: KMO = 0.727 and the Bartlett sphericity test, $\chi2$ (325) = 1481.056, p <0.001. When the first PCA was carried out, the number of components to be extracted was not determined, with 8 components having their own values greater than 1. However, since these components did not have good interpretability, the parallel analysis of Horn (1965) was followed, reaching four components with their own values above those obtained randomly. A new PCA was then established, fixing the extraction of four components, following the indication of the parallel analysis. With

38.397% of the total variance explained, however, it was observed that the items of public identification and social comfort were mixed into two components, which made us choose to generate a new PCA from the extraction of 3 components. In this factorial solution, three more items were excluded because they saturated simultaneously into two components, being ambiguous, and still having a factorial load below 0.30: Item 7: "Social situations with gay men or lesbian women make me feel uncomfortable "(λ = 0.263); Item 4: "Most of my friends are gay, lesbian and/or bisexual." (λ = 0.244) and: Item 14: "Homosexuality is not against the will of God." (λ = 0.286). Finally, the result revealed a solution of three components, composed of 23 items and with total explained variance of 32.145%.

The first factor, with 12 items, called "Public Identification as Homosexual" translated questions related to public identification of homosexuality, social discomfort with homosexuality, and also grouped items on moral and religious non-acceptance of being LG. The second component, called "Perception of Social Oppression", translated the consciousness of the stigma associated with homosexuality and was constituted of 5 items. Finally, the third component, consisting of 6 items, was called "Non-acceptance of Sexual Orientation". The three components presented satisfactory indexes of internal consistency (F1 - α = 0.70, F2 - α = 0.62, F3 - α = 0.69). Table 1 presents the items, factor loads and indices of internal consistency.

Discussion

After gathering the evidence of validity of the Internalized Homophobia scale from a sample of 261 Brazilian LGB participants, the instrument consisted of 23 items. As in the study by Pereira et al. (2013), a trifactorial solution was found formed by the following components: Public Identification with Homosexuality (12 items); Perception of Social Oppression (5 items) and; Non-acceptance of Sexual Orientation (6 items). It should be noted, however, that some items (5, 12 and 16) that composed the dimensions, as well as the denomination given to the components of this study and the previous studies of the IHS varied considerably from the original study and the studies carried out in Portugal, which reveals a lack of consensual indications about the items and dimensions to be interpreted. In this regard, for example, in the present study, item 5 ("I do not feel confident to "make eyes at" a person of the same sex as myself") is part of

the "Public Identification with Homosexuality" factor, whereas in the study of Costa et al. (2013), it belongs to the factor "Internal Perception of Stigma associated with Homo(bi)sexuality". Likewise, for item 12 ("It is important for me to control who knows about my homosexual/bisexuality"), in the current research, as well as in the original study of the instrument (Ross & Rosser, 1996) this is related to the dimension of "Public identification with Homosexuality", however, in the study of Costa and Pereira (2013) the item is part of the "Perception of Social Oppression" dimension. It is possible that the differences in the dimensionality of the construct can be explained by the lack of clarity of some items. Future studies should understand the specific items that include both dimensions in the different contexts (Brazilian, North American and Portuguese) and evaluate what the item actually measures.

In the present factorial solution, therefore, the items in relation to public identification, social discomfort and moral and religious acceptance proposed by Ross and Rosser (1996) have merged into a single component. What seems interpretable is that the LG person who does not morally accept homosexuality may have difficulties to publicly declare their homosexual sexual orientation, generating some social discomfort.

In relation to the 4 items excluded from the instrument (items 4, 7, 9 and 14), the loss did not cause difficulties related to the construct objective, keeping the explained variance of 32.145%, close to the percentages of the original study, as well as that of Pereira et al. (2013). In fact, the excluded items were problematic and threatened the evidence of validity of the instrument.

Furthermore, in relation to the reliability coefficient, relatively satisfactory values of Cronbach's alpha were found (F1 - α = 0.70, F2 - α = 0.62, F3 - α = 0.68), which were very close to the values found in the studies by Ross and Rosser (1996) and Pereira et al. (2013). Even though component 2 presented a low Cronbach alpha value, due to it being an exploratory study, and still presents a few items, this value can be justified (Marôco, 2011).

The results suggest that the IHS in Brazilian gays and lesbians has appropriate psychometric properties, showing evidence of validity based on the content and analysis of the internal structure of the instrument, as well as the verification of its reliability/precision indicators. However, a second study was conducted using a different sample with the objective of testing the replicability of the factorial solution presented here.

Table 1.
Results of the Principal Components Analysis of the Internalized Homophobia Scale

	Components
Items	Public Identification
23r. I do not care if they find out I'm gay/lesbian/bisexual.	**-.642**
10r. I feel comfortable being seen in public with an obviously gay man or an obviously lesbian woman.	**-.594**
11r. I feel comfortable talking about homosexuality / bisexuality in a public place.	**-.572**
21r. I feel comfortable with my homosexuality / bisexuality.	**-.548**
25. Obviously masculine lesbian women make me uncomfortable.	**.507**
12. It is important for me to control who knows about my homosexuality / bisexuality.	**.497**
22r. Homosexuality is morally acceptable.	**-.493**
6r. I feel comfortable in gay / lesbian bars.	**-.392**
1. Obviously effeminate gay men make me feel uncomfortable.	**.363**
5. I do not feel confident to "make eyes at" a person who is the same sex as me.	**.332**
2. I prefer having anonymous sexual partners.	**.324**
27r. Homosexuality is as natural as heterosexuality.	**-.303**
7. Social situations with gay men or lesbian women make me feel uncomfortable.	.263
20r. Most people do not discriminate against gays and lesbians.	-.189
24. Discrimination against gays and lesbians is still common.	.030
15. Society still punishes people for being gay, lesbian or bisexual.	-.123
13. Most people have negative reactions to homosexuality.	.247
16. I protest if you tell a joke against gays or lesbians in my presence.	-.138
4. Most of my friends are gay, lesbian and / or bisexual.	-.145
19. I would rather be heterosexual.	.231
26r. Even if I could change my sexual orientation, I would not change it.	-.108
3. Life would be easier if I were heterosexual.	.026
8. I do not like to think about my homosexuality/bisexuality.	.330
17. I worry about becoming old and being homosexual/bisexual.	.059
18. I worry about not being attractive.	-.043
14. Homosexuality is not against the will of God.	-.241
Eigenvalue	4.268
Variance Explained	

Note. The factorial weights of the items that make up each factor are in bold.

Items with "r" at the end should be reversed.

Study 2: Evidence of validity based on internal structure

Study 2 collected additional evidence of validity of the IHS from a new sample. Through the Confirmatory Factorial Analysis (CFA), we attempted to replicate the tri-factorial solution of the previous study and to compare it with alternative factorial models. The reliability coefficients of the instrument were also calculated.

Participants

The participants were a total of 303 self-declared lesbians (44.2%) and gays (53.8%), involved in stable relationships for 5.15 years on average, residents of the cities of Fortaleza (59.7%), Aracaju (31%) and Uberaba (9.2%) and with a mean age of 30.61 years (SD = 8.287). Most of the participants were employed (69.6%), with

a monthly income of 3,161.47 (SD = 4690.24), with a graduation rate of 54.3%. In addition, most of the people in the sample cohabit with their partners, with an average of 51.22 months of cohabitation time and did not have children (87.6%).

Instruments

Internalized Homophobia Scale: The IHS previously described in study 1 was used. For this analysis, however, only items with evidence of validity and adequate levels of reliability/precision were evaluated, as pointed out in the previous study. That is, the version used in this analysis had 23 items.

Sociodemographic questionnaire: The same questionnaire previously described in Study 1 was used.

Data Collection Procedure

The instrument was applied face to face, individually and on paper, in the Brazilian cities of Fortaleza, Aracaju and Uberaba. Participants were recruited and invited to participate in the survey through social networks and by contact with professional colleagues with the aim to gain access. When making contact with the participants, the snowball method was used, to identify other potential collaborators. Data collection took place from March 2015 to February 2016.

Ethical procedures, similar to Study 1, were performed, so that all participants signed the Terms of Free and Informed Consent form (TFIC).

Data Analysis Procedures

Following the psychometric sensitivity criteria, items with absolute asymmetry and kurtosis values of less than 3 and 7, respectively (Kline, 2004) were considered. Missing data were considered random (p> 0.05) and were allocated using the Expectation Maximization (EM) algorithm, estimated in SPSS. To evaluate the adjustment of the model adequacy, the Confirmatory Factorial Analysis (CFA) was performed using the Maximum Likelihood estimation method with the Analysis of Moments Structures program (AMOS, v. 22). For the evaluation of the quality of the model, the following indices were considered (Garson, 2012; Kline, 2004; Marôco, 2010): Chi-square statistics ratio by degrees of freedom (x2 / gl <2.0); goodness of fit index (GFI), adjusted goodness of fit index (AGFI), and comparative fit index (CFI), with values equal to or greater than 0.90 indicating a good fit. Root Mean Square Error of Approximation (RMSEA <0.08; p <0.05) and Standardized Root-Mean-Square-Residual

(SRMR <0.08) were also observed. In addition, the Expected Cross-Validation Index (ECVI) and the Consistent Akaike Information Criterion (CAIC) were used to assess the suitability of the competing models tested. Low ECVI and CAIC values indicate a model with better fit (Garson, 2012).

The indices of the initial general model, with 23 items and three correlated factors (Model 1) were tested with alternative models: Model 2 - Tri-factorial, consisting of 19 items and two pairs of correlated errors; Model 3 - Bi-factorial (19 items) and five pairs of correlated errors. The correlation between the errors was established according to the modification index (MI). The reliability/accuracy of Models 1, 2 and 3 was assessed using values of Cronbach's alpha and Composite Reliability (Fornell & Larcker, 1981).

Results

To test the factorial solution obtained in the exploratory factorial analysis of Study 1, an IHS CFA was performed. Initially, from the CFA of the three-factor structure proposed by Study 1, the overall adjustment of Model 1 revealed a poor fit of the 23 items of the IHS, and four items with saturations (Lambdas, λ) less than 0.30: item 6r (λ = 0.22); item 5 (λ = 0.16); item 16 (λ = 0.24); and item 18 (λ = 0.26). From these indices, Model 2 was tested, which only arrived at its adequate adjustment after the exclusion of these four items with below-expected saturations and correlations of measurement errors of two pairs of items: (a) items 1 and 7 (MI = 34.286), and (b) of items 5 and 9 (MI = 28.849). (See the description of items in Table 1). The adjustment indices for the three models tested are presented in Table 2.

Taking into account the high correlation between the dimensions "Public identification" and "Non-acceptance of sexual orientation" (r = 0.72), we chose to test Model 3 with a two-factor solution, grouping the items of those two dimensions. Thus, factor 1 was renamed "Internal Perception of Stigma" and the second was entitled "Perception of Social Oppression". This model revealed a satisfactory adjustment index, especially after the exclusion of four items with factor loads less than 0.30: item 6r (λ = 0.20); item 5 (λ = 0.18); item 16 (λ = 0.23); and item 18 (λ = 0.21), and re-specification of five correlation pairs between the measurement errors of the following items: (a) the items 19 and 3 (MI = 51.237), (b) items 23r and 12 (MI = 38.117), (c) items 25 and 1 (MI = 36.530), (d) items

19 and 26r (MI = 35.539); and (e) of items 10r and 11 (MI = 13.123).

Models 2 and 3 presented very close adjustment indices. But considering that the comparison indices (ECVI and CAIC) were somewhat lower in Model 3 and that a two-factor solution seems to be more prudent, we chose Model 3 as the most favorable for the evaluation of the IHS. Thus, the resultant two-factor structure adopted to evaluate internalized homophobia obtained the following indicators of adjustment for the data: χ^2 / gl = 1.817; GFI = 0.913; AGFI = 0.866; CFI = 0.901; RMSEA = 0.052; *p*RSMEA = 0.358; SRMR = 0.0637; CAIC = 560.709; and ECVI = 1.170. In this case, all λ were higher than 0.30, being statistically different from zero (λ # 0, p <0.005). Figure 1 shows the factorial structure of this model.

Internal consistency values were computed for each factor using Cronbach's alpha (α) and composite reliability, respectively: Internal Stigma Perception (α = 0.814, CC = 0.822) and Social Oppression Perception (α = 0.622, CC = 0.617).

Discussion

Study 2 sought to replicate the factorial solution of the previous study through confirmatory factorial analysis in order to gather evidence of validity and to verify the reliability/precision indexes of the Internalized Homophobia Scale (IHS). Although the replication of the three-factor model, suggested by the exploratory study, presented adequate adjustment indices, the explanatory model test suggests that Model 3, with a two-factor solution and consisting of 19 items, was more appropriate and prudent to measure internalized homophobia, presenting evidence of validity through internal structure analysis, as well as through the verification of reliability/accuracy indexes - even though 4 items were excluded because they presented low

saturations and did not explain internalized homophobia in practice.

It is noteworthy that the analysis of the present study confirm, but also diverge from, previous studies conducted in the USA and Portugal. For example, the two-factor solution found in the Brazilian sample contradicts Ross & Rosser (1996) and Costa et
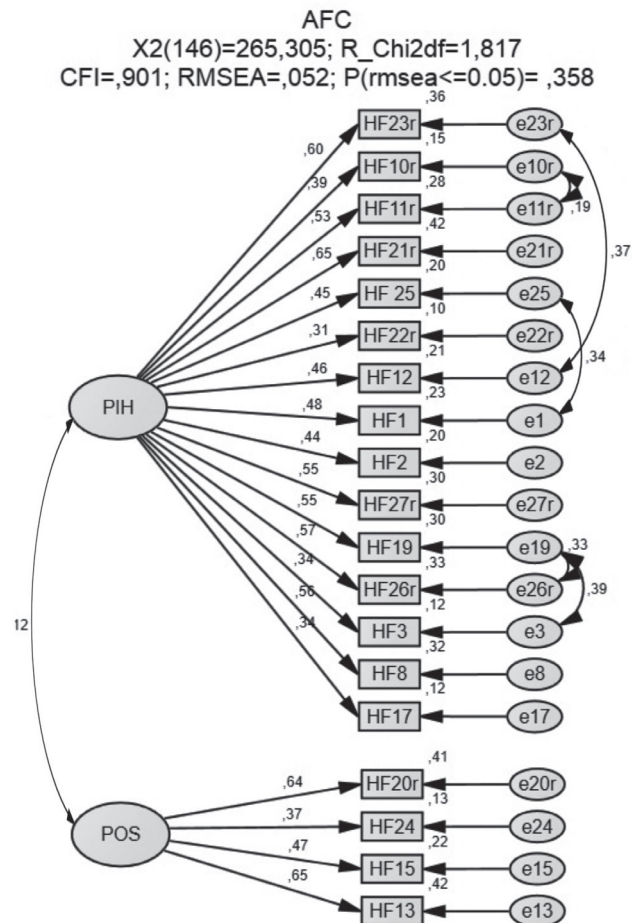

Figure 1. Hierarchical model of the Internalized Homophobia Scale.

Table 2.
Tested Model Adjustment Indexes

Models	χ^2 /gl	GFI	AGFI	CFI	RMSEA	SRMR	CAIC	ECVI
Model 1	2.281	0.868	0.840	0.782	0.065	0.0717	846.792	2.039
Model 2	1.932	0.905	0.878	0.886	0.056	0.0655	572.732	1.225
Model 3	1.817	0.913	0.886	0.901	0.052	0.0637	560.709	1.170

Note. Model 1 = 23 items and three correlated factors; Model 2 = 19 items and three correlated factors; Model 3 = 19 items and two correlated factors.

al. (2013), both with 4 and 3 factorial dimensions, respectively. However, it corroborates the hypothesis of a two-factor solution demonstrated by Pereira and Leal (2005). It is possible that the factorial differences found between the studies are explained by the lack of clarity in the separation of the dimensions "public identification of homosexuality", "social comfort" and "religious and moral acceptance of homosexuality". Therefore, based on the analyses of the two studies, it is suggested that the previously highlighted dimensions form part of a single "internal perception of stigma" factor. According to the literature, non-acceptance of sexual orientation, social discomfort and challenges in public identification may stimulate internal feelings of discomfort regarding sexual orientation, raising levels of internalized homophobia (e.g., Nguyen et al., 2016; Ross & Rosser, 1996).

In regard to the exclusion of the four items due to low saturations (items 5, 6, 16 and 18), Szymanski et al. (2001) had already criticized some of these items as being problematic and that they could threaten the validity of the instrument. For example, item 6 "I do not feel confident to 'make eyes at' a person of the same sex as myself," confuses internalized homophobia with self-esteem. The same logic can be followed for item 18 "I worry about not being attractive". In regard to item 5 (I do not feel confident to "make eyes at" a person of the same sex as myself), this, in turn, confuses internalized homophobia with difficulties of intimacy. It should be noted, however, that the removal of these items did not compromise the scale structure or the relationship between concept, construct and measure. On the contrary, the instrument composed of 19 items proved to be more prudent and the exclusion of items significantly improved the quality of the overall adjustment of the scale.

The good indices of internal consistency for the factor 'Internal perception of stigma' ($\alpha = 0.814$) and the borderline reliability value for the factor related to 'perception of social oppression' ($\alpha = 0.622$) was consistent with the results of previous studies (e.g., Costa et al., 2013). The number of items in the subscale "perception of social pressure" may have interfered with this boundary value of internal consistency. New studies should analyze the reliability/precision of the factor of perception of social oppression and include more items that capture the phenomenon investigated. Variation in scale items can also be improved by allowing greater variability in response options.

Another issue that arises is the need to investigate groups with a high awareness of stigma and engaged in the struggle for social rights. Even though the literature suggests that the consciousness of social oppression may lead LG people to expect rejection and social disapproval, with possible impairment in their physical and psychological health (Strizzi et al., 2016), the perception of stigma can also raise group awareness and motivate people to fight for social justice (Pinel, 1999). Remaining on the question of the perception of social oppression, theorists advocate the idea that IH and the perception of social oppression are different constructs and should be measured separately (e.g., Pucktte et al., 2017).

Final considerations

This article sought evidence of the validity of the Internalized Homophobia Scale (IHS) for Brazilian gays and lesbians. For this, the IHS was examined from two studies: (1) Evidence of validity based on content and internal structure (through analysis of the main components), as well as verifying the reliability/accuracy indexes of a sample of 261 participants; and (2) Evidence of validity based on the internal structure (through confirmatory factorial analysis) and reliability/accuracy indexes were also sought in 303 LGB individuals. After these analyses, the two-factor model, composed of 19 items, proved to be the most appropriate solution to measure internalized homophobia. The first factor called 'Internal Stigma Perception', consisting of 15 items, addresses issues that refer to public identification as homosexual, social discomfort with LGB people, moral condemnation of homosexuality and non-acceptance of sexual orientation. The second factor, 'Perception of Social Oppression', composed of four items, reflects on the conscious perception that LG people have about the disapproval or the stereotypes based on their sexual orientation.

In spite of significant advances and discoveries, some limits were necessary in this study and should to be considered: firstly, the sample was predominantly composed of middle-class, educated people, recruited in urban areas and who maintained a stable marital relationship; which prevents us from making generalizations about gays and lesbians on the whole. In addition, this sample profile may presumably indicate that such persons would have lower internalized homophobia levels, limiting the variation in scoring of items on the scale, which may affect the accuracy of the estimated

correlations with their statistical significance. Future studies should use other recruitment methods to target population segments not considered here. Another question concerns the age range of this sample.

It is recognized that the testing of the instrument on adolescents and the elderly could lead to a different structuring, since the level of internalized homophobia may be higher in young people still living through a phase of confirmation of sexual identity, or even for older LGB people who have lived through a time of great social oppression in relation to homophobia.

Despite these limitations, there are some strengths in the present study that should be emphasized. First, the recruitment of samples was performed in different regions of Brazil, increasing its representativeness. In addition, as far as we know, this study is the first to seek evidence of validity of the Internalized Homophobia Scale in Brazil. This research also expands the psychometric qualities of the IHS, gathering evidence of validity based on the internal structure, through exploratory and confirmatory analysis strategies to define grouping of test items. In addition, the evaluation of the psychometric qualities of the IHS in Brazil can be an important strategy to assist social scientists and health professionals in the identification and evaluation of the risks that are involved in the life and psychosocial development of sexual minorities, as well as to point out proposals for prevention and therapeutic intervention.

References

Berg, R. C., Munthe-Kaas, H. M., & Ross, M. W. (2016). Internalized homonegativity: A systematic mapping review of empirical research. *Journal of homosexuality*, *63*(4), 541-558. http://dx.doi.org/10.1080/00918369.2015.1083788

Bryman, A., & Cramer, D. (2011). *Quantitative data analysis with IBM SPSS 17, 18 and 19*. Routledge.

Costa, P. A., Pereira, H., & Leal, I. (2013). Internalized homonegativity, disclosure, and acceptance of sexual orientation in a sample of Portuguese gay and bisexual men, and lesbian and bisexual women. *Journal of Bisexuality*, *13*(2), 229-244. http://dx.doi.org/10.1080/15299716.2013.782481

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39-50. doi: 10.2307/3151312

Frost, D. M., & Meyer, I. H. (2009). Internalized homophobia and relationship quality among lesbians, gay men, and bisexuals. *Journal of counseling psychology*, *56*(1), 97. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2678796/

Garson, G. D. (2012). Structural Equation Modeling. Asheboro, NC: Statistical.

Herrick, A. L., Stall, R., Chmiel, J. S., Guadamuz, T. E., Penniman, T., Shoptaw, S., ... & Plankey, M. W. (2013). It gets better: resolution of internalized homophobia over time and associations with positive health outcomes among MSM. *AIDS and Behavior*, *17*(4), 1423-1430. doi: 10.1007/s10461-012-0392-x

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. Psychometrika, 30, 179-185. doi: 10.1007/BF02289447

Kline, R. B. (2004). *Principles and practice of structural equation modeling* (2nd ed.). New York: The Guilford Press.

Kosciw, J. G., Palmer, N. A., & Kull, R. M. (2015). Reflecting resiliency: Openness about sexual orientation and/or gender identity and its relationship to well-being and educational outcomes for LGBT students. *American journal of community psychology*, *55*(1-2), 167-178. doi: 10.1007/s10464-014-9642-6.

Livingston, N. A., Heck, N. C., Flentje, A., Gleason, H., Oost, K. M., & Cochran, B. N. (2015). Sexual minority stress and suicide risk: Identifying resilience through personality profile analysis. *Psychology of Sexual Orientation and Gender Diversity*, *2*(3), 321. http://dx.doi.org/10.1037/sgd0000116.

Lyons, A. (2015). Resilience in lesbians and gay men: A review and key findings from a nationwide Australian survey. *Int Rev Psychiatry, 29*, 1–9. doi:10.3109/09540261.2015.1051517.

Marôco, J. (2010). *Análise de equações estruturais. Fundamentos teóricos, software & aplicações*. Pêro Pinheiro, Portugal: Report Number.

Marôco, J. (2011). *Análise estatística com o SPSS Statistics* (5. ed.). Pêro Pinheiro, Portugal: Report Number.

Mereish, E., & Poteat, V. P. (2015). Effects of heterosexuals' direct and extended friendships with sexual minorities on their attitudes and behaviors: intergroup anxiety and attitude strength as mediators and moderators. *Journal of Applied*

Social Psychology, *45*(3), 147-157. http://dx.doi.org/10.1037/sgd0000121

Meyer, I., & Dean, L. (1998). Internalized homophobia, intimacy and sexual behavior among gay and bisexual men. In G. Herek (Ed.), *Stigma and sexual orientation* (pp. 160–186). Thousand Oaks, CA: Sage.

Newcomb, M. E., & Mustanski, B. (2011). Moderators of the relationship between internalized homophobia and risky sexual behavior in men who have sex with men: A meta analysis. *Archives of Sexual Behavior*, 40, 189–199. doi: 10.1007/s10508-009-9573-8

Nguyen, T. Q., Poteat, T., Bandeen-Roche, K., German, D., Nguyen, Y. H., Vu, L. K. C., ... & Knowlton, A. R. (2016). The Internalized Homophobia Scale for Vietnamese Sexual Minority Women: Conceptualization, Factor Structure, Reliability, and Associations With Hypothesized Correlates. *Archives of sexual behavior*, *45*(6), 1329-1346. doi 10.1007/s10508-016-0694-6

Pereira, H., & Leal, I. (2005). Medindo a homofobia internalizada: A validação de um instrumento [Measuring internalized homophobia: Validation of an instrument]. *Análise Psicológica*, 3, 323–328. http://www.scielo.mec.pt/scielo.php?script=sci_arttext&pid=S087082312005000300011&lng=pt&tlng=pt

Peterson, T. L., & Gerrity, D. A. (2006). Internalized homophobia, lesbian identity development and self-esteem in undergraduate women. *Journal of Homosexuality*, 50(4), 49–75. http://dx.doi.org/10.1300/J082v50n04_03

Pinel, E. C. (1999). Stigma consciousness: the psychological legacy of social stereotypes. *Journal of Personality and Social Psychology*, 76(1), 114–128. https://www.ncbi.nlm.nih.gov/pubmed/9972557

Puckett, J.A., Newcomb, M.E., Ryan, D.T. et al. (2017). Internalized Homophobia and Perceived Stigma: a Validation Study of Stigma Measures in a Sample of Young Men who Have Sex with Men. *Sex Res Soc Policy*, 14 (1), 1-16. doi:10.1007/s13178-016-0258-5

Rosario, M., Schrimshaw, E. W., Hunter, J., & Gwadz, M. (2002). Gay related stress and emotional distress among gay, lesbian, and bisexual youths: A longitudinal examination. *Journal of Consulting and Clinical Psychology*, 70, 967–975. http://dx.doi.org/10.1037/0022-006X.70.4.967

Ross, M. W., & Rosser, B. R. S. (1996). Measurement and Correlates of Internalized Homophobia: a Factor Analytic Study. *Journal of Clinical Psychology*, 52(1), 15-21. doi: 10.1002/(SICI)1097-4679(199601)52:1<15::AID-JCLP2>3.0.CO;2-V

Strizzi, J., Fernández-Agis, I., Parrón-Carreño, T., & Alarcón-Rodríguez, R. (2016). Enacted sexual stigma, stigma consciousness, and subjective happiness scale adaptation: a two-country study. *Journal of interpersonal violence*, *31*(2), 316-338. doi: 10.1177/0886260514555372

Szymanski, D. M., Chung, Y. B., & Balsam, K. (2001). Psychological correlates of internalized homophobia in lesbians. *Measurement and Evaluation in Counseling and Development*, 34, 27–38. https://search.proquest.com/openview/25f94d33b386b226db6822abe1ce615f/1?pq-origsite=gscholar&cbl=34423

Wight, R. G., LeBlanc, A. J., & Badgett, M. V. (2013). Same-sex legal marriage and psychological well-being: findings from the California Health Interview Survey. *American Journal of Public Health*, 103(2), 339-346. doi:10.2105/AJPH.2012.301113

Williamson, I. R. (2000). Internalized homophobia and health issues affecting lesbians and gay men. *Health Education Research*, 15, 97–107. doi: https://doi.org/10.1093/her/15.1.97

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