

## Beliefs Toward Cure of Homosexuality Scale: Evidence for Factor Structure

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### Abstract

This study aimed to confirm the multifactorial structure of the Beliefs Toward Cure of Homosexuality Scale (BTCBS) – (ECCH in Portuguese) and to verify evidence of its validity based on external variables. To this end, two studies were carried out. In *Study 1*, there were 214 university students, with an average age of 24 years (SD = 9.15). These students answered the HCBS and demographic questions. The results indicated a satisfactory fit for multifactorial modeling. *Study 2*, in turn, presented 430 university students with an average age of 23 years (SD = 7.90). In addition to the HCBS, the participants responded to the measures of sexual prejudice (MSP) and attitudes towards gays and lesbians (ATGL) questionnaires. Performing correlation analyses between the variables, we found significant correlations between the HCBS and the MSP and ATGL. In conclusion, the HCBS presented an adequate data-model fit for its multifactorial structure and evidence for its validity based on external variables.

*Keywords:* Curing homosexuality; structure; validation; factorial

### Escala de Crenças sobre a Cura da Homossexualidade: Evidências para a Estrutura Fatorial

#### Resumo

Este estudo objetivou confirmar a estrutura multifatorial da Escala de Crenças sobre a Cura da Homossexualidade (ECCH) e verificar evidências de validade baseada em variáveis externas. Para tal, foram realizados dois estudos. No Estudo 1 contou-se com 214 estudantes universitários, com uma média de idade de 24 anos (DP = 9,15). Estes responderam a ECCH e a perguntas demográficas. Os resultados indicaram um ajuste satisfatório do modelo multifatorial. O Estudo 2, por sua vez, contou com a participação de 430 estudantes universitários com uma média de idade de 23 anos (DP = 7,90). Além da ECCH, esses participantes responderam as medidas de preconceito sexual (EMPS) e atitudes frente a gays e lésbicas (EMAFGL). Mediante a realização de análises de correlação entre as variáveis foi possível constatar correlações significativas da ECCH com as dimensões da EMPS e EMAFGL. Conclui-se, que a ECCH apresenta bons indicadores de ajuste do modelo multifatorial e evidências de validade baseada em variáveis externas.

*Palavras-chave:* cura da homossexualidade, estrutura, validade, fatorial

### Escala de Creencias sobre la Cura de la Homosexualidad: Prueba de la Estructura Factorial

#### Resumen

Este estudio objetivó confirmar la estructura multifactor de la Escala de Creencias sobre la Cura de la Homosexualidad (ECCH) y verificar evidencias de validez basadas en variables externas. Para ello, fueron realizados dos estudios. En el estudio 1 participaron 214 estudiantes universitarios, con una edad media de 24 años (DS = 9,15). Estos respondieron la ECCH y a las preguntas demográficas. Los resultados indicaron un ajuste satisfactorio del modelo multifactorial. El estudio 2, por su parte, contó con la participación de 430 estudiantes universitarios con una edad media de 23 años (DS = 7,90). Además de la ECCH, los participantes contestaron las medidas de prejuicio sexual (EMPS) y actitudes frente a gays y lesbianas (ATGL). Mediante la realización de análisis de correlación entre las variables fue posible constatar correlaciones significativas de la ECCH con las dimensiones de la EMPS y ATGL. Se concluye, que la ECCH presenta buenos índices de ajuste del modelo multifactorial y evidencias de validez basadas en variables externas.

*Palabras clave:* Cura de la homosexualidad; estructura; validez; factorial

In discussing human sexuality, the medical and psychological sciences have historically assumed that heterosexuality was the only normal and healthy sexual pattern. This perspective, which condemned non-heterosexual sexual orientations to a place of deviation, madness, and contempt, was officially assumed by both psychology and psychiatry during much of the twentieth century. This position was present (notably) in the first editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM) of the American Psychological Association (APA) (Aragusuku & Lara, 2019). Thus, models were developed in order to “treat” and “cure” sexual orientations that escaped the heteronormative pattern, and which were therefore associated with perversions, sexual deviations and pathologies (Macedo & Sívori, 2019).

Over time, professionals in Psychology and Medicine gradually came to recognize that homosexuality does not constitute pathology, but rather a form of sexual identity and orientation that cannot be cured through sexual reversal treatments. Based on this premise, the Brazilian Federal Council of Medicine and the World Health Organization (WHO) in 1985 removed homosexuality from the disease classification. In a similar direction, the Federal Council of Psychology (Brazilian) in 1999 prohibited, based on a specific resolution (Federal Council of Psychology [CFP], 1999), that psychology professionals carry out any type of practice aimed at curing homosexuality (Magalhães & Ribeiro, 2015).

Currently, we see growing visibility and access for the LGBT + community (Lesbians, Gays, Bisexuals and Transvestites, Transsexuals and Transgenders ...) <sup>1</sup> to certain civil rights, such as the recognition of civil unions and the possibility of adoptions by two people of the same sex (Freires, 2015; Meletti, & Scorsolini-Comin, 2015).

However, even with the achievement of several rights, prejudice and discrimination based on sexual orientation persist, making this group a recurring target of stigmatization and the most diverse forms of social exclusion (Soares, 2018). In this sense, even with establishment of the aforementioned resolutions and the achievement of rights, there are still

obstacles to the realization of equality for the LGBT + community. Given this scenario, we see the return of discussions focused on the treatment of homosexuality through the PDC 234/2011 project, with the proposal that homosexuality should be perceived by professionals in psychology as a pathology subject to treatment. In 2013, the project called “gay cure” was approved by the Human Rights and Minorities Commission (HRMC), under the presidency of evangelical pastor Marco Feliciano, the project being shelved in July of the same year <sup>2</sup>.

However, in 2017, Judge Waldemar Claudio de Carvalho granted an injunction that legally authorized psychology professionals to practice homosexuality reversal treatments. Together, alongside of this setback, we must consider that Brazil, according to international human rights agencies, is the country that “most often kills homosexuals and transsexuals”, even when compared to the 13 countries of the Middle East and Africa, where death penalties exist for people who are homosexual (Grupo Gay da Bahia [GGB], 2018).

Beliefs regarding the pathologization of homosexuality occur through negative attitudes towards individuals who are not in accordance with the heterosexist norm of a given culture (Herek, 2015; Whitley & Kite, 2016). Converging with this idea, Massey (2009) postulates that prejudice against homosexuals presents itself differently from other types of prejudice, having different configurations and origins, being polymorphic *polymorphous prejudice*, contemplating particularities, such as ideologies and certain structural conceptions involving these attitudes towards homosexuals (Freires, 2015). It is emphasized that prejudice against sexual minorities is not restricted to merely “individual dispositions”, but is configured as a product of historical, political, and cultural sources that establish normative dispositions regarding the behavior of individuals (Freires, Barbosa, Coelho, Santos, & Moizéis, 2017). <sup>2</sup>

Considering the above panorama, and with the assumption that the way people organize explanatory models for sexual and gender diversity has implications for the prejudice they manifest, Rezende, Gouveia, Moizéis, Silva and Nunes (2021) theorized that beliefs about the nature of homosexuality serve as a justification for both prejudice and stigmatized conceptions (Costa, Bandeira, & Nardi, 2015). Thus, based on the principle that such beliefs influence the way people react

<sup>1</sup> Sexual minorities are often referred to with different nomenclatures. In view of the variability of the acronyms used to refer to them, in the present study, it was decided to use the term LGBT +, which includes lesbian, gay, bisexual, transgender, transvestite, transsexual, asexual, pansexual, intersex people, non-binary and other minorities (Carvalho, Silva, Freire, Frazão, & Santos, 2018).

<sup>2</sup> I See access at: <https://www.huffpostbrasil.com/entry/cura-gay-stf-derruba-decisao>.

to minority groups, they proposed the *Beliefs Toward Cure of Homosexuality Scale (BTCHS)*.

Nevertheless, even though they had gathered evidence for factorial validity and internal consistency, the analyses carried out by the authors were restricted to exploratory procedures only, therefore it was not possible to make inferences concerning the quality and fit of the resultant model. In view of the above, this article aims to: (a) verify the adequacy of the theoretical model through the modeling of structural equations; (b) ascertain the internal consistency of the components; and finally, (c) establish the relationship between HCBS and external variables (sexual prejudice and attitudes towards gays and lesbians), being evidence of validity based on external variables. Before describing the two empirical studies, the Beliefs Toward Cure of Homosexuality Scale (BTCHS) will be presented.

#### *The Homosexuality is curable belief scale*

The BTCHS was proposed by Rezende et al. (2021) based on the theoretical premise that certain conceptions about the nature of homosexuality are based on scientific (both biological and psychological) and religious considerations that serve as a basis for the construction of stigmas in relation to the LGBT + community, and contributing to and legitimizing the adoption of discriminatory behaviors (Pereira, Pereira, & Monteiro, 2016). In other words, the authors of the HCBS assumed that such beliefs contribute to maintaining a fixed and immutable image of homosexuals, insofar as they emphasize an essentialist representation of homosexuals as having some biological or psychological abnormality, which drives them to violate the traditional values that support the status quo (Gato & Fontaine, 2016).

In this sense, in its final version the instrument consists of 20 items presented as phrases concerning beliefs related to the cure of homosexuality (e.g., It is possible for a homosexual person to change their sexual orientation through their faith in God), and being answered on a five-point scale (Likert model), ranging from 1 (*strongly agree*) to 5 (*strongly disagree*).

Seeking to find the psychometric parameters for this measurement, the authors applied it to a sample of 225 university students, aged between 18 and 59 years old, being most of them female (68.5%). The items' discriminative power was initially assessed, with all items presenting significant discriminative power ( $p < 0.05$ ). Principal component analysis (PCA) was then performed, without fixing the number of components or the type of rotation.

The results demonstrated that all of the criteria (Kaiser, Cattell and Horn) suggest a factorial structure formed of five components. The authors then performed a new PCA, fixing the five components' extraction and adopting the *varimax* rotation. The scale explained 81.76% of the total variance, with internal consistency coefficients (Cronbach's alpha) ranging from 0.92 (*religious beliefs*) to 0.95 (*psychological beliefs*). The scale also presented evidence of validity related to external variables, through correlations with the dimension of negative representation of gays and lesbians, and of discrimination, for not presenting significant correlation for social desirability.

In this sense, Rezende et al. (2021) identified the scale components as follows: *religious beliefs* (the idea that homosexuality is a sin, being necessary to promote its cure through faith), *moral beliefs* (the idea that homosexuality requires cure, as it represents a transgression of the moral values of society), *biological beliefs* the idea that homosexuality is the result of a genetic malformation, and treatments for its cure should be promoted, *psychosocial beliefs* focused on the conception that homosexuality represents a form of affective and sexual expression, not being necessary to cure it, and finally, *psychological beliefs* the idea that homosexuality needs to be treated, as it is a consequence of psychological trauma suffered in childhood.

#### Study 1. HCBS: Confirmatory Factor Analysis

This first study aimed to prove the appropriateness of the HCBS multifactorial structure. the theoretical assumptions adopted by Rezende et al. (2021). was compared with a uni-factorial structure (all items saturating a general belief factor), and checked for its internal consistency (Cronbach's alpha). Specifically, it was intended to investigate HCBS's factorial structure of using Confirmatory Factor Analysis (CFA), since this procedure allows a more robust conclusion for factorial validity. indicating how the empirical data fit with the proposed theoretical model.

### **Method**

#### *Sample*

214 students from a public educational institution in João Pessoa (PB) participated in the study, with a mean age of 24 years (SD = 9.15; ranging from 18 to 69 years). The majority indicated that they were female (76.6%), middle class (49.1%), heterosexual (81%), and considered themselves to be moderately religious (41.8%).

All were selected using non-probabilistic sampling techniques, according to the researcher's convenience, considering as inclusion criteria to be at least 18 years of age and agree to voluntarily participate in the study.

#### *Instrument*

In addition to demographic criteria (gender, age, social class, marital status), the scale of beliefs about a cure for homosexuality (HCBS) was used, which consists of 20 items, distributed in a structure formed from five components, namely: Biological beliefs (e.g., *It is possible to change the sexual orientation of a homosexual person, as it is due to hormonal dysfunctions*;  $\alpha = 0.96$ ), Religious beliefs (e.g., *It is possible for a homosexual person to change his sexual orientation through his faith in god*;  $\alpha = 0.95$ ), Psychological beliefs (e.g., *Homosexuality is the result of trauma suffered during childhood, and therefore requires psychological treatment*;  $\alpha = 0.92$ ), Psychosocial beliefs (e.g., *Homosexuality expresses the individual's identity, requiring no treatment*;  $\alpha = 0.93$ ) and Moral beliefs (e.g., *It is necessary to cure homosexual people to preserve family values*;  $\alpha = 0.95$ ). The participants informed their level of agreement with the proposed assertions, on a Likert model scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree).

#### *Procedures and Ethical Aspects*

The project was submitted to the Ethics Committee of Plataforma Brasil (CCAE n° 18892719.60000.5188), receiving a favorable opinion (Opinion n° 3,614,991). Thus, fulfilling the ethical aspects in research with human beings (Resolution CNS / MS n° 510/16). The questionnaires were applied in a (public) higher education institution in João Pessoa (PB), with the collaboration of two properly trained research assistants; who briefly explained the objectives of the research, and remained in the classrooms to resolve any doubts. In this case, data collection took place in the collective classroom context, but the instruments were answered individually. Participants were informed about voluntary participation, the guarantee of anonymity, confidentiality of their responses, and the possibility of withdrawing from the study without any penalty. Those who decided to participate signed an informed consent form. On average, 20 minutes were used to complete the participation.

#### *Data analysis*

The R program (version 3.3.2; Development Core Team, 2015) was used to analyze the data. In the case of confirmatory factor analysis (CFA), the Lavaan package

(Rosseel, 2012) was used, with the covariance matrix as input and adopting the Robust Maximum Likelihood estimator. The following fit indicators were considered (Brown, 2015): (a) chi-square ratio for degrees of freedom ( $\chi^2 / gl$ ), assuming values between 2 and 3 as recommended, accepting up to 5; (b) the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI), accepting values equal to or greater than 0.90, (c) the Standardized Root Mean Square Residual (SRMR), admitting as 'fit' a model with a value below 0.08, and Root Mean Square Error Approximation (RMSEA), whose recommended values are between 0.05 and 0.08, assuming up to 0.10. For analysis of composite reliability (CR) and extracted average variance (EMV), the calculation developed by Gouveia and Soares (2015) was used.

## **Results**

Initially, the uni-factorial model (M1) was tested, in which a general factor for beliefs was explained through the 20 items of the instrument. The good fit indicators of the model [ $\chi^2(170) = 439.47$ ; CFI = 0.62; TLI = 0.58; SRMR = 0.124; RMSEA = 0.18] pointed to the inadequacy of this one-dimensional structure. Subsequently, model 2 was tested, which provided a multifactorial structure, with the items saturating in each of the five distinct components. The results of the second model revealed an adequate adjustment [ $\chi^2(160) = 317.13$ ; CFI = 0.95; TLI = 0.94; SRMR = 0.053; RMSEA = 0.06].

In view of the results, it was clear that M1 should be disregarded, since its fit indicators were inadequate (e.g., CFI = 0.62 and TLI = 0.58). When the two were compared, the multifactorial model was statistically more adequate [ $\Delta\chi^2(10) = 168.12$ ;  $p < 0.001$ ]. It was also demonstrated that saturation of this model (lambda  $\lambda$ ) was significant - different from zero ( $\lambda \neq 0$ ;  $z > 1.96$ ;  $p < 0.05$ ). In Figure 1, it is possible to observe the structure with better adjustment indicators (M2).

Therefore, we sought to gather complementary evidence of the construct validity and precision. The components' Cronbach alphas ranged from 0.87 (psychological beliefs) to 0.93 (religious beliefs), as can be seen in Table 1.

Further, in accordance with Table 1, similar results were found for composite reliability, whose coefficients ranged from 0.88 to 0.93. In the case of the extracted average variance (EMV), the model's validity based on external variables was also evidenced, since all indexes were higher than 0.66. However, taking into account

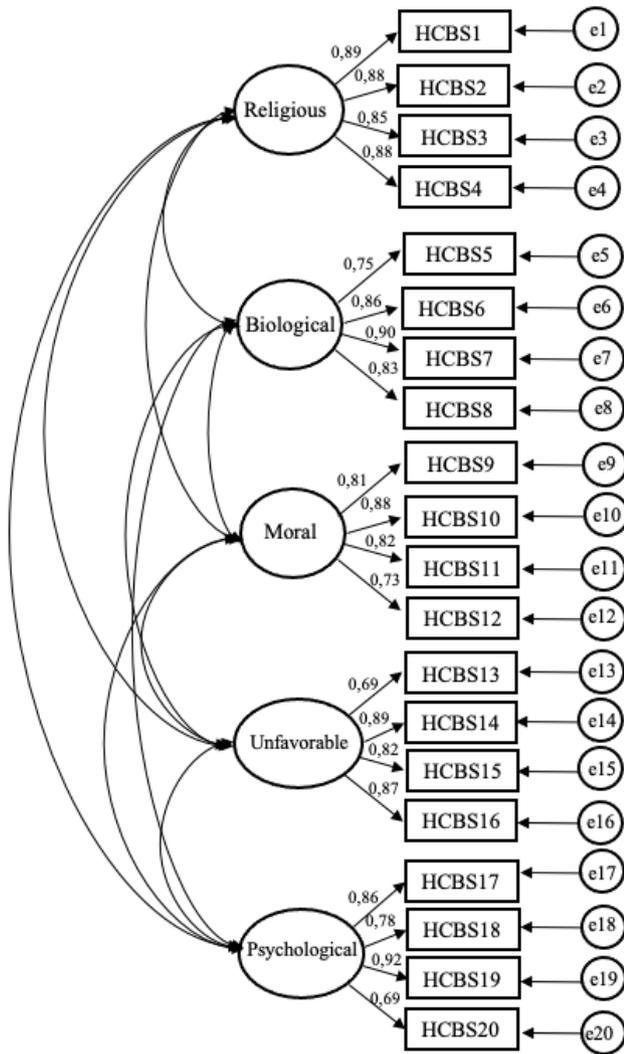


Figure 1. Multifactorial Model of the Beliefs Toward Cure of Homosexuality Scale (BTCHS)

criticisms that the EMV has been receiving lately by researchers as a convergent validity measure (Valentini & Damásio, 2016), it was decided to investigate this type of validity by comparing HCBS with other theoretically related measures, such as *sexual prejudice* and *attitudes towards gays and lesbians*. In this sense, it was considered pertinent to carry out a complementary study, which is described below.

**Study 2. Evidence of validity based on variables external to the HCBS**

This study sought to gather more evidence about the psychometric adequacy of HCBS, assessing the extent to which its dimensions are correlated with

Table 1. Evidence of accuracy for the HCBS

Components	$\alpha$	CR	EAV
Religious	0.93	0.93	0.77
Morals	0.88	0.88	0.66
Biological	0.90	0.90	0.70
Psychosocial	0.90	0.89	0.68
Psychological	0.87	0.88	0.66

Note.  $\alpha$  = Cronbach's alpha; CR = composite reliability; and VEM = extracted average variance.

the *sexual prejudice* and *attitudes towards gays and lesbians* scale components.

**Method**

*Participants*

430 university students from a public institution in João Pessoa (PB) participated. These had an average age of 23.5 years (SD = 7.90; ranging from 18 to 69 years), most were female (72.5%), heterosexual (80.1%), and perceiving themselves as middle class (47.8%). It was a convenience sample, with the participation of people who, being present in the classroom, voluntarily accepted to do the survey.

*Instruments and Procedure*

The same procedure as described in Study 1 was followed, with participants, as in this study, answering a booklet containing the HCBS and demographic questions, in addition to the following measures:

The *Multidimensional Sexual Prejudice Scale* (MSP) proposed by Massey (2009), consisting of 70 items, distributed in seven dimensions was used. However, the version used was adapted by Freires et al. (2019), consisting then of 35 items equally distributed in five dimensions, namely: Heterosexism (e.g., *Homosexual behavior between two men is simply wrong*;  $\alpha = 0.97$ ), Aversion to homosexuals (e.g., *I would be upset if I found out that I was alone with a gay*;  $\alpha = 0.94$ ), Positive beliefs towards homosexuals (e.g., *Heterosexual men have a lot to learn from gays about fashion*;  $\alpha = 0.89$ ), Heteronormativity (e.g., *I feel limited by the gender label that people attribute to me*;  $\alpha = 0.91$ ), and Denial of discrimination (e.g., *Discrimination against gays and lesbians is no longer a problem in Brazil*  $\alpha = 0.49$ ). Items were answered on a seven-point scale; ranging from 1 = *Strongly disagree* to 7 = *Strongly agree*. The internal consistency of the scale was 0.75.

*Multidimensional Scale of Attitudes towards Gays and Lesbians* (ATGL). Originally developed by Gato, Fontaine and Leme (2014), consists of 27 items distributed among four factors: Homopathologization (e.g., *Homosexuality is a psychological disorder*;  $\alpha = 0.82$ ), Rejection of proximity (e.g., *I feel that you cannot trust a person who is homosexual*;  $\alpha = 0.84$ ), Modern heterosexism (e.g., *When I hear about a loving relationship, I assume that they are two people of the opposite sex*;  $\alpha = 0.82$ ), and Support (e.g., *I see the gay movement as positive*;  $\alpha = 0.83$ ). Participants were asked to express their opinion on a Likert scale ranging from 1 (*Strongly disagree*) to 6 (*Strongly agree*). In this study, the internal consistency measure (Cronbach alpha) was 0.71.

#### Data analysis

The R program (version 3.3.2; R Development Core Team, 2015) was used for data analysis. In addition to descriptive statistics (frequency, mean, standard deviation), Cronbach's alpha, and Pearson's r correlation coefficients for the HCBS components were calculated together with the other criterion variables.

## Results

As previously mentioned, the correlations of the HCBS components with the MSP and ATGL dimensions were calculated, evidences of validity

based on external variables were observed, as shown in Table 2 below.

From what is shown in Table 2, it is possible to verify that the variables presented relations in the expected direction. Specifically, the correlations for sexual prejudice (MSP), assessed from the dimensions of the corresponding measure, were mostly significant and positive ( $p < 0.05$ ) with the belief set, except for the psychosocial beliefs that showed an inverse and significant relationship ( $p < 0.05$ ). With regard to attitudes towards gays and lesbians (ATGL) it is noted that its dimensions were mostly positive and significant ( $p < 0.05$ ) with the belief set, and negatively with psychosocial beliefs.

In general, it is possible to verify through these data that in addition to the manifestation of cognitive, affective, and behavioral components around prejudice against sexual minorities, there are cultural and political components that subsidize ideologies of oppression and violence against non-heterosexual people, for example, phenomena such as heteronormativity, heterosexism, and endorsement of negative beliefs towards gays and lesbians.

## Discussion

This article focused on confirming the procedures of the HCBS multifactorial structure, through

Table 2.

*Evidence for validity of the HCBS based on external variables*

	Biological	Religious	Psychological	Psychosocial	Moral
<b>Sexual Prejudice</b>					
Heterosexism	0.51**	0.78**	0.64**	-0.77**	0.55**
Aversion to homosexuals	0.49**	0.30**	0.43**	-0.44**	0.48**
Positive beliefs about homosexuals	-0.04	-0.02	0.01	0.06	-0.02
Resistance to heteronormativity	-0.15**	-0.33**	-0.28**	0.35**	-0.19**
Denial of discrimination	0.38**	0.38**	0.46**	-0.40**	0.39**
<b>Attitudes about Gays and Lesbians</b>					
Proximity rejection	0.52**	0.55**	0.59**	-0.63**	0.55**
Homopathologization	0.62**	0.69**	0.72**	-0.73**	0.64**
Modern Heterosexism	0.52**	0.71**	0.65**	-0.70**	0.54**
Support	-0.50**	-0.63**	-0.60**	0.69**	-0.50**

Note \*\*  $p < 0.001$ ; \*  $p < 0.05$

comparison with a single factor structure. In addition, in order to gather evidences of validity based on external variables, correlations between HCBS components and factors from the *sexual prejudice* and *attitudes towards gays and lesbians* scales were correlated. For didactic purposes, the confirmation of the HCBS structure will be initially discussed, and, subsequently, evidence of validity based on external variables. Finally, limitations of the study in question and future directions are noted.

#### *HCBS: Confirmatory analysis*

The CFA indicators pointed to the fit and adequacy of the multifactorial model. The first indicator was the chi-square ratio for degrees of freedom ( $\chi^2 / gl$ ), which assessed the fit of the theoretical model to the data. The CFI, in turn, evaluated whether all latent variables were uncorrelated, comparing the sample's covariance matrix with the null model. The index presents values that vary from 0 to 1; values above 0.90 are indicative of an adequate measure (Brown, 2015).

Additionally, the TLI was calculated, which is an index presenting features that compensate for the effect of the model's complexity; it also includes a penalty function for adding estimated parameters that significantly improve the model. In this sense, since the coefficients found were greater than 0.90, the adequacy of the multifactorial model was confirmed (Cangur & Ercan, 2015). The RMSEA, which corresponds to a population discrepancy measure, evaluated whether the model found was "approximately" the most correct, when compared to the adjustment that would be obtained in population parameters. Values below 0.08 suggest that the model is appropriate (Kenny, Kaniskan, & McCoach, 2015).

$\Delta\chi^2$  is an indicator that is generally used to assess the suitability of one model in relation to another. Low values for this indicator express the most viable model for the population (Marôco, 2014). Within the scope of this article, the five component model presented the best adjustment. The factor weights of this model were also evaluated, and were statistically different from zero, suggesting factorial validity.

With regard to the extracted average variance (EMV) and composite reliability (CR) indices, they brought further evidence concerning the scale's construct validity. The EMV corresponds to how much the construct explains the set of items, since it reflects the total amount of indicator variance explained by the latent variable, with a value of 0.50 indicating validity based on external variables. The indicators found

were greater than 0.60, considered meritorious (Fornell & Larcker, 1981). Composite reliability, in turn, is a complementary measure accuracy indicator, providing information as to whether latent constructs are consistent in their measurements. The values found in this research were higher than recommended by the literature (0.70; Hair, Hult, Ringle, & Sarstedt, 2016), suggesting internal consistency.

In addition to the aforementioned technical aspects, it is appropriate to confirm that the HCBS multifactorial model does indeed find coherence with the theoretical assumptions adopted by Rezende et al. (2021). In this regard, Pasquali (2010) himself understood that among the problems associated with psychological measures, that a weak point is systematization of the phenomenon, suggesting that with a cohesive theoretical foundation, it would be possible to define the construct operationally.

The model found in this article fits the theoretical premise (Cerqueira-Santos, Santos, Salles, Longo, & Teodoro, 2007; Lacerda, Pereira, & Camino, 2002; Pereira, Monteiro, & Camino, 2009; Pereira, Dia, Lima, & Souza, 2017) that HCBS items can be organized into five hypothetical dimensions, as nominated *religious beliefs* (based on the idea that homosexuality requires healing, as it is seen as a predisposition for sin and disobedience to what is believed to be the laws of God), *moral beliefs* (anchored in the idea that homosexuality needs to be cured, as it is characterized by a tendency to transgress moral values, including what is believed to be the value of morality and good manners); *psychological beliefs* (the notion that homosexuality needs some treatment or cure, since it is a consequence of traumatic situations experienced in childhood, such as sexual abuse or poor relationship with parental figures); *biological beliefs* (based on the notion that homosexuality needs to be cured, as it has essentially a genetic nature, which is inherited, and which manifests itself through hormonal dysfunctions); and finally, *psychosocial beliefs* (representing a notion that homosexuality does not need treatment or cure, since it concerns only an expression of human sexuality).

#### *Evidence of validity based on external variables*

The relationships between the MSP and ATGL dimensions and the belief sets held were consistent with the theoretical assumptions (Costa & Nardi, 2015; Herek, 2015; Massey, 2009; Utamsingh, Richman, Martin, Lattanner, & Chaikind, 2016). As expected, heterosexism correlated positively with the belief that homosexuality needs healing. The relationships revealed

heterosexism as an ideological system of beliefs and values that denies and stigmatizes any non-heterosexual form of behavior (Szymanski & Mikorski, 2016).

In other words, heterosexism is a socially shared system of norms whose structure is based on the differences between genders and that serves to legitimize the conception that homosexuals are “transgressors” of gender norms, since they do not act according to what is expected of individuals of their gender. On the other hand, there was a negative relationship between heterosexism and psychosocial beliefs, considering that individuals who believe that homosexuality is not a pathology tend not to endorse biased judgments that reinforce the view that heterosexuality is the only current standard to be followed (Costa & Nardi, 2015; Herek, 2015).

Further, it was found that the dimension “*Resistance to Heteronormativity*” was negatively related to favorable beliefs concerning curing homosexuality and positively to psychosocial beliefs. This result can be attributed to the premise that the more resistant to heteronormativity, the lower the endorsement of discriminatory conducts and practices that lead to the exclusion and pathologization of the LGBT + community. Herz and Johansson (2015) have highlighted that resistance to heteronormativity is characterized by the denial of heterosexuality as socially supreme, and individuals who present this resistance tend not to consider heterosexual relationships as the only standard for configuration of relationships. In the midst of this, individuals who are against this heteronormative pattern tend not to reproduce ideas such as the nuclear family model (formed only by a man and a woman), or gender sexual roles that typify homosexuality as a “deviant” form of behavior (Utamsingh et al., 2016).

The findings also indicated that *denial of discrimination* presents positive correlations with beliefs favorable to the cure of homosexuality, and dis-favorable to psychosocial beliefs. This relationship was expected, as people who believe in the concept that homosexuals should not be treated differently, conceiving them as equal or even superior, tend to think that there is no need for laws and public policies that support protection of such a group. However, at the same time that they present behaviors that are “contrary” to discrimination against homosexuals, they are also opposed to the claims of the group that it is the object of prejudice. The group assumes, a behavior contrary to movements that fight in defense of sexual minorities, and favorability to political entities that promote the return of “gay” healing (Cerqueira-Santos, Silva,

Santos, & Araújo, 2017; Santos, Araújo, Cerqueira-Santos, & Negreiros, 2018).

In the same sense, positive correlations for beliefs were identified with the dimensions of *aversion to homosexuals* and *rejection of proximity*, corroborating the theoretical assumption that individuals who believe that sexual behavior between two people of the same sex is wrong or that homosexual marriage is something “Abnormal”, tend also to believe that homosexuality represents a violation of social norms, to be cured or eradicated (Whitley & Kite, 2016). In a similar discussion, Herek (2015) proposed that one of the functions of prejudice towards sexual minorities named “experimental”, refers to negative attitudes on the part of individuals who have never had positive experiences or even contact with homosexuals, but they generalize their feelings to all subjects who have this sexual orientation, which reinforces their aversion towards gays and lesbians.

Among the other results found, it is also relevant to highlight the positive correlation between the set of beliefs and the *homopathologization* dimension. This dimension is characterized by positive attitudes towards the idea that homosexuality is a psychological disorder and that lesbians and gays should undergo therapy to change their sexual orientation. In other words, individuals who have the belief that homosexuality is the result of a genetic malformation or that it comes from a lack of faith in God, tend to present positions that favor a return to sexual reversion therapies (Mesquita, 2018).

Parallel to this discussion, Macedo and Sívori (2018) point out that there are currently, in several countries, health professionals who justify controversial positions about homosexuality based on personal and religious convictions. Specifically in Brazil, the most notorious case is that of “Christian psychologists” of evangelical affiliation who publicly defend their right to offer therapeutic assistance to reverse homosexuality. Within this context, it is important to emphasize that the discourse that supports the offer of such treatments, publicized as “gay cure”, defies the scientific consensus of Psychiatry and Psychology, which in the last decades of the 20th century abolished the classification of homosexuality as a pathology (Costa, Bandeira, & Nardi, 2015).

### Final Considerations and Future Directions

In view of the results, we conclude that the objectives of both studies were achieved, considering that

in the first study, through confirmatory factor analysis, it was possible to corroborate the multifactorial model as pointed out by Rezende et al. (2021), and in the second study, it was possible to gather evidence for validity based on external variables and their relationship with the HCBS.

Despite the findings, the studies discussed here are not without limitations. Certainly, the samples used, which were convenient, involving people who were present in the classroom and agreed to do so voluntarily, impose restrictions. University students are not a majority in Brazil, and being mainly young people from the middle socioeconomic class, including them in research in this country is not only a problem, it can produce uncertainties regarding the generalization and reproducibility of the findings (Hanel & Vione, 2016). This suggests that in future studies people from the general population of different age and minority groups (e.g., homosexuals, blacks) should be

There are also potential limitations when it comes to the HCBS psychometric parameters, which require further studies. For example, we focused only on internal consistency as an indicator of reliability, but it might be promising to check for evidence of temporal stability (test-retest). It may be equally useful to find evidence of its validity as based on external variables, which are similar to other instruments, such as the *scale of prejudice against sexual and gender diversity* (Costa et al., 2015) and *the motivations for responding without prejudice to homosexuals* (Gouveia, Athayde, Soares, Araújo, & Andrade, 2012).

With regard to future studies, it is important to note that this article is only an initial “step”. In this sense, it is important to think about research problems in which HCBS might be employed. One possibility would be to assess the mediating role of the symbolic threat in the relationship between beliefs about curing homosexuality and sexual prejudice. In this regard, a set of studies show that the perception of symbolic threat is positively related to prejudice, since this variable stems from the perception of differences between groups in relation to values, norms, and attitudes (Pereira & Souza, 2016; Uenal, 2016). Another possibility would be to investigate whether normative values would moderate the relationship between beliefs about curing homosexuality and orientation towards social dominance. This suggestion finds support in studies that show that normative values (e.g., tradition, religiosity, obedience) positively predict prejudice against various social groups (e.g., homosexuals, blacks; Freires, 2015; Gusmão et al., 2016).

## References

- Aragusuku, H. A., & Lara, M. F. A. (2019). Uma Análise Histórica da Resolução n 01/1999 do Conselho Federal de Psicologia: 20 Anos de Resistência à Patologização da Homossexualidade. *Psicologia: Ciência e Profissão*, *39*, 6-20. doi:10.1590/1982-3703003228652
- Cangur, S., & Ercan, I. (2015). Comparison of model fit indices used in structural equation modeling under multivariate normality. *Journal of Modern Applied Statistical Methods*, *14*, 152-167. doi: 10.22237/jmasm/1430453580
- Carvalho, V. P. S., Silva, M. A. S., Freires, M. S., Frazão, J. M., & Santos, S. C. (2018). Promoção de políticas de saúde para a população lgbt+: um Relato de experiência. *Revista Caravana - Diálogos entre Extensão e Sociedade*, *3*, 85-99.
- Cerqueira-Santos, E., Silva, B. D. B., Dos Santos, L., & Araújo, L. F. (2017). Contato interpessoal com homossexuais e crenças sobre a adoção homoparental. *Revista Subjetividades*, *17*, 87-100. doi: 10.5020/23590777.rs.v17i2.5991
- Cerqueira-Santos, E., Santos W., F., Salles, L. A., Longo, J. L., & Teodoro, M. (2007). Contato interpessoal e crenças sobre homossexualidade: Desenvolvimento de uma escala. *Interação em Psicologia*, *11*, 221-229. doi: 10.5380/psi.v11i2.6639
- Costa, A. B., Bandeira, D. R., & Nardi, H. C. (2015). Avaliação do preconceito contra diversidade sexual e de gênero: construção de um instrumento. *Estudos de Psicologia (Campinas)*, *32*, 163-172. doi: 10.1590/0103-166X2015000200002
- Freires, L. A. (2015). *Atitudes frente à homoparentalidade: Uma explicação a partir de variáveis explícitas e implícitas*. Tese de Doutorado. Departamento de Psicologia, Universidade Federal da Paraíba, João Pessoa, PB.
- Freires, L.A., Rezende, A.T., Loureto, G.D.L., Santos, W.S., Mendes, L.A.C., Gouveia, V.V. (2019). Escala Multidimensional de Preconceito Sexual: Propriedades Psicométricas para o Contexto Brasileiro. *Psicologia Ciência e Profissão*, *39*, 1-14.
- Freires, L. A., Barbosa, L.H.G.M., Coelho, G. L. H., Santos, L.C.O, & Moizeis, H. B. C (2017). O estudo das relações intergrupais no contexto dos grupos minoritários: resgatando perspectivas clássicas e

- atuais da psicologia social. In C. F. Lima, & C. E. Pimentel (Orgs.). *Revisitando a psicologia social* (pp. 94-124). Curitiba, PR: Juruá.
- Gato, J., & Fontaine, A. M. (2016). Attitudes toward adoption by same-sex couples: Effects of gender of the participant, sexual orientation of the couple, and gender of the child. *Journal of LGBT Family Studies*, *12*, 46-67. doi: 10.1080/1550428X.2015.1049771
- Gouveia, V. V., & Soares, A.K.S. (2015). *Calculadora de validade de construto (CVC)*. João Pessoa, PB: BNCS/Universidade Federal da Paraíba. Disponível em: <http://akssoares.com/psicometria/calculadora-EMV-e-cc>
- Gouveia, V. V., Athayde, R. A. A., Soares, A. K. S., Araújo, R. D. C. R., & de Andrade, J. M. (2012). Valores e motivações para responder sem preconceito frente a homossexuais. *Psicologia em Estudo*, *17*, 215-225. Disponível em: <http://www.scielo.br/pdf/pe/v17n2/v17n2a04.pdf>
- Gusmão, E. É. D. S., Nascimento, B. D. S., Gouveia, V. V., Moura, H. M. D., Monteiro, R. P., Ferreira Filho, L. G., & Costa, K. M. R. D. (2016). Valores humanos e atitudes homofóbicas flagrante e sutil. *Psico-USF*, *21*, 367-380. doi:10.1590/1413-82712016210213
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
- Hanel, P. H., & Vione, K. C. (2016). Do student samples provide an accurate estimate of the general public?. *PloS one*, *11*, 1-10. doi: 10.1371/journal.pone.0168354
- Herz, M., & Johansson, T. (2015). The normativity of the concept of heteronormativity. *Journal of Homosexuality*, *62*, 1009-1020. doi: 10.1080/00918369.2015.1021631
- Kenny, D. A., Kaniskan, B., & McCoach, D. B. (2015). The performance of RMSEA in models with small degrees of freedom. *Sociological Methods & Research*, *44*, 486-507. doi:10.1177/0049124114543236
- Lacerda, M., Pereira, C., & Camino, L. (2002). Um estudo sobre as formas de preconceito contra homossexuais na perspectiva das representações sociais. *Psicologia: reflexão e crítica*, *15*, 165-178. Disponível em: <http://www.scielo.br/pdf/%0D/prc/v15n1/a18v15n1.pdf>
- Macedo, C. M. R., & Sívori, H. F. (2018). Repatologizando a homossexualidade: a perspectiva de "psicólogos cristãos" brasileiros no século XXI. *Estudos e Pesquisas em Psicologia*, *18*, 1415-1436. Disponível em: <https://www.e-publicacoes.uerj.br/index.php/revispsi/article/viewFile/42242/29312>
- Macedo, C. M. R. D., & Sívori, H. F. (2019). The Sexual Diversity Debate in Brazilian Psychology: Professional Regulation at Stake. *Psicologia: Ciência e Profissão*, *39*, 88-102. doi:10.1590/1982-3703003228496
- Magalhães, J. C., & Ribeiro, P. R. C. (2015). Para além de um corpo transparente: investigando métodos e estratégias de esquadrihar o sujeito homossexual. *História, Ciências, Saúde (Manguinhos)*, *22*, 461-482. doi: 10.1590/S0104-59702014005000024
- Marôco, J. (2014). *Análise de equações estruturais: fundamentos teóricos, software e aplicações*. Pêro Pinheiro, Portugal: Report Number.
- Meletti, A. T., & Scorsolini-Comin, F. (2015). Conjugalidade e expectativas em relação à parentalidade em casais homossexuais. *Psicologia: Teoria e Prática*, *17*, 37-49. doi: 10.15348/1980-6906/psicologia.v17n1p37-49
- Mesquita, D. T. (2018). *Análise das concepções e práticas de psicólogas (as) frente às normativas do conselho federal de psicologia sobre diversidade sexual e de gênero*. Dissertação de Mestrado. Universidade Federal de Juiz de Fora. Disponível em: <https://repositorio.ufjf.br/jspui/bitstream/ufjf/6821/1/danieletrindademesquita.pdf>
- Pasquali, L. (2010). Testes referentes a construto: teoria e modelo de construção. In L. Pasquali (Ed.), *Instrumentação psicológica: Fundamentos e práticas* (pp. 165-198). Porto Alegre, RS: Artmed.
- Pereira, A. D. S. L. S., Dia, S. M. P. D. S., Lima, T. J. S. D., & Souza, L. E. C. D. (2017). As crenças sobre a homossexualidade e o preconceito contra homossexuais no ambiente de trabalho. *Temas em Psicologia*, *25*, 563-575. doi: 10.9788/TP2017.2-10
- Pereira, A., Monteiro, M. B., & Camino, L. (2009). Estudo da validação das escalas de crenças sobre a natureza da homossexualidade e de preconceito contra homossexuais. *Laboratório de Psicologia*, *7*, 21-32. doi: 10.14417/lp.683
- Pereira, A., Pereira, C. R., & Monteiro, M. B. (2016). Normative pressure to reduce prejudice against

- homosexuals: The buffering role of beliefs about the nature of homosexuality. *Personality and Individual Differences*, 96, 88-99. doi: 10.1016/j.paid.2016.02.042
- Pereira, C. R., & Souza, L. E. C. D. (2016). Fatores legitimadores da discriminação: Uma revisão teórica. *Psicologia: Teoria e Pesquisa*, 32, 1-10. doi:10.1590/0102-3772e322222
- Rezende, A. T., Gouveia, V. V., Moizéis, H. B. C., Silva, F. L., & Nunes, J. C. F. (2021). Escala de Crenças sobre a “Cura” da Homossexualidade (ECCH): desenvolvimento e evidências psicométricas. *Avances en Psicología Latinoamericana*, 39(1), 63-81.
- Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, 48, 1-36. doi:10.18637/jss.v048.i02
- Santos, J. V. D. O., Araújo, L. F. D., Cerqueira-Santos, E., & Negreiros, F. (2018). Conservadorismo, posicionamento político e preconceito contra casais adotivos homossexuais. *Estudos de Psicologia (Natal)*, 23, 57-66. doi:10.22491/1678-4669.20180007
- Soares, D. V. (2018). A condenação histórica da orientação sexual homossexual—as origens da discriminação à diversidade sexual humana: violações aos direitos sexuais—reflexos do Brasil Colônia ao Século XXI. *Hendu—Revista Latino-Americana de Direitos Humanos*, 7, 51-64.
- Szymanski, D. M., & Mikorski, R. (2016). External and internalized heterosexism, meaning in life, and psychological distress. *Psychology of Sexual Orientation and Gender Diversity*, 3, 265-274. doi:10.1037/sgd0000182
- Uenal, F. (2016). Disentangling Islamophobia: The differential effects of symbolic, realistic, and terroristic threat perceptions as mediators between social dominance orientation and Islamophobia. *Journal of Social and Political Psychology*, 4, 66-90. doi:10.5964/jspp.v4i1.463
- Utamsingh, P. D., Richman, L. S., Martin, J. L., Lattanner, M. R., & Chaikind, J. R. (2016). Heteronormativity and practitioner-patient interaction. *Health communication*, 31, 566-574. doi: 10.1080/10410236.2014.979975
- Whitley, B. E., Jr., & Kite, M. E. (2016). *Psychology of prejudice and discrimination*. Routledge.
- Gato, J., & Fontaine, A. M. (2016). Attitudes toward adoption by same-sex couples: Effects of gender of the participant, sexual orientation of the couple, and gender of the child. *Journal of LGBT Family Studies*, 12, 46-67. doi: 10.1080/1550428X.2015.1049771

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