Research report

Anti Bisexual Experiences Scale (ABES): Psychometric Validity Investigation for the Brazilian Context

Thaís de Castro Jury Arnoud¹, Marina Feijó, Clarissa Pinto Pizarro de Freitas Pontifícia Universidade Católica do Rio Grande do Sul – PUCRS, Porto Alegre-RS, Brasil Melanie Elyse Brewster

Universidade de Columbia, New York, EUA
Ângelo Brandelli Costa , Luísa Fernanda Habigzang
Pontifícia Universidade Católica do Rio Grande do Sul – PUCRS, Porto Alegre-RS, Brasil

ABSTRACT

Este estudo visou adaptar culturalmente a Escala de Experiências Anti-Bissexualidade ABES) para o contexto brasileiro e investigar sua validade psicométrica. A ABES é amplamente utilizada internacionalmente para avaliar experiências de binegatividade, que reflete estigma e discriminação enfrentados por bissexuais. O processo de adaptação seguiu procedimentos rigorosos, incluindo tradução, síntese, avaliação de especialistas, avaliação pelo público-alvo, retrotradução e um estudo piloto. A estrutura fatorial foi investigada por meio da Análise Exploratória de Grafos (AEG) e Análise Fatorial Confirmatória (AFC), confirmando uma estrutura de três fatores: Instabilidade da Orientação Sexual, Hostilidade Interpessoal e Irresponsabilidade Sexual. A versão brasileira demonstrou excelente consistência interna (α=0,91 a 0,95; ω=0,86 a 0,93) e evidências de validade externa, mostrando que experiências antibissexualidade estão positivamente associadas à estigmatização e aos sintomas de depressão, ansiedade e estresse. A ABES-Brasil surge como uma ferramenta válida e confiável para investigar experiências de binegatividade no contexto brasileiro. *Palavras-chave*: bissexualidade; bifobia; estigma.

RESUMO – Escala de Experiências Anti-Bissexualidade (ABES): Investigação da Validade Psicométrica no Contexto Brasileiro

This study aimed to culturally adapt the Anti-Bisexual Experiences Scale (ABES) for the Brazilian context and assess its psychometric validity in a sample of bisexual individuals. The ABES is widely used internationally to measure experiences of binegativity, reflecting stigma and discrimination faced by bisexual individuals. The adaptation process followed rigorous procedures, including translation, synthesis, expert evaluation, target audience assessment, back-translation, and a pilot study. The factor structure of the Brazilian version was examined using Exploratory Graph Analysis (EGA) and Confirmatory Factor Analysis (CFA), confirming a three-factor structure: Sexual Orientation Instability, Interpersonal Hostility, and Sexual Irresponsibility. The Brazilian version demonstrated excellent internal consistency (α =.91 to .95; ω =.86 to .93) and evidence of external validity, showing that experiences of anti-bisexuality are positively associated with stigmatization and symptoms of depression, anxiety, and stress. The ABES-Brazil emerges as a valid and reliable tool for investigating experiences of binegativity in the Brazilian context. *Keywords:* bisexuality; stigma; binegativity.

RESUMEN – Escala de Experiencias Anti-Bisexualidad (ABES): Investigación de la Validez Psicométrica para el Contexto Brasileño

Este estudio tuvo como objetivo adaptar culturalmente la Escala de Experiencias Anti-Bisexualidad (ABES) para el contexto brasileño e investigar su validez psicométrica. La ABES se utiliza ampliamente a nivel internacional para evaluar experiencias de binegatividad, que reflejan el estigma y la discriminación que enfrentan los bisexuales. El proceso de adaptación siguió procedimientos rigurosos, incluyendo traducción, síntesis, evaluación de expertos, evaluación por parte del público objetivo, retrotraducción y un estudio piloto. La estructura factorial fue investigada mediante el Análisis Exploratorio de Grafos (AEG) y el Análisis Factorial Confirmatorio (AFC), confirmando una estructura de tres factores: Inestabilidad de la Orientación Sexual, Hostilidad Interpersonal e Irresponsabilidad Sexual. La versión brasileña demostró excelente consistencia interna (α =0,91 a 0,95; ω =0,86 a 0,93) y evidencias de validez externa, mostrando que las experiencias de anti-Bisexualidad están positivamente asociadas con la estigmatización y los síntomas de depresión, ansiedad y estrés. La ABES-Brasil emerge como una herramienta válida y confiable para investigar experiencias de binegatividad en el contexto brasileño. *Palabras clave:* bisexualidad; estigma; bifobia.

Prejudice, stigma, and discrimination experienced by individuals in the LGBTQIAP+ (lesbian, gay, bisexual, trans, queer, intersex, asexual, pansexual and others) community are consistently associated with negative psychological outcomes (Hatzenbuehler et al., 2024). The Minority Stress Model (Brooks, 1981; Frost

¹ Endereço para correspondência: Av. Ipiranga, 6681, Partenon, 90619-900, Porto Alegre, RS. E-mail: thaiscjarnoud@gmail.com

& Meyer, 2023) has been widely used to understand the deleterious impact of these chronic social stressors experienced by non-cisheterosexual people on mental health and well-being. Yet, experiences of discrimination and social stigma differ amongst the various groups within the broader LGBTQIAP+ population; thus, it is necessary to develop strategies and instruments for the evaluation and investigation of specific demands to support effective interventions. Bisexual people, in particular, face unique experiences of minority stress that warrant focus (Dyar & London, 2019; Scandurra et al., 2020).

Bisexual individuals are those who have the potential to be romantically and/or sexually attracted to people of more than one sex and/or gender, not necessarily at the same time, in the same way or at the same level (Ochs, 2015). Bisexuality, therefore, challenges the Western perspective that guides gender and sexuality expressions, presenting itself as a counterpoint to both monosexuality and heteronormativity. Monosexism refers to the social structure that presumes that all people are monosexual (attracted to only one gender) and that treats other expressions of sexuality as deviant (Eisner, 2013), whereas heteronormativity implies a linearity between biological sex, gender, and sexual orientation, so that from biological sex there would be binary gender expression and, consequently, attraction to the opposite sex (Costa & Nardi, 2015). Taken together, monosexism and heteronormativity provide the symbolic basis for the production and maintenance of stigmas against bisexual populations, which actively challenge both.

The literature indicates that people who identify as bisexual have greater symptoms of depression, anxiety, low self-esteem, substance abuse, and higher rates of suicide attempts compared to lesbian, gay, and heterosexual people (Habibi & Stueck, 2018; Shokoohi et al., 2022; Malaika & Liang, 2023). Moreover, while being in an intimate relationship is considered a protective factor for gay men, lesbian women, and heterosexual people, the same has not been found in studies regarding bisexual people. Evidence indicates that bisexuals may experience more stress and mental health issues when they are in a relationship (Taylor et al., 2019). Despite this, national studies in Brazil focused on LGBTQIAP+ health pay little attention to anti-bisexuality attitudes and their effects on bisexual populations, and very often analyze the findings in a way that universalizes the experiences of non-cisheterosexual people, disregarding intra-community differences.

Anti-bisexuality attitudes are part of a continuum that ranges from problematic representations in media (Corey, 2017) and in the social imaginary, to more systematic forms of discrimination within and outside the LGBTQIAP+ community (Flanders et al., 2019). This process is expressed through stereotypes and stigmatizing myths, verbal, physical and symbolic violence, withdrawal of autonomy, among others (Miguel

Obradors-Campos, 2011; Yoshino, 2017). Certain stereotypes are evident in Brazilian media through news articles that perpetuate the belief that "deep down, everyone is bisexual" (Maria, 2024). At the same time, biphobia and misogyny contributes to the vulnerabilities of Brazilian bisexual women, that are more at risk of suffering sexual violence and report the feeling of being objectified and hypersexualized (Klidzio, 2019). Additionally, definitions of bisexuality frequently reinforce binary notions of sexuality, often through the dimensions of sexual behavior and/or attraction (Swan, 2018). Definitions within Brazilian scholarship are similarly framed within biomedical and psychopathological discourses that perpetuate binary constructs; for example, in one widely used encyclopedia bisexuality is described as "psychic dispositions simultaneously feminine and masculine, inherent to every individual" (Michaelis, 2024a), or framed in binary definitions, such as "one who is both heterosexual and homosexual at the same time" (Michaelis, 2024b).

Conversely, bisexual movements have been nationally expanding through the initiatives of organizations such as Frente Bissexual Brasileira, which was responsible for the development of a national Bisexual Manifesto (Frente Bissexual Brasileira, 2021). Among other issues, the manifesto addresses the systemic invisibility of bisexuality perpetuated in health-related settings, as well as rejects constraints imposed by the gender binary. Alongside political movements, academic production on bisexuality has increased, particularly driven by bisexual individuals who aim to study this sexual orientation from a non-pathologizing perspective (e.g., Monaco & Klidzio, 2021; Seffner, 2016). In this context, important initiatives such as the Brazilian Network of Bisexuality and Monodissidence Studies (REBIM) have emerged, bringing together researchers from various fields of knowledge.

In a broader perspective, negative attitudes toward bisexual people have often been reported even within broader LGBTQIAP+ spaces, for example, the belief that bisexuality is an unstable identity (Tavarez, 2022), as well as exclusion and hostility through aggressive speech manifested by peers, family members, affective relationships, and colleagues (Bostwick & Hequembourg, 2014). Despite this, evidence and research on the bisexuality in Brazil are scarce, with little to no focus given to bisexual populations when it comes to health promotion, investigation and prevention of risk factors, barriers and facilitators of access to health services, etc. Also, when considering the particularities of prejudice against bisexual people (biphobia, binegativity and/or anti-bisexuality attitudes), it is essential to develop measures that aim to investigate the experiences perceived by this population (Brewster & Moradi, 2010). However, the psychometric instruments currently validated for the Brazilian context, which propose to investigate experiences, stressors,

barriers to access to health services for sexual minorities, tend to be aimed at a general LGB or LGBTQIAP+ audience, such as the protocol for assessing minority stress for LGB people (Costa et al., 2020). To this date, the only specific instrument to investigate aspects related to bisexuality validated in Brazil is the Sexual Prejudice Scale against Bisexuals (Nery et al., 2023). The instrument is aimed at the general population, so that there is still a gap in the literature regarding the investigation of the perceptions of bisexual people themselves about the discrimination experienced.

In the international context, the Anti-Bisexual Experiences Scale (ABES) is understood as the scale with the best psychometric evidence to investigate perceived experiences of binegativity (Morrison et al., 2019). The instrument developed by Brewster and Moradi (2010) was a milestone in research on bisexuality, as it provided a way to investigate and quantify the frequency and contexts in which bisexual individuals experience binegativity (Dyar et al., 2019). Its development aimed to address the scarcity of measures that would explore experiences of binegativity based on the Minority Stress model, contemplating the existence of anti-bisexuality attitudes in both heterosexual and Lesbian and Gay (LG) spaces. The instrument is based on the theoretical understanding that anti-bisexuality attitudes reflect two dimensions: one related to instability and the other to hostility. In the first one, there are perceptions that bisexuality is not a stable sexual orientation, but rather a state of confusion or just a phase. The second one concerns intolerance and hostility towards bisexual people, considering them as immoral, sick and/or a threat to society (Brewster & Moradi, 2010).

The instrument presents a structure of three factors: stereotypes related to instability, stereotypes related to sexual irresponsibility, and general hostility. Perceptions about experiences of binegativity are investigated based on 17 items that are answered from a frequency Likert scale ranging from 1 (If this has NEVER happened to you) to 6 (If this has happened to you ALMOST ALL OF THE TIME, more than 70% of the time). Each item is applied twice, so that the instrument is composed of two scales (ABES-H and ABES-LG) to enable the investigation of anti-bisexuality experiences perpetrated by heterosexual people and by lesbian and/or gay people. ABES-H presented Cronbach's alpha .96 and ABES-LG .95 (Brewster & Moradi, 2010). In the study of the development and evaluation of the scale, it was found that bisexual people reported suffering anti-bisexuality experiences associated with the perception of sexual orientation instability more frequently, followed by experiences associated with the idea of sexual irresponsibility and, finally, interpersonal hostility. In addition, although participants reported experiencing more anti-bisexuality attitudes perpetrated by heterosexual people than lesbians and gays, with regard to the most reported type of perceived prejudice (associated with sexual orientation instability), the effect size of the difference was low.

Since its publication, the instrument has been used significantly to investigate experiences of binegativity in bisexual populations in studies conducted in the global north. In 2019, also using a US-based, English-speaking sample, Dyar and collaborators (2019) investigated the psychometric properties of a short version, in order to facilitate its wider use. The proposed model has the same 3-factor structure, is composed of 8 items, and the scores of the subscales were highly correlated between the brief version and the original version, indicating good psychometric evidence. Advancing the comprehension of antibisexuality experiences, the study found that cis women reported suffering from stereotypes related to sexual orientation instability by heterosexual, lesbian and gay people more often compared to cis men, and that people not aligned with cisnormativity reported higher rates of all types of anti-bisexuality attitudes.

The Brazilian context differs significantly from the country where the original instrument was developed, not only in terms of language - English to Brazilian Portuguese – but also in sociocultural aspects. Brazil's history and culture are distinct from those of the United States, where the instrument was initially proposed. The inequalities related to sexual orientation and gender identity in Brazil are further complicated by the broader inequities stemming from global North-South exploitation (Gonzalez, 2020). The Brazilian patriarchal culture, which affects and makes bisexual women more vulnerable to victimization, is the result of an extensive colonialist and racist history. Additionally, heteronormativity and monosexism operate to maintain the family institution, which upholds moral, religious, and capitalistic economic values. Bisexuality, therefore, represents a threat not only from a cultural and relational perspective but also from a systemic one (Eisner, 2013).

Although the instrument is considered the most appropriate for investigating anti-bisexuality experiences perceived by people in the bisexual community, no papers were found adapting the scale to other socio-cultural contexts outside the global north. Thus, considering the scarcity of national studies and instruments for assessing specific experiences of stigma of bisexual people, the present study aimed to perform cross-cultural adaptation procedures of the Anti-Bisexual Experiences Scale to the Brazilian context, as well as to investigate its evidence of psychometric validity in a sample of Brazilian bisexual people from different gender identities.

Method

Participants

The present study is composed of two distinct samples of participants, with data collections carried out in April and July 2023. While the first sample included women who identified as bisexual, the second included people who identified as bisexual and/or pansexual, as well as participants who reported attraction to more than one gender. As inclusion criteria in both collections, the participants had to be 18 years of age or older and live in Brazil and, for the present adaptation, only participants who identified themselves as bisexual were included in the sample. A non-probabilistic sampling method was used for 1,538 individuals, of which 1,105 (71.8%) identified themselves as cisgender women, aged between 18 and 56 years (M=25.81; SD=5.62). The sociodemographic characteristics of the sample are shown in Table 1. Specific to each collection, 1,188 participants belong to the first study and 350 participants to the second.

Table 1Sociodemographic Data

	Frequencies	%
Total	1.538	3
Gender identity		
Cisgender Woman	1105	71,8
Cisgender Man	113	7,3
Trans* Women	11	0,7
Trans* Men	45	2,9
Queer, non-binary or genderfluid	195	12,7
Transfeminine	2	0,1
Transmasculine	10	0,7
In the process of discovering gender identity	33	2,1
Other gender identity	24	1,6
Race/Color		
White	1057	68,7
Brown (pardo in Brazil)	321	20,9
Black	134	8,7
Asian	16	1,0
Indigenous	3	0,2
Other	7	0,5
Monthly Family Income		
1-2 minimum wages	575	37,4
2-4 minimum wages	418	27,2
4-6 minimum wages	241	15,7
More than 6 minimum wages	257	16,7
Don't want to disclosure	47	3,1

Data Collection Procedures

The study was released after receiving approval by the Ethics Committee of the University. Both data collections took place through online surveys via a self-administered form carried out using the Qualtrics platform. The research was disseminated on the social networks of the research groups and directly to bisexual collectives and organizations focused on LGBTQIAP+ people.

Instruments

Sociodemographic data questionnaire: aimed to investigate sociodemographic characteristics (gender identity, race, age, education, marital status, number of children, family income, among others).

Anti Bisexual Experiences Scale (Brewster & Moradi, 2010): Composed of 17 items that aim to assess

personal experiences of anti-bisexuality in individuals who identify as non-monosexual. Each item is answered from a likert scale ranging from 1 (never happened to me) to 6 (it happens to me almost all the time, more than 70% of the time). In addition, each question is answered twice, in order to make explicit whether the anti-bisexuality experience was perpetrated by lesbian/gay or heterosexual people. Cronbach's alphas found for the subscales were α =0.77, α =0.89, α =0.86, and α =0.96.

Stigma Experience Scale: Seven-item questionnaire developed by Herek (2008) and adapted for Brazilian populations by Costa et al. (2020) that assesses experiences of stigma by asking participants about previous experiences of abuse, violence, and discrimination motivated by sexual orientation. Cronbach's alpha found in the Brazilian validation study was α =0.67.

Depression, Anxiety and Stress Scale (DASS-21) (Martins et al., 2019): The scale aims to assess the levels of depression, anxiety and stress through three subscales of seven items, totaling 21 items. Higher scores indicate higher symptomatology related to emotional states. The scale was validated for the Brazilian population by Apostle et al. (2006), with adequate reliability (depression, α =.90, anxiety, α =.86, and stress, α =.88).

Cross Cultural Adaptation

To start adapting the scale to the Brazilian context, the authors of the original version of ABES were contacted and authorized the progress of the study. The adaptation process followed the assumptions presented by Borsa et al. (2012), which consists of six stages: 1. translation of the instrument from the source language to the target language; 2. synthesis of the translated versions; 3. evaluation of the synthesis by expert judges; 4. evaluation of the instrument by the target audience; 5. back translation; 6. pilot study.

Initially, the original English version was translated into Brazilian Portuguese. This translation included two experts, one with greater familiarity with the psychological construct of the instrument and the other an expert in English-Portuguese translation. Subsequently, a synthesis of the versions translated into a first Portuguese version of the instrument was made. The process of translation and synthesis of the versions sought to consider aspects related to semantic equivalence, idiomatic equivalence, experiential equivalence, and conceptual equivalence.

The next step was to evaluate the Portuguese Brazilian version by four experts in the field of psychological instruments and/or sexuality and gender related services. The instructions of the instrument, the structure, layout, adequacy of the items to the construct to be investigated, as well as conformity to the Brazilian context, were analyzed. At this stage, changes were suggested so that the scale would not reproduce a gender-excluding language, considering that Portuguese is a more binary language compared to English. Suggestions for changing terms to make the instrument more accessible were also suggested, such as changing "People stereotype me as someone with multiple sexual partners without emotional commitment" to "People label me as someone with multiple sexual partners without emotional commitment".

Afterwards, the scale went through an evaluation process by the target audience, in which 5 bisexual people of different gender identities (2 cis women, 2 nonbinary people and 1 cis man) were invited to evaluate the instrument. This stage provided a better understanding of the adequacy of the scale to the Brazilian reality and sought to investigate whether the instrument was easy to understand for the target population. Based on the experts' assessment and the target audience evaluation, the

original 17 items of the scale were maintained, and two new items were included, namely: "I was compelled by someone to hide my bisexuality" and "They used my sexual orientation to insult me". The new items were suggested based on experiences common to bisexual people in the Brazilian context regarding anti-bisexuality experiences. Finally, the back-translation of the Portuguese into English, the original language of the instrument, was carried out. In this process, no adjustments were identified. The participants of the pilot study used the scale and, subsequently, so did a broader population, to analyze the evidence of psychometric validity of the Brazilian version of the instrument.

Data Analysis

After removing missing cases, the evidence of validity of the internal structure of the Brazilian version of ABES was investigated with a sample of 1,538 bisexual people. The instrument is composed of two scales, one of which assesses anti-bisexuality experiences perpetrated by lesbian and/or gay people (ABES-LG) and the other that investigates the same construct but perpetrated by heterosexual people (ABES-HT). The total sample (n=1538) was randomly divided into two parts, the first consisting of 40% of the participants (n=568) and used in the exploratory analyses, and the second consisting of 60% of the participants (n=853) was used in the confirmatory analyses. Reliability and evidence of external validity were calculated using all study participants.

The dimensionality of the two versions of ABES was investigated through Exploratory Graph Analysis (EGA) with the application of least absolute shrinkage and selection operator (LASSO) regularization. The walktrap algorithm was used to determine the number of clusters, allowing the identification of the factorial structure of the scale. In addition, analyses were performed by applying resampling strategies (1,000 bootstrapping) to increase the robustness of the findings. EGA allows the analysis of the relationships between items in an exploratory and non-directional way using the network analysis technique (Golino et al., 2020). Network analyses are advantageous because they do not limit the relationships between the elements of the system and allow new patterns of relationships to emerge from the empirical data. In EGA, the nodes represent the items of the scales, and the edges are the associations between them (Epskamp, et al., 2018). Thus, the dimensionality of the scales, the estimated accuracy of the EGA and the stability of the items in the dimensions of the scale were investigated.

In Exploratory Graph Analysis (EGA), factor loadings are computed using the network loadings method, where Weighted Topological Overlap (WTO) is used to quantify the strength of an item's connection to its identified factor within the network. These loadings are based on the partial correlations between items and are influenced by their shared variance within a factor cluster. EGA loadings reflect the topology of the network structure and the item's contribution to its respective factor. As such, loadings in EGA may appear lower than in traditional methods but remain valid within the framework of network psychometrics (Golino & Christensen, 2023; Golino et al., 2020).

The adequacy of the structure of the two versions of the ABES was evaluated by means of Confirmatory Factor Analysis (CFA). Considering that the present study proposes the inclusion of two new items specific to the Brazilian context, the adequacy of the ABES to the structure found from the EGA was analyzed, similar to the original solution proposed by the authors (Brewster & Moradi, 2010). Therefore, for ABES-LG, the three-factor solution found in the exploratory analysis was evaluated, with 19 items – integrating the original 17 items of ABES (Brewster & Moradi, 2010) and the two items developed in this study. The same procedures were performed for ABES-HT.

CFA analyses were performed using the Weighted Least Squares Mean and Variance-Adjusted (WLSMV) estimation method, as it is a robust estimation method for ordinal data. The following adjustment indices were used: 1. Absolute chi-square divided by the degrees of freedom (χ^2/gl) must have a value lower than 3; 2. The Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) must present values greater than .90; 3) Root Mean Square Error of Approximation (RMSEA) values must be less than .08, with a 90% confidence interval less than .10. Modification indices greater than 50 were analyzed to investigate how the model could be improved. After defining the structure of both scales that make up the ABES, the reliability of the Brazilian version was evaluated using Cronbach's alpha ordinal and omega.

The evidence of external validity was investigated through the investigation of the associations between the scores of anti-bisexuality experiences with depression, anxiety and stress measured by DASS-21 scores and with the Stigma Experience Scale scores using structural

equation modeling. The WLSMV estimation method was applied. In addition, the descriptive statistics (mean and standard deviation) of the constructs evaluated were investigated using the raw scores of the constructs. All the analyses presented were performed using the R studio software (R Core Team, 2022). For EGA, the EGAnet package was utilized to identify the dimensional structure of the data through a network-based approach (Golino & Christensen, 2023). For CFA, the lavaan package was employed to test and confirm the adequacy of the factor model (Rosseel, 2012). These packages were chosen due to their robust statistical tools and their widespread application in psychological research, ensuring accurate and reliable analyses.

Results

The results obtained through EGA confirmed the structure of three oblique first-order dimensions proposed by Brewster and Moradi (2010), even with the inclusion of two new items (18 and 19) in the Interpersonal Hostility factor. Exploratory analyses were performed using a randomly selected portion of the sample (n = 568) from the total sample (n = 1,105). The findings of EGA (10000 bootstrap) showed that the probability of ABES-LG obtaining three dimensions was 95.3%, and of ABES-HT was 96.8%. The first dimension, referring to Sexual Orientation Instability, includes items 1, 3, 4, 6, 7, 10 and 11, with factor loadings between 0.23 and 0.37 on the ABES-LG scale, and 0.24 to 0.34 on the ABES-HT scale. The second dimension was named Interpersonal Hostility, composed of items 2, 5, 9, 15, 16, 18 and 19, with factor loadings between 0.22 to 0.37 in ABES-LG and 0.22 to 0.41 in ABES-HT. The third dimension was identified as Sexual Irresponsibility, formed by items 8, 12, 13, 14 and 17, with factor loadings between 0.22 to 0.40 in ABES-LG, and 0.22 to 0.43 in ABES-HT (Table 2 and Figure 1.a). In addition, the items showed stability in their respective dimensions (Figures 1.b and 1.d).

Table 2Means and Standard Deviations

	Mean	SD
Instability ABES-LG	2.38	1.27
Hostility ABES-LG	1.39	0.68
Irresponsibility ABES-LG	1.85	1.1
Instability ABES-HT	3.00	1.32
Hostility ABES-HT	1.86	0.91
Irresponsibility ABES-HT	2.28	1.23
Stigma experiences	1.26	0.36
Depression	1.08	0.77
Anxiety	1.42	0.88
Stress	1.62	0.73

Based on the results of the EGA, confirmatory factor analyses were performed for both subscales of the instrument (ABES-LG and ABES-HT). The analyses were performed using a sample (n=853) randomly selected from the total sample (n=1,105). The adjustment indices found for ABES-LG (χ^2 (149)=426.9 (p<.001), χ^2/gl =2.86, CFI=.988, TLI=.987, RMSEA (90%)

C.I.)=.047 (.042–.052)) and ABES-HT (χ^2 (149)=374.6 (p<.001), χ^2/gl =2.51, CFI=.997, TLI=.997, RMSEA (90% C.I.)=.042 (.037 – .047)) were satisfactory. In both versions of the scale, the items obtained factor loadings higher than 0.65 (ABES-LG, 0.684 to 0.906; ABES-HT, 0.666 to 0.849). In addition, the dimensions of the two versions of the scale were positively associated (Table 3).

Table 3Convergent Validity – LG/HT Subscales

Variable	1	2	3	4	5	6	7
1. Ans	-	0.738	0.879	0.286	0.207	0.244	0.252
2. Dep	0.737	-	0.763	0.226	0.169	0.197	0.216
3. Est	0.879	0.763	-	0.205	0.189	0.194	0.205
4. Estig	0.286	0.229	0.205	-	0.473	0.591	0.566
5. Inst	0.319	0.247	0.242	0.528	-	0.826	0.823
6. Host	0.360	0.271	0.275	0.712	0.774	-	0.823
7. Irresp	0.348	0.264	0.260	0.619	0.805	0.793	-

Note. Correlations below the diagonal are from the HT subscale; correlations above the diagonal are from the LG subscale. Inst=Sexual Orientation Instability; Host=Interpersonal Hostility; Irresp=Sexual Irresponsibility; Dep=Depression; Anx=Anxiety; Str=Stress; Stig=Stigmatization

The internal consistency indices of ABES-LG and ABES-HT were analyzed using the total sample. It was observed that the three dimensions of the two subscales obtained satisfactory reliability values (ABES-LG, Sexual Orientation Instability, α =0.95, ω =0.93, Interpersonal Hostility, α =0.92, ω =0.87, Sexual Irresponsibility, α =0.91, ω =0.86; ABES-HT, Sexual Orientation Instability, α =0.94, ω =0.93, Interpersonal Hostility, α =0.91, ω =0.88, Sexual Irresponsibility, α =0.89, ω =0.86).

The evidence of external validity of the ABES, for its two scales (ABES-LG and ABES-HT), was analyzed through their relationships with experiences of stigma, levels of anxiety, depression, and stress. It was observed that high scores of anti-bisexuality experiences were positively related to experiences of stigma in the ABES-LG and ABES-HT scales. Additionally, a high-magnitude positive association was also identified between anti-bisexuality experiences and indicators of stress, anxiety, and depression for both scales. The results of the correlations are described in Table 2.

Table 4Exploratory Graph Analysis Factor Loadings

	In	Inst		ost	Irre	esp
	LG	HT	LG	HT	LG	HT
1. As pessoas se referiram a minha bissexualidade como se ela significasse que eu estou confusa/o/e a respeito da minha orientação sexual.	0.191	0.252	-	-	-	-
3. Outras pessoas me pressionaram para me enquadrar em um sistema binário de orientação sexual (ex.: me identificar como lésbica/gay ou heterossexual)	0.305	0.329	-	-	-	-
4. Quando contei sobre a minha orientação sexual para outras pessoas elas continuaram presumindo que eu era, na realidade, heterossexual ou lésbica/gay.	0.331	0.351	-	-	-	-
6. Pessoas agiram como se minha orientação bissexual fosse apenas uma transição para a identidade lésbica/gay.	0.253	0.216	-	-	-	-
7. Pessoas agiram como se a minha bissexualidade fosse apenas curiosidade sexual, não uma orientação sexual estável.	0.297	0.243	-	-	-	-
10. Pessoas não levaram minha orientação sexual à sério porque eu sou bissexual.	0.304	0.357	-	-	-	-

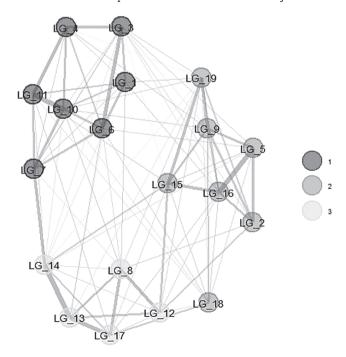
Table 4 (continuation)

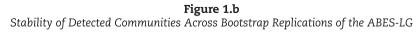
Exploratory Graph Analysis Factor Loadings

Inst		Host		Irresp	
LG	HT	LG	HT	LG	HT
0.358	0.325	-	-	-	-
-	-	0.191	0.250	-	-
-	-	0.272	0.309	-	-
-	-	0.297	0.380	-	-
-	-	0.294	0.227	-	-
-	-	0.443	0.371	-	-
-	-	0.107	0.155	-	-
-	-	0.241	0.280	-	-
-	-	-	-	0.313	0.253
-	-	-	-	0.238	0.213
-	-	-	-	0.340	0.447
-	-	-	-	0.203	0.213
-	-	-	-	0.281	0.340
	LG 0.358	LG HT 0.358 0.325	LG HT LG 0.358 0.325 - - - 0.191 - - 0.272 - - 0.297 - - 0.294 - - 0.443 - - 0.107	LG HT LG HT 0.358 0.325 - - - - 0.191 0.250 - - 0.272 0.309 - - 0.297 0.380 - - 0.294 0.227 - 0.443 0.371 - 0.107 0.155	LG HT LG HT LG 0.358 0.325 - - - - - 0.191 0.250 - - - 0.272 0.309 - - - 0.297 0.380 - - - 0.294 0.227 - - - 0.443 0.371 - - - 0.107 0.155 - - - 0.241 0.280 - - - - 0.313 - - - 0.238 - - - 0.340 - - - 0.203

Note. inst=instabilidade da orientação sexual; host=hostilidade interpessoal; irresp=irresponsabilidade sexual

Figure 1.aEstimated Network Graph with Detected Communities of ABES-LG





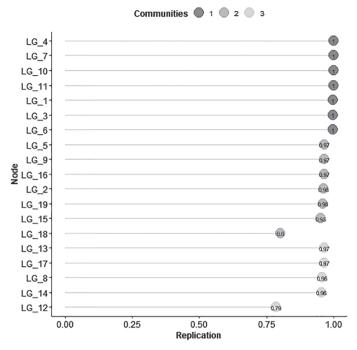
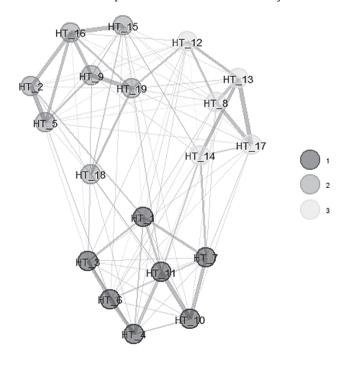


Figure 1.cEstimated Network Graph with Detected Communities of ABES-HT



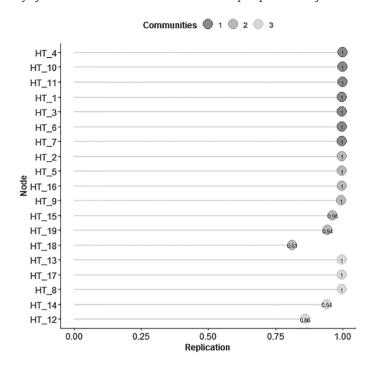


Figure 1.d Stability of Detected Communities Across Bootstrap Replications of the ABES-HT

Discussion

The aim of this study was to adapt the Anti-Bisexual Experiences Scale (ABES) to the Brazilian context, based on its internal structure and the analysis of its relationships with related constructs, as well as the instrument's reliability. Even though bisexual people report specific forms of oppression and stigmatization in different social contexts, there are still no validated measures aimed at investigating these situations in Brazil. The findings indicate that the questionnaire is a suitable tool for investigating anti-bisexual experiences among Brazilian bisexual individuals of diverse sexual identities. The Brazilian version of the instrument² has a similar structure to the original, with only two new items added as part of the cross-cultural validation process that aimed to encompass the experiences of Brazilian bisexual individuals of different gender identities. The three dimensions of ABES-LG and ABES-HT, Interpersonal Hostility, Sexual Orientation Instability and Sexual Irresponsibility, presented even higher reliability values in comparison to the original version study by Brewster and Moradi (2010).

Anti-bisexual attitudes in Brazil are deeply connected with other systems of oppression, such as sexism, classism, racism, ableism, ageism and colonialism. Monosexism, patriarchy, and cisheteronormativity

work together in Brazil to protect the traditional family order and maintain positions of power and domination (Gonzalez, 2020). This dynamic is further complicated by the asymmetries between the Global North and the Global South, as well as by the racist legacies of Brazilian colonization. Therefore, it is crucial that cross-cultural adaptation of such instruments is conducted with care and sensitivity to avoid perpetuating systemic violence, especially if they are targeted for already marginalized populations. A careful cultural adaptation is necessary to avoid reproducing colonialist logics in the process of knowledge production. Additionally, Brazilian Portuguese is a much more gendered language than English, making the use of genderneutral language more challenging. For this reason, efforts were made to ensure that the interview items did not reinforce a binary and exclusionary conception of bisexual experiences, aiming to include people of different genders. By incorporating insights from bisexual individuals of various gender identities and Brazilian researchers from diverse regions, we were able to develop an instrument that genuinely reflects the stigma experienced by Brazilian bisexuals. And this is reflected in the instrument's excellent psychometric indices that were found with a broader sample.

Despite the inherent differences in the historical, cultural, and economic contexts of each country, it is

² The brazilian version, as well as its application instructions, can be found at the following open science framework link: https://osf.io/v6krn/?view_only=88b587f 06f444fa3ba1c5479e4982025.

understood that there are shared experiences of oppression, and that connecting these experiences is important for building networks of solidarity and effective policies to combat stigma against bisexual people worldwide. And this research found that the results regarding anti-bisexual experiences were in line with international literature. Bisexual people reported suffering anti-bisexuality experiences regarding the perception of sexual orientation instability more frequently, followed by experiences associated with the idea of sexual irresponsibility and, finally, interpersonal hostility. These were the same results found in the scale development study by Brewster and Moradi (2010). It was also found that participants reported experiencing more anti-bisexuality attitudes perpetrated by heterosexual people than lesbians and gays, which is also a similar result to the original study.

It was also observed that high scores of anti-bisexuality experiences were positively related to experiences of stigma in the ABES-LG and ABES-HT scales and a high-magnitude positive association was identified between anti-bisexuality experiences and indicators of stress, anxiety, and depression for both scales. International evidence indicates that bisexual people are at increased risk for bad mental health outcomes, due to stigma and discrimination from inside and outside the LGBTQ+ community (DeSon & Andover, 2024; Malaika & Liang, 2023). This indicates that, in Brazil, monodissident individuals, such as those who identify as bisexual, also occupy a place of vulnerability concerning mental health indicators and processes of stigmatization due to their sexual orientation.

As limitations, it is noteworthy that most of the sample in this study consists of cisgender women, young people, and individuals who identify as white Brazilians. Future follow-up studies should take this into account to contribute to the advancement of evidence on bisexual individuals with intersecting identities, to better understand their particularities. Additionally, new studies could investigate invariance according to different gender identities, race, and other social categories.

The validated instrument is currently the only one specifically focused on the experiences of stigma faced by bisexual people in Brazil. Although the

Brazilian bisexual population suffers from expressions of monosexism and heteronormativity, measures aimed at investigating the experiences of this population are scarce. Psychometric instruments that undergo rigorous stages of cultural adaptation can be an additional tool for understanding the experiences of oppression faced by this still socially marginalized group in the country. This validation was conducted using a substantial sample of individuals of different genders, understanding bisexuality from a non-binary perspective. The Brazilian version of ABES can help in building evidence on bisexual people in Brazil, guiding health promotion policies and interventions, guaranteeing rights, combating violence and stigma against this population, and enhancing the quality of the support services for bisexual individuals.

Acknowledgments

There are no mentions.

Funding

This research received funding from CNPq.

Authors' contributions

We declare that all the authors participated in the elaboration of the manuscript. Specifically, all authors participated in the initial wording of the study - conceptualization, investigation, visualization, all authors participated in the data analysis, and all the authors participated in the Final Writing of Work - Review and Editing.

Availability of data and materials

All data and syntax generated and analyzed during this research will be treated with complete confidentiality due to the Ethics Committee for Research in Human Beings requirements. However, the dataset and syntax that support the conclusions of this article are available upon reasonable request to the principal author of the study.

Competing interests

The authors declare that there are no conflicts of interests.

References

Borsa, J. C., Damásio, B. F., & Bandeira, D. R. (2012). Adaptação e validação de instrumentos psicológicos entre culturas: Algumas considerações. Paidéia (Ribeirão Preto), 22(53), 423-432. https://doi.org/10.1590/S0103-863X2012000300014

Bostwick, W., & Hequembourg, A. (2014). 'Just a little hint': bisexual-specific microaggressions and their connection to epistemic injustices. Culture, Health & Sexuality, 16(5), 488-503. https://doi.org/10.1080/13691058.2014.889754

Brewster, M. E., & Moradi, B. (2010). Perceived experiences of anti-bisexual prejudice: Instrument development and evaluation. Journal of Counseling Psychology, 57(4), 451-468. https://doi.org/10.1037/a0021116

Brooks, V. R. (1981). Minority stress and lesbian women. Lexington Books.

- Corey, S. (2017). All Bi Myself: Analyzing Television's Presentation of Female Bisexuality. *Journal of Bisexuality*, 17(2), 190-205. https://doi.org/10.1080/15299716.2017.1305940
- Costa, A. B., & Nardi, H. C. (2015). Homofobia e Preconceito contra Diversidade Sexual: Debate Conceitual. *Trends in Psychology*, 23(3), 715-726. http://dx.doi.org/10.9788/TP2015.3-15
- Costa, A. B., Paveltchuk, F., Lawrenz, P., Vilanova, F., Borsa, J. C., Damásio, B. F., Habigzang, L. F., Nardi, H. C., & Dunn, T. (2020).

 Protocolo para Avaliar o Estresse de Minoria em Lésbicas, Gays e Bissexuais. *Psico-USF*, 25(2), 207-222. https://doi.org/10.1590/1413-82712020250201
- DeSon, J. J., & Andover, M. S. (2024). Microaggressions Toward Sexual and Gender Minority Emerging Adults: An Updated Systematic Review of Psychological Correlates and Outcomes and the Role of Intersectionality. *LGBT Health*, 11(4), 249-268. https://doi.org/10.1089/lgbt.2023.0032
- Dyar, C., Feinstein, B. A., & Davila, J. (2019). Development and validation of a brief version of the Anti-Bisexual Experiences Scale. *Archives of Sexual Behavior*, 48(1), 175-189. https://doi.org/10.1007/s10508-018-1157-z
- Dyar, C., & London, B. (2018). Bipositive events: Associations with proximal stressors, bisexual identity, and mental health among bisexual cisgender women. *Psychology of Sexual Orientation and Gender Diversity*, 5(2), 204-219. https://doi.org/10.1037/sgd0000281
- Eisner, S. (2013). The bi revolution: Bisexuality and the politics of sexuality. Seal Press.
- Epskamp, S., Borsboom, D., & Fried, E. I. (2018). Estimating psychological networks and their accuracy: A tutorial paper. *Behavior Research Methods*, 50(1), 195-212. https://doi.org/10.3758/s13428-017-0862-1
- Flanders, C. E., Anderson, R. E., Tarasoff, L. A., & Robinson, M. (2019). Bisexual Stigma, Sexual Violence, and Sexual Health Among Bisexual and Other Plurisexual Women: A Cross-Sectional Survey Study. *The Journal of Sex Research*, 56(9), 1115-1127. https://doi.org/10.1080/00224499.2018.1563042
- Frente Bissexual Brasileira. (2021). Manifesto bissexual brasileiro. https://www.frentebissexualbrasileira.org/manifesto-bissexual-brasileiro Frost, D. M., & Meyer, I. H. (2023). Minority stress theory: Application, critique, and continued relevance. *Current Opinion in Psychology, 51*, 1-6. https://doi.org/10.1016/j.copsyc.2023.101579
- Golino, H., Shi, D., Christensen, A. P., Garrido, L. E., Nieto, M. D., Sadana, R., Thiyagarajan, J. A., & Martinez-Molina, A. (2020). Investigating the performance of exploratory graph analysis and traditional techniques to identify the number of latent factors: A simulation and tutorial. *Psychological Methods*, 25(3), 292-320. https://doi.org/10.1037/met0000255
- Golino, H., & Christensen, A. P. (2023). EGAnet: Exploratory Graph Analysis A framework for estimating the number of dimensions in multivariate data using network psychometrics (R package version 2.0.0). https://r-ega.net/
- Gonzalez, L. (2020). Por um Feminismo Afro-latino-americano. Editora Schwarcz- Companhia das Letras.
- Habibi, S., & Stueck, F. (2018). Well-being: Bisexuality and mental and physical health. In A. C. Author & B. D. Editor (Eds.), *Bisexuality: Theories, research, and recommendations for the invisible sexuality* (165-188). Springer.
- Hatzenbuehler, M. L., Lattanner, M. R., McKetta, S., & Pachankis, J. E. (2024). Structural stigma and LGBTQ+ health: A narrative review of quantitative studies. *The Lancet Public Health*, 9(2), 109-127. https://doi.org/10.1016/S2468-2667(23)00312-2
- Herek, G. M. (2008). Hate Crimes and Stigma-Related Experiences Among Sexual Minority Adults in the United States: Prevalence Estimates From a National Probability Sample. *Journal of Interpersonal Violence*, 24(1), 54-74. https://doi.org/10.1177/0886260508316477
- Klidzio, D. (2019). Será que realmente existe isso? Reflexões acerca da bissexualidade e da pansexualidade femininas. [Master's dissertation, Universidade Federal de Santa Maria]. Pró-Reitoria de Cultura e Extensão Universitária. https://prceu.usp.br/wp-content/uploads/2021/05/Klidzio_Danieli 2019_TCC.pdf
- Malaika, N., & Liang, Y. (2023). Bisexuality: Current perspectives and future directions. *Journal of LGBTQ+ Issues, 12*(3), 45-67. https://doi.org/10.1007/s12345-023-4567-8
- Maria, T. (2024, May 4). 70% dos héteros acreditam que, no fundo, todo mundo é bissexual. Metrópoles. https://www.metropoles.com/colunas/pouca-vergonha/70-dos-heteros-acreditam-que-no-fundo-todo-mundo-e-bissexual
- Martins, B. G., Silva, W. R., Maroco, J., & Campos, J. A. D. B. (2019). Escala de Depressão, Ansiedade e Estresse: propriedades psicométricas e prevalência das afetividades. *Jornal Brasileiro De Psiquiatria*, 68(1), 32-41. https://doi.org/10.1590/0047-2085000000222
- Michaelis. (2025a). Bissexualidade. https://michaelis.uol.com.br/moderno-portugues/busca/portugues-brasileiro/bissexualidade/
- Michaelis. (2025b). Bissexual. https://michaelis.uol.com.br/moderno-portugues/busca/portugues-brasileiro/bissexual/
- Monaco, H., & Klidzio, D. (2021). O digital é político: Ativismo bissexual e apropriações das mídias digitais [Bisexual activism and appropriation of digital media]. Revista Eletrônica Interações Sociais, 5(1), 153-168. https://periodicos.furg.br/reis/article/view/13089
- Morrison, M. A., Kiss, M. J., Parker, K., Hamp, T., & Morrison, T. G. (2019). A systematic review of the psychometric properties of binegativity scales. *Journal of Bisexuality*, 19(1), 23-50. https://doi.org/10.1080/15299716.2019.1576153
- Nery, N. N. D. F., Brito, T. R. D. S., Mariano, T. E., Bú, E. A. D., & Pereira, C. R. (2023). Scale of Sexual Prejudice Against Bisexuals: Evidence of Validity. *Psico-USF*, 28(2), 333-345. https://doi.org/10.1590/1413-82712023280210
- Obradors-Campos, M. (2011). Deconstructing Biphobia. *Journal of Bisexuality, 11*(2-3), 207-226. https://doi.org/10.1080/15299716.2011.57 1986
- Ochs, R. (2015). Robyn's quotes. Robyn Ochs. https://www.robynochs.com/quotes
- Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, 48(2), 1-36. https://doi.org/10.18637/jss.v048.i02
- Scandurra, C., Pennasilico, A., Esposito, C., Mezza, F., Vitelli, R., Bochicchio, V., Maldonato, N. M., & Amodeo, A. L. (2020). Minority Stress and Mental Health in Italian Bisexual People. Social Sciences, 9(46), 1-17. https://doi.org/10.3390/socsci9040046
- Seffner, F. (2016). Derivas da masculinidade: Representação, identidade e diferença no âmbito da masculinidade bissexual. Paco Editorial.
- Shokoohi, M., Kinitz, D. J., Pinto, D., Andrade-Romo, Z., Zeng, Z., Abramovich, A., Salway, T., & Ross, L. E. (2022). Disparities in alcohol use and heavy episodic drinking among bisexual people: A systematic review, meta-analysis, and meta-regression. *Drug and alcohol dependence*, 235, 1-11. https://doi.org/10.1016/j.drugalcdep.2022.109433
- Swan, D. J. (2018). Defining Bisexuality: Challenges and Importance of and Toward a Unifying Definition. In D. J. Swan & S. Habibi (Eds.), Bisexuality: Theories, research, and recommendations for the invisible sexuality (1^a ed., pp. 37-60). Springer. https://doi.org/10.1007/978-3-319-71535-3_3

- Tavarez, J. (2022). "I can't quite be myself": Bisexual-specific minority stress within LGBTQ campus spaces. *Journal of Diversity in Higher Education*, 15(2), 167-177. https://doi.org/10.1037/dhe0000280
- Taylor, J., Power, J., Smith, E., & Rathbone, M. (2019). Bisexual mental health: Findings from the "Who I am" study. Australian Journal of General Practice, 48(3), 138-144. https://doi.org/10.31128/AJGP-06-18-4615
- Yoshino, K. (2017). The epistemic contract of bisexual erasure. In E. Editor & F. Editor (Eds.), Sexuality and equality law (pp. 329-352). Routledge.

recebido em setembro de 2024 aprovado em janeiro de 2025

Sobre os autores

Thaís de Castro Jury Arnoud is a Clinical Psychologist, Master and PhD student in Social Psychology at PUCRS, in the Research Group on Violence, Vulnerabilities and Clinical Interventions. She is a member of the Brazilian Network of Studies on Bisexuality and Monodissidence.

Marina Feijó is a psychologist, Master in Social Psychology from PUCRS and collaborator in the Research Group on Prejudice, Vulnerability and Psychosocial Processes.

Clarissa Pinto Pizarro de Freitas is a Psychologist, Master and PhD in Psychology. She is a professor of the Undergraduate Course and the Graduate Program in Psychology at PUCRS and coordinates the Research Group on Health, Psychosocial Processes and Work.

Melanie Elyse Brewster is an interdisciplinary scholar, artist and practicing clinician. She received her PhD from the University of Florida in 2011 and her MFA from the School of Visual Arts in 2024. She is a licensed psychologist and a professor at Columbia University, in the Department of Counseling and Clinical Psychology.

Ângelo Brandelli Costa is a professor in the Graduate Programs in Psychology, Social Sciences, and Medical Sciences and Health Sciences at PUCRS and coordinator of the Research Group on Prejudice, Vulnerability and Psychosocial Processes.

Luísa Fernanda Habigzang is a psychologist, Master and PhD in Psychology, Professor of the Undergraduate Course and the Graduate Program in Psychology at PUCRS. She coordinates the Research Group on Violence, Vulnerabilities and Clinical Interventions.

Como citar este artigo

Arnoud, T. C. J., Feijó, M., Freitas, C. P. P., Brewster, M. E., Costa, A. B., & Habigzang, L. F. (2025). Anti Bisexual Experiences Scale (ABES): Psychometric Validity Investigation for the Brazilian Context. *Avaliação Psicológica, 24, nº especial 1*, e25602, 1-13. http://doi.org/10.15689/ap.2025.24.e25602