Homophobia Short Scale (HSS): Performance in female nursing students

Objective: To estimate the psychometric performance of the Homophobia Short Scale (HSS) in female nursing students in a university in Cartagena, Colombia.

Method: A validation study was designed in which 419 female nursing students from the first to the eighth semester participated, aged between 18 and 29 years ($M=20.9$, $SD=2.9$). The students completed all four items of the HSS. Internal consistency was found (Cronbach’s alpha and McDonald’s omega) and dimensionality (confirmatory factor analysis, CFA).

Results: The internal consistency was acceptable (Cronbach of 0.68 and McDonald of 0.69) and in the CFA one factor was retained which accounted for 51.5% of the variance, with acceptable global indicators of goodness of fit (the root of the mean square error of approximation =0.08, CI=90% 0.03-0.14, Comparative Fit Index=0.98, Tucker-Lewis Index=0.94, and standardized mean square residual=0.02). The scores were similar, according to ethnic-race and political orientation ($p>0.001$) and significantly higher in Christians than in other religious affiliations ($p<0.001$).

Conclusion: In female nursing students, the HSS shows an acceptable performance in internal consistency and one factor, with good dimensionality indicators. It is necessary to know this performance in male nursing students.

Abstract

Keywords

- Students nursing; Homophobia; Validation studies;
- Estudiantes de enfermería; Homofobia; Estudios de validación
- European diabetes; Stroke; Cardiac rehabilitation

Resumo

Objetivo: Estimar el desempeño psicométrico de la escala de homofobia Short Homophobia Scale (SHS) en estudiantes de enfermería del sexo femenino de una universidad en Cartagena, Colombia.

Métodos: Desenhou-se um estudo de validação que incluiu 419 estudantes de enfermagem do sexo feminino cursando do primeiro ao oitavo semestre com 18 a 29 anos de idade ($M=20.9$; $DP=2.9$). As estudantes preencheram os quatro itens da SHS. Observou-se que o instrumento tem consistência interna (alfa de Cronbach e ômega de McDonald) e dimensionalidade (análise fatorial confirmatória, AFC).

Resultados: Considerou-se a consistência interna aceitável (Cronbach 0.68 e McDonald 0.69). Na AFC, um fator retido explicou 51.5% da variância. Os indicadores globais de qualidade do ajuste foram aceitáveis (raiz quadrada da média do erro de aproximação = 0.08; IC = 90% 0.03 a 0.14; índice de ajuste comparativo = 0.98; índice de Tucker-Lewis = 0.94; e raiz quadrada média residual padronizada = 0.02). Os escores foram semelhantes por etnia/raça e orientação política ($p>0.001$) e significativamente mais elevados em estudantes cristãs que em outras afiliações religiosas ($p<0.001$).
Introduction

The term homophobia refers to the negative attitude of aversion, condemnation, rejection, or proscription towards homosexual persons.\(^1\) However, since homophobia is not a phobia, as conceived in the clinical context, but prejudice based on orientation,\(^2\) other nominations have been proposed as homonegativity\(^3\) or homoprejudice;\(^4\) moreover, the term homophobia has been used in scientific and popular literature and is still in use, like other terms, which move away from the etymological root.\(^5\) At present, several scales are available to quantify the attitude towards homosexual persons: the Index of Homophobia or Towards Homosexuality Scale Attitudes,\(^3\) Seven-item Homophobia Scale, HS-7,\(^6\) Attitudes Towards Lesbians and Gay Men Scale,\(^7\) Prejudicial Evaluation Scale,\(^8\) Modern Homophobica Scale,\(^9\) Homonegativity Scale,\(^10\) Homophobia Scale-25,\(^11\) and Modern Homonegativity Scale.\(^12\) However, the HS-7\(^6\) and Attitudes Towards Lesbians and Gay Men Scale\(^7\) are the instruments more used in research; despite their limitations.\(^13,14\)

The HS-7 is a short instrument designed by Bouton \textit{et al}, which purpose is to quantify the attitude towards homosexual individuals.\(^6\) HS-7 has been often used in different researches with university students in the global context.\(^13-15\) In Colombia, HS-7 performance was evaluated in medical students in cities like Bogotá and Bucaramanga.\(^15-17\) A Spanish version was used whose translation, back-translation, and adjustment process for Spanish usage in Colombia was reported in a previous publication.\(^18\) The HS-7 that explore the attitude towards homosexuality asking if “homosexuality is disgusting”, “homosexuals are just as moral as heterosexuals”, “homosexuals corrupt young people”, “homosexuals should have equal civil rights”, “homosexuality is a sin,” “homosexuals contribute positively to society,” and “homosexuality should be against the law.” Each item provides five response options ranging from “strongly disagree” to “strongly agree,” which are rated from one to five, the higher the score is, the more negative is the attitude towards homosexuality.\(^19\)

However, this instrument presented a substandard performance, like other measuring scales of the construct, with factorial solutions lower than 50%, and without having a confirmatory factor analysis (CFA).\(^15-17\) Therefore, starting from the observation of CFA, Campo-Arias \textit{et al} carried out a process of enhancement and proposed a version of only four items (HSS); the new HSS showed high internal consistency (Cronbach’s alpha and McDonald’s omega of 0.77) and better factorial solution, the only factor accounting for 59.7% of the total variance.\(^19\)

In this study, the performance of the HSS in female nursing students was tested, not only for the best psychometric performance but also for the advantage that short scales represent in the research processes. The instruments are more comfortable to apply, qualify and interpret; they need less time to fill out and induce less fatigue for those who fill them; all this helps to guarantee better indicators of reliability and validity during the measurement.\(^20\)
Regarding the HSS nomological performance, it is observed that in this study the means and standard deviations were compared with religious attachments, through an analysis of variance (ANOVA, test F); it was assumed that non-Catholic Christians would present higher scores than Catholics, or than that of participants of other religions who actively participate in religious commitments.

Homophobia is present in all areas of daily life, including university students who, due to their education level, should have a positive attitude towards sexual diversity, especially students of health sciences. Homophobia, like other prejudices, represents a daily stressor for homosexuals, with negative impacts on people, communities, and general society, since they negatively impact mental health and explain much of the inequities in health for gay people.

Now, concerning nursing students, and because of the characteristics of their profession that provides support that integrates through a holistic view, the biological, psychological, social, cultural and ethical dimensions; as well as, the conceptions, perceptions, and values of the person as a starting point to provide care, they must assume a favorable attitude towards LGBT community; hence, negative attitudes limit the possibility of providing personal and integral care: Homophobia represents a barrier in the relationship between nursing staff, gay, lesbian, bisexual, transgender and transgender patients, thus measuring homophobia attitudes in nursing students become very important given the high incidences of sexual prejudice in this group of professionals. These investigations that provide information about the magnitude of the situation allow us to take precise and timely measures from the training institutions, to reduce the negative impact of sexual prejudices in this practice.

In nursing students, the psychometric performance of the HSS has not been determined, so it is necessary to have information that guarantees the reliability and validity in this area of higher education.

This research aims to estimate the psychometric performance, internal consistency, and dimensionality of the HSS in female nursing students studying in a university at Cartagena, Colombia.

**Methods**

**Design**

A methodological study of screening tests was performed using an instrument that is answered with a pencil and paper. The university ethics committee approved it. Given the study’s characteristics, it is classified as a risk-free investigation by Resolution No. 8430 of the Colombian Ministry of Health of 1993.

**Sample**

For this study, the participation of nursing students from a public university in Cartagena, Colombia was requested. It had a voluntary collaboration of 419 female students from the first to the eighth semester. This number of participants was ideal for performing CFA and calculating the usual coefficients to establish internal consistency. The participants’ ages were between 18 and 29 years old (M=20.9, SD=2.9). The semester studied was distributed: first 71 students (16.9%); second, 82 (19.6%); third, 50 (11.9%); fourth, 54 (12.9%); fifth, 79 (18.9%); sixth, 44 (10.5%); seventh, 18 (4.3%); and eighth semester, 21 (5.0%). Regarding their marital status, 376 students (89.7%) said they were single and 43 (10.3%), married or living in a free union. The racial-ethnic self-recognition was distributed along mestizos, 271 students (64.7%); Afro-Colombian, 89 (21.2%); indigenous, 21 (5.0%); did not respond, 38 (9.1%), with respect to the religious background, 300 students (71.6%) reported following Catholicism; 103 (24.6%) other Christian currents; and 16 (3.6%), none. Concerning the political orientation, the distribution was: 181 liberals (43.2%), 123 conservatives (29.4%); socialists, 37 (8.8%) and 78 none (18.6%).

**Instruments**

The research questionnaire included the aforementioned demographic information and the HSS questions. This measurement instrument is composed of four items: “homosexuality is disgusting”, “homosexuals corrupt young people”, “homosexuality is a sin,” and “homosexuality should be against the law.” It provides five response options ranging from
“strongly disagree” to “strongly agree.” Answers are scored from one to five in such a way that the total score is between four and twenty; lower scores suggest a more positive attitude towards homosexual condition.\(^{(19)}\)

**Process**

The students completed the research questionnaire in the classroom, using an application form. The questionnaire was delivered in an envelope without any label. Students should omit the name and any information that would allow for possible identification. A team of research assistants explained the objectives of the study, how to answer the questionnaire, and resolved doubts about the HSS items, without conditioning the individual’s response. Likewise, the research assistants informed the students that they could refuse to participate: not to receive the envelope, not to answer some of the points if they found them annoying or to return it without responding if it seemed to them, without this it could mean that it would be treated negatively by the researchers. At the end of the questionnaire, they should keep them back in the envelope and return them to the assistants. Reliability was always maintained during the fingering and analysis process since the questionnaires were anonymous. This information was collected between March 1st and May 31st, 2018.

**Statistical analysis**

A CFA was carried out to corroborate the one-dimensional structure of HSS. This process was carried out with the maximum likelihood method. In the same way, the adequacy test of the Kaiser Meyer Olkin sample (KMO),\(^{(31)}\) and Bartlett’s sphericity coefficient\(^{(32)}\) were calculated. The CFA was completed with the calculation of the root of the mean square error of approximation \((RMSEA)\) coefficient (with a confidence interval of 90%, CI=90%), the Comparative Fit Index \((CFI)\), the Tucker-Lewis index \((TLI)\) and the standardized mean square residual \((SRMR)\). The \textit{RMSEA} and the \textit{SRMR} if these are less than 0.06; and the \textit{CFI} and \textit{TLI} if they are above 0.89. Cronbach’s alpha\(^{(33)}\) and McDonald’s omega\(^{(34)}\) were calculated to quantify the internal consistency. Likewise, the scores between the HSS and ethnic-race, religious affiliation, and political affiliation were compared with an analysis of variance \((ANOVA, \text{test F})\). Since this test is highly sensitive to the size of the sample, those values of \(p\) less than 0.001\(^{(35)}\) were accepted as significant. The analysis was carried out with the statistical program STATA 13.0.\(^{(36)}\)

**Results**

The HSS showed scores between four and twenty \((M=10.1, \ SD=3.7)\). The coefficients for internal consistency were 0.68 for Cronbach’s alpha of 0.68 and 0.69 for McDonald’s omega of 0.69. More information is presented in table 1.

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean (SD)</th>
<th>CIIC</th>
<th>CAID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.31 (1.24)</td>
<td>0.48</td>
<td>0.60</td>
</tr>
<tr>
<td>2</td>
<td>2.50 (1.20)</td>
<td>0.52</td>
<td>0.58</td>
</tr>
<tr>
<td>3</td>
<td>3.05 (1.49)</td>
<td>0.42</td>
<td>0.65</td>
</tr>
<tr>
<td>4</td>
<td>2.22 (1.18)</td>
<td>0.45</td>
<td>0.62</td>
</tr>
</tbody>
</table>

In the CFA, Bartlett’s sphericity test showed chi-square of 254.8, degrees of freedom of 6; and probability less than 0.001. A single factor was identified, with an eigenvalue of 2.1, responsible for 51.5% of the variance. The goodness of fit indicator was for the \textit{RMSEA}=0.08 (CI=90% 0.03-0.14); \textit{CFI}=0.98, and \textit{TLI}=0.94. Table 2 shows the communalities and loadings for these items.

<table>
<thead>
<tr>
<th>Item</th>
<th>Communality</th>
<th>Loading</th>
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<tbody>
<tr>
<td>1</td>
<td>0.399</td>
<td>0.632</td>
</tr>
<tr>
<td>2</td>
<td>0.442</td>
<td>0.655</td>
</tr>
<tr>
<td>3</td>
<td>0.272</td>
<td>0.522</td>
</tr>
<tr>
<td>4</td>
<td>0.311</td>
<td>0.558</td>
</tr>
</tbody>
</table>

According to race-ethnicity, religious affiliation, and political orientation, the scores are shown in table 3. Students with affiliation to any of the groups other than Catholicism had significantly higher scores than those of Catholics beliefs or no determined religion. The differences in the ethnic-race or religious orientation were not statistically significant.
In this study, it is observed that the HSS shows acceptable internal consistency and indicators of goodness of fit for the set of aspects concerning the nursing students in the city of Cartagena, Colombia.

It has observed that the HSS showed internal consistency with values of Cronbach's alpha of 0.68 and omega McDonald's of 0.69, these findings are inferior to those observed in the only study that has evaluated this performance of the HSS; Campo-Arias et al reported values of Cronbach alpha and McDonald's omega 0.77. Under ideal conditions, internal consistency values are expected between 0.70 and 0.95. However, these findings should be interpreted together with the thought that they may vary from one population to another, thus, becoming necessary to validate them in groups of people with particular characteristics, such as nursing students.

This study corroborated the dimensional analysis of the HSS, and the factorial solution showed a single factor that explained 51.5% of the total variance. Campo et al found a slightly higher percentage of variance; the factorial solution of the HSS explained 59.7% of the total variance. This finding corroborates the uni-dimensionality, given that the variance explained is greater than 50%. The heterogeneity of the populations can explain the differences in variance between the studies, differences between the country’s cities, and different cultural characteristics.

Concerning the nomological performance, the statistical significance was observed between homophobic scores and being a non-Catholic Christian compared to students of other religious affiliations. This finding is consistent with other studies that reported that students with religious involvement or participants of religious services showed higher homophobia scores than those with less commitment. Christian religions condemn homosexuality and consider it an abominable sin.

This study is the first of its kind to show the psychometric performance of HSS in nursing students, therefore, representing an essential contribution to the quantification of homophobia as a relevant aspect in this group of future health professionals, considering that during the care provided by these professionals, subjects with sexual orientation different from heterosexual may be victims of stigma-prejudice-discrimination. However, it has the limitation that only women included given the small number of men studying nursing, at the university where the study was conducted, and it has been observed that there is a difference in the attitudes of men and women towards non-hegemonic sexual orientations, women usually show more positive attitude homosexuality.

In this sense, we deduce the importance of this study for academic and research purposes. It is necessary to have a brief scale such as HSS, that can provide a valid and reliable quantification of homophobia in future research as well as to obtain accurate information about homophobia, not only in the nursing training field but also between those who are practicing the profession; hence, this rejection constitutes a barrier from providing a humanized and dignified care to the patients. Homophobia is configured as a stressor in the daily life of homosexuals. Like other stressors, homophobia increases the risk of emotional problems in people who face it in everyday life.

The attitudes of rejection towards this population, not only affects from the scope of the profession the users of the health services but also qualifies the interaction with other people in the different contexts where the students or professionals perform their practices, study or work colleagues, neighbors, ordinary people, who may have homosexual orientations.
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Conclusion

It is concluded that the HSS is a high internal consistency instrument; nevertheless, the dimensionality cannot be demonstrated with all the indicators. It is necessary to review the validity of the HSS construct in other contexts and review the performance of the HSS in male nursing students.

Acknowledgments

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Collaborations

Cogollo Z, Campo A and Herazo E were the main author of the manuscript, design and conceived the research idea, built the methodology and drafted the results, participated in the writing and argumentation of the article, reviewed the entire content of the manuscript for final approval for publication.

References


