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RESEARCH ARTICLE (ORIGINAL)

ALONE scale for Portuguese older adults: Translation, cultural adaptation, content validity, and face validity

Escala ALONE para a população idosa portuguesa: Tradução, adaptação cultural, validade de conteúdo e validade facial

Escala ALONE para ancianos portugueses: Traducción, adaptación cultural, validez de contenido y validez facial

Sara Guerra [1]
https://orcid.org/0000-0003-0994-3542

Liliana Sousa [1, 2]
https://orcid.org/0000-0003-3491-7119

Sofia de Lurdes Rosas da Silva [3, 4]
https://orcid.org/0000-0003-2856-3502

Maria do Rosário de Jesus Martins [5, 6]
https://orcid.org/0000-0002-8609-5834

João Paulo de Almeida Tavares [2, 1, 6]
https://orcid.org/0000-0003-3027-7978

[1] Center for Health Technology and Services Research (CINTESIS@RISE), University of Aveiro, Portugal

[2] University of Aveiro, Department of Education and Psychology, Aveiro, Portugal

[3] Polytechnic Institute of Coimbra, Coimbra School of Education, Portugal

[4] Centre for Research and Innovation in Education (inED), Coimbra, Portugal

[5] Viana do Castelo Polytechnic Institute, Viana do Castelo, Portugal

[6] Health Sciences Research Unit: Nursing (UICISA: E), Nursing School of Coimbra (ESEnfC), Coimbra, Portugal

Corresponding author
Sara Guerra
E-mail: sara.guerra@ua.pt

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Abstract

Background: Loneliness among older adults is a significant public health problem that requires early detection for effective intervention. The ALONE scale is a brief (five items) and reliable tool that holds promise for clinical use.

Objective: Translation, cultural adaptation, content validity, and face validity of the ALONE scale for Portuguese community-dwelling older adults (≥ 65 years).

Methodology: This methodological study comprised three stages: (a) translation and cultural adaptation; (b) content validity assessment with 15 experts (content validity index, CVI); and (c) face validity assessment through semi-structured interviews with eight older adults.

Results: Linguistic equivalence was achieved with the original ALONE scale. The items had strong content validity (CVI ≥ 0.8, average CVI of 0.97, universal agreement of 0.71, excellent kappa). Face validity assessment showed that the ALONE scale captures the feelings of loneliness, is useful, and is easy to understand and complete.

Conclusion: The translated and culturally adapted ALONE scale shows content and face validity for assessing loneliness among Portuguese older adults in community settings.

Keywords: older adults; loneliness; validation study

Resumo

Enquadramento: A solidão nos idosos é uma preocupação de saúde pública que requer deteção precoce para intervenções eficazes. A escala ALONE é breve (cinco itens) e fiável, prometendo utilidade clínica.

Objetivo: Tradução, adaptação cultural, validade de conteúdo e validade facial da escala ALONE para idosos portugueses residentes na comunidade (≥ 65 anos).

Metodologia: Este estudo metodológico compreendeu três fases: (a) tradução e adaptação cultural; (b) avaliação da validade de conteúdo com 15 especialistas (índice de validade de conteúdo, IVC); e (c) avaliação da validade facial através de entrevistas semiestruturadas com oito idosos.

Resultados: Alcançou-se equivalência linguística com a escala ALONE original. Os itens demostraram forte validade de conteúdo (IVC ≥ 0,8, IVC médio de 0,97, concordância universal de 0,71, kappa excelente). A validade facial mostrou que a escala ALONE deteta sentimentos de solidão, é útil e fácil de compreender e responder.

Conclusão: A escala ALONE, traduzida e culturalmente adaptada, é válida para avaliar a solidão nos idosos portugueses em contextos comunitários.

Palavras-chave: idosos; solidão; estudo de validação

Resumen

Marco contextual: La soledad entre los adultos mayores es un problema de salud pública que requiere una detección precoz para poder realizar intervenciones eficaces. La escala ALONE es breve (cinco ítems) y fiable, y tiene una utilidad clínica prometedora.

Objetivo: Traducción, adaptación cultural, validez de contenido y validez facial de la escala ALONE para adultos mayores portugueses que viven en la comunidad (≥ 65 años).

Metodología: Este estudio constó de tres fases: (a) traducción y adaptación cultural; (b) evaluación de la validez de contenido con 15 expertos (índice de validez de contenido, CVI), y (c) evaluación de la validez facial mediante entrevistas semiestructuradas con ocho adultos mayores.

Resultados: Se consiguió una equivalencia lingüística con la escala ALONE original. Los ítems mostraron una fuerte validez de contenido (CVI ≥ 0,8, CVI medio de 0,97), concordancia universal de 0,71, kappa excelente). La validez facial mostró que la escala ALONE capta los sentimientos de soledad, es útil y fácil de entender y completar.

Conclusión: La escala ALONE, traducida y adaptada culturalmente, es válida para evaluar la soledad entre adultos mayores portugueses en contextos comunitarios.

Palabras clave: adultos mayores; soledad; estudio de validación

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Introduction

Loneliness has been defined as an unpleasant and distressing phenomenon that occurs when a person perceives a mismatch between their actual and ideal social relationships (Guerra et al., 2022; McKenna-Plumley et al., 2020). Loneliness among older adults is a public health issue that has captured public attention around the world (World Health Organization, 2021). Assessing loneliness with validated and reliable instruments is crucial for prevention, (early) diagnosis, and appropriate intervention at the individual and community levels (Bugallo-Carrera et al., 2023). Two main methods have been used to assess loneliness (Carvalho et al., 2023): (a) validated loneliness scales that measure the intensity of loneliness rather than its frequency, and (b) self-rating scales, where respondents report the frequency of loneliness through a single-item question. Some of the best-known scales worldwide are the UCLA Loneliness Scale (Russell et al., 1978) and the Social and Emotional Loneliness Scale for Adults (SELSA; DiTommaso & Spinner, 1997). However, the large number of items makes them challenging for clinical use. Recently, a brief (five items) and comprehensible scale (ALONE; Deol et al., 2022) was developed to optimize the screening of loneliness in clinical settings. This study aims to perform the translation, cultural adaptation, content validity, and face validity of the ALONE scale for Portuguese older adults (≥ 65 years) in community settings.

Background

Loneliness is frequent among older adults and requires appropriate prevention and intervention measures (Wang et al., 2023). Loneliness has been extensively studied, and several definitions have been proposed. According to Perlman and Peplau (1984), loneliness is an unpleasant experience at the relationship level that occurs when the quality of relationships is insufficient or scarce. Loneliness is felt as a discrepancy between one's desired and achieved levels of social contact (Perlaman & Peplau, 1984). It is a subjective experience based on the perception of the quantity and/or quality of social connections that older adults need as compared to what they experience (Guerra et al., 2022; Holt-Lunstad, 2018). Overall, there seems to be three consensus points regarding the concept of loneliness. First, loneliness is the perception of a discrepancy between a person's desired and actual social networks. It is not about having few social contacts but about realizing that one's relationships are not satisfactory. Second, loneliness is a subjective experience – people may experience it even with ample social interactions. Third, loneliness is an unpleasant and distressing experience (Guerra et al., 2022).

Data from a systematic review and meta-analysis (Chawla et al., 2021) conducted before the outbreak of the COVID-19 pandemic, which included 31 studies with more than 120,000 older adults, estimated a prevalence of loneliness of 28.5% (95% CI: 23.9–33.2%). In Portugal, the prevalence was 14.9% (95% CI: 11.8–17.7%). Additionally, data from "Censos Sénior 2022" reported 44,511 older adults living alone, isolated, or in vulnerable situations (Guarda Nacional Republicana, 2022). Since the beginning of the COVID-19 pandemic, loneliness has doubled in the European Union (EU), with Portugal having the sixth highest increase among EU countries (Baarck et al., 2021).

Loneliness has been linked to various adverse health outcomes, including an increased risk of all-cause mortality (Wang et al., 2023), poor cardiovascular health (Golaszewski et al., 2022), an increased risk of mild cognitive impairment and dementia (Sundström et al., 2020), depression and poor subjective well-being (Guerra et al., 2022; Martín-María et al., 2021).

The higher prevalence of loneliness and its association with adverse health outcomes highlight the importance of screening for loneliness in clinical settings using valid and reliable instruments. Although screening tools are available to measure loneliness, screening remains underperformed, probably because the common measures (UCLA Loneliness Scale and SELSA) have too many items, making its use difficult in clinical settings. The ALONE scale (Deol et al., 2022) is a valid and reliable measure of loneliness that was developed in the United States of America for use in clinical settings. It is a brief, self-reported measure of loneliness in older adults that assesses the following dimensions: social isolation (the extent to which an individual feels isolated from others), subjective loneliness (the extent to which an individual feels lonely and lacks companionship), and social disconnectedness (the extent to which an individual feels disconnected from others and society; Deol et al., 2022). The ALONE scale has strong validity in assessing severe loneliness in older adults (Deol et al., 2022). Its brief and comprehensible nature reduces the burden of administration, making it optimal for use in clinical settings (Deol et al., 2022). Therefore, translation, cultural validation, content validity, and face validity of the ALONE scale for Portuguese older adults (≥ 65 years) is relevant. The widespread screening of older adults who are at risk of loneliness could be followed by prescriptions of social interventions to minimize loneliness (Deol et al., 2022).

Research question

What is the content and face validity of the translated and culturally adapted ALONE scale for assessing loneliness among Portuguese community-dwelling older adults?

Methodology

This methodological study is part of the larger project, "Translation, adaptation and validation of the ALONE scale for Portuguese older adults", which was approved by the Research Ethics Committee of the Health Sciences

Research Unit: Nursing (UICISA: E) and the Nursing School of Coimbra (ESEnfC) [P906_10_2022]. This study followed the COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) checklist (Mokkink et al., 2014) and comprised three main phases: (i) translation and cultural adaptation, (ii) content validity assessment, and (iii) face validity assessment.

Phase 1: Translation and cultural adaptation to European Portuguese

Deol et al. (2022) authorized the translation of the ALONE scale. The linguistic validation process followed the principles of good practice for translation and cultural adaptation proposed by the International Society for Pharmacoeconomics and Outcomes Research (ISPOR; Wild et al., 2005). This process is described in Table 1.

Table 1

Translation, cultural and linguistic adaptation process of the ALONE scale

Steps	Activities
1. Forward translation	Translation from American English into European Portuguese by two translators with advanced knowledge of English and European Portuguese.
2. Reconciliation	Revision and adaptation of the translation made by the authors of this study and one translator. After a review and discussion for consensus, the first version of the instrument was designed.
3. Back-translation	Translation of the first version into English by one translator with advanced knowledge of English and European Portuguese.
4. Harmonization	Comparisons of the original scale with the translated scale (version 1) and the back-translation into English by the authors and one translator using item-by-item analysis, resulting in version 2.
5. Cognitive debriefing	An expert panel (n = 15) composed of health and psychosocial care professionals and/or faculty teachers/researchers in the field of gerontology was formed to analyse version 2. The panel analysed each item to assess comprehensibility and interpretation and avoid ambiguities, resulting in version 3.
6. Proofreading	Version 3 was reviewed by a Portuguese language teacher, resulting in the final version.

Phase 2: Content validity

Content validity assessment involved 15 experts, all with PhDs in gerontology and geriatrics: one sociologist, two nurses, one gerontologist, two social educators, and nine psychologists. These experts were selected based on their knowledge, academic degrees, and relevant experience in the field of loneliness in older adults. Three rounds of evaluation and consensus-building were conducted from February to March 2023. During each round, the experts received an Excel file via email containing an agreement form. They used a 4-point Likert scale ranging from 1 (*completely disagree)* to 4 (*completely agree*). Scores of 1 and 2 were categorized as *disagree* (assigned a value of 0), while scores of 3 and 4 were categorized as agree (assigned a value of 1). The form included a section for comments, suggestions, and/or changes to each item. At the end of each round, the content validity index (CVI) was calculated, as were the convergences and discrepancies in the comments and/or suggestions, which were revised and evaluated again by the experts.

Phase 3: Face validity

Face validity refers to how well a tool seems to measure the construct it was designed for (Connell et al., 2018). To examine the face validity of the ALONE scale, a convenience sample of participants was recruited, considering the following criteria: (a) older adults (≥ 65 years), (b) ability to speak and/or understand European Portuguese, (c) community dwelling, and (d) without cognitive impairment – assessed with the Mini-Cog test (Borson et al., 2000). An interview guide was used comprising (a) an informed consent form, (b) the Mini-Cog test, (c) sociodemographic characteristics (sex, age, marital status, years of education), and (d) a semi-structured interview of nine questions: 1. What is your initial opinion about the ALONE scale?; 2. Do you feel it is important/necessary for these types of scales/tools to exist? Why?; 3. What did you like the most about ALONE?; 4. Are the questions clear and easy to understand?; 5. Are the questions appropriate for your level of understanding?; 6. Is there anything you did not like about ALONE?; 7. Do you have any suggestions for improving the content?; 8. What effects could ALONE have on you (impact)?; 9. From your perspective, how could ALONE be useful in the future?

Participants were recruited in collaboration with the Municipality of Ílhavo (Portugal), a partner of the University of Aveiro. The first author contacted the staff and presented the study, objectives, and eligibility criteria for participants. The staff presented the study to older adults and asked if they were interested in joining the study. The contact information of those who agreed to collaborate was provided to the first author, who then contacted the potential participants and scheduled interviews at a time and place of their convenience. The first author also provided information about the study and obtained written informed consent. The interviews were conducted in person by a trained member of the research team (first author).

Data analysis

Content validity: After translating and culturally adaptating the ALONE scale, two methods were used to assess content validity: (a) Content Validity Index for items (CVI-I), with a minimum agreement of 80%; and (b) CVI for the scale (CVI-S) using two measures – namely, average agreement (S-CVI/Ave) and universal agreement (S-CVI/UA). The results are considered excellent if S-CVI/UA ≥ 0.8 and S-CVI/Ave ≥ 0.9 (Yusoff, 2019). Other measures were included: probability of chance (Pc) and Kappa (good if between 0.60 and 0.74 and excellent if above 0.74;Yusoff, 2019).

Face validity: Interviews were submitted to thematic analysis to assess face validity. The interviews were transcribed, and a trained member of the research team conducted the thematic analysis using a three-step inductive approach, which included (a) familiarization (getting acquainted with the data by re-reading transcripts and writing memos), (b) organization (coding/searching for themes, categorizing and reviewing), and (c) reporting (selecting themes that directly answer the research questions; Vaismoradi et al., 2013). In the familiarization phase, two researchers read the transcripts, created memos, and decided on an inductive approach. In the organization phase, the same researchers developed an open coding system to track the frequency of occurrences of specific themes. The coding scheme was then triangulated with two other qualitatively trained researchers to increase results reliability and trustworthiness. In the reporting phase, all researchers convened to compare the coding and discuss disagreements and data interpretations until they reached a consensus. Data saturation was used to determine the sample size (Saunders et al., 2018).

Results

The steps of translation and cultural adaptation ensured the semantic and idiomatic equivalence of the ALONE scale to its original version. Following this phase, the findings regarding content and face validity are reported as follows.

Content validity

Consensus was obtained at the end of the third round (CVI-I < 80%). The title, items, and instruction obtained a CVI of 1, *Pc* of 0, and *Kappa* of 1. Among the five items, three (2, 3, and 4) had a CVI of 1, *Pc* of 0, and *Kappa* of 1, which is considered excellent (Table 2). Item 1 had a CVI of 0.83, *Pc* of 0.003, and *Kappa* of 0.87, and item 5 had a CVI of 0.93, *Pc* of 0.001, and *Kappa* of 0.93. The S-CVI/Ave was 0.97 and the S-CVI/UA was 0.71.

Table 2

Content validity index of the European Portuguese version of the ALONE scale

Item	*CVI*	*Pc*	*K*	*Kappa* interpretation
ALONE scale	1	0	1	Excellent
To assess an individual's perception of being lonely, ask each of the items below using the following rating scale: Yes, Sometimes, No	1	0	1	
A - Are you emotionally **appealing** to others as a friend?	0.83	0.003	0.87	Excellent
L - Are you **lonely?**	1	0	1	Excellent
O - Are you **outgoing**/friendly?	1	0	1	Excellent
N - Do you feel you have **no** friends?	1	0	1	Excellent
E - Are you **emotionally** upset (sad)?	0.93	0.001	0.93	Excellent
S-CVI/Ave = 0.97; S-CVI/UA = 0.71				

Note. CVI = Content validity index; Pc = Probability of chance; K = Kappa; S-CVI/Ave = Content validity index of the scale, average; S-CVI/UA = Content validity index of the scale, universal agreement.

Face validity

Eight community-dwelling older adults participated in this part of the study. All were female and retired, and their average age was 73.8 years old (± 3.97). Five were residents of urban areas and three of suburban areas. Three were widowed, three married, and two divorced. Four lived alone, three in a couple, and one in an extended family. Five had less than four years of formal education and three had 12 or more years of formal education. The interviews lasted between 15 and 60 minutes. The results are presented in a narrative format using quotes from all participants to support the data. Three themes were identified: captures the feelings of loneliness; useful; easy to understand and complete.

The participants emphasized that the ALONE scale "captures the feelings of loneliness" of older adults: "The scale can be important for measuring loneliness, understanding how the person is feeling, and identifying the type of support we can provide to them" (P4). The ALONE scale was depicted as "useful": "Older adults may feel good about being asked these questions, because they can feel heard" (P2). Participants stressed that these tools are

only useful if, after the screening, the persons will receive the support they need. Knowing how many older adults feel lonely may create pressure for governments to act on this issue. One participant shared, "Our governments could help and care for people who are lonely and have mobility problems" (P6). The scale was considered "easy to understand and complete": "It has few questions, and they are easy to understand" (P1); "Anyone can understand these questions" (P4); "This instrument is simple and seems to be brief" (P8). Two participants (P1 and P5) suggested that the word "*cativante*" ("appealing") may not be easy to understand. They suggested including "the definition of some words". For example, 'appealing': the interviewer may say what is meant by that word to avoid doubts" (P1).

Discussion

Loneliness is a major public health issue with a significant impact on physical and mental health. Many older adults are at an increased risk of loneliness due to several factors, including retirement, bereavement, and physical and cognitive decline (Macià et al., 2021). Healthcare providers, especially nurses, are in a unique position to identify and address loneliness in community-dwelling older adults. Therefore, healthcare providers need valid screening instruments, such as the ALONE scale, to assess loneliness in clinical practice. The ALONE scale is simple and brief, easy to administer and score, and is sensitive to change, making it suitable for use in busy clinical settings. This study provided the translation, cultural adaptation, content validity, and face validity of the ALONE scale for Portuguese community-dwelling older adults.

This study involved three steps. First, during the translation and cultural adaptation process, the framework proposed by ISPOR (Wild et al., 2005) was used to ensure that the original and European Portuguese versions were semantically, idiomatically, and conceptually equivalent. The second and third steps entailed assessing content validity and face validity, respectively. COSMIN indicates content and face validity as the initial step in evaluating measurement properties. Results of the content validity analysis support that the ALONE scale is a valid instrument. From an item perspective, all items had an CVI-I ≥ 0.8, which is recommended when a panel of experts includes six or more participants (Boateng et al., 2018). To ensure diversity of scientific approches, the quality of the expert panel was considered. The experts come from different disciplines with a research focus on older adults and loneliness. Individual CVIs (Pc and Kappa) were considered excellent. Item 1 (*Are you emotionally appealing to others as a friend*?) had lower CVI results, although they were within the recommended values. Probably the word "appealing" is more difficult to have a common meaning, leading to the difficulty in reaching a consensus among the panel of experts. The face validity results confirmed the difficulty that community-dwelling older adults have in understanding this word. Based on participants' suggestions in the face validity assessment, a note should be included at the end of the scale (for researchers, healthcare providers, and other practitioners) with alternative words (e.g., "attractive"/"*atrativo*", "interesting"/"*interessante*", "charismatic"/ "*carismático*"). The S-CVI/Ave of 0.97 suggests high content validity, while the S-CVI/UA of 0.71 suggests that the ALONE scale has moderate content validity. The S-CVI/Ave is expected to be greater than the S-CVI/UA if the I-CVI is not equal to 1. The probability of obtaining a value of 1 for all items depends on the number of experts involved – as the number of experts increases, this probability decreases. Therefore, the inclusion of 15 experts could explain the results obtained for S-CVI/UA, although this value is close to the recommended value. It is important to understand whether the ALONE scale captures the concept of loneliness for the older adults who complete it. Findings from face validity assessment suggest that the ALONE scale has strong face validity, as participants reported that it captures their feelings of loneliness, it is useful, and easy to understand and complete. The ALONE scale is a novel measure of loneliness for older adults that directly asks them about their feelings of loneliness. This is in contrast to other scales that avoid direct questions about loneliness (Deol et al., 2022). Therefore, the ALONE scale can be considered a straightforward measure of loneliness that is well suited for use with older adults. It can be a valuable tool for healthcare providers, other practitioners, and researchers, and it may help to raise awareness of loneliness and facilitate dialogue with older adults. This perspective aligns with Deol et al. (2022), who reported that screening to identify at-risk older adults must be followed by health and social interventions to address loneliness. The scale can be used to screen older adults for loneliness during routine clinic visits, identify older adults who are at high risk of loneliness and provide them with targeted interventions, monitor the effectiveness of the interventions over time, and conduct research.

This study had limitations. Firstly, the original versions of the ALONE scale did not report content or face validity, limiting data comparisons. Secondly, conducting content and face validity assessments was challenging due to the complexity of the construct of loneliness. Thirdly, regarding face validity, the participants were recruited from the same organization, which may have led to lack of diversity among participants. Additionally, only women were involved. Forthly, content and face validity are the initial steps in supporting the validity of a scale. Other psychometric properties, such as construct validity, internal consistency, and test-retest reliability, must be assessed to draw legitimate conclusions about the validity and reliability of the ALONE scale. This will be the next phase of our research.

Conclusion

The ALONE scale demonstrated linguistic equivalence with the original version. All five items achieved a CVI ≥ 0.8, with a high average CVI of 0.97 and moderate universal agreement of 0.71, supporting its content validity.

The face validity assessment emphasized that the ALONE scale captures the feelings of loneliness, is useful, and easy to understand and complete. Future studies should explore the scale's psychometric proprieties, including construct, convergent and divergent validity, and reliability (e.g., internal consistency and test-rest). The ALONE scale holds potential for screening loneliness among older adults (≥ 65 years) in community settings in Portugal.

Author contributions

Conceptualization: Guerra, S., Sousa, L., Silva, S., Tavares, J.
Data curation: Guerra, S., Tavares, J.
Formal analysis: Guerra, S., Sousa, L., Silva, S., Martins, M. R.,
Investigation: Guerra, S., Sousa, L., Silva, S., Martins, M. R., Tavares, J.
Methodology: Guerra, S., Sousa, L., Silva, S., Martins, M. R., Tavares, J.
Project administration: Guerra, S., Tavares, J.
Resources: Guerra, S., Tavares, J.
Software: Guerra, S., Tavares, J.
Supervision: Sousa, L., Tavares, J.
Validation: Guerra, S., Sousa, L.,
Visualization: Guerra, S., Sousa, L.,
Writing - Original Draft: Guerra, S., Sousa, L., Silva, S., Martins, M. R., Tavares, J.
Writing - Review & Editing: Guerra, S., Sousa, L., Silva, S., Martins, M. R., Tavares, J.

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