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Thriving of Older People Assessment Scale (TOPAS): Transcultural adaptation, psychometric evaluation, and refinement in a Spanish sample

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A B S T R A C T

The objective of this study was to culturally adapt the Thriving of Older People Assessment Scale (TOPAS) instrument and evaluate its psychometric properties. The study was carried out in two phases: cross-cultural adaptation and psychometric validation and refinement through a cross-sectional study conducted between 2018 and 2020 with 314 participants. The refinement resulted in an abbreviated version of TOPAS, maintaining the original 5 factors with 16 items. Cronbach alpha was 0.91. Composite reliability (0.72–0.89) and average variance extracted (0.57–0.81), supporting discriminant validity. Maximum shared variance for the factors (0.22–0.50) and average shared variance (0.16–0.31), demonstrating discriminant validity. The abbreviated version of TOPAS showed evidence of being a valid and reliable instrument for measuring the adaptability of elderly residents in institutions. Implementing this instrument in Spanish nursing homes allows for a continuous evaluation of residents' well-being in relation to their environment, a construct not previously assessed with available scales.

Introduction

The increase in life expectancy resulting from public health policies is leading to an aging population around the world.[1] Globally, there is a significant increase in the percentage of older adults.[2] In this regard, according to the UN report "World Population Prospects" (2022), this stratum of the population over 65 years old will grow from 10 % in 2022 to 16 % of the global population by 2050, reaching 1.6 billion people.[3] In the United States, the population over 65 is projected to reach 98 million by 2050, reflecting aging trends due to declining birth rates and increased life expectancy.[3] In the case of Europe, this proportion will increase to 25 % of the European population,[4] with an estimated 195 million people by 2050.[3] However, in Spain, within 30 years, the population over 65 years is expected to account for 30.4 %,[5] and the average age will be around 93 years, eight years higher than in 2025, indicating a significant increase in life expectancy.[6]

In Mediterranean culture, the caregiving pattern for the elderly has been based on caring for the person at home or in their family. This fact, coupled with the increase mentioned above in life expectancy, changes in family caregiving roles, women entering the workforce, low birth rates, and increased migration from rural to urban areas[7–9] has led to an increase in institutionalized elderly in nursing homes to meet their care demands,[10–12] trying to maintain this caregiving culture, but with the help of professional caregivers. An institutionalized elderly person refers to an older individual, generally older than 65 years, who resides permanently or long-term in an institution specialized in the care of the elderly.[13] Institutionalization, as mentioned previously, is due to the need for continuous care, which may be medical, assistive, or rehabilitative and cannot be adequately provided at the individual's home due to the severity of the health conditions, the lack of family or social support, or the need for specialized services that are only available in an institutional setting.[14,15] The total number of beds in these institutions is 3.6 million in the 23 countries of the European Union for which data are

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available. Regarding the number of beds in nursing homes in the United States, of the 1.6 million beds available, only 1.3 million are occupied.[16]

The growth in the number of institutionalized older adults poses new challenges in maintaining and improving their well-being and quality of life.[17] Quality of life (QoL) is a multidimensional concept that encompasses physical, psychological, social, and environmental aspects aimed at an individual's well-being, seeking a "quality life".[18] In the context of institutionalized older adults, assessing and improving quality of life across these dimensions is crucial due to their health conditions and the need for continuous care, allowing older adults to maintain control over their lives and health status to achieve satisfactory quality of life.[19]

Generally, elder care has often been perceived negatively, with a focus on chronic diseases and functional and cognitive decline.[20–22] However, at the institutional level, the concept of 'thrive' becomes valuable due to its positive approach, which promotes a health-orientated perspective in residential care.[23,24] Thriving implies that older adults have found their place in the nursing home environment, experiencing an improvement in their quality of life. Residents who adapt and thrive in these environments improve the perceptions of nursing staff of care, promote well-being, and leave the focus solely on health problems and frailty.[25]

Current quality-of-life measurement instruments often have deficiencies, as they rarely incorporate residents' well-being perceptions regarding their institutional environment.[26] This limitation hinders the evaluation of how institutionalized older adults adapt to their new environment and their impact on their quality of life. Therefore, it is crucial to tailor these instruments to the specific characteristics of this population to ensure an accurate reflection of its quality of life.

The Thriving of Older People Assessment Scale (TOPAS) instrument[25] is based on the positive concept of Thrive.[24,26] In the Scandinavian context, this term is "the level of well-being of a person concerning the extent to which the person has adapted and enjoys a specific environment". This validated questionnaire measures the capacity of older adults to adapt / develop in a new environment.[26] Furthermore, it has been translated and culturally adapted for use in various countries (Norway, Australia, and China) ,[27–30] demonstrating effectiveness and relevance in institutionalized older adult populations. The use of this instrument allows measurement of care outcomes, which could contribute to improvements in health and quality of life in these institutions.[25]

Although significant advances have been made in measuring quality of life, the use of the TOPAS instrument allows a better capture of specific needs and experiences related to the environment of these individuals, more accurately reflecting the conditions and factors influencing quality of life of institutionalized older adults, to address their specific needs and effectively enhance their well-being. This not only improves the accuracy and relevance of the assessment, but also provides valuable data to guide interventions and policies aimed at improving quality of life in these settings.

Currently, there are no Spanish instruments to assess the ability to thrive/adapt in new environments specifically tailored for older adults. Therefore, this study aimed to adapt the TOPAS instrument cross-culturally and evaluate its psychometric properties in older adults in nursing homes, achieving conceptual, semantic, and content equivalence with the original version.

Methods

This study was carried out in two phases: an initial phase of cross-cultural adaptation and a second phase of psychometric validation and refinement.

Cross-cultural adaptation

Phase I: translation and transcultural adaptation

The cross-cultural adaptation process was carried out between May 2018 and May 2020. First, Morales' contributions[31] were followed with respect to the translation of measurement instruments, and the following sub-phases were carried out (see Fig. 1). This stage was carried out after obtaining approval from the original author of the scale.

First phase: translations in Spanish. The first phase took place in May 2018, where two versions were obtained from independent bilingual translators, native Spanish speakers with a high level of English (residing in English-speaking countries), and experience in elderly care homes. During these translations, translators had the opportunity to make relevant observations regarding cultural context and words that were more challenging to adapt into Spanish (e.g., "Thrive"). The aim was to obtain translations that were conceptually equivalent rather than strictly adhering to literal translations.

Second phase: analysis and consensus of translations. Following the first phase, in June 2018, a panel of experts was assembled consisting of five nurses with extensive field experience, one nurse with native English proficiency, one nurse with experience in adaptation, development, and translation of measurement instruments, and one nurse with a degree in social and cultural anthropology, three of whom hold a doctorate in health sciences. An analysis of each item of the translation-provided versions was performed, which led to a conceptual, semantic, and content review that refined the cross-cultural adaptation.

Third phase: back-translation in English of the consensual Spanish version. After obtaining the unified consensus Spanish version by the panel of experts in June 2018, two independent bilingual translators were selected, both professionals in the healthcare field with experience in the specific knowledge area of the original instrument (one being a native English speaker and the other with a level of proficiency residing in Spain). The aim was to obtain a nonliteral back-translated version equivalent to English on a conceptual level (September 2018).

Fourth phase: aspect validation. In this phase, the back-translations obtained in the previous phase were evaluated and discussed by a new panel of experts, following the same selection criteria as in the second phase, which was convened for this purpose in October 2018. A conceptual, semantic, and content review resulted in a unified back translated version. This version, along with a comparative table of the translation and back-translation of the original version, was provided to the original author (October 2018), resulting in a first version in February 2019 based on the translations and impressions and contributions of the original instrument author. Subsequently, in March 2019, a cognitive pre-test was conducted with 24 residents of an elderly institution to assess the instrument's understanding, comprehension, and suitability for this specific population. The inclusion criteria were that the participants had adequate cognitive function or mild cognitive impairment typical of aging. The exclusion criterion was the presence of a diagnosed mental illness. To ensure compliance with the criteria, the participating institutions conducted a prior screening of the cognitive status of potential participants, conducted by psychologists from the various centers. Following this evaluation, a pilot study was conducted for the psychometric analysis of the instrument.

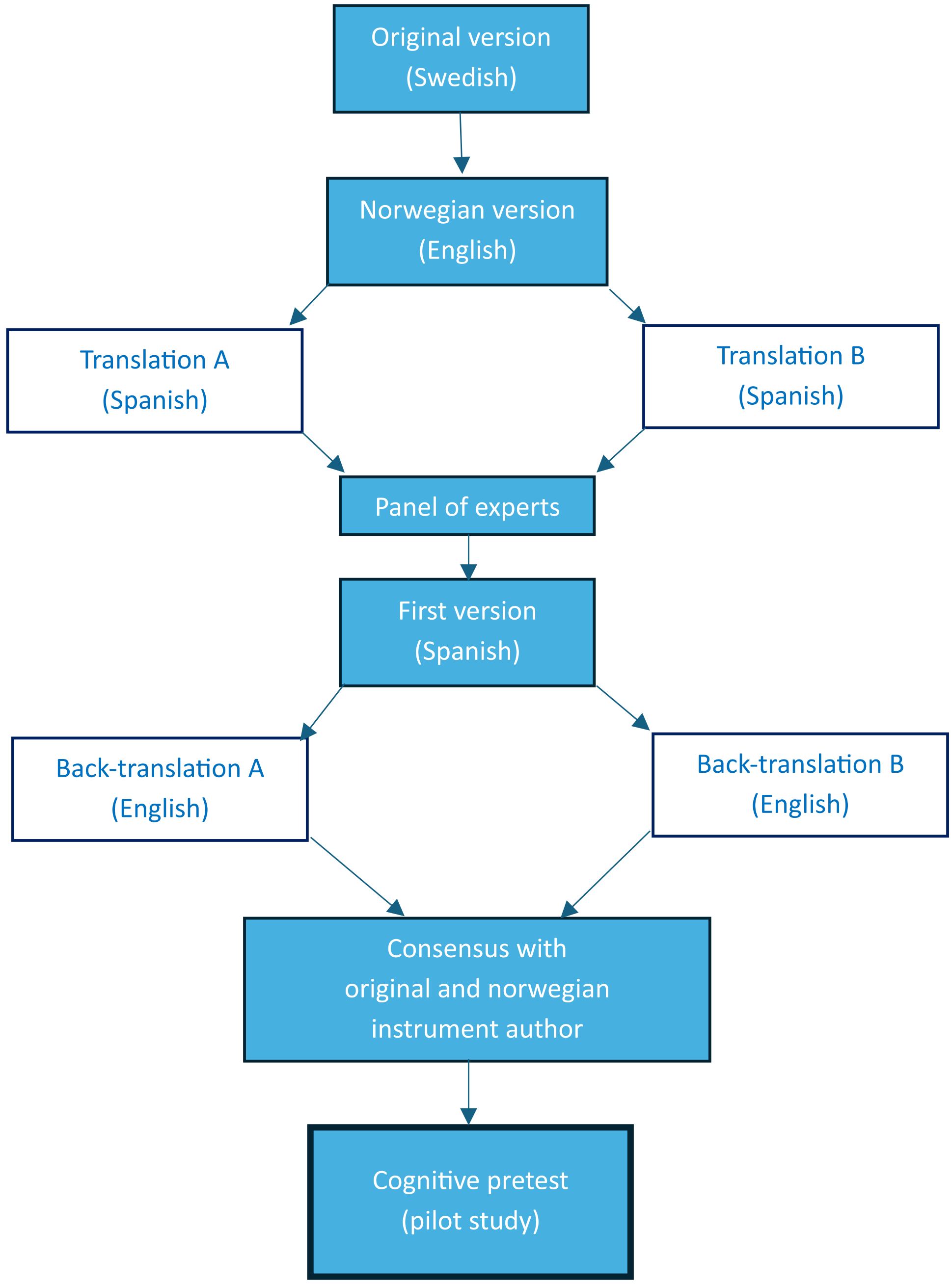

Fig. 1. Stages of the adaptation process of the English TOPAS instrument to Spanish.Source: Original development.

Phase II: psychometric replication and refinement

Design. For this phase, a cross-sectional psychometric validation study was conducted to evaluate a measurement instrument.

Participants. Participants were recruited through non-probability convenience sampling. A sample of elderly residents was selected from five elderly care residences in southern Spain. The inclusion and exclusion criteria were the same as those used in the pre-test phase.

Both management and residents were informed about the study, and the entire population that met the inclusion and exclusion criteria was given the opportunity to participate in the study. This determined that the study was not conducted randomly, but rather in a non-random manner with an integrative intention. Furthermore, the characteristics of the participants, along with inclusion and exclusion criteria and the voluntary nature, restricted the possibilities of participation. With this type of sampling, we ensured that we met the sample criteria by giving all residents the opportunity to participate in the study.

Regarding the calculation of the sample size, nonprobabilistic convenience sampling was carried out from each of the participating elderly care institutions, considering the contribution of McCallum et al.[32]; initially, the minimum calculation with five subjects per item in this case was calculated with nine subjects per item in the questionnaire. Therefore, the theoretically necessary sample size was 288 subjects + 10 % for replacement, totaling 317 subjects. However, the decision was made to collect data from the accessible population that met the inclusion criteria using convenient sampling.

Variables and instruments. The sociodemographic data of the participants were recorded using a form attached to the instrument. Data included age (years), sex (women, men), marital status (married, single, separated, divorced, widowed), residence before admission to the institution (own house, family house, other elderly residence, others), and length of time living in the residence (months and/or years).

TOPAS: The TOPAS instrument[26] can be self-administered or heteroadministered, consisting of 32 items grouped into five factors and scored using a six-point Likert scale ranging from 1= Strongly disagree to 6= Strongly agree, with a maximum score of 192 and a minimum of 32.

The first factor, 'Resident attitude' (RA), is related to how residents perceive their living situation and their attitudes towards where they currently reside, and is made up of four elements. The second factor, Quality of Care and Caregivers' (QCG), is related to the quality of care received and caregiver training, emphasizing the importance of quality care in thriving and adapting to the new environment, composed of 11 items. The third factor, 'Resident Engagement and Peer Relationships' (REPR), comprises eight items; it suggests that participating in fun activities of interest for residents leads to positive interactions with peers, facilitating adaptation and personal development in the new environment. The fourth factor, 'Keeping in Touch with People and Places' (KTPP), is related to the opportunities to maintain relationships with people and places important to residents before they change the environment. Maintaining these types of relationship outside the institution is essential to the residents' experience to thrive and adapt adequately to their new environment. Composed of four items. The fifth factor consists of five items, named 'Qualities in the Physical Environment' (QPE), indicating that the physical environment is an important aspect to consider in adaptation of a person. This person-environment fit advocates that as older adults experience functional and/or cognitive deficits, the importance of the physical environment increases.

Data collection. Data were collected using a paper notebook during 2019, from March to November. Initially, a pilot study was conducted and, after verifying its data, the primary study began. Data collection due to the size of the sample involved various health professionals with higher education level (nurses, geriatric physicians, physiotherapists, psychologists, and social workers) with the same proxy-rating. Participants independently answered the questionnaire except in cases where they had difficulty completing the data collection booklet due to vision or hearing loss, mobility problems or illiteracy. In this case, the participants answered the instrument with the help of the professionals responsible for data collection in the form of an interview.

Ethical considerations. This study received ethical approval from the Andalusian Research Ethics Coordinating Committee (approval 27/10/2016, Minutes 11/2016). Participants were informed of the handling of their data, the purpose of the research and the option to refuse participation at any time. In addition, anonymity and confidentiality were guaranteed. Subsequently, the participants gave their approval by signing the informed consent form. If a participant had difficulty giving their consent (due to vision loss, hearing loss, mobility problems, or illiteracy), their legal representative signed on their behalf.

Data analysis: validity, reliability, and rigor. Descriptive statistics were used to summarize the distribution of instrument scores and demographic characteristics of the sample, using the mean and standard deviation for quantitative variables. On the contrary, frequency and percentage were used for categorical variables.

Since TOPAS had to be modified to adapt to cultural characteristics in various contexts,[30] the factorial validity of the instrument was first examined to determine if the data obtained in the Spanish version maintained the same structure as the original instrument [(25,33)]. Confirmatory factor analysis (CFA) was performed using the maximum likelihood procedure. The following indices were used to assess the fit of data: a) Significance of $\chi2$, with a non-significant $\chi2$ desirable for model[33]; b) Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI), where values above 0.90 indicate adequate fit, while values above 0.95 indicate excellent fit[34,35]; and c) Root Mean Square Error of Approximation (RMSEA), where values below 0.08 indicate acceptable model fit and values below 0.06 indicate excellent fit, along with their upper limit of the 90 % confidence interval.[36]

If the model did not fit the data obtained in the sample, the instrument was refined by examining those items with low loadings on their respective latent variable or high loadings on others that did not correspond. Modification indices (MI) were used to adjust the model. Items with the highest MI were removed, resulting in a decrease in $\chi2$ and a substantial improvement in other fit indices. The item elimination was performed one by one, starting with the one with the highest MI, and so on, since changing a single parameter in a model could affect other parts of the solution. After each elimination, the confirmatory factor analysis (CFA) was repeated on the remaining items, evaluating the specific fit indices. These steps were repeated progressively until the indices indicated a good fit of the model, according to the criteria described above for the factorial validity of the instrument.

Additionally, the evaluation of the instrument's construct validity was complemented by determining other aspects, such as convergent and discriminant validity. Composite reliability (CR) and average variance extracted (AVE) of each factor were determined to assess the convergent validity of the instrument. Convergence was considered to exist if CR was greater than or equal to 0.7 and AVE was greater than or equal to 0.5, with AVE greater than CR for all factors. The maximum shared squared variance (MSV) and the average shared squared variance (ASV) for each factor were determined to assess the discriminant validity. Discriminant validity was considered adequate if AVE was greater than MSV and ASV. Furthermore, the square root of AVE and the correlation coefficients between factors were calculated and compared, and the square root of AVE for each factor was recommended to be greater than the correlation between it and the other factors of the model.

Reliability assessment included: a) Cronbach's alpha for the entire instrument, when each item was removed, and for each factor. A value of alpha between 0.70–0.95 was considered adequate, and this value should not increase or decrease substantially when an item was removed from the calculation; b) Corrected item-total correlation, using Pearson's correlation coefficient, which should be $\geq$0.40.

Results were considered statistically significant if the p-values were $<$0.05. Data were analyzed using IBM SPSS Statistics for Windows, version 25, IBM AMOS, version 23, and the Master Validity Tool,[37] "Master Validity Tool", AMOS Plugin. Gaskination's StatWiki).

Results

Description of the sample

Three hundred and thirty-nine surveys were collected; however, 25 were removed due to data duplication. The sample consisted mainly of widowed women (*n*= 143; 72.6 %). The mean age of the residents was 83.7 years (SD=7.26). They had an average stay duration of 32.3 months (SD=25.5), and most had their own home as their previous residence (*n*= 167; 53.1 %). Table 1 provides detailed information on the data.

Table 1
Sociodemographic characteristics of the participants. *n*= Frequency;% = Percentage; *M* =Mean; SD = Standard deviation.

	n	%	M	SD
Sex				
Women	197	55,5		
Men	117	43,5		
Age (years)			83,7	7,26
Marital status				
Married	51	16,2		
Women	27	13,7		
Men	24	20,5		
Single	29	9,2		
Women	18	9,13		
Men	11	9,4		
Separate	16	5,1		
Women	5	2,53		
Men	11	9,4		
Divorced	17	5,4		
Women	4	2,03		
Men	13	11,1		
Widowed	201	64		
Women	143	72,6		
Men	58	49.6		
Previous residence				
Own house	167	53,1		
Family house	75	25,5		
Another nursing home	69	22,1		
Others	3	1		
Average length of stay (months)				
Total			32,3	25,5
Women			33,8	25,5
Men			30,5	25,7

Psychometric evaluation

Instrument refinement

The 5-factor model proposed for the instrument did not fit well with the data obtained in the Spanish sample, with poor fit indices: $\chi 2$ =2363.827 ($p < 0.0001$), CFI = 0.766; TLI = 0.744; RMSEA = 0.116 (90 % CI: 0.111−0.121).

Progressively, 16 items with higher MI values, ranging from 206.47 to 12.47, were removed, resulting in a shortened version of the instrument consisting of 16 items. Items retained are listed in Table 2. The following tests are based on this abbreviated form of the instrument.

Distribution of scores

The mean score of the instrument in its abbreviated form was 80.23 (SD = 8.30) in the sample. The items had mean scores ranging from 4.65 to 5.29. The means and standard deviations of each item are shown in Table 2.

Reliability

Reliability tests yielded the following results. The complete instrument obtained a Cronbach alpha of 0.91, with no items significantly increasing or decreasing its value when removed. The alpha value for the factors exceeded 0.87 for all factors except for the QPE factor, which produced a value of 0.69. All items achieved adequate item-total correlations (0.50−0.75). Table 2 provides detailed results. Additional data on the reliability of the instrument prior to refinement are available as supplemental material.

Factorial validity

The items in the abbreviated TOPAS version achieved an excellent fit, as expected, in all indices except for $\chi 2$: $\chi 2$ = 204.642 ($p < 0.0001$), CFI = 0.98; TLI = 0.96; RMSEA = 0.06 (90 % CI: 0.05−0.07). Fig. 2 shows the model with the standardized path coefficients.

Convergent validity

Table 2 presents the results obtained for the convergent validity tests. Composite reliability (CR) ranges from 0.72 to 0.89, while average variance extracted (AVE) ranges from 0.57 to 0.81. Therefore, in both cases, they meet the criteria considered adequate. Furthermore, the CR values are higher than the AVE values for all factors, indicating that the model meets all the premises of convergent validity.

Discriminant validity

Table 2 shows the results obtained in the discriminant validity tests. The square root of AVE for each factor is greater than the correlation between the factor and the others. The maximum shared variance (MSV) for the factors ranged from 0.22 to 0.50, and the average shared variance (ASV) ranged from 0.16 to 0.31, both lower than the AVE. Therefore, the above results support the discriminant validity.

Table 2
Distribution of scores, reliability results, convergence, and discriminant validity of Spanish TOPAS. SD: Standard deviation; CR: Composite Reliability; AVE: Average Variance Extracted; MSV: Maximum Shared Variance; ASV Average Shared Variance; RA: Residents' attitude; QCG: Quality of care and caregivers; REPR: Resident engagement and peer relationships; KTPP: Keeping in touch with people and places; QPE: Qualities in physical environment. The bold diagonal entries are the square root of the average variance extracted (AVE) and the off-diagonal entries are the correlations between the latent variables and the level of significance: * $p < 0.001$.

Factors	Ítem	Average score	SD	Correlation ítem-total	Cronbach alpha if the item is deleted.	Cronbach alpha	CR	AVE	MSV	ASV	RA	QCG	REPR	KTPP	QPE
RA	01	4,67	0,907	0,496	0,913	0,89	0,89	0,81	0,22	0,16	**0,898**				
	02	4,65	0,897	0,513	0,913										
QCG	07	5,09	0,725	0,447	0,914	0,87	0,88	0,56	0,34	0,26	0,370*	**0,746**			
	09	5,29	0,706	0,672	0,908										
	10	5,28	0,700	0,581	0,910										
	12	5,35	0,668	0,649	0,909										
	13	5,22	0,659	0,565	0,908										
	14	5,28	0,700	0,638	0,911										
REPR	18	4,96	0,784	0,696	0,908	0,91	0,92	0,74	0,50	0,31	0,472*	0,536*	**0,858**		
	19	4,86	0,855	0,750	0,906										
	20	4,81	0,868	0,688	0,904										
	21	4,83	0,836	0,604	0,907										
KTPP	26	4,89	0,803	0,627	0,909	0,95	0,95	0,90	0,31	0,23	0,283*	0,535*	0,497*	**0,951**	
	27	4,89	0,837	0,661	0,909										
QPE	31	4,90	0,809	0,496	0,908	0,69	0,72	0,57	0,50	0,34	0,434*	0,585*	0,708*	0,558*	**0,754**
	32	5,26	0,699	0,496	0,912										
TOTAL	–	80,23	8303	–	0,914										

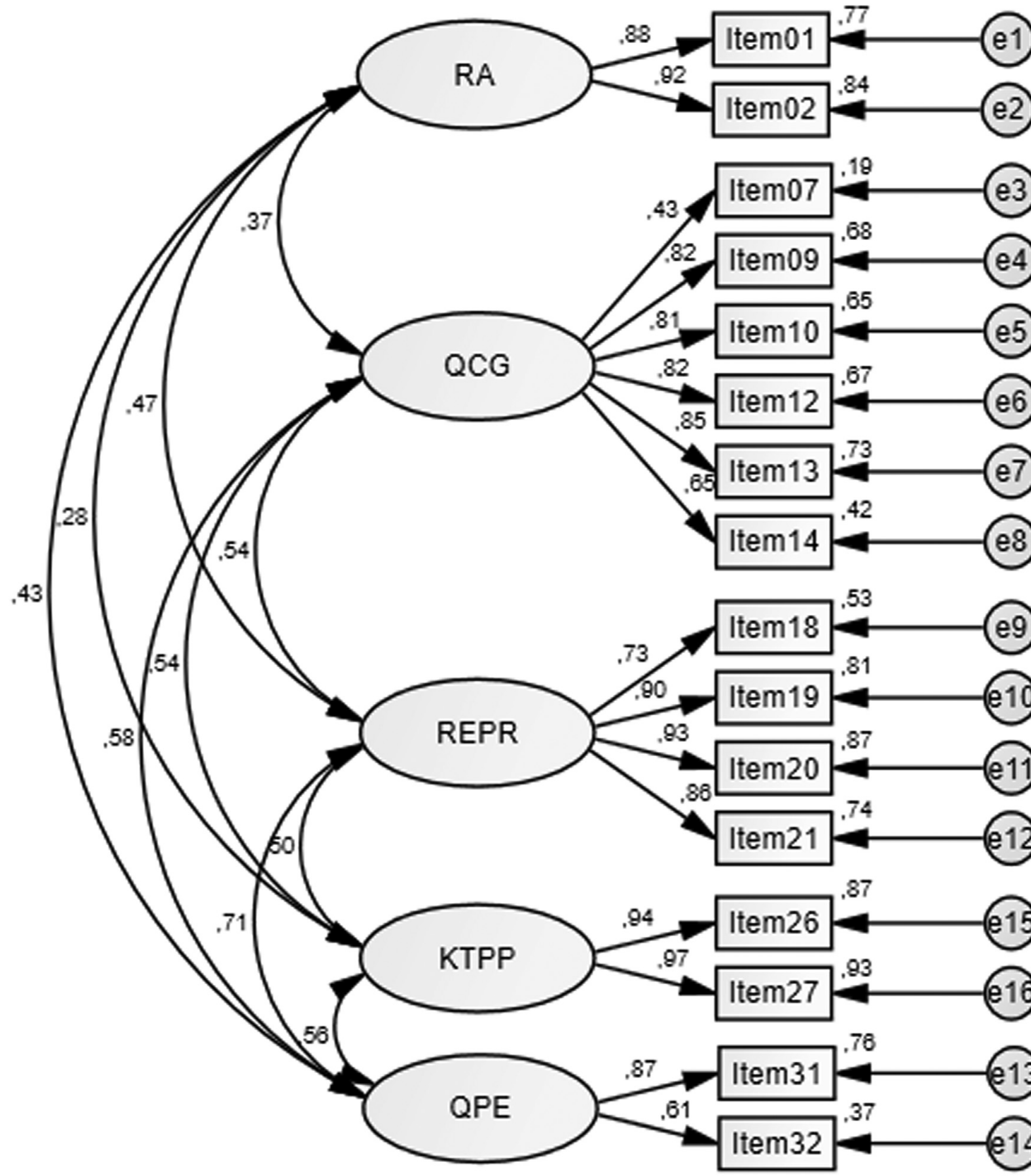

Fig. 2. Spanish TOPAS factorial model with standardized path coefficients. RA: Residents' attitude; QCG: Quality of care and caregivers; REPR: Resident engagement and peer relationships; KTPP: Keeping in touch with people and places; QPE: Qualities in physical environment.

Discussion

This study aimed to culturally adapt TOPAS and evaluate its psychometric properties in a Spanish population, achieving conceptual, semantic and content equivalence with the original version. This adaptation became the first instrument designed in Spain to assess the well-being of older adults with respect to their adaptation to residential settings for seniors. The cross-cultural adaptation of the Spanish version of TOPAS was based on the Norwegian version (English), which required several changes to adapt it to Mediterranean culture, specifically Spanish culture. The results presented in this article indicate that this adaptation has shown evidence that it is a valid and reliable instrument to measure the adaptation capacity to a new environment among older adults residing in senior living facilities.

First, focusing on the included sample, the original version of instrument,[25] conducted in senior living facilities in Norway, included 259 participants, a figure relatively similar to that obtained in cross-cultural adaptation in China,[30] with 285 participants from senior living facilities in Taiwan. However, in this study, the sample size was 314 participants, which provides greater validity to the results obtained in the Spanish context. In contrast, the subsequent reevaluation study of the psychometric validation of the original TOPAS instrument conducted in Sweden[38] included a sample of 4191 participants from >30 senior living facilities in Sweden, which is not comparable to these study data, as the latter were collected at the national level through a longitudinal study. In contrast, the cases of Norway,[25] China,[30] and this Spanish study were cross-sectional studies on a smaller scale.

Regarding the age and sex of the participants in this study, >60 % were women, with a mean age of 83.7 years (SD 7.26). Most of the participants were between 82 and 87 years old, with a peak at 90–93 years. According to the Institute for Older Peoples and Social

Services,[39] women represent 70.1 % of residents in care centers, with an average age of over 80 years, closely approximating the findings of this study. The original instrument[25] also showed a female majority (76 %) with a mean age of 86.7 (SD 6.43). In the Swedish study, the mean age was 85.5 years (SD 7.77) with the majority of the participants being women (67.1 %),[38] similar to the Spanish sample. Chinese adaptation[30] reported a similar mean age of 84.4 years (SD 10.31), but with a male majority of 73.7 %, which differs from this study and is potentially influenced by cultural, political, and social factors. Regarding the data obtained in this investigation, the most common marital status was widowed, with >60 % of the participants (63.4 %). Among women, 72.6 % were widowed, reflecting the "feminization" of aging due to female longevity.[5]

These data could not be compared with others using this instrument because the variables were not collected in them.[25,38] In the case of the Chinese adaptation,[30] they did not disaggregate marital statuses by sex, suggesting this as a limitation of the study, underscoring the need to increase research in this institutionalized population on a larger scale for comparison purposes. The scores obtained with the Spanish version of TOPAS and their relationship with the instrument's factors indicated that women scored above the overall mean in all factors, whereas men scored below the mean. This suggests a greater capacity to adapt in women compared to men. Other studies could not confirm these data, as there is no scientific evidence on TOPAS stratified by sex and the factors that comprise the instrument, which makes the present study pioneering.

Second, in terms of the reliability of the complete instrument and its inter-item correlation, the data are consistent with the results obtained in the previously highlighted studies, showing a Cronbach alpha greater than 0.90 and a high correlation in all cases. The Chinese case[30] presented superior results on Cronbach's alpha (0.96), followed by the original study of the Norwegian instrument (0.95) .[25] The figure obtained in this study is slightly lower than those mentioned above, with a result of 0.91. However, in terms of inter-item correlation, the Spanish data were slightly higher than those of other studies, ranging between 0.50–0.75 compared to 0.48–0.68 in the Swedish study and 0.48–0.70 in the original Norwegian study, indicating that each item was closely related to the instrument.[40]

The validation of the constructs of this study was based on confirmatory factor analysis (CFA) using maximum likelihood, unlike the validation of the original instrument carried out in Norway,[25] where CFA was absent. Therefore, for comparison purposes, the Swedish study reevaluating the psychometric properties of the original instrument by Baxter et al.[38] was taken as an example. In this regard, after performing the CFA in the present study, the proposed 5-factor model did not fit well with the data obtained in the Spanish sample, so 16 elements were eliminated, resulting in an abbreviated form of the TOPAS instrument made up of 16 elements that showed an excellent fit. These results aligned more closely with the data obtained in the case of the abbreviated TOPAS,[38] where 17 items were eliminated, which differed from the abbreviated Spanish version, which resulted in an instrument composed of 15 items instead of 16. Based on these results, it should be noted that the reduced instrument in the Swedish study[38] was reduced to four factors composed of 15 items, different in the case from the Spanish abbreviated TOPAS version, which maintained the original five factors composed of 16 items. If we compare the items composing each of the abbreviated versions (original and Spanish), it is confirmed that only eight items are common to both (1, 2, 7, 9, 12, 13, 20, and 27).

The composition and distribution of the items in both versions differ. The Spanish version study revealed that the sample placed a higher value on items related to quality of care and caregivers (items 7, 9, 10, 12, 13, 14), resident engagement and peer relationships (items 18, 19, 20, 21) and qualities in physical environment (items 31 and 32). These results could be interpreted on the basis of the characteristics of the sample in both contexts. For example, referring to the Swedish sample, which follows the Nordic care model,[41] it orients toward formal care in institutions specifically designed, with limited support for family caregivers[42] and minimal use of informal care. In contrast, the Mediterranean model[41] followed by the Spanish sample is based on informal and family care, with extensive use of informal caregivers, often unskilled immigrant women[43] hired to support family caregivers, as explained by Martinez-Brujan et al.[44,45]

Based on the preceding, the sample in this study reflects more interest in items related to quality of care and caregivers due to the assurance and security they provide, as evidenced by the qualifications of the staff reflected in the care received.[46] Regarding the higher valuation by the sample in this study of items related to resident engagement and peer relationships and qualities in the physical environment, contrary to what was observed in the Swedish study,[38] participants considered different items from the Swedish sample. In addition to those related to caregiving, they emphasized items related to the perception of safety and comfort in the residence (qualities in physical environment) and items related to participating in satisfying activities and interactions with other residents, as well as being able to spend time with them freely[47] (resident engagement and peer relationships). These data align with the World Health Organization (WHO) model of healthy aging, which mentions that the model is based on three fundamental pillars: Participation, health and security. The data obtained in this study corroborate with these pillars mentioned by the WHO, as the most valued items to form the Spanish abbreviated version of the Thriving of Older Assessment Scale were related to these pillars.

Furthermore, the items selected by the participants in the mentioned factors reflect a clear trend toward controlling their daily lives, expressing preferences in decision making about their care, actively participating in preferred activities and social interactions, and integrating into the residential community. This suggests a sense of belonging, physical comfort, and security, aligning with the perspective of Groves,[48] Mwangi, Tritter[49] and Martínez-Rodríguez[50] on the Person-Centered Care Model. This model emphasizes the empowerment of older adults in their quality of life in residential settings.[51]

Regarding the data related to the distribution of the scores obtained, the original TOPAS version of the Norwegian sample and the Swedish study reevaluating the psychometric properties[25,38] obtained scores ranging from 32 to 192 with a mean of 152.24 (SD 24.99). However, in the case of the Chinese version,[30] the scores were lower, with a mean of 133.55 (SD 24.38) and a range between 75 and 192 (Li et al., 2021). These data did not coincide with those obtained in this study, which showed higher scores with a mean of 158.8 (SD 16.94), ranging from 97 to 192. Therefore, based on the scores obtained from the complete instrument in this investigation and its comparison with published studies,[25,38,30] we can confirm that the Spanish sample shows better adaptation to senior living facilities than the Norwegian, Swedish, and Chinese samples, reflecting a beneficial quality of life for older adults based on perceived well-being and the degree to which the person adapts to the senior living facility.

Three levels of adaptation (high, medium, and low) were established based on the scores obtained in the Spanish TOPAS, and the bulk of the sample fell between medium (n= 120, mean 157.31; SD 5.70) and high (n= 127, mean 173.86; SD 6.42) levels. The low level (n= 67, mean 132.91; SD 10.13) showed the highest data dispersion. In this distribution, women represented a larger sample (n = 197) with an average score of 160.46, a fact that can be attributed to the significantly higher female population in senior living facilities than males.[39] These results have not been determined by any study conducted with this instrument. However, they have been mentioned in the original instrument validation article as prospects for future studies,[25] making it impossible to compare this study with others due to their absence.

Regarding the completion time of the complete Spanish TOPAS instrument, consisting of 32 items, it was approximately 10 min when self-administered and 25 min when administered by someone else. After the CFA of the abbreviated instrument, it comprised 16 items, resulting in a reduction in completion time to 5 and 12 min, respectively, for self-administration and administration by someone else. This estimation awaits confirmation from further studies.

It is essential to highlight the following limitations. The selection of a convenience sample limits the generalizability of the results. As this is a cross-sectional study, it was not possible to determine the instrument's sensitivity to adaptive changes in residents or its test-retest reliability. Convergent validity could not be assessed because of the absence of a gold standard. As mentioned, no instrument, except TOPAS, measures the well-being of older adults in terms of their adaptation to their institutionalized residential environment. Therefore, it is necessary to reevaluate the psychometric properties of the refined Spanish version of the scale in representative samples in new studies to confirm the evidence found and complement it with the formal evaluation of the properties not explored. Furthermore, the TOPAS instrument has only been validated in residential settings for older adults, so its psychometric performance in other contexts such as co-housing, day centers, assisted living facilities, or hospital settings (e.g., spinal cord injury units, oncology, palliative care, pediatrics) remains unknown and is proposed for future research.

In conclusion, the implementation of this instrument as a nursing assessment tool in Spanish nursing homes allows the continuous evaluation of the well-being of residents in relation to their environment, a constuct not previously evaluated with the scales available for this population. This allows us to anticipate adaptive changes and adjust care on a personalised basis according to the needs and preferences of residents, as well as the activities and services offered in the residential environment. These adjustments are directly related to the development, adaptation, and implementation of social and health care policies based on the model of care for the person, in residential centers for the elderly. Furthermore, carrying out this assessment on multiple occasions during their stay (on admission and subsequently every six months or annually) would allow the nursing staff to monitor the level of adaptation of the resident and consequently to adjust and personalize the care, services, and activities provided.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

CRediT authorship contribution statement

Nicia del Rocío SANTANA-BERLANGA: Writing – review & editing, Writing – original draft, Validation, Methodology, Formal analysis, Conceptualization. **José Manuel ROMERO-SANCHEZ:** Methodology. **Alicia BOTELLO-HERMOSA:** Investigation. **Adel BERGLAND:** Supervision. **David EDVARDSSON:** Validation. **Ana María PORCEL-GÁLVEZ:** Validation.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.gerinurse.2024.08.004.

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