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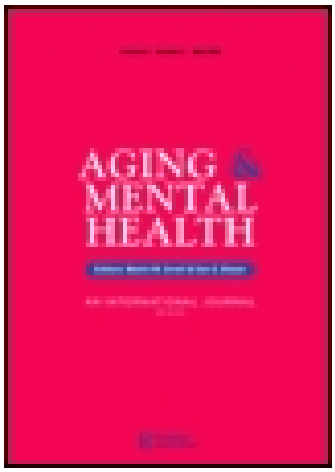

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Spanish validation of the Person-centered Care Assessment Tool (P-CAT)

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Spanish validation of the Person-centered Care Assessment Tool (P-CAT)

Teresa Martínez[a], Javier Suárez-Álvarez[b]*, Javier Yanguas[c] and José Muñiz[b,d]

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Objectives: Person-centered Care (PCC) is an innovative approach which seeks to improve the quality of care services given to the care-dependent elderly. At present there are no Spanish language instruments for the evaluation of PCC delivered by elderly care services. The aim of this work is the adaptation and validation of the Person-centered Care Assessment Tool (P-CAT) for a Spanish population.
Method: The P-CAT was translated and adapted into Spanish, then given to a sample of 1339 front-line care professionals from 56 residential elderly care homes. The reliability and validity of the P-CAT were analyzed, within the frameworks of Classical Test Theory and Item Response Theory models.
Results: The Spanish P-CAT demonstrated good reliability, with an alpha coefficient of .88 and a test−retest reliability coefficient of .79. The P-CAT information function indicates that the test measures with good precision for the majority of levels of the measured variables (θ values between −2 and +1). The factorial structure of the test is essentially one-dimensional and the item discrimination indices are high, with values between .26 and .61. In terms of predictive validity, the correlations which stand out are between the P-CAT and organizational climate ($r = .689$), and the burnout factors; personal accomplishment ($r = .382$), and emotional exhaustion ($r = -.510$).
Conclusion: The Spanish version of the P-CAT demonstrates good psychometric properties for its use in the evaluation of elderly care homes both professionally and in research.

Keywords: quality of life/well-being; quantitative methods and statistics; evaluation/effectiveness; caregiving and interventions; institutional care (nursing homes etc.)

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Introduction

An aging population in developed countries has caused a significant increase in the need for professional care for dependent elderly people, as well as a great interest in everything related to the quality of care offered by elderly care services (Zubritsky et al., 2013). Within these services, traditional care homes are the subject of criticism owing to their rigid organization, the uniformity of care practices and the lack of personalized care (Koren, 2010). All of which makes it difficult for the elderly living in those homes to make their own decisions, to take control of their day to day environment, or to live according to their own values, preferences, and desires. The new Person-centered Care (PCC) approach arose from this context, it aims to integrate evidence-based practice with authentic personalization of care and support so that people can retain control over their day to day lives (De Silva, 2014; Martínez, 2013). Although the roots of PCC can be traced to Rogers (1961), the approach has surfaced in various areas and services such as in the care of people with dementia (Brooker, 2007; Kitwood, 1997). There is no accepted, unified, universal definition of the PCC approach, on the contrary, most authors highlight its complexity and multidimensionality (McCormack, 2004; Nolan, Davies, Brown, Keady, & Nolan, 2004). Among the most cited components are, first, those which relate directly to personalized care; the recognition that each person is unique and valued (Brooker, 2007; White, Newton-Curtis, & Lyons, 2008), understanding the life story and lifestyle of each person being cared for (Chappell, Reid, & Gish, 2007; Edvardsson, Fetherstonhaugh, Nay, & Gibson, 2010; White et al., 2008), the promotion of personal autonomy (Chappell et al., 2007; Edvardsson, Fetherstonhaugh, et al., 2010; White et al., 2008), and the organization of day to day life with meaning and sense for the subject (Sancho & Yanguas, 2014). In addition, dimensions related to the support environment have also been identified, such as individualized care (Brooker, 2007; Edvardsson, Fetherstonhaugh, et al., 2010), the design of the physical space (Edvardsson, Fetherstonhaugh, et al., 2010; White et al., 2008) and other organizational variables (Chappell et al., 2007; Edvardsson, Fetherstonhaugh, et al., 2010; White et al., 2008).

The interest in PCC as a strategy for improving elderly care services has been accompanied by the design of instruments to evaluate how care homes are using this approach (Edvardsson & Innes, 2010). There are three types of instruments, those which allow the observation of the care given, surveys aimed at getting the opinions and preferences of the end users of the service and, finally, those surveys and questionnaires used to obtain the opinions of the staff who look after the residents (De Silva, 2014). Of the instruments developed so far to ascertain the professionals' opinions the following four stand out:

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The Person-centered Care Assessment Tool (P-CAT) (Edvardsson, Fetherstonhaugh, et al., 2010), The Staff Assessment Person Directed Care (White et al., 2008), The Individualized Care (Chappell et al., 2007), and The English language Person-Centered Climate Questionnaire. Staff version. (Edvardsson, Koch, & Nay, 2010).

The P-CAT has three components: Personalizing Care, Organizational Support and Environmental Accessibility. They are described in detail in the instruments section. The Staff Assessment Person Directed Care contains 50 Likert-type items and evaluates two dimensions and eight factors. The first dimension (Person-Directed Care) includes the factors Autonomy, Personhood, Knowing the Person, Comfort Care and Support Relations; the second dimension (Environmental Support for Person-Directed Care) covers Work with Residents, Personal Environment for Residents and Management/Structure. The Individualized Care consists of 46 Likert-type items in the area of care for persons with dementia. It includes four components: Knowing the person, Autonomy, Communication Staff-Residents, and Communication Staff-Staff. Finally the English language Person-centered Climate Questionnaire. Staff version evaluates four dimensions: Safety, Everydayness, Community, and Comprehensibility.

In Spanish elderly care services, the PCC approach is not generally applied (Martínez, 2013), and there are no adapted and validated instruments available for objective evaluation of the application of the PCC approach. Therefore, the objective of this work is the Spanish adaptation and validation of the P-CAT (Edvardsson, Fetherstonhaugh, et al., 2010), currently one of the most commonly used tests for evaluating PCC. The P-CAT is one of the most researched instruments in terms of its psychometric properties in different countries. This allows us to compare our results with those found in other cultures and contexts. Furthermore, from the point of view of professional practice, the P-CAT does not take long to do, which makes its application and interpretation by professionals easier. The P-CAT provides an opportunity to PCC and it is easily included in quality evaluation models which are already in use in many centers. In addition, given the almost total absence of this type of research in the Spanish context, we thought it important to begin with an instrument which would allow us to evaluate the staff perspective rather than other, equally interesting, possibilities. As Spanish is the third most commonly spoken language in the world, it would be useful to have a version of the P-CAT in Spanish, which could be used both in research and in professional practice. The two external variables in this work, Organizational Climate (CLIOR) and Maslach Burnout Inventory (MBI), were chosen following a review of the general literature as it seemed reasonable to hypothesize that professionals working in a good organizational climate and in the absence of burnout would be more likely to use a person centered approach, something which requires additional effort. Furthermore, up until now, psychometric studies of the P-CAT have been done within the framework of Classical Test Theory (CTT), whereas this study includes recent psychometric developments in the Item Response Theory (IRT) framework, which gives a more exhaustive understanding of the psychometric functioning of the P-CAT. The reason is that IRT models allow more precise analysis of the metric characteristics of the tests commonly used in classical approaches (De Ayala, 2009; Van der Linden & Hambleton, 1996; Wilson, 2005). For example, the Information Function (IF) allows us to determine the reliability of the test for the different levels of the measured variable, something which is not possible from a classical perspective, which only offers a global reliability estimate.

Method

Participants

A total of 1339 front-line care staff (staff directly involved in care) in 56 residential care homes for the elderly agreed to participate in the study and completed the requested information. Sample selection was not strictly random as there is no register of all centers from which to select. The most important characteristics of centers were considered to ensure the sample was representative. These were (1) geographical representation, ensuring that the sample covered most of Spain, (2) ownership of centers, including publicly and privately owned centers, and those of mixed ownership, and (3) a balance of center sizes, including large, medium and small centers. These care homes are located in 14 of the 17 autonomous communities in Spain. Variables were recorded such as type of home (66.1% urban; 33.9% non-urban), size of facility (32.1% less than 50 residents, 30.4% between 50 and 100, 37.5% more than 100), and ownership (46.4% public, 53.6% private). In addition, given the different modes of management which exist in public residential care homes, the three most common were included: 23.2% direct management (all of the professionals are public sector employees); 23.2% indirect management (professionals subcontracted through private companies); 53.6% mixed management (professionals of both types). Care assistants made up 70.6% of the respondents, 29.4% were professionals from a range of disciplines. Some 91.5% were women and 8.5% were men. The mean age was 39.41 (SD = 10.54) ranging between 19 and 65. The average time previously spent caring for the elderly was 76.97 months (SD = 57.45) ranging from 1 to 372 months. The criteria for including the participating centers were: (1) it appears in the authorized register of residential centers in the corresponding autonomous community, (2) it is a dedicated long stay center for care-dependent residents, and (3) commitment to participate in the study following the conditions stipulated in the protocol. Criteria for exclusion were: (1) centers exclusively for people with a high level of independence and autonomy, (2) palliative care units, acute care or convalescence centers, and (3) short stay units. The sample may be considered representative of the residential sector in Spain.

Procedure

After obtaining agreement to collaborate in the study from the 56 selected centers, 1700 questionnaires were sent by

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mail of which 1339 were returned completed, a response rate of 78.76%. In each center a member of staff was designated to coordinate the administration of the measuring instruments. A protocol was produced and sent in writing to each center manager and each staff coordinator in order to communicate and standardize the test application process. This protocol included information about which professionals should be included, elderly care specialists and members of technical teams (i.e., medical, nursing, occupational therapy, physiotherapy, psychology, social work, social education, and support). It also indicated how to promote maximum participation, how to organize the sessions where the questionnaires would be completed individually and confidentially, the data collection period, the instructions to be read by the co-ordinators, and also the procedures for receipt, storage and return of the questionnaires. In addition to the evaluations, sociodemographic data about the participants was collected.

Participation by a center in the study, in addition to meeting the aforementioned center inclusion criteria, meant the management accepting the following conditions: informing all professionals in the center (caregivers and members of technical teams) of the call to participate in the study, encouraging participation and ensuring that the organization makes that easy, complying with conditions regarding the confidentiality of the responses, sending descriptive data about the center and designating a professional as responsible for the collection of data in the center, and a contact person for the study coordinator. Individual contact was maintained with each coordinator to resolve any issues. To obtain an indicator of the reliability of test–retest process, a convenience sample of professionals working in day centers was used. Given the non-random nature of the sample, the values obtained must be used only for guidance and will have to be confirmed in the future. Participation by the professionals was anonymous, voluntary, and completely confidential. No compensation of any kind was offered or received for their participation. The entire process was approved and supervised by the Matia Fundazioa/Fundación Hurkoa Care Ethics Committee.

Instruments

The Person-centered Care Assessment Tool

The P-CAT is a questionnaire containing 13 items which measures the level of PCC offered by the center according to the staff directly involved in care. It is made up of three dimensions; Personalizing Care ($\alpha = .81$), Environmental Accessibility ($\alpha = .31$), and Organizational Support ($\alpha = .77$) (Edvardsson, Fetherstonhaugh, et al., 2010). The items are in a Likert-type format with five answer categories, where 1 means disagree completely and 5 means agree completely. The original version demonstrated appropriate global psychometric properties, the total reliability coefficient was .84 and the total test–retest reliability was .66 (Edvardsson, Fetherstonhaugh, et al., 2010). Previous adaptations of the test into other languages have also demonstrated reasonable psychometric properties: Swedish ($\alpha = .75$; test–retest reliability = .75; Sjögre, Lindkvis, Sandman, Zingmark, & Edvardsson, 2012); Norwegian ($\alpha = .83$; test-retest reliability = .82; Rokstad, Engedal, Edvardsson, & Selbæk, 2012); and Chinese ($\alpha = .68$; Zhong, & Lou, 2013). The factorial structure of the P-CAT found in the Swedish and Norwegian adaptations support its bi-dimensionality, with one dimension being Personalizing Care and the other Environmental Accessibility/Organizational Support. The data from the Spanish adaptation is presented in the 'Results' section.

International Test Commission guidelines for translation and adaptation of tests (Hambleton, Merenda, & Spielberger, 2005; Muñiz, Elosua, & Hambleton, 2013) were followed when carrying out the translation, adaptation, and validation of the P-CAT for the Spanish population. First, two independent translations of the test were obtained from two experienced translators. Once these translations were done, they were themselves checked by a group of experts who produced a first draft of the test by consensus. Following the production of this first draft in Spanish, a different experienced translator produced a back-translation into English. Then, a total of nine experts, with experience of translating psychometric tests, evaluated the level of semantic correspondence between the original version of the test and the back-translation on a scale of 0–10. The average of the scores was calculated for each item and any which scored less than seven points were revised. Following this criterion, three items were slightly modified and a second draft of the test was produced. This second draft was the subject of a pilot study by eight participants whose main objective was to check whether they understood each item. As part of the pilot study process, some modifications were made to make the test easier to understand correctly. Finally a second pilot study was carried out, using the new version with a group of 13 professionals in an elderly care facility to ensure that the test could be applied without difficulties.

Maslach Burnout Inventory

The Spanish version (Seisdedos, 1997) of the MBI (Maslach & Jackson, 1986) was used to measure the level of burnout present in the sample participating in the study. This instrument measures burnout experienced by professionals in a 22 item, Likert-type scale with seven answer categories identifying three components: emotional exhaustion ($\alpha = .88$; 9 items); depersonalization ($\alpha = .56$; 5 items); and personal accomplishment ($\alpha = .75$; 8 items). High scores in the first two components and low scores in the third define burnout syndrome. According to the results of the meta-analysis by Aguayo, Vargas, de la Fuente, and Lozano (2011), the reliability coefficients from previous studies have a mean alpha coefficient of .88, .71, and .78 for each dimension, respectively.

Organizational Climate Scale

An abbreviated 15-item version of the CLIOR scale (Peña, Muñiz, Campillo, Fonseca, & García-Cueto, 2013) was

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used to evaluate the organizational climate in the care homes. This is a one-dimensional instrument with good psychometric properties in both the complete version ($\alpha = .97$; the first factor explains 34.9% of the variance) and the reduced version ($\alpha = .94$; the first factor explains 52.32% of the variance) and allows the evaluation of the organizational climate of the facility via the perception of its staff. The reliability coefficient for the sample in this study was .92 and the first factor explains 50.36% of the total variance.

Data analyses

Various confirmatory factor analyses were done via cross-validation to study factorial validity. After eliminating 120 participants with missing values, the total sample was divided into two random subsamples ($N_1 = 622$; $N_2 = 597$). A weighted least squares means and variance adjusted estimator (WLSMV) was used, indicated for categorically ordered data (Muthén & Muthén, 2010). The goodness of fit of the data to the model was evaluated using the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). The literature suggests that the fit is adequate when the CFI > .90, and the RMSEA < .08 (Kline, 2010).

After defining the factorial structure that best represents the data, the differential item functioning (DIF) of the items on the basis of gender was examined, using the logistical regression method (Gómez-Benito, Hidalgo, & Zumbo, 2013). The reliability coefficient was estimated using the Cronbach alpha coefficient for ordinal data (Elosua & Zumbo, 2008) and the test−retest reliability using a subsample of 118 professionals working in adult day care centers. Samejima's graded response model within the IRT framework was used to calculate the IF of the P-CAT and to estimate the difficulty and item discrimination parameters. In order to examine the evidence of validity in relation to other variables, the Pearson correlation coefficients between the P-CAT, MBI, and CLIOR were calculated. Finally, scales were calculated in percentiles, standard scores, and T-scores. Given the small number of missing values (less than 5%), those cases were eliminated from the analysis, as their influence on the results is insignificant (Cuesta & Fonseca, 2014; Fernández-Alonso, Suárez-Álvarez & Muñiz, 2012). The scoring scales of the items 7, 8, 9, 10, and 12 were reordered to align them in the same direction as the rest of the items. The data was analyzed using the statistical software packages SPSS 19, MULTILOG 7, and MPLUS 6.

Results

Dimensionality

The factorial structure of the P-CAT was analyzed by checking the fit of the data with one-dimensional and two-dimensional models using CFA with cross-validation (Figures 1 and 2). As can be seen in Table 1, the data has a good fit with both the one-dimensional and two-dimensional models. In the two-dimensional model the correlation between both factors is .92 for the first subsample and .94 for the second. This high correlation between the two factors may be interpreted as the Spanish P-CAT having an essentially one-dimensional structure and in fact, when the data is adjusted to a one-dimensional model, the factor explains 38% of the total variance.

Table 1. Confirmatory factor analysis of the P-CAT questionnaire with cross-validation of the items.

	CFI		RMSEA (CI)	
Model	*N*1	*N*2	*N*1	*N*2
One-dimensional	.96	.96	.076 (.067−.085)	.072 (.063−.082)
Two-dimensional	.96	.96	.076 (.067−.085)	.073 (.063−.082)

Note: CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; CI = 90% Confidence Interval; $N_1 = 642$; $N_2 = 598$

Item analyses

No items were detected using DIF in relation to the gender of the staff who responded to the questionnaire. The process established by Gómez-Benito et al. (2013), was used

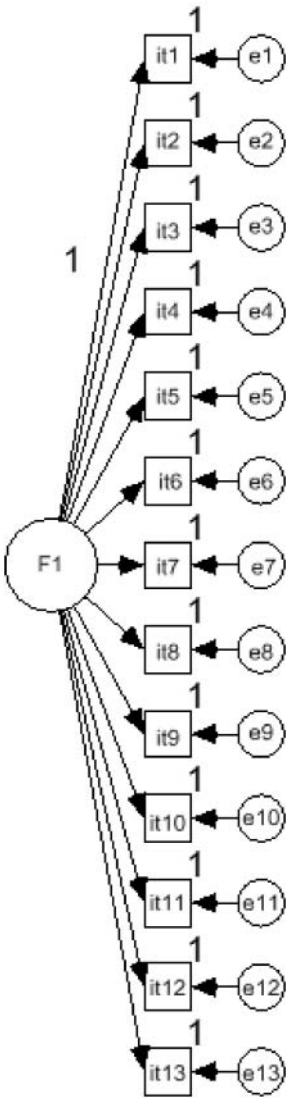

Figure 1. One-dimensional confirmatory factor analysis structure.

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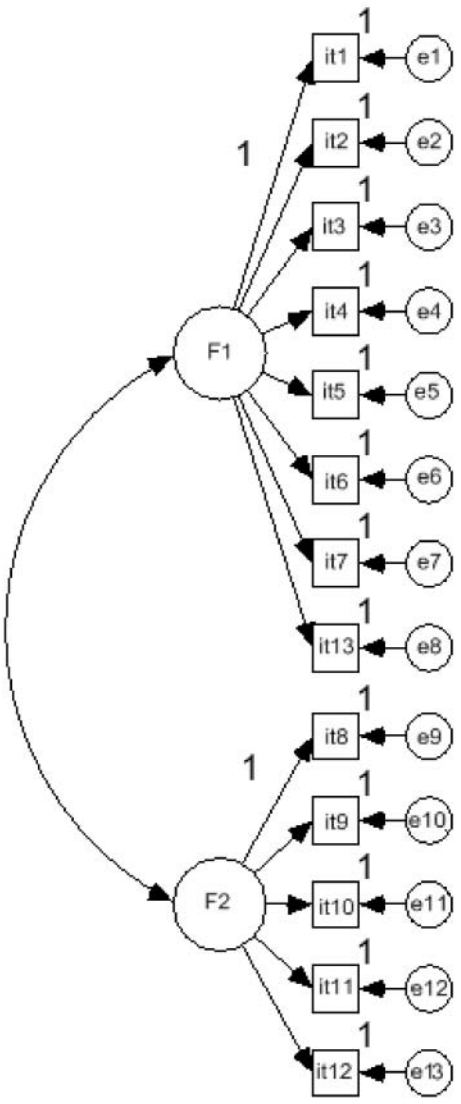

Figure 2. Two-dimensional confirmatory factor analysis structure.

to calculate the DIF. In order to reduce type I errors, effect size ($R^2 > .035$) was used as decision criteria in combination with the statistical test ($p < .01$).

Table 2 presents the main psychometric indicators of the P-CAT test items. It is worth highlighting that the participants tended to give quite high scores, the average scores were between 3 and 4, with 5 being the maximum. The mean total in the P-CAT was 46.95 (SD = 8.36). The factorial charges of the items in the one-dimensional model were all above .30 which indicates that each item has significant weight in the extracted factor. Additionally, the high item-test correlations indicate that all of the items demonstrate appropriate discriminatory power ($r_{ij} > .25$), with items 12 and 13 having the least.

From the perspective of IRT the items show appropriate discrimination values (a parameters), with items 12 and 13 again being the lowest. The b parameter indicates the probability, for a certain ability level (θ), of selecting a certain answer category or higher. It is important to state that the number of estimated b parameters is one less than the number of alternatives for the item, so in this case, with five alternatives for each item, four b parameters are estimated for each item. In short, the discrimination and difficulty parameters found using the IRT models suggest that the items function appropriately in a psychometric sense, which, as expected, confirms the results found using CTT.

Reliability

The Cronbach alpha coefficient for the total P-CAT scores was .88, for the Personalizing Care subscale .85, and for the Environmental Accessibility/Organizational Support subscale .78. A group of 118 professionals from 14 adult day care centers was used to evaluate test-retest reliability. The P-CAT test was given to this group twice over a span of seven days. The test−retest reliability coefficient was .79.

The IF of the test was calculated using the IRT framework, which gives the level of precision of the test for the different levels of the measured variable (θ). As can be seen in Figure 3, the P-CAT gives the best precision between theta (θ) values of − 2 and +1.

Table 2. Psychometric indices of the P-CAT items.

Items	Mean	SD	Factor loadings	r_{ij}	a	b_1	b_2	b_3	b_4
1.	3.98	.93	.70	.57	1.93	− 2.65	− 1.91	− 1.01	0.74
2.	3.88	1.27	.72	.58	1.94	− 1.92	− 1.20	− 0.72	0.29
3.	3.68	1.18	.73	.61	1.96	− 2.00	− 1.25	− 0.42	0.77
4.	3.61	1.06	.40	.33	0.81	− 4.38	− 2.32	− 0.43	1.85
5.	3.22	1.19	.57	.50	1.22	− 2.23	− 0.92	0.19	1.87
6.	3.85	1.02	.60	.50	1.31	− 3.15	− 2.03	− 0.84	0.93
7.	3.08	1.33	.50	.42	1.05	− 1.92	− 0.64	0.47	1.72
8.	4.04	1.07	.61	.51	1.33	− 3.17	− 2.15	− 0.93	0.29
9.	3.15	1.16	.48	.43	1.00	− 2.70	− 0.95	0.57	2.15
10.	3.24	1.23	.63	.56	1.43	− 2.09	− 0.76	0.21	1.41
11.	4.10	.91	.67	.53	1.67	− 3.16	− 2.14	− 1.23	0.50
12.	3.61	1.12	.34	.29	0.65	− 4.73	− 2.63	− 0.69	2.04
13.	3.51	1.24	.33	.26	0.61	− 3.98	− 2.31	− 0.38	1.96

Note: SD = Standard deviation; r_{ij} = Discrimination index; a = Discrimination IRT parameter; b_1, b_2, b_3, b_4 = difficulty IRT parameters.

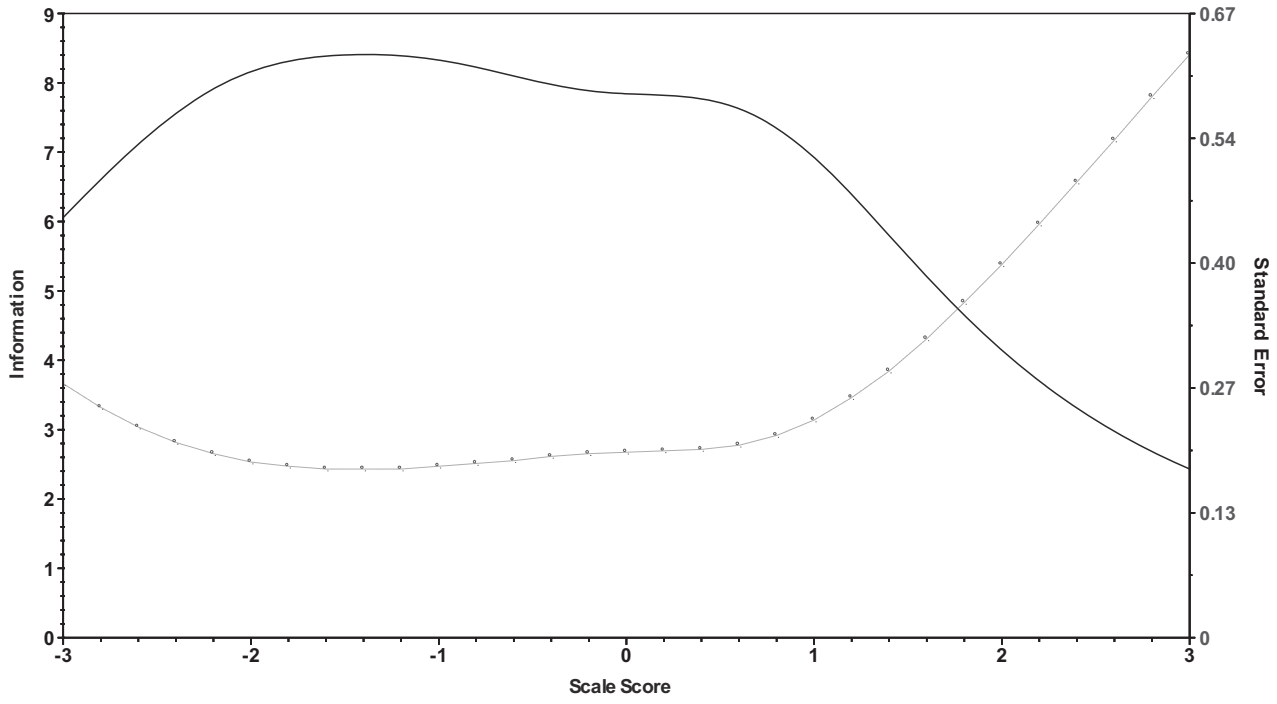

Figure 3. Information function of the P-CAT questionnaire. Solid line represents the information function; dotted line represents standard error.

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Convergent validity

Table 3 shows the Pearson correlation coefficients between the total scores of the P-CAT and emotional exhaustion, depersonalization, personal accomplishment, and organizational climate. The results show a clear convergence in the expected direction, highlighting the clear relationship between P-CAT and organizational climate (.689), and emotional exhaustion (−.510).

Norms

Table 4 shows a scale in percentiles, standard scores and *T* scores. No significant statistical differences were found between the P-CAT scores in terms of gender of the respondents ($t = -.981$; $p > .05$). Significant differences were found between the scores from Care Assistants and professionals ($t = -5.931$; $p < .001$) albeit of quite low effect size ($g = -.36$), hence the construction of a unified scale.

Discussion and conclusions

The P-CAT developed by Edvardsson, Fetherstonhaugh, et al. (2010) is currently one of the most commonly used instruments for the evaluation of PCC in elderly care services. To date, it has been translated and adapted into Swedish (Sjögre et al., 2012), Norwegian (Rokstad et al., 2012), and Chinese (Zhong, & Lou, 2013) but there has been no Spanish adaptation. Hence, the aim of the current work was the adaptation and validation of the P-CAT for the Spanish population. Spanish is the third most widely spoken language in the world, so having a Spanish version of a test, such as the P-CAT, available would be extremely useful for both professional and research purposes. Previous versions of the P-CAT have shown that the tridimensional structure originally proposed by Edvardsson, Fetherstonhaugh, et al. (2010) has not been confirmed in all the cultures that have been studied. It has been confirmed in the Chinese adaptation (Zhong & Lou, 2013), but not in the Swedish (Sjögre et al., 2012) or the Norwegian (Rokstad et al., 2012), both of which demonstrated a two-dimensional structure. The results from the Spanish adaptation show an excellent fit both to a one-dimensional and a two-dimensional structure. Nevertheless, the high covariation between the factors of the two-dimensional structure leads us to believe that the most representative factorial structure for the data is one-dimensional which, in addition, justifies the application of a global score in the scale.

The psychometric functioning of the Spanish P-CAT items was adequate both in terms of CTT and from the IRT approximation. The results are in line with previous studies (Edvardsson, Fetherstonhaugh, et al., 2010; Rokstad et al., 2012), in which items 12 and 13 are those demonstrating the lowest discriminatory power. In addition, the current work provides new psychometric data,

Table 3. Correlations between the P-CAT, three subscales of burnout and organizational climate.

	Emotional exhaustion	Depersonalization	Personal accomplishment	Organizational climate
P-CAT	−.510	−.338	.382	.689

Table 4. Norms for the Spanish version of the P-CAT questionnaire.

ES	P	Z	T
13−31	5	− 1.91	31
32−35	10	− 1.43	36
36−37	15	− 1.19	38
38−39	20	− 0.95	40
40−41	25	− 0.72	43
42	30	− 0.60	44
43	35	− 0.48	45
44−45	40	− 0.24	48
46	45	− 0.12	49
47	50	0.00	50
48	55	0.12	51
49	60	0.24	52
50	65	0.36	54
51	70	0.48	55
52	75	0.60	56
53−54	80	0.84	58
55	85	0.96	60
56−57	90	1.20	62
58–59	95	1.44	64
60−65	100	2.16	72

Note: ES = Empirical Score; P = Percentile; Z = Standard score, T = T score.

confirming that DIF regarding the gender of the respondents does not exist in the Spanish P-CAT, something which had not been shown in previous studies. In terms of the reliability of the instrument, both the internal consistency of the scale ($\alpha = .88$) and the temporal stability coefficient (test−retest reliability = .79) were appropriate and in accordance with values obtained in previous studies (Edvardsson, Fetherstonhaugh, et al., 2010; Rokstad et al., 2012; Sjögre et al., 2012; Zhong & Lou, 2013). The IF of the P-CAT was calculated using the IRT framework, which allows the assessment of test precision for the different values of the measured variable, and which complements global estimates of reliability such as Cronbach's alpha coefficient. The IF shows that the P-CAT is precise over wide range of scores (theta values between −2 and +1), including the scores from the majority of the population if the scores are distributed according to the normal curve. These results match those from the study of internal consistency and provide complementary information to show that the precision of the instrument is reduced for both very high and very low scores.

In terms of evidence of validity in relation to other variables, the Spanish version of the P-CAT demonstrates appropriate convergent validity with organizational climate, as well as with dimensions of burnout syndrome. The results indicate a clear positive correlation between P-CAT and organizational climate ($r = .69$). It suggests that the organizational climate variable may act in two directions, on the one hand as a facilitating variable of PCC and on the other as a positive outcome of this approach to care. This aspect is doubtless of interest when it comes to directing change and implementation of the PCC model in existing care homes. The correlation between the P-CAT and burnout dimensions are in the expected direction, a negative correlation was found between the emotional exhaustion ($r = -.510$) and depersonalization ($r = -.338$) factors, as well as a moderately positive correlation with the personal accomplishment factor ($r = .382$). These results are in line with those found in various studies which describe some of the benefits of implementing PCC models, such as increased job satisfaction, better involvement in work and reduced occupational stress (Brownie & Nancarrow, 2013; Van Pol-Grevelink, Jukema, & Smits, 2012). Up to now there has been hardly any evidence of the validity of PCAT in relation to other variables. This is especially noteworthy in the case of variables such as burnout or organizational climate because, as the results show, they play an important role in the perspective of PCC. Considering the latest Standards for Educational and Psychological Testing (AERA, APA, & NCME, 2014), this type of result is thought to be fundamental in providing evidence of validity of a measuring instrument. Given that, the results presented in the current work constitute a novel contribution which will establish the basis for future cross-cultural comparisons.

To sum up, the Spanish version of the P-CAT demonstrates appropriate psychometric properties in terms of reliability and validity and as such, may be useful in evaluating elderly care residences to check how PCC is being provided. This information may be of significant interest when applied in ways which would allow the identification of aspects for improvement and so contribute to increased quality of elderly care services. Furthermore, it provides a scale in percentiles, standard scores, and T scores. When looking at the results it is important to bear in mind some limitations of this current work, first, and most significantly, the data from the P-CAT provides the opinions of the staff who are caring for the residents. These opinions are crucial but in the future it may be useful to complement this with data from other sources in order to gain a more complete picture of the activity in each center. For example, using indirect behavioral measures which overcome the limitations of self-reports such as Implicit Association Tests (IAT), external expert's reports, or situational tests, among other options. Second, the data was collected at a single point in time, it would be useful to carry out some type of longitudinal study to be able to analyze change over time. Third, given the different versions of Spanish which are spoken in different countries, potential users of the Spanish version of the P-CAT should check that it fits well in the context to which it is applied, as recommended in the rules for adaptation of evaluation tests from the International Test Commission (Muñiz et al., 2013). Finally, it must be stressed that the correlational design used does not allow the establishment of causal relationships between the variables under study.

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