

# Adaptation and validation of the Person-centered Care Assessment Tool (P-CAT) to the Portuguese population

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## Abstract

**Background:** The relevance of person-centred care as an optimising approach to the quality of care provided to older adults has sparked the development of important instruments that measure this approach at residential care facilities and requires validation for the Portuguese population.

**Objectives:** This study aims to adapt and validate the Person-centered Care Assessment Tool (P-CAT) to the Portuguese population.

**Methods:** The P-CAT assesses the level of person-centred care provided by residential care facilities, according to staff. The process of adapting the P-CAT to the Portuguese population includes its translation, backtranslation and a pilot study. To recruit participants for the validation study, we contacted the Portuguese residential care facilities with emails provided in the official registries, and the study was also divulged on social media.

**Results:** The study had the participation of 573 staff members. The mean score of P-CAT was 50.76 (SD = 7.65). The exploratory factor analysis showed three dimensions: the extent of care personalisation, the amount of organisational support and the degree of environmental accessibility. The results show good internal consistency for the total scale ( $\alpha = 0.809$ ) and good temporal stability in the test-retest assessed by intraclass correlation coefficient (0.893).

**Conclusions:** This version of the P-CAT for the Portuguese population has shown adequate psychometric properties and contributes to the study of care provided at residential care facilities in Portugal through self-reporting from staff.

**Implications for practice:** The availability of this instrument is useful for professional practice and research purposes and supports technical and scientific advancements that are necessary for the evolution of care frameworks.

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## KEYWORDS

gerontology, older adults, person-centred care, quality of care, questionnaire adaptation and validation, residential care facilities, staff members

## 1 | INTRODUCTION

Population ageing is a global tendency resulting from, among other factors, the improvement of health conditions, the increase in life expectancy and the decrease in birth rates (United Nations Population Fund, 2012; Martínez et al., 2019; WHO, 2015). The interaction between these factors and the growing and massive involvement of women in the work market, the inexistence of progeny and the increase in retirement age causes demographic, economic and psychosocial changes with deep implications concerning the families' ability to provide care to older members. The inexistence or unavailability of care providers and the increase in people in situations of dependency, with high demands in terms of human and material resources, generate a conjecture of greater demand for gerontological care at residential care facilities (Martínez et al., 2019; OECD, 2017; Sköldunger et al., 2020).

Portugal has a very high ageing index (165,1; PORDATA, 2020). Within the continental territory, there are over 2500 residential care facilities belonging to the network of social services and facilities with a capacity for over 100 thousand residents (Ministry of Labor, Solidarity and Social Security, 2020). Among the insular territory, there are around 75 of these facilities. In general, about 80% of residential care facilities in Portugal are Private Institutions of Social Solidarity (nonprofit organisations formed exclusively through the initiative of entities and supported by the social security system), and around 20% are private and profitable. Residential care facilities can be described as places for the collective housing of people who are 65 or older. These facilities provide social support, meals, hygiene care, healthcare and assistance with everyday tasks (Ministry of Labor, Solidarity and Social Security, 2012). Both the for and nonprofit facilities must have a licence that is granted by the Social Security Institute and are managed by technical directors who are responsible for coordinating all professionals, such as nurses and direct-care workers (Ministry of Labor, Solidarity and Social Security, 2012). Direct-care workers are the core of the care system, the staff members with whom residents spend most of their time. In spite of this, their wages are low, they have typically low education levels, very little training in gerontology, and their profession is socially underappreciated (United Nations, 2020).

Even considering that formal gerontological care has a vital role in Portugal, several inadequate and low-quality practices can be observed, which frequently violate the rights of residents at residential care facilities (e.g. Associação Portuguesa de Apoio à Vítima, 2020; Barbosa et al., 2021; Gil, 2019). We have been seeing a growing scientific and social awareness concerning the need to evolve and change the philosophy of the care provided

### SUMMARY STATEMENT OF IMPLICATIONS FOR PRACTICE

#### What does this research add to existing knowledge in gerontology?

- This research validates an important instrument for measuring person-centred care at residential care facilities for older adults in Portugal, where person-centred practices and research is necessary.
- The validation of the P-CAT for the Portuguese population is an essential contribution for the development of person-centred care practices in Portugal.

#### What are the implications of this new knowledge for nursing care with older people?

- The promotion of person-centred care requires measurement tools, and this version of the P-CAT makes it possible to describe, monitor and follow up on practices according to staff members.
- Using this tool has real-world impact on the care provided as we can identify improvement factors, make informed decisions and optimise practices to develop a more dignified and higher-quality care.

#### How could the findings be used to influence policy or practice or research or education?

- Making this version of the P-CAT available makes it possible to assess the care according to the opinion of staff members, which provides important information for professional and research purposes.
- The use of the resulting P-CAT makes it possible to support technical and scientific advancements and define the necessary policies for evolving care approaches, which is urgent in Portugal.
- The P-CAT is one of the most internationally studied and adapted instruments. Having a Portuguese version facilitates the cross-cultural interchangeability of data and the conflation of knowledge that maximises practices.

(Lood et al., 2020; Martínez et al., 2019). Person-centred care is internationally recommended and recognised as the highest standard of quality in terms of gerontological care approaches and is regarded as an alternative to the still prevalent traditional care

(Caspar et al., 2020; Sköldunger et al., 2020; Yevchak et al., 2019). Traditional care tends to assume a standardised nature, focussing mainly on basic needs and physical health, and regards older adults as passive receivers of care. This type of care tends to present signs of unsustainability and negative consequences associated with the quality of life and the progression of physical and psychological deterioration of older adults living at residential care facilities, as well as the satisfaction and health of the facilities' workforce (Martínez, Suárez-Álvarez, & Yanguas, 2016; Martínez, Suárez-Álvarez, Yanguas, & Muñiz, 2016; Rokstad et al., 2015; Sjögren et al., 2014).

On the contrary, person-centred care places the older adult in a centre role, promoting their active participation in taking decisions about the care they receive, and control over their day-to-day (Martínez, Suárez-Álvarez, & Yanguas, 2016; Martínez, Suárez-Álvarez, Yanguas, & Muñiz, 2016; White et al., 2008). It is, therefore an approach that promotes their rights, assumes the respect for their dignity and recognises the immeasurable value of the human person with a life story, an identity, and unique needs and preferences (Downs, 2013; Fazio et al., 2018; Martínez, Suárez-Álvarez, & Yanguas, 2016; Martínez, Suárez-Álvarez, Yanguas, & Muñiz, 2016). To do so, this approach prioritises human relationships, relies on the exercise of understanding the world through the perspective of another person and implies the creation of a personalised environment that supports autonomy (Caspar et al., 2020; Lood et al., 2020; Sköldunger et al., 2020).

The relevance of person-centred care as an approach that optimises the quality of care at residential care facilities has sparked the development of instruments that measure this type of care (Kazemi & Kajonius, 2021; Martínez, Suárez-Álvarez, & Yanguas, 2016; Martínez, Suárez-Álvarez, Yanguas, & Muñiz, 2016). The existence of such instruments adapted to cultural contexts and with adequate psychometric properties is vital to describe care. This provides technical and scientific advances to support the processes that potentiate the quality of practices (Martínez, Suárez-Álvarez, & Yanguas, 2016; Martínez, Suárez-Álvarez, Yanguas, & Muñiz, 2016). Within this scope, the Person-Centered Care Assessment Tool (P-CAT), developed by Edvardsson et al. (2010), is one of the most known and studied instruments in terms of adaptation and validation for different countries (e.g. Kazemi & Kajonius, 2021; Martínez et al., 2015). The P-CAT was developed in English, with an Australian sample, and demonstrated appropriate global psychometric properties (the total reliability coefficient was 0.84, and the total test-retest reliability was 0.66) (Edvardsson et al., 2010). It was later adapted to Norway (Rokstad et al., 2012), Sweden (Sjögren et al., 2014), China (Zhong & Lou, 2013) and Spain (Martínez et al., 2015), showing equally good psychometric properties. This instrument is not validated for the Portuguese population and, in fact, there is a gap concerning person-centred care assessment tools in the country.

The aforementioned context is the reason for this study, which aims to adapt and validate the Person-Centered Care Assessment Tool (P-CAT) to the Portuguese population.

## 2 | MATERIALS & METHODS

### 2.1 | Ethics

This study integrates the following project: 'Atenção Centrada na pessoa na prestação de cuidados na velhice: abordagens e instrumentos de avaliação' and was approved by the Ethics Committee of University of Beira Interior (n° CE-UBI-Pj-2019-057-ID1555). Data collection was confidential and included an informed consent containing the context of the study, its objectives, a guarantee of confidentiality and voluntariness, and the availability of a contact person within the investigation team for clarification of any questions.

### 2.2 | Instrument

The P-CAT is an auto-reporting tool that assesses the level of person-centred care provided by residential care facilities, according to their respective staff. This instrument is short and is composed of 13 items (five of which are negatively worded: 7, 8, 9, 10 and 12) and a 5-point *Likert*-type of answer format (1 = disagree completely to 5 = agree completely). A total score can be calculated with a possible range of 13–65 and the higher the score, the higher the degree of person-centred care according to staff. More than just assessing the intention of promoting person-centred care, the P-CAT's questions are formulated so that people reflect on the actual practices and also address central areas of person-centred care such as personalised care, the accessibility of space and organisational support (Edvardsson et al., 2010).

### 2.3 | Procedures

After receiving the authorisation from the authors to adapt and validate the P-CAT to the Portuguese population, a guide was created using the guidelines and good practices of Borsa et al. (2012), Cardoso (2006), International Test Commission (2017) and Sousa and Rojjanasirrat (2011). This set resulted in the development of two stages and eight steps.

#### 2.3.1 | Stage 1: Adaptation process

The P-CAT was translated from English to Portuguese (step 1) by two multiskilled independent translators, proficient in both languages and native Portuguese speakers, that is, an official translator to guarantee a lower probability of linguistic deviation and a translator familiarised with the construct to guarantee scientific similarities. Both translations were later compared against one another and observed against the original instrument concerning each item, the instructions and the answer formats (step 2). The identified discrepancies were discussed and resolved in meetings between the translators and the main researcher. The authors of the original

instrument served as consultants during this process to clarify the meaning of items for translation.

After a consensus was obtained, the two versions were summarised and a preliminary nonliteral translation into Portuguese was obtained, which was equivalent to the original and balanced linguistic, cultural and scientific considerations about the assessed construct. This version was analysed by a committee of four experts (step 3, APA, CP, RM and JY) with specific knowledge about the construct assessed by the instrument and by a professional teacher of Portuguese language. The committee assessed aspects such as layout, sources of problematic issues (e.g. complex/simplistic translations), as well as equivalences (technical and scientific, semantic, linguistic, idiomatic, experiential and conceptual). After applying the changes suggested by the committee, an assessment of the final version was done by the target population (step 4). To do so, individual interviews were done at two residential care facilities, one nonprofit and one for profit, with a total of 11 Portuguese native staff members (two technical directors, one sociocultural entertainment coordinator, one psychologist, two physical therapists, a speech therapist and four direct-care workers). The interviewee was requested to read the whole instrument out loud, to assess the instrument's layout (e.g. the location of information, font and font size) and to briefly explain the meaning of the instructions, the items and the answer format. In cases where the interviewee highlighted a lack of clarity, change proposals were requested to adapt the instrument to the language used by the groups to which the instrument is intended. The interviews terminated upon saturation of data.

After applying the changes proposed during interviews, a blind backtranslation was performed (step 5), from Portuguese into English, by two other bilingual translators who did not participate in the first translation. The discrepancies were equally resolved as in step 2. The final version was analysed together with the original authors, who validated and approved it (step 6).

Afterwards, a pilot study was performed (step 7) with 19 staff members from four residential care facilities (3 nonprofit and 1 for profit), with Portuguese as native language and performing different roles (e.g. social worker, direct-care workers, technical director, nurse, gerontologist, psychologist and psychomotricity therapist). The Portuguese version of the P-CAT was presented, and participants were asked to assess the instructions, the answer format and the items on a 'clear/unclear' scale, while suggesting changes related to what was considered 'unclear'. Since over 80% agreement was obtained among assessors in all fractions, these were maintained in accordance with indications from Sousa and Rojjanasrirat (2011).

### 2.3.2 | Stage 2: Validation process

To perform the psychometric study of the instrument's prefinal version on a target population sample (step 8), a sample of 10 participants per item was used, according to indications from Sousa and

Rojjanasrirat (2011) and the International Test Commission (2017). A participation invite was sent to all of the residential care facilities the email address of which was included in the Social Charter (the most official, complete and up-to-date resource that unifies the information on social responses in operation on the continent), in the webpages of the Social Security Institutes from Madeira and the Azores and/or through the official online pages of social facilities. Therefore, 2325 emails were sent. Additionally, to involve more participants and increase the sample spectrum, the researchers used the social network pages (namely Facebook) of their universities, research units and personal to disseminate the study. The study-related email and social network post contained a presentation of the project, its objectives, a link to access the questionnaire and a request for sharing it with staff from residential care facilities with the following inclusion criteria: working at a residential care facility for older adults for more than 6 months, having Portuguese as native language and accepting the commitment of participating in the study.

In order to include low digital literacy staff members, residential care facilities were given the opportunity to request printed questionnaires for them. Within the 17 facilities which requested printed questionnaires, a spokesperson was appointed, preferably a technician with experience in research, with whom the questionnaire distribution process was arranged. The anonymity of the participants was requested upon collection of the answered questionnaires (e.g. by using a closed envelope/box). Three hundred and five questionnaires were sent by post, and 211 were returned within the set deadline (130 were considered valid). The collection took place between April and June 2021.

In parallel, a convenience sample of 29 staff members participated in a test-retest study performed 7 days apart. They were recruited from three facilities from the north and from one facility from the centre interior of the country. It was guaranteed together with the spokesperson at the residential care facilities that these participants were not exposed to conditions that could alter the domains being assessed. The participants' anonymity was safeguarded at all times through the creation of a personal code, which was subject to double encryption.

## 2.4 | Data analysis

Statistical analysis was performed using IBM SPSS Statistics 26. After converting the answers from the inverted items, the exploratory factor analysis was performed using the method of analysing main components and varimax rotation. In a primary approach, factors with eigenvalues over 1 were retained. Where the structure was not satisfactory (assessment of saturated items in each factor), other approaches were considered. The item was associated with each factor based on its factor loadings as well as the construct under analysis. The internal consistency of scales and its factors was performed by means of Cronbach's alpha. The temporal stability (test-retest) was assessed by intraclass correlation coefficient.

TABLE 1 Sociodemographic and professional characteristics of the participants (N = 573)

	n	n (%) / Mean (SD) / median (IQR)
Age [range: 21–78]	552	M = 40.81 (SD = 9.90)
Gender	569	
Female		544 (94.9%)
Male		25 (4.4%)
Schooling	569	
Elementary school (from 1st to 4th grade)		6 (1.0%)
Basic school (from 5th to 6th grade)		17 (3.0%)
Middle school (7th, 8th and 9th grades)		62 (10.8%)
High school (10th, 11th and 12th grades)		100 (17.5%)
Technological specialisation courses		24 (4.2%)
Bachelors		4 (0.7%)
Licentiate		267 (46.6%)
Masters		86 (15.0%)
Doctorate		3 (0.5%)
Months spent working within the area of older people care [range: 16–576]	554	Mdn = 114 IQR = 120.25
Type of organisation management	567	
Private Institution of Social Solidarity		476 (83.1%)
Private		91 (15.9%)
Number of users of the organisation [range: 8–250]	557	Mdn = 43.00 IQR = 36
Roles	573	
Direct-care worker		188 (32.8%)
Technical director		158 (27.6%)
Social worker		26 (4.5%)
Nurse		53 (9.2%)
Psychologist		27 (4.7%)
Entertainment coordinator		64 (11.2%)
Others		57 (10%)
Geographical area	553	
Alentejo		39 (6.8%)
Algarve		13 (2.3%)
Madeira Autonomous Region		3 (0.5%)
Azores Autonomous Region		10 (1.7%)
Lisbon Area		27 (4.7%)
Center Area		286 (49.9%)
Northern Area		175 (0.5%)

### 3 | RESULTS

#### 3.1 | Sample

The participants (N = 573) were between 21 and 78 years old (M = 40.81 years, SD = 9.90 years) and were mostly women (94.9%, n = 544). We found that 67% (n = 384) of the sample had over

12 years of schooling. The median time of work in gerontological care was 114 months (IQR = 120.25 months). The majority of the sample (83.1%, n = 476) reported working at Private Institutions of Social Solidarity, and the number of users of residential care facilities ranged between 8 and 250. The sample consisted mostly of direct-care workers (32.8%, n = 188) and technical directors (27.6%, n = 158). The sample's general characteristics are described in [Table 1](#).

TABLE 2 Description of items (N = 573)

Item	Mean	SD
1	4.25	0.85
2	3.93	1.06
3	3.92	1.00
4	3.84	1.04
5	3.64	1.05
6	4.04	0.94
7	3.80	1.21
8	4.07	1.09
9	3.82	1.18
10	4.22	1.04
11	3.70	1.11
12	4.10	0.99
13	3.45	1.27
Total P-CAT	50.76	7.65

### 3.2 | Psychometric study

The descriptive characteristics calculated for each item are presented in Table 2. The lowest average corresponds to item 13 (M = 3.45, SD = 1.27) and the highest to item 1 (M = 4.25, SD = 0.85). The total average of the Portuguese version of the P-CAT was 50.76 (SD = 7.65).

The Barlett test was statistically significant ( $p < 0.001$ ) and the Kaiser-Meyer-Olkin's sample adequacy measure ( $> 0.8$ , KMO = 0.864) indicated, according to Pereira and Patrício (2013), that performing the exploratory factor analysis was adequate. In a primary approach, factor loadings and *eigenvalues* were considered as criteria for retaining items in factors. This solution resulted in the retention of two factors, the composition of which was not satisfactory. As such, a second approach was performed with a forced solution using three factors. Conceptually, all factors presented coherent meanings and seemed consistent. Without referring to the themes defined by the P-CAT's authors, the factors obtained in the study were analysed and a Portuguese language theme was assigned.

The seven items composing the first factor (with loadings between 0.565 and 0.784) were all related to the 'extent of care personalization'. The four items of the second factor (with loadings between 0.753 and 0.805) have the common theme of 'amount of organizational support'. The third factor has only two items (with loadings between 0.683 and 0.724) related to the 'degree of environmental accessibility'. This factorial structure explains 55.6% of the sample's total variance. This three-factor solution was considered adequate by the team of authors and experts. The questionnaire and respective subscales, factor loadings and explained variance are presented in Table 3.

The Cronbach's  $\alpha$  internal consistency coefficient (Table 3) was 0.809 for the whole scale, 0.819 for subscale 1 and 0.802 for

subscale 2. The third subscale had an  $\alpha$  value of 0.132. Cronbach's  $\alpha$  would not rise in any relevant way by excluding any item. In terms of temporal stability, the test-retest reliability coefficient was 0.893 for the whole scale, 0.918 for the first subscale, 0.812 for the second subscale and 0.778 for the third subscale (Table 3).

## 4 | DISCUSSION

The approach of person-centred care can foster a paradigm evolution towards the maximisation of quality, sustainability and dignification of care at residential care facilities. To reach scientific and practical progress, it is fundamental to have validated tools adapted to the cultural settings, which are easy to implement and allow the description of care (Fernández-Ballesteros et al., 2019; Martínez, Suárez-Álvarez, & Yanguas, 2016; Martínez, Suárez-Álvarez, Yanguas, & Muñiz, 2016). The objective of this paper is to report the study on adapting and validating the P-CAT instrument to the Portuguese population.

Concerning the P-CAT adaptation process, it is important to highlight the decisive role of the implied human resources, namely the multiskilled translators, the highly qualified experts committee and the close support from the original authors which, altogether, allowed to maximise the success of the work done. Performing the interviews with the target population about the preliminary version was also vital, as it brought about valuable suggestions. The pilot study, backtranslation and approval by the original authors made it possible to guarantee that the instrument was adapted to the participants to which it is intended.

In terms of instrument dimension, the present study applied an exploratory factor analysis as a way to help identify the underlying structure of the 13 items in this sample. This procedure primarily suggested a two-factor solution. This structure was coherent with the Swedish (Sjögren et al., 2012) and Norwegian (Rokstad et al., 2012) validation studies. However, the bidimensional structure used in our study was found to be inadequate in conceptual terms. A second solution with three factors was found conceptually adequate by reflecting central aspects of person-centred care. When thoroughly comparing the results obtained in this study with the original P-CAT, the number of factors, its item composition and the themes assigned in Portuguese were equivalent (Edvardsson et al., 2010). The Chinese version also has a three-dimensional structure (Zhong & Lou, 2013).

In regard to internal consistency, the values found for the total scale are considered good according to authors Pereira and Patrício (2013) and are similar ( $> 0.80$ ) to the reported by the sample of the original P-CAT (Edvardsson et al., 2010), the Spanish study (Martínez et al., 2015) and the Norwegian study (Rokstad et al., 2012). Of all the subscales in our study, the third one had the lowest internal consistency value. This seems to reflect the composition of only two items in this subscale. This result is coherent with the P-CAT's original study (Edvardsson et al., 2010).



TABLE 3 Factor structure, scale content, factor loadings, total variance explained and Cronbach's  $\alpha$  for the Portuguese version of the P-CAT ( $n = 573$ )

Item content	Subscale 1 extent of care personalisation	Subscale 2 amount of organisational support	Subscale 3 degree of environmental accessibility
1. We often discuss how to give person-centred care.	0.765	0.135	0.103
2. We have formal team meetings to discuss resident's care.	0.740	0.205	0.030
3. The life history of the residents is formally used in the care plans we use.	0.784	0.176	0.007
4. The quality of the interaction between staff members and residents is more important than getting the tasks done.	0.581	-0.031	-0.036
5. We are free to alter work routines based on residents' preferences.	0.627	0.146	0.070
6. Residents are offered the opportunity to be involved in individualised everyday activities.	0.709	0.075	0.069
7. I simply do not have the time to provide person-centred care.	0.065	0.753	0.006
8. The environment feels chaotic.	0.162	0.759	0.133
9. We have to get the work done before we can worry about a homelike environment.	0.169	0.756	-0.084
10. This organisation prevents me from providing person-centred care.	0.212	0.805	0.166
11. Assessment of residents' needs is undertaken on a daily basis.	0.565	0.160	0.178
12. It is hard for residents in this facility to find their way around.	-0.091	0.353	0.683
13. Residents are able to access outside space as they wish.	0.292	-0.144	0.724
Explained variance (%)—total scale: 55.6	32.9%	15.3%	7.5%
Cronbach's $\alpha$ —total scale: 0.809	0.819	0.802	0.132
Test-retest reliability coefficient—total scale: 0.893	0.918	0.812	0.778

Concerning the temporal stability, the values found are considered as having good reliability between the two test sessions, according to criteria presented by Koo and Li (2016). Similar results were shown in international studies (e.g. Martínez et al., 2015; Rokstad et al., 2012; Sjögren et al., 2012).

To summarise, it is considered that technical and scientific, linguistic, semantic, idiomatic, experiential and contextual equivalences were reached through the process of adaptation and that the P-CAT is adapted to the Portuguese population. For its part, the psychometric study results show that the Portuguese version of the P-CAT is valid and reliable in the context for which it was adapted.

The existence and application of the Portuguese version of the P-CAT has practical implications for professional and research purposes. Primarily, it is a brief and easily applied instrument, which maximises the probability of obtaining answers. Moreover, the exercise of answering the P-CAT has in itself an awareness effect about the practices and attitudes towards residents, as the staff must

reflect on care practices before answering. This instrument also provides relevant data about the staff's perspective on the level of person-centred care they perform, making it possible to describe, monitor and follow up on care approaches.

As defended by Edvardsson and Innes (2010), Martínez, Suárez-Álvarez, and Yanguas (2016), Martínez, Suárez-Álvarez, Yanguas, and Muñiz (2016) and White et al. (2008), the instruments that provide the opinions of staff are particularly useful, since they are the ones applying the care practices and they are directly involved in the dynamics of residential care facilities and in the necessary changes to apply a person-centred care model. Lastly, since the P-CAT is one of the most studied instruments on an international level and has several cultural adaptations, it facilitates the cross-cultural interchangeability of data and the conflation of knowledge and effort. The Portuguese version of the P-CAT is expected to become a useful tool with real-world impact, namely to identify improvement factors, to support informed decisions, to define policies and to guide work practices and directives.

## 4.1 | Limitations, strengths and future research

A limitation of this study is the inability to calculate the answer rate. This results from three conditions. First, the inexistence of official data on the number of employees at residential care facilities. Second, all of the residential care facilities included in the official contact list were contacted but, given the study's confidentiality, it is not known, which facilities divulged the study among its employees and, since answering was voluntary, it is not possible to know how many staff members replied at each residential care facility. Lastly, the use of the snowball method for divulging the study also contributed to the limitation presented. Even so, the aforementioned were the procedures made possible by the available resources and provided an eclectic sample with a considerable size (>10 participants per item), which was fundamental for the psychometric study.

Besides, according to the NUTS II (the hierarchic system for the territorial division of Eurostat regions), it was possible to obtain answers from professionals working at institutions in all regions of mainland Portugal and the islands. The larger amount of answers was obtained from the north and centre. This result is in line with the data presented by the report concerning the network of social services and facilities of the Social Charter, showing that the north and centre regions have a larger amount of residential care facilities in Portugal (Ministry of Labor, Solidarity and Social Security, 2020). Another strength of the study is the conciliation of guidelines from different authors/entities that allowed to create a process structure and to take procedural decisions that made the method stronger throughout the study.

The necessary evolution and the changes to the philosophy of care provided at Portuguese residential care facilities make this a particularly appropriate moment for development and innovation in the area of person-centred care, namely concerning the development of studies that result in the availability of assessment instruments. The P-CAT is therefore a useful instrument, and its data should be complemented with data from other sources to avoid partial assessments of the care developed at residential care facilities. In other words, a combined strategy in both research and practice is recommended. As such, and in our view, the care evolution process should also contemplate the voice of those receiving care, which would allow the definition of needs and wills of people living at residential care facilities and understanding how these facilities can adapt to their current residents. Studies are necessary to develop/validate instruments related to person-centred care in Portugal, for which other sources should be used, namely older adults living at residential care facilities.

## 5 | CONCLUSION

Within the Portuguese contemporary society, formal care at residential care facilities is indispensable and there is an urgent need for progress in the care paradigm towards person-centred care. It is therefore vital to provide instruments for measuring person-centred care, which are easily applicable, adapted and validated to the

Portuguese population. The Portuguese version of the P-CAT developed in this project is a contribution to tackle the existing gap on that level. Since this version of the P-CAT has shown adequate psychometric properties, its application is considered valid, reliable and adequate for measuring the level of person-centred care developed in the context of the Portuguese residential care facilities through self-reporting from staff.

The information collected by this instrument can be of significant interest for professional practice and research purposes. It is our proposal that tools such as the P-CAT may be included in the processes for assessing and improving the quality, sustainability and dignification of care at the Portuguese residential care facilities.

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### CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

### ETHICAL APPROVAL

This study was approved by the 'Comissão de Ética da Universidade da Beira Interior' (n° CE-UBI-Pj-2019-057-ID1555).

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