


ORIGINAL ARTICLE

Transcultural adaptation of the revised caregiving appraisal scale (RCAS) in the Spanish population

Monica Cueli Arce PhD, RN, MSN, Professor¹  | Miguel Santibañez MD, PhD, Professor¹ | Carmen Sarabia PhD, RN, MSN, Lecturer¹ | Paula Paras-Bravo PhD, RN, PT, MSc, Professor¹ | Marta Gomez CNS, Specialist nurse² | Ana Rosa Alconero-Camarero PhD, RN, MSN, Professor¹

¹Faculty of Nursing, University of Cantabria, Santander, Spain

²Training, Quality and Research Unit Primary Care Management, Cantabrian Health Service, Santander, Spain

Correspondence

Monica Cueli Arce, Facultad de enfermería de la Universidad de Cantabria, Av. de Valdecilla, 25 39008 Santander, Cantabria, Spain.

Email: cueliarcem@unican.es

Abstract

Aim: To develop a transcultural adaptation of the Revised Caregiving Appraisal Scale among Spanish caregivers of dependent older people and to test the psychometric properties of the scale.

Design: Cross-sectional study.

Methods: The Revised Caregiving Appraisal Scale was transculturally adapted to the Spanish population following the methodology of direct and back translation. The Spanish version of the Revised Caregiving Appraisal Scale was administered to a total of 182 family caregivers of older dependent people. The study began in January 2016 and ended in December of the same year. The construct validity was studied by means of the scree plot and parallel analysis. The exploratory factorial analysis was carried out, and the correlation between factors was studied. To verify the reliability of the process, Cronbach's alpha and homogeneity were calculated by the corrected total item correlation. The validity of the convergent criterion was studied by means of the Pearson correlation coefficient, using the Zarit Caregiver Load Interview and the Family Satisfaction Scale as the gold standard.

Results: The construct validity revealed three factors: 'Subjective Burden' (15 items), 'Satisfaction' (7 items) and 'Competence' (3 items). The Cronbach alpha was .86 for 'Subjective Burden', .74 for 'Satisfaction' and .74 for 'Competence'. The corrected total item correlation was greater than .25. The validity of the convergent criterion of the 'Subjective Burden' and 'Competence' factors with the 'Zarit Caregiver's Load Interview' presented a very high statistically significant correlation, unlike 'Satisfaction' which presented a low positive correlation with the 'Family Satisfaction Scale'.

Conclusion: The Spanish version of the Revised Caregiving Appraisal Scale is a valid and reliable scale according to the tests performed on a random sample of family caregivers of older dependent people in Spain.

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2022 The Authors. *International Journal of Older People Nursing* published by John Wiley & Sons Ltd.

Impact: This scale will enable the simultaneous assessment of negative ('Subjective Burden' and 'Competence') and positive ('Satisfaction') perceptions among family caregivers of older dependent people.

KEYWORDS

burden, caregiver, family care, instrument development, older people, revised caregiving appraisal scale, satisfaction, Spanish

1 | INTRODUCTION

Population ageing entails an increased impact of chronic diseases, considered by the World Health Organisation as the pandemic of the 21st century (Hill et al., 2016). Health systems lack the capacity to provide the full range of care for chronically ill and dependent older persons (Dall et al., 2013; Webster et al., 2017).

In Spain, the mean age of family care recipients has increased in the last two decades from 78.8 to 79.9 years (Oliva et al., 2011; Rodríguez-Rodríguez, 2005); hence, caregivers are a highly relevant figure due to their impact on the quality of life of dependent older people (Naganathan et al., 2016). Consequently, an in-depth understanding of the profile, concerns and process of caregivers of dependent persons is necessary among nursing professionals worldwide (Araújo et al., 2015; Bleijlevens et al., 2015).

In Spain, Germany, Austria, Belgium, France and Italy, there is a legal obligation to take responsibility for older, dependent relatives, a factor that favours formal care over informal care, which, unlike the former, is carried out by relatives who do not receive financial compensation in return (Haberkern & Szydlik, 2010). Spain stands out for the relevance of informal care: 50% of family caregivers spend over 20 h a week caring for their relative (Colombo et al., 2011; Prieto et al., 2011). The decision to provide care is linked to both filial and moral duties, as well as the reported pleasure of caring (Calvente et al., 2011). In Spain, most studies on family caregivers have evaluated the negative aspects of caregiving, whereas the positive aspects have received less attention (Mosquera et al., 2016), despite the fact that caregiving can provide both positive and negative effects on the family caregiver (Cohen et al., 2002; Hanyok et al., 2010; Kramer, 1997; Lawton et al., 1991). Thus, it is necessary to study the positive effects of caregiving, in order to obtain a more comprehensive vision of the caregiver profile as well as understand the perceived needs.

1.1 | Background

Most of the theoretical models that explain the effects of care on the family caregiver are framed within the transactional or interactional conception by Folkman and Lazarus (1984) (López, 2005). Within this theoretical framework and with the aim of designing tools that evaluate the impact of care on the caregiver, two models that evaluate

Summary statement of implications for practice

What does this research add to existing knowledge in gerontology?

- This study enables the use of the Revised Caregiving Appraisal Scale in the Spanish population of family caregivers of dependent older people.

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

- Using the Revised Caregiving Scale Spanish Version, nurses can assess the negative (caregiving burden and mastery) and positive (satisfaction) perceptions of caregiving among the family caregivers of dependent older people.
- Caregiving burden and mastery can coexist with caregiving satisfaction in the family caregivers of dependent older people.
- The final balance of caregiving burden, mastery and satisfaction determines a state of psychological well-being in the family caregiver of dependent older people.

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

- The Revised Caregiving Scale Spanish Version is a useful tool to assess the effectiveness of interventions with family caregivers of older dependents to the extent that caregiving burden and/or mastery decreases, whereas satisfaction increases.

the Appraisal dimension stand out: the Two Stage Model (Nolan & Philp, 1999) and the Two Factor Model (Lawton et al., 1991).

The Two Stage Model shows that the type of impact on the caregiver is presented in a continuum between two extremes, one positive and one negative. The positive and negative aspects in the caregiver are evaluated at different stages, and therefore, different types of scales are developed to evaluate the impact of care on the caregiver: the Caregiver Assessment of Difficulties Index (CADi),

the Caregiver Assessment of Satisfaction (CASI) and the Carers Assessment of Managing Index (CAMI) (McKee et al., 2009).

The Two Factor Model, developed within the theoretical framework of 'Psychological Well-being' (Lawton et al., 1991), shows that 'Satisfaction' and 'Subjective Burden' can coexist at the same time in the family caregiver and it is the final balance between these two variables that determines their state of psychological well-being. In this model, three constructs are defined: the background of the family caregiver, the mediating variables and the consequences of the caregiving. The background is the objective stressors faced by the family caregiver, such as the level of dependency of the care recipient, as well as the resources available to care for this person, such as the family caregiver's physical health, educational level and social support. The mediating variables, named by the author as 'Caregiving Appraisal', are defined as 'the cognitive and affective responses of the family caregiver to the demand for experienced care', with two main types of response: 'Satisfaction' for caregiving and perceived 'Subjective Burden'. The consequences of care determine a state of psychological well-being in the family caregiver, evaluated as positive or negative affect, and which, above all, depends on the balance between the two mediating variables: the 'Subjective Burden' and the 'Satisfaction' perceived by the family caregiver. This is how the Caregiving Appraisal Scale (CAS) was developed, with the main purpose of evaluating the perceptions of 'Subjective Burden' and 'Satisfaction' in the family caregiver (Lawton et al., 1989). The CAS evaluates five dimensions through 47 items: 'Subjective Caregiving Burden' (13 items), 'Impact of Caregiving' (9 items), 'Caregiving Mastery' (12 items), 'Caregiving Satisfaction' (9 items) and 'Cognitive Reappraisal' (4 items). The CAS confirmatory factor analysis (CFA) reduced the scale to three dimensions and 19 items: 'Subjective Caregiving Burden' (10 items), 'Caregiving Satisfaction' (5 items) and 'Impact of caregiving' (4 items). The independence of the three factors was demonstrated (Pearson's r): as well as the negative aspects of caregiving with the 'Subjective Caregiving Burden' and the 'Impact of Caregiving', whereas the independence of the positive aspects was shown with 'Caregiving Satisfaction'. The CAS review, 'Revised Caregiving Appraisal Scale' (RCAS), by Lawton et al. (2000) showed the construct validity and temporal stability of the scale. The exploratory factor analysis (EFA) yielded 5 factors and 25 items evaluated on a Likert scale from 1 to 5: 1 = Strongly agree, 4 = Somewhat agree, 3 = Neither Agree nor Disagree, 2 = Somewhat disagree and 1 = Strongly disagree. The RCAS factors are as follows:

'Caregiving Burden' which refers to the family caregiver's subjective perceptions of worry, anxiety, frustration, sadness and fatigue. It consists of 9 items, its factor loading ranges from .60 to .84. It presents a Cronbach's alpha of .88 for the two measurement times of the study.

'Caregiving Satisfaction' is defined as a stable situation that produces pleasure, affirmation or joy in the person who cares. It consists of 6 items, and its factor loading ranges from .69 to .83. It presents a Cronbach's alpha of .87 for the two times of measurement of the study.

'Caregiving Demand' determines the degree to which the caregiver perceives the care recipient to be overly demanding, complacent or grateful. It consists of 3 items, and its factor loading ranges

from .63 to .80. It presents a Cronbach's alpha of .76 in the first moment of measurement of the study and .75 in the second.

'Caregiving Mastery' is defined as the ability of the caregiver to cope with the problems the caregiver may have as a result of caregiving. It consists of 4 items, and its factor loading ranges from .46 to .89. It presents a Cronbach's alpha of .76 in the first measurement of the study and .75 in the second.

'Environment' determines the impact of care on the social life, activities and work of the family caregiver. It consists of 3 items, and its factor loading ranges from .66 to .81. It presents a Cronbach's alpha of .77 in the first measurement moment of the study and .78 in the second one.

There was a discrepancy in the number of RCAS items according to the publication in 'Two Transitions in Daughters' Caregiving Careers' (Lawton et al., 2000) and the publication of the Polisher Research Institute Madlyn and Leonard Abramson Center for Jewish Life (formerly Philadelphia Geriatric Center). After contacting the RCAS co-authors, a transcription error was noted in the appendix of the publication in 'Two Transitions in Daughters' Caregiving Careers'; therefore, for future reference or research, it is recommended to consult the document published by Polisher Research Institute Madlyn and Leonard Abramson Center for Jewish Life. As demonstrated in the previous paper, the RCAS does not present an overall score, but rather a score for each of its subscales, as a multi-dimensional scale.

Therefore, the RCAS scale, besides being designed for family caregivers of older people and presenting a solid theoretical basis, has been adapted cross-culturally to other countries such as Korea, K-RCAS (Lee et al., 2007) and Iran, known as the Persian version of RCAS (Farhadi et al., 2017). In addition, this scale has been studied by other international authors (Hanks et al., 2007; Iecovich, 2016; Purden et al., 2013; Sevicik et al., 1997; Struchen et al., 2002) and modified to other versions (Braithwaite, 1996; Brown et al., 2013; Sakurai, 1999).

2 | THE STUDY

2.1 | Aim

The aim of this study was to develop and psychometrically test a Spanish version of the 'Revised Caregiving Appraisal Scale' (RCAS) among Spanish caregivers of dependent older people.

2.2 | Design

A cross-sectional observational study of the validation of a psychometric instrument, with the aim of analysing the construct validity, reliability and validity, at a given time, in a population of family caregivers of people over 65 years old. Since this study does not analyse the sensitivity to change of the instrument, it does not require follow-up of the subjects.

2.3 | Methodology

2.3.1 | Phase one: Transcultural adaptation process of the RCAS and pilot study

The RCAS was adapted to the Spanish population following the methodology of direct translation (synthesis version), back translation (pre-final version) and comparison of the degree of equivalence between both versions (Beaton et al., 2000; Crespo et al., 2009; de Tiedra, 2009). The direct and back translation was carried out by two independent translators whose mother tongue was Spanish (direct translation) and English (reverse translation). Both translators were blinded to the original version (not having any knowledge of the same); moreover, they were unaware of the study aims. A committee of experts (health professionals, linguists, translators and research team) analysed the degree of equivalence between the two versions and agreed on the Spanish version of the RCAS: RCAS-Versión Española (RCAS-VE).

A pilot study of the RCAS-VE was conducted with 30 caregivers, and those items that presented comprehension difficulties among 15% of the participants or greater were reviewed.

2.3.2 | Phase two: Validation process

Construct validity

The number of factors to be retained was determined by the parallel analysis and scree plot (Velicer & Jackson, 1990), relying on the theoretical basis of the RCAS (Lawton et al., 2000) the five factors on the AFE, and CAS (Lawton et al., 1989) and three factors in the AFC. Once the number of factors was obtained, the exploratory factor analysis with oblique rotation was carried out and the correlation between these factors was studied.

Reliability

The reliability was calculated using Cronbach's alpha, and the homogeneity was calculated using the corrected total item correlation (CITC).

Validity

The validity of convergent criteria was studied with two scales used as the gold standard: the Spanish version of the 'Entrevista de Carga del Cuidador de Zarit', ZBI-VE (Martín et al., 1996) and the 'Escala de Satisfacción Familiar', ESFA (Barraca & López-Yarto, 1997). Both were selected for their similarity to RCAS-VE in some of their items, containing the same 'Burden' and 'Satisfaction' dimensions. The RCAS-VE was compared with the different studied dimensions of the ZBI-VE: the 'Burden, Rejection and Competence' factors (Martín et al., 1996); 'Burden, Interpersonal and Competence' factors (Montorio Cerrato et al., 1998) and 'Burden, Dependency and Competence' factors (Martín-Carrasco et al., 2010). As for the ESFA scale, as it is one-dimensional in relation to the 'Family Satisfaction' dimension, only its overall score was compared with the RCAS-VE.

2.4 | Data analysis

The data analysis incorporated the initial descriptive analysis in relation to the socio-demographic characteristics of the sample. For categorical variables, relative frequencies were estimated using Pearson's chi-square test for comparisons, or alternatively, Fisher's exact test when more than 20% of the cells presented an expected number of cases less than or equal to 5. For the continuous quantitative variables, means were estimated with their standard deviation (SD) and medians and interquartile ranges in the event of asymmetric distributions. All statistical analyses were performed using the IBM SPSSv22.0 package.

The psychometric analysis of RCAS-VE used the scree plot, whereas for parallel analysis O'Connor was used (2000). Those factors with eigenvalues >1 (Cattell, 1996) and with average eigenvalues of the original data higher than the random eigenvalues (Horn, 1965), were retained. In the oblique factorial rotation, for this study, it was considered that the items should present a factor loading greater than .25 to belong to one factor and not to another. Cronbach's alpha coefficient values >.9 were considered excellent, >.80 good, >.70 acceptable, >.60 questionable, >.50 poor and <.50 unacceptable (George & Mallery, 2019), and all items were expected to present an IACC greater than .25-.30 (Nunnally & Bernstein, 1995). The correlation values of the Pearson *r* of RCAS-VE with the gold standard scales were considered as 1 perfect, .90-.99 very high, .70-.89 high, .40-.69 moderate, .20-.39 low and .01-.19 very low.

2.5 | Participants

The reference population was a total of 5000 family caregivers of people over 65 years old with mobility and/or dependence problems in Cantabria, an autonomous community in the north of Spain. A simple stratified random sampling was carried out by the different regions of the autonomous community, obtaining a total of 432 family caregivers. Each person was contacted by telephone to arrange an interview at their reference health centre. A total of 182 family caregivers (42.6% of those randomly selected) were interviewed according to the questionnaire designed in the study's research protocol. Each of the interviews with the family caregivers was carried out 'face to face' at the reference health centres. Before proceeding with the completion of the questionnaire, the inclusion criteria were verified, and the informed consent was signed. Each of the respondents completed the questionnaire individually, and the interviewer explained any doubts that arose during the completion of the questionnaire. The time needed to complete the questionnaire was 30 to 40 min. The interviews were conducted throughout the geographical area of Cantabria and began in January 2011, ending in December of the same year.

2.6 | Instruments

The questionnaire was designed for the collection of the socio-demographic characteristics of the caregiver. The ZBI-VE (Martín

et al., 1996) and the ESFA (Barraca & López-Yarto, 1997) were used as the gold standard, as well as the scale submitted to the RCAS-VE study.

The ZBI-VE consists of a self-completed questionnaire comprising 22 items evaluated on a Likert scale from 1 to 5, presenting a Cronbach's alpha of .89. Only the last item measures the overall burden.

The ESFA evaluates the individual's satisfaction with other family members. It consists of 27 contrasting adjectives to measure positive or negative feelings about their family members and is self-completing. Its score varies from 27 to 167, as the highest score. It presents a Cronbach's alpha of .97, and the test-retest correlation is .75.

2.7 | Ethical considerations

The research protocol was approved by the Cantabria Clinical Research Ethics Committee. All persons interviewed agreed to participate voluntarily, which was documented by signing the informed consent.

The data were anonymized and treated confidentially in accordance with the Organic Law 15/1999, of December 13, of the Official State Bulletin, on the protection of personal data. The confidentiality of the information was maintained in accordance with Law 41/2002, November 14, and the Law of Cantabria 7/2002, December 10, on the Health Regulations of Cantabria.

3 | RESULTS

3.1 | Phase one: Spanish version of the RCAS (RCAS-VE)

The items of the synthesis and pre-final version maintained the degree of equivalence, although for improved understanding in Spanish, four items were modified (1A, 1B, 2A, 2T) and the title: 'Caregiving Appraisal Scale' was changed to 'Escala de Evaluación de la Percepción de los Cuidadores Familiares'.

In the pilot test, four items (1A, 2C, 2D and 2I) were difficult to understand for more than 15% of the participants, and therefore, they were reformulated by the research team in the final version of the RCAS: RCAS-VE.

In item 1A a colloquialism was introduced ('Whatever I do, I feel guilty for not doing enough for my older relative'), it was not understood in the context of the item and was therefore deleted (I feel guilty for not doing enough for my older relative).

In item 2C, Does nothing you do for your (Older Family Member) seem to please them? Because of the Spanish wording, caregivers did not identify who was to be pleased, the caregiver or the (Older Family Member); therefore, it was changed to: Does nothing you do for your (Older Family Member) seem to please him/her?

In item 2D, Do you doubt about what to do with your (Elderly Relative), because of the Spanish wording, the word doubt was not understood and was changed to: do you have doubts about what to do with your (Elderly Relative)?

In item 2 I, Do you like it when your (Older Relative) shows you satisfaction with a small detail, because of the Spanish wording, the caregivers did not identify who should like it, the caregiver or the (Older Relative) and it was changed to: Do you like it when your (Older Relative) shows you satisfaction with a small detail?

After modifying the items in the pilot test, no further difficulties of understanding were observed, resulting in the final version of the RCAS-VE as shown in Appendix S1.

3.2 | Phase two: Determination of the psychometric properties of the RCAS-VE

3.2.1 | Participant characteristics

Table 1 shows the main socio-demographic characteristics of the family caregivers of older people according to the caregiver's gender. The overall mean age was 60.98 years (SD = 10.96), 153 of the 184 participants (83.2%) were women and 31 (16.8%) were men. In terms of the family relationship, children and spouses were the main profiles of family caregivers in the sample (84.3%). Most of the family caregivers (98%) had been caring for their family member for over 2 years, and 76.6% lived and slept at the same home as the care recipient.

3.2.2 | Construct validity RCAS-VE

According to the scree plot and parallel analysis, the minimum number of factors to be extracted was three. Two of the three factors evaluated the negative perceptions of the family caregiver, 'Subjective Burden' and 'Competence' (the latter should be understood as the perception of 'lack of competence' to care), whereas the other factor, 'Satisfaction', evaluated the positive perceptions. The factor analysis with oblique rotation of the factors is shown in the configuration matrix presented in Table 2.

The first factor which was named 'Subjective Burden' in the RCAS-VE grouped the 'Burden, Demand and Environment' factors of the original RCAS scale and was defined by 15 items with factor loadings between .31 and .78. One of the items 'I can fit in most of the things I need to do in spite of the time it takes to care for E' scored inversely (note that in this scale, E = elder, the care receiver's name, or relationship to caregiver, e.g. 'your mother'). The item evaluated most negatively by family caregivers in the sample was 'Taking care of E gives me a trapped feeling' (Mean = 3.62; SD = 1.46). The overall mean of the sample for this subscale was 38.31 (SD = 10.54) and its range of scores was from 15 to 75 points, considering that the higher the score, the greater the subjective burden of the family caregiver.

TABLE 1 Socio-demographic characteristics of family caregivers according to the gender of the caregivers

Categories	Caregiver's gender						p-value
	Women		Men		Total		
	n	%	n	%	n	%	
Age. Mean [SD]	153	83.2	31	16.8	184	100	.385
Age categories							
30–39	6	3.9	2	6.5	8	4.3	.506
40–49	18	11.8	6	19.4	24	13.0	
50–59	49	32.0	10	32.3	59	32.1	
60–69	53	34.6	8	25.8	61	33.2	
70–79	20	13.1	2	6.5	22	12.0	
80–89	7	4.6	3	9.7	10	5.4	
Relationship							
Spouse or partner	24	15.7	5	16.1	29	15.8	.85
Daughter/Son	104	68.0	22	71.0	126	68.5	
Daughter/son-in-law	6	3.9	1	3.2	7	3.8	
Granddaughter/grandson	2	1.3	0		2	1.1	
Sister/brother	4	2.6	0		4	2.2	
Other relative	9	5.9	3	9.7	12	6.5	
Other person	4	2.6	0		4	2.2	
Employment Status							
Employed	26	17.0	9	29.0	35	19.0	.005
Inactive	6	3.9	1	3.2	7	3.8	
Retired	45	29.4	14	45.2	59	32.1	
Unemployed	25	16.3	7	22.6	32	17.4	
Housekeeper	51	33.3	0		51	27.7	
Marital Status							
Married and living with a partner	108	70.6	14	45.2	122	66.3	.005
Widow/er	8	5.2	0		8	4.3	
Single	24	15.7	12	38.7	36	19.6	
Divorced or separated	13	8.5	5	16.1	18	9.8	
Educational level							
Primary	96	62.7	17	54.8	113	61.4	.708
Secondary	40	26.1	10	32.3	50	27.2	
Higher education	17	11.1	4	12.9	21	11.4	
Place of residence							
Shares housing with the older person (not overnight)	14	9.2	4	12.9	18	9.8	.813
Resides with the older person (overnight)	118	77.1	23	74.2	141	76.6	
Resides in a different location	21	13.7	4	12.9	25	13.6	

The second factor, called 'Satisfaction' in the RCAS-VE was defined by 7 items, of which 6 belonged to the 'Satisfaction' factor, whereas the item 'How often do you feel that helping E has made you feel that E shows appreciation of what you do for him/her' came from the RCAS 'Demand' factor. The factor loadings were between .26 and .92. The item evaluated most positively by the family caregivers in the sample was 'How often do you feel that helping E has made you feel closer to him/her' (Mean = 4.52; SD = 0.88). The global mean of the sample for this subscale was 28.24 (SD = 5.21)

and the range of scores was from 7 to 35 points, considering that the higher the score, the family caregiver perceived greater satisfaction, and therefore, less of a problem.

The third factor, called 'Competence' in RCAS-VE, maintained the items of the original scale with the exception of the item 'How often do you feel uncertain about what to do about E?', which in the RCAS-VE carried a greater factor loading in the 'Subjective Burden' factor than in the RCAS 'Mastery' factor, and was therefore defined by three items with factor loadings between .56 and .82. The item

TABLE 2 Configuration matrix

Item RCAS	Factor		
	Subjective Burden	Satisfaction	Competence
I can do <i>Bur</i> 1	-.33 ^b	-.01	.01
Bound <i>Bur</i> 2	.48	.06	-.05
Health <i>Bur</i> 3	.60	.01	-.00
Time for oneself <i>Bur</i> 4	.64	.09	.06
Social life <i>Bur</i> 5	.70	.19	-.09
Tired <i>Bur</i> 6	.66	-.07	-.07
More time <i>Bur</i> 7	.40	-.20	.06
Isolated <i>Bur</i> 8	.77	.12	-.03
Loss of control over life <i>Bur</i> 9	.78	.06	.02
Intimacy <i>Env</i> 1	.61	.03	.12
Visits <i>Env</i> 2	.35	-.13	.10
Space <i>Env</i> 3	.42	-.19	-.06
Demand <i>Dem</i> 1	.49	-.21	-.03
Unpleasant <i>Dem</i> 2	.31	-.20	.05
Appreciates <i>Dem</i> 3	-.20	.42	-.00
Guilt <i>Mast</i> 1	.08	-.06	.56 ^a
Doubt <i>Mast</i> 2	.46	-.06	.29
Do more <i>Mast</i> 3	-.00	.05	.82
Take better care <i>Mast</i> 4	-.08	.01	.81
Satisfaction <i>Sat</i> 1	-.07	.56	-.15
Close <i>Sat</i> 2	-.02	.52	-.04
Enjoys <i>Sat</i> 3	.09	.92	-.00
Self-esteem <i>Sat</i> 4	.15	.86	-.01
Gratitude <i>Sat</i> 5	.04	.35	.03
Meaningful <i>Sat</i> 6	-.05	.26	.16

Abbreviations: Bur, Burden; Dem, Deman; Env, Enviroment; Mast, Mastery; Sat, Satisfaction.

^aThe highest loads of each factor are highlighted in bold.

^bReverse scoring.

that was evaluated most negatively by the family caregivers in the sample was 'I Feel guilty about not doing enough for E' ($M = 2.25$; $SD = 1.45$). The overall mean of the sample for this subscale was 6.48 ($SD = 3.18$) and the range of scores was between 3 and 15 points, that is, the higher the score, the greater the perception of lack of competence in caring for the family member and the greater the problem.

3.2.3 | Reliability RCAS-VE

The 'Subjective Burden' factor presented a 'good' Cronbach α ($\alpha = .86$), and the CITC value was in the range (.31–.70); therefore, removing any of its items was not indicated in this subscale.

For the 'Satisfaction' and 'Competence' factors, the Cronbach α was 'acceptable' ($\alpha = .74$ and $\alpha = .76$) and the IACC value was in the range (.272–.663) for the 'Satisfaction' factor and (.498–.676) for the 'Competence' factor; likewise, there was no indication to remove any of these items.

3.2.4 | Criterion validity RCAS-VE

Table 3 shows the different values of the Pearson's r and statistically significant values.

Statistically significant ($p < .001$), very high positive ($r = .86$ –.83) and high ($r = .66$ –.55) correlations were obtained for the 'Subjective Burden and Competence' factors of the RCAS-VE with the 'Burden' and 'Competence' factors studied in the ZBI-VE; however, no correlation was obtained for the RCAS-VE factors with the ESFA.

4 | DISCUSSION

The aim of this study was to adapt and validate the RCAS in the Spanish population (Lawton et al., 2000), by developing the RCAS-VE scale. The Spanish version was found to have good psychometric properties, although it presents some differences in relation to the original and other adapted versions.

The RCAS-VE validation study was shown to be a three-dimensional scale as opposed to the original scale and other RCAS validation studies, which were mutated by four factors (Lee et al., 2007), five factors (Brown et al., 2013) and six factors (Farhadi et al., 2017). However, the RCAS-VE coincides with the CAS in the number of factors, as shown in the confirmatory factor analysis of the CAS, which reduces the scale to 19 items and three factors: 'Subjective Burden', 'Caregiving Satisfaction' and 'Impact'.

The 'Subjective Burden', 'Demand' and 'Environment' factors, converged into a single factor in the RCAS-VE called 'Subjective Burden', as in the CAS validation studies the 'Subjective Burden' and 'Environment' factors converged (Struchen et al., 2002) and 'Burden' and 'Impact' (Sevick et al., 1997). The convergence of the above factors may be because they all assess negative caregiver perceptions as demonstrated in the original version of the CAS, with a moderate positive correlation established between 'Subjective Burden' and 'Caregiving Impact' (Lawton et al., 1989). However, in other validation studies of the RCAS, K-RCAS (Lee et al., 2007) and the Persian Version RCAS (Farhadi et al., 2017), the independence of the three factors was maintained: 'Subjective Burden', 'Demand' and 'Environment'. The 9 items of 'Subjective Burden' in the RCAS-VE were retained as in the original scale and in the other RCAS validation studies to date (Farhadi et al., 2017; Lee et al., 2007; Sevick et al., 1997; Struchen et al., 2002). As for the validity of the 'Subjective Burden' criterion of the RCAS-VE, the results can only be compared with the only CAS validation study known to date, carried out by Struchen et al. (2002) that achieved satisfactory results only for this dimension and not for the remaining factors. Similarly, the validity of the convergent criterion of the 'Subjective Burden'

factor of the RCAS-VE presented a very high positive correlation with the different dimensions studied regarding the 'Burden' factor (Martín et al., 1996; Martín-Carrasco et al., 2010; Montorio Cerrato et al., 1998) of the ZBI-VE (Martín et al., 1996), since both measure the same 'Burden' dimension and present similar items concerning the physical health, psychological well-being and social life of the family caregiver.

The 'Satisfaction' factor maintains its independence as the only one that evaluates the positive perceptions of the caregiver in RCAS-VE, which coincides with the original RCAS scale and with the other validation studies (Brown et al., 2013; Farhadi et al., 2017; Lee et al., 2007). There were differences in the Cronbach's alpha values, which were acceptable ($\alpha=.74$) in the RCAS-VE and good ($\alpha=.87$) in the original RCAS scale and in the other validation studies in which this value is recorded (Brown et al., 2013; Farhadi et al., 2017; Lee et al., 2007). The 6 RCAS 'Satisfaction' factor items were maintained, as in the known validation studies (Brown et al., 2013; Farhadi et al., 2017; Lee et al., 2007) and loading with a seventh RCAS 'Demand' factor item: 'How often do you feel that E shows appreciation of what you do for him/her?' as in the validation study by Lee et al. (2007) which loads the competency factor. This item in the Spanish population has been understood more as a positive perception of care than a negative one. The item 'How often do you feel that caring for E gives more meaning to your life?' In the case of the RCAS-VE, this could be rejected because its factor loading was very doubtful (.26) and the CITC value was limited (.27) (Nunnally & Bernstein, 1995). Although Cronbach's alpha of the 'Satisfaction' factor would improve to .77 if it were removed, a level of acceptability would still be maintained. The

TABLE 3 Convergent criterion validity RCAS-VE with ZBI-VE and ESFA: Pearson *r* values and values of statistical significance

ZBI-VE Factors	RCAS-VE								
	Factor 1: Subjective burden			Factor 2: Satisfaction			Factor 3: Competence		
	<i>r</i>	<i>p</i>	<i>N</i>	<i>r</i>	<i>p</i>	<i>N</i>	<i>r</i>	<i>p</i>	<i>N</i>
Factor 1									
Burden (Martin et al., 1996)	.855	<.001	166	-.32	<.001	166	.184	.01	162
Burden (Montorio-Cerra-to et al., 2010)	.863	<.001	166	-.28	<.001	166	.211	.07	162
Burden (Martin-Carrasco et al., 1998)	.834	<.001	163	-.37	<.001	163	.230	.03	161
Factor 2									
Rejection (Martin et al., 1996)	.63	<.001	179	-.40	<.001	179	.24	.001	174
Interpersonal (Monto-rio-Cerrato et al., 2010)	.55	<.001	178	-.42	<.001	178	.22	.03	173
Dependency (Martin-Carrasco et al., 1998)	.47	<.001	176	-.05	<.001	176	-.01	.813	1722
Factor 3									
Competence (Martin et al., 1996)	.38	<.001	170	-.09	<.001	162	.56	<.001	173
Competence (Montorio-Cerrato et al., 2010)	.35	<.001	172	-.02	<.001	178	.55	<.001	170
Competence (Martin-Carrasaco et al., 1998)	.27	<.001	174	-.06	.445	174	.63	<.001	170
ESFA	-.67	<.001	137	.35	<.001	137	-.26	.02	134

research team opted to maintain a conservative stance on this issue until more conclusive results are obtained in future research, since the study participants displayed some confusion regarding this item, stating that 'the meaning of their life already existed before they became caregivers'. As for the validity of the convergent criterion, the expected correlation ($r = .35$) of the 'Satisfaction' factor of the RCAS-VE with the ESFA was not achieved (Barraca & López-Yarto, 1997), despite the fact that it was selected as the 'gold standard' for measuring the satisfaction dimension and presenting some of the items similar to the 'Satisfaction' factor of the RCAS-VE. This low correlation could be due to the different theoretical basis on which ESFA was built and for being designed for different population groups: family groups (ESFA) and family caregivers (RCAS-VE). Even so, the ESFA had a moderate negative correlation ($r = -.67$) with the 'Subjective Burden' factor of the RCAS-VE. There was a moderate negative correlation of the 'Satisfaction' factor of RCAS-VE with the 'Rejection' factor by Martín et al. (1996) and with the 'Interpersonal' factor studied by Montorio Cerrato et al. (1998) for the ZBI-VE (Martín et al., 1996). This moderate negative correlation with the 'Satisfaction' factor of the RCAS-VE could be due to the similarity among some of the items: 'Feeling embarrassed about taking care of your family member' (ZBI-VE item 4), 'Feeling angry with your family member' (ZBI-VE item 5) and 'Feeling that your family member considers you the only person capable of taking care of him/her' (ZBI-VE item 8); since the previous items reflect an unsatisfactory and rejected relationship with regard to the family member being taken care of. It is worth noting the close relationship that the 'Satisfaction' factor of the RCAS-VE has with the quality of interpersonal relationships with the family caregiver and the care recipient (Chronister et al., 2010).

The 'Mastery' factor of RCAS-VE presented a very low positive correlation with the 'Subjective Burden' factor ($r = .14$) and a very low negative correlation with 'Satisfaction' ($r = -.04$), therefore maintaining its independence as one of the factors that evaluates the negative perceptions of the caregiver together with the 'Subjective Burden' factor, unlike the original RCAS scale, in which 'Mastery' evaluates the positive perceptions of the family caregiver. This difference between the RCAS-VE and RCAS could be due to the theoretical basis on which CAS and RCAS were designed, in which some of the 'Mastery' items came from the ZBI (Zarit et al., 1980), this being considered as one of the scales that evaluate negative caregiver perceptions (Van Durme et al., 2012). This may be one of the problems with the original scale, sharing some items with ZBI, giving rise to a dimension that assesses either negative perceptions of the caregiver or positive perceptions depending on the cross-cultural adaptation under consideration. However, 'Mastery' was presented as an independent factor assessing negative family caregiver perceptions in the CAS validation studies conducted by Struchen et al. (2002); Sevic et al. (1997) and the RCAS validation studies (Brown et al., 2013; Farhadi et al., 2017; Lee et al., 2007). The 'Competence' factor items were maintained in the studies by Struchen et al. (2002) and Farhadi et al. (2017), with the exception

of the study by Lee et al. (2007) in which the item 'How often do you feel uncertain about what to do about E?' loads on the 'Impact' factor, which assesses negative caregiver perceptions, as well as in RCAS-VE which moves to the 'Subjective Burden' factor. The criterion validity of the 'Competence' factor showed a moderate positive correlation with the different competence dimensions of the ZBI-VE (Martín et al., 1996) studied by the same author and by Montorio Cerrato et al. (1998) and Martín et al. (1996) since they measure the same construct and present two similar items, 'He/she thinks he/she should do more for his/her family member' (ZBI item 20) and 'He/she thinks he/she could take better care of his/her family member' (ZBI item 21).

The independence of the three dimensions ('Subjective Burden', 'Satisfaction' and 'Mastery') with their corresponding score allows the nurses to determine how and at what level the different factors associated with the family caregiver (age, relationship, employment status, marital status, educational level, place of residence, etc.) affect the care given (time spent caring, care shared by another family member, caregiver of more than one family member or help received, etc.); or the care recipient (age, sex, educational level, comorbidity, level of dependency, etc.). In this sense, other published studies on the RCAS have explored the factors associated with the family caregiver, such as place of residence, age, race, educational level and kinship relationship (DiBartolo & Soeken, 2003; Hanks et al., 2007; Lee et al., 2007, 2010; Sander et al., 2007); the factors associated with caregiving, such as the time spent caring, the quality of the relationship between the family caregiver and care recipient, the type of tangible or non-tangible assistance perceived by the family caregiver (Chen et al., 2010; Chronister et al., 2010; DiBartolo & Soeken, 2003; Hanks et al., 2007; TalKington-boyer & Snyder, 1994); or the characteristics of the care recipient, such as the severity of the illness they are suffering from (Purden et al., 2013).

The analysis of the three dimensions of the RCAS-VE on the factors related to family caregivers of the older person enables the establishment of different policy strategies in terms of the distribution of tangible or non-tangible resources, such as planning efficient educational programs evaluated according to the dimensions of the RCAS-VE.

4.1 | Limitations

One of the main limitations was the low participation of family caregivers, since of the initial random sample of 432, only 184 agreed to participate, although this does not necessarily affect the main study aim (cross-cultural adaptation of CRAS). Another problem encountered was selecting the standard gold scale to determine the validity of the convergent criterion of the RCAS-VE. The ZBI-VE scale is a tool with a vast trajectory at a national level. Also, there are numerous studies regarding its psychometric properties in Spain (González Fraile et al., 2012; Martín et al., 1996; Martín-Carrasco et al., 2010; Martínez-Martín et al., 2007; Montorio Cerrato et al., 1998; Rivera-Navarro et al., 2003); however, despite

being considered by the original author (Zarit et al., 1980) as a unidimensional scale with a single score, several Spanish authors (Martín et al., 1996; Martín-Carrasco et al., 2010; Montorio Cerrato et al., 1998) have studied its multidimensionality, which has been used to determine the criterion validity of each of the dimensions of the RCAS-VE. Regarding the validity of the 'Satisfaction' dimension of the RCAS-VE with the ESFA scale (Barraca & López-Yarto, 1997), in spite of measuring the same dimension (Satisfaction) and presenting some of its similar items, it is not applied to the same population, and it is a tool that does not present widespread use, neither have its psychometric properties been extensively studied.

5 | CONCLUSION

The RCAS-VE evaluates the negative and positive perceptions of the family caregiver of older people regarding care and presents an adequate reliability and correlation pattern, overall, according to what is theoretically expected. The negative perceptions are evaluated via the dimensions 'Subjective Burden' and 'Competence' (understood as the perception of lack of competence for caring), and the positive perceptions are evaluated via the 'Satisfaction' dimension. The negative and positive dimensions of the perception of care can coexist simultaneously in the family caregiver and it is the final balance of both which determines a state of psychological well-being, hence the importance of evaluating these dimensions.

The independence of the three dimensions ('Subjective Burden', 'Satisfaction' and 'Mastery') enables us to discriminate the impact that each of these factors has on the family caregiver and to intervene on those factors that increase 'Subjective Burden' and 'Mastery', as well as to design strategies based on those factors that increase 'Satisfaction'.

The sensitivity to change of the scale associated with different types of interventions with family caregivers of the elderly has not been studied, and therefore, it may be a target for future research. Similarly, the behaviour of the scale in different populations of family caregivers of people with different social profiles and health status may be a potential area for future studies.

AUTHOR CONTRIBUTIONS

All authors listed meet the authorship criteria according to the latest guidelines of the International Committee of Medical Journal Editors, and all authors are in agreement with the manuscript.

ACKNOWLEDGEMENTS

The authors thank all the participants and professionals involved in this study.

FUNDING INFORMATION

This research was awarded the 'XII Premio de Investigación del Colegio de Enfermería de Cantabria' 2014.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

The authors declare the availability of data availability of the data in this document.

ORCID

Monica Cueli Arce  <https://orcid.org/0000-0001-7033-5680>

REFERENCES

- Araújo, O., Lage, I., Cabrita, J., & Teixeira, L. (2015). Intervention in informal caregivers who take care of older people after a stroke (InCARE): Study protocol for a randomised trial. *Journal of Advanced Nursing*, 71(10), 2435–2443.
- Barraca, J., & López-Yarto, L. (1997). *ESFA: Escala de satisfacción familiar por adjetivos*. TEA Ediciones.
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, 25(24), 3186–3191.
- Bleijlevens, M. H., Stolt, M., Stephan, A., Zabalegui, A., Saks, K., Sutcliffe, C., Lethin, C., Soto, M. E., Zwakhalen, S. M., & Right time place care consortium. (2015). Changes in caregiver burden and health-related quality of life of informal caregivers of older people with dementia: Evidence from the European right time place care prospective cohort study. *Journal of Advanced Nursing*, 71(6), 1378–1391.
- Braithwaite, V. (1996). Between stressors and outcomes: Can we simplify caregiving process variables? *The Gerontologist*, 36(1), 42–53.
- Brown, J. W., Chen, S. L., & Smith, P. (2013). Evaluating a community-based family caregiver training program. *Home Health Care Management & Practice*, 25(2), 76–83.
- Calvente, M. G., del Río Lozano, M., & Marcos, J. M. (2011). Desigualdades de género en el deterioro de la salud como consecuencia del cuidado informal en España. *Gaceta Sanitaria*, 25, 100–107.
- Cattell, R. B. (1996). Technical note what is structured learning theory? *British Journal of Educational Psychology*, 66(3), 411–413.
- Chen, Y. M., Hedrick, S. C., & Young, H. M. (2010). A pilot evaluation of the family caregivers support program. *Evaluation and Program Planning*, 33(2), 113–119.
- Chronister, J., Chan, F., Sasson-Gelman, E. J., & Chiu, C. Y. (2010). The association of stress-coping variables to quality of life among caregivers of individuals with traumatic brain injury. *Neurorehabilitation*, 27(1), 49–62.
- Cohen, C. A., Colantonio, A., & Vernich, L. (2002). Positive aspects of caregiving: Rounding out the caregiver experience. *International Journal of Geriatric Psychiatry*, 17(2), 184–188.
- Colombo, F., Llena-Nozal, A., Mercier, J., & Tjadens, F. (2011). *OECD health policy studies help wanted? Providing and paying for long-term care: Providing and paying for long-term care* (Vol. 2011, pp. 350–368). OECD Publishing.
- Crespo, M. P., Espinosa, A. L., Llinares, N. A., Sánchez, A. S., & Cortés, A. J. (2009). Versión española del NAKQ. Adaptación transcultural y análisis de fiabilidad y validez. *Anales de Pediatría*, 70(3), 209–217.
- Dall, T. M., Gallo, P. D., Chakrabarti, R., West, T., Semilla, A. P., & Storm, M. V. (2013). An aging population and growing disease burden will require large and specialized health care workforce by 2025. *Health Affairs*, 32(11), 2013–2020.
- De Tiedra, A. G. (2009). *Adaptación transcultural y validación al español del cuestionario de medida de calidad de vida Dermatology Life Quality Index (DLGI)*. Doctoral dissertation, Universitat de Barcelona.

- DiBartolo, M. C., & Soeken, K. (2003). Appraisal, coping, hardiness, and self-perceived health in community-dwelling spouse caregivers of persons with dementia. *Research in Nursing & Health*, 26(6), 445–458.
- Farhadi, A., Foroughan, M., Mohammadi, F., Rassouli, M., Noroozian, M., Nazari, S., Sadeghmoghadam, L., & Sadeghi, N. (2017). Validity and reliability of the Persian version of the revised caregiving appraisal scale in Iranian family caregivers of older adults with dementia. *Iranian Red Crescent Medical Journal*, 19(1), 1–9.
- Folkman, S., & Lazarus, R. S. (1984). *Stress, appraisal, and coping* (pp. 150–153). Springer Publishing Company.
- George, D., & Mallery, P. (2019). *IBM SPSS statistics 26 step by step: A simple guide and reference*. Routledge.
- González Fraile, E., Santos, B., Martín Carrasco, M., Domínguez, A., Muñoz Hermoso, P., & Ballesteros, J. (2012). Análisis factoriales confirmatorios de la escala de sobrecarga de Zarit. *Informaciones Psiquiátricas*, 209, 271–281.
- Haberkern, K., & Szydlik, M. (2010). State care provision, societal opinion and children's care of older parents in 11 European countries. *Ageing and Society*, 30(2), 299–323.
- Hanks, R. A., Rapport, L. J., & Vangel, S. (2007). Caregiving appraisal after traumatic brain injury: The effects of functional status, coping style, social support and family functioning. *Neurorehabilitation*, 22(1), 43–52.
- Hanyok, L. A., Mullaney, J., Finucane, T., & Carrese, J. (2010). Potential caregivers for homebound elderly: More numerous than supposed? (journal of family practice (2009)). *Journal of Family Practice*, 59(1), 13.
- Hill, N. R., Fatoba, S. T., Oke, J. L., Hirst, J. A., O'Callaghan, C. A., Lasserson, D. S., & Hobbs, F. R. (2016). Global prevalence of chronic kidney disease—A systematic review and meta-analysis. *PLoS One*, 11(7), e0158765.
- Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, 30(2), 179–185.
- Iecovich, E. (2016). Do caregiving burden and satisfaction predict loneliness in older care recipients? *Ageing & Mental Health*, 20(4), 441–449.
- Kramer, B. J. (1997). Gain in the caregiving experience: Where are we? What next? *The Gerontologist*, 37(2), 218–232.
- Lawton, M. P., Kleban, M. H., Moss, M., Rovine, M., & Glicksman, A. (1989). Measuring caregiving appraisal. *Journal of Gerontology*, 44(3), P61–P71.
- Lawton, M. P., Moss, M., Hoffman, C., & Perkinson, M. (2000). Two transitions in daughters' caregiving careers. *The Gerontologist*, 40(4), 437–448.
- Lawton, M. P., Moss, M., Kleban, M. H., Glicksman, A., & Rovine, M. (1991). A two-factor model of caregiving appraisal and psychological well-being. *Journal of Gerontology*, 46(4), P181–P189.
- Lee, J., Friedmann, E., Picot, S. J., Thomas, S. A., & Kim, C. J. (2007). Korean version of the revised caregiving appraisal scale: A translation and validation study. *Journal of Advanced Nursing*, 59(4), 407–415.
- Lee, J., Yoo, M. S., & Jung, D. (2010). Caregiving appraisal of family caregivers for older stroke patients in Korea. *International Nursing Review*, 57(1), 107–112.
- López, J. (2005). *Entrenamiento en manejo del estrés en cuidadores de familiares mayores dependientes: Desarrollo y evaluación de la eficacia de un programa*. Universidad Complutense. <http://www.ucm.es/BUCM/tesis/psi/ucm-t28693pdf>
- Martín, M., Salvadó, I., Nadal, S., Miji, L. C., Rico, J. M., Lanz, P., & Taussing, M. I. (1996). Adaptación para nuestro medio de la escala de sobrecarga del cuidador (Caregiver Burden Interview) de Zarit. *Revista de Gerontología*, 6, 338–346.
- Martin-Carrasco, M., Otermin, P., Pérez-Camo, V., Pujol, J., Agüera, L., Martin, M. J., Gobartt, A. L., Pons, S., & Balana, M. (2010). EDUCA study: Psychometric properties of the Spanish version of the Zarit caregiver burden scale. *Ageing & Mental Health*, 14(6), 705–711.
- Martínez-Martín, P., Forjaz, M. J., Frades-Payo, B., Rusinol, A. B., Fernández-García, J. M., Benito-León, J., Arillo, V. C., Barberá, M. A., Sordo, M. P., & Catalán, M. J. (2007). Caregiver burden in Parkinson's disease. *Movement Disorders*, 22(7), 924–931.
- McKee, K., Spazzafumo, L., Nolan, M., Wojszel, B., Lamura, G., & Bien, B. (2009). Components of the difficulties, satisfactions and management strategies of carers of older people: A principal component analysis of CADI-CASI-CAMI. *Ageing and Mental Health*, 13(2), 255–264.
- Montorio Cerrato, I., Fernández de Trocóniz, M. I., López López, A., & Sánchez Colodrón, M. (1998). *La entrevista de carga del cuidador. Utilidad y Validez del Concepto de Carga*.
- Mosquera, I., Vergara, I., Larrañaga, I., Machón, M., Del Rio, M., & Calderón, C. (2016). Measuring the impact of informal elderly caregiving: A systematic review of tools. *Quality of Life Research*, 25(5), 1059–1092.
- Naganathan, G., Kulski, K., Gill, A., Jaakkimainen, L., Upshur, R., & Wodchis, W. P. (2016). Perceived value of support for older adults coping with multi-morbidity: Patient, informal care-giver and family physician perspectives. *Ageing and Society*, 36(9), 1891–1914.
- Nolan, M., & Philp, I. (1999). COPE: Towards a comprehensive assessment of caregiver need. *British Journal of Nursing*, 8(20), 1364–1372.
- Nunnally, J. C., & Bernstein, I. H. (1995). *Teoría psicométrica*. McGraw Hill.
- O'Connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and velicer's MAP test. *Behavior Research Methods, Instruments, & Computers*, 32(3), 396–402.
- Oliva, J., Vilaplana, C., & Osuna, R. (2011). El valor social de los cuidados informales provistos a personas mayores en situación de dependencia en España. *Gaceta Sanitaria*, 25, 108–114.
- Prieto, C. V., Jiménez-Martín, S., & Gómez, P. G. (2011). Trade-off entre cuidados formales e informales en Europa. *Gaceta Sanitaria*, 25, 115–124.
- Purden, M., Mustafa, S. S., Looper, K. J., Zerkowicz, P., & Baron, M. (2013). Caregiving appraisal and disease activity in early inflammatory arthritis. *Scandinavian Journal of Caring Sciences*, 27(1), 156–164.
- Rivera-Navarro, J., Morales-González, J. M., Benito-León, J., & Madrid Demyelinating Diseases Group (GEDMA). (2003). Informal caregiving in multiple sclerosis patients: Data from the Madrid demyelinating disease group study. *Disability and Rehabilitation*, 25(18), 1057–1064.
- Rodríguez-Rodríguez, P. (2005). El apoyo informal a las personas mayores en España y la protección social a la dependencia. Del familismo a los derechos de ciudadanía. *Revista Española de Geriatria y Gerontología*, 40, 5–15.
- Sakurai, N. (1999). The moderating effects of positive appraisal on the burden of family caregivers of older people. *Shinrigaku kenkyu: The Japanese journal of psychology*, 70(3), 203–210.
- Sander, A. M., Davis, L. C., Struchen, M. A., Atchison, T., Sherer, M., Malec, J. F., & Nakase-Richardson, R. (2007). Relationship of race/ethnicity to caregivers' coping, appraisals, and distress after traumatic brain injury. *Neurorehabilitation*, 22(1), 9–17.
- Sevick, M. A., Sereika, S., Hoffman, L. A., Matthews, J. T., & Chen, G. J. (1997). A confirmatory factor analysis of the caregiving appraisal scale for caregivers of home-based ventilator-assisted individuals. *Heart & Lung*, 26(6), 430–438.
- Struchen, M. A., Atchison, T. B., Roebuck, T. M., Caroselli, J. S., & Sander, A. M. (2002). A multidimensional measure of caregiving appraisal: Validation of the caregiver appraisal scale in traumatic brain injury. *The Journal of Head Trauma Rehabilitation*, 17(2), 132–154.
- Talkington-boyer, S., & Snyder, D. K. (1994). Assessing impact on family caregivers to Alzheimer's disease patients. *American Journal of Family Therapy*, 22(1), 57–66.
- Van Durme, T., Macq, J., Jeanmart, C., & Gobert, M. (2012). Tools for measuring the impact of informal caregiving of the elderly: A literature review. *International Journal of Nursing Studies*, 49(4), 490–504.

- Velicer, W. F., & Jackson, D. N. (1990). Component analysis versus common factor analysis: Some issues in selecting an appropriate procedure. *Multivariate Behavioral Research*, 25(1), 1–28.
- Webster, A. C., Nagler, E. V., Morton, R. L., & Masson, P. (2017). Chronic kidney disease. *The Lancet*, 389(10075), 1238–1252.
- Zarit, S. H., Reever, K. E., & Bach-Peterson, J. (1980). Relatives of the impaired elderly: Correlates of feelings of burden. *The Gerontologist*, 20(6), 649–655.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Cueli Arce, M., Santibañez, M., Sarabia, C., Paras-Bravo, P., Gomez, M., & Alconero-Camarero, A. R. (2023). Transcultural adaptation of the revised caregiving appraisal scale (RCAS) in the Spanish population. *International Journal of Older People Nursing*, 18, e12506. <https://doi.org/10.1111/opn.12506>