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New Self-Care Scale for Adults (SCS-A): Development and validation in Spanish parents and its relationship with psychological and family adjustment

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Abstract

Purpose Although there are different instruments that evaluate self-care, most of them have not been validated for use in the Spanish population or in the general adult population. Moreover, there is little evidence on its relationship with psychological and family adjustment. Therefore, the aims of this study were to: (1) validate the self-care scale for adults and (2) analyse its external validity, verifying its relationship with general psychological and family adjustment variables.

Methods The sample was constituted by 971 parents (56.5% women) with children in early childhood (0–5 years) aged 23–58 years ($M = 38.11$). Exploratory and confirmatory factor analyses, correlations and Student's t mean contrasts were carried out.

Results Good fit indices for the scale, which presented a bifactor structure composed of physical and psychological self-care. Both types of self-care were directly related to life satisfaction and positive affect; on the other hand, they were negatively related to parental stress, the presence of family-work conflict, and the guilt related to such conflict. The mothers reflected lower levels of psychological self-care.

Conclusions The developed questionnaire is a valid instrument that can be useful in the measurement of self-care in adults and particularly in parents of young children. It is highlighted the need to design initiatives that improve parental well-being through the study construct.

Keywords Self-care, Stress, Life satisfaction, Guilt, Family-work conflict

Introduction

Self-care and its measurement

Self-care behaviours have been defined as the set of skills performed by a person to preserve her/his own life and health [1] through healthy habits based on nutrition, physical exercise and personal self-care [2], which contribute to maintaining the well-being of individuals [3]. Although there are several measures of self-care, most questionnaires have not been validated in Europe [3–6]. Similarly, among the few self-care measures that have been validated in Europe, many of these are focused on

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very specific populations, such as socio-sanitary professionals [7], older people [2], young people [8] and children [9].

The scientific literature shows the following dimensions of self-care: 1) social self-care, which is related to activities that favour the social connection of the individual and the attainment of support (e.g., to meet with friends); 2) spiritual self-care, which refers to the connection with reference beliefs (e.g., to pray or meditate); 3) physical self-care, which is focused on practices that help to maintain a good health state (e.g., doing physical exercise or maintaining a healthy diet); and 4) psychological self-care, which is based on activities that promote personal well-being (e.g., to avoid working too many hours). The latter two forms of self-care have been recognised at the research level, and they have been included in most of the evaluation instruments that are available [2, 3, 7].

Benefits of self-care

Several studies have shown the positive effects of self-care on physical health, highlighting the regular practice of sport or having a balanced diet as key examples. It favour well-being improving different organic functions and reducing some risks such as the likelihood of having diabetes or heart diseases [10–13]. In addition, self-care also seems to be an essential mechanism in the development of mental health, contributing to reducing stress symptoms and increasing life satisfaction rates [14–18].

Self-care as a protective or risk factor in the family context

Self-care has been thoroughly examined in the field of health, especially in the relationship between patients and health professionals [19]. However, very few studies have analysed the effect of self-care in the family scope and its relationship with the adjustment of the parents. Nevertheless, this research line would provide results of great scientific and social relevance. Self-care could be a protective practice in situations that jeopardise the well-being of parents. For example, when they experience a conflict between their family and work roles. This conflict takes place when the parents feel that their job interferes with the development of their family task or vice versa, and they perceive both scopes as incompatible and difficult to conciliate [20]. Such conflict seems to be exacerbated for parents, and especially for mothers, whose children are in early childhood [21, 22], being this period very demandingness and stressful taking into account the time-consuming and exhausting routines that parents have to develop to raise young children, which are very immature and dependent [23–26]. As a consequence of this conflict, in many cases, a strong feeling of guilt is developed. In this context, guilt emerges from the dilemma of choosing between work and family activities, considering both as necessary and little compatible, which leads any choice to eventually produce feelings of guilt [27, 28]. The guilt derived from the work-family conflict has some negative consequences associated with it, such as low life satisfaction, especially in mothers [29]. To mitigate these negative effects, the available evidence underlines the positive effect of leisure, as it allows people to relax after completing their family and job tasks [30]. It is possible that self-care has also a positive effect on helping to manage the work-family conflict and the associated guilt. However, this relationship has been barely explored. One of the few studies that analyse this relationship is qualitative and reflects important gender differences, with mothers reflecting greater work-family conflict and guilt but also the lowest use of self-care, sacrificing their leisure time to be with children. This strategy help them to reduce guilt, feeling that they are compensating children for the time they spend on their jobs [31]. Studies on gender differences in the use of free time reflect a similar trend, concluding that mothers in five different countries have less free time compared to fathers [32]. This is due to the difference in the way that men and women experience parenthood [33], showing, in most of cases, a dissimilar involvement in the family and home scopes which impact their work and family roles and the emotions they develop around such roles [34].

In general, in Southern European countries, especially in Spain, the main responsibility of home and family tasks still falls on women, even when they work outside of the home [35]. This imbalance in the distribution of home responsibilities of the parents is related to the traditional gender roles, which are still perceived and continue to influence the behaviours that men and women develop in the home and family scope [36]. Most women and society itself continue to attribute great value and importance to the fact that they can exercise motherhood [37]. In this sense, mother behaviour continues to be associated with the intensive motherhood model or its recent version: the extensive motherhood [38]. The first model is characterised by an intense, affective dedication in terms of time and effort to the maternal duty. The prevailing objective is to satisfy the needs of the minor, with the needs of the mother being left in the background [39]. To this intensive dedication to motherhood must be added the work demands when it exists. In this sense, Christopher [40] states that working mothers exercise extensive motherhood, since to be a good mother they must exercise intensive motherhood by being an ideal worker, which implies a great effort and hinders the use of self-care.

The models of fatherhood are also evolving, from the traditional male stereotype of the "breadwinner" or "head of the household" to a new model of masculinity where fathers are becoming increasingly aware of the need to be

involved in childrearing and doing the housework [41]. However, the roles derived from this model of masculinity are still in flux: they are neither fully defined nor assumed by all men, while the breadwinner stereotype linked to the traditional "father figure" is still dominant in Spain [35, 42]. This model is more common in heterosexual men with low educational level [43] who could practice self-care more due to the higher disposition of personal time compared to their wives. A recent study that has compared time in self-care in same-sex and different-sex two-parent families with children highlighted the importance of gender roles and their parenthood models associated to explain their parental involvement and the use of self-care. In this sense, it has been found that time dedicated to self-care in homosexual couples depends on their gender, with gay fathers dedicating less time compared to fathers in heterosexual families. However, lesbian mothers dedicate more time to self-care than mothers in heterosexual families [44]. All these evidence suggest possible gender differences in relation to the use of self-care in heterosexual parents, which must be thoroughly analysed taking into account this research gap.

The present study

The main objective of this study was to validate a self-care scale in a Spanish adult population, specifically on parents of young children. Most of the available questionnaires of self-care are specific, mostly for health professionals or caregivers but they do not offer a general measure of self-care. Developing a general measure of self-care that can be used in family studies, but also in other studies could be a considerable advance for the literature.

In this sense, the present study is aimed at adult people who are carrying out a task of their own evolutionary stage: parenthood, specifically parents of children aged 0–5 years, a challenging period due to the demands of this age group that complex parenthood and increase work-family conflict [21, 22] Firstly, the factor structure of the questionnaire was verified through exploratory and confirmatory analyses. Likewise, the external validity was assessed considering that the self-care measure presents theoretically expectable relationships with variables related to general adjustment and specifically family variables. Lastly, gender differences were explored. Considering the objectives of this study, the following hypotheses were formulated:

H1) The self-care scale for adults will show adequate psychometric properties in Spanish parents, reflecting two main dimensions: physical and psychological self-care [2, 7].

H2) Self-care will be positively related to general adjustment in terms of greater life satisfaction and greater positive affect [14, 18].

H3) Self-care will act as a beneficial factor in the family context, being associated with lower parental stress [15, 18].

H4) The parents with lower self-care levels will show higher levels of family-work conflict and guilt related to such conflict [31].

H5) The mothers will reflect lower levels of self-care [32, 44].

Methodology

Participants

The study population was parents with children in the 1st (0–2 years) and 2nd cycle (3–5 years) of Early Childhood Education. They were accessed through the school where their children were enrolled. The schools were selected incidentally taking into account a series of criteria to ensure the diversity of the participants, such as geographic (urban/rural) or socioeconomic (public/private) considerations. The sample was composed by those parents that wanted to voluntarily participate in the study. The final sample was constituted by 971 parents (56.5% mothers) of a region of Southern Spain (Andalusia). The ages of the participants ranged between 23 and 58 years ($M = 38.11$; $SD = 4.98$).Of all participants, 8.7% did not have a paid job, 78.4% were employed, 6.2% were unemployed (but had worked for some time in the year when the study was conducted), and 3.7% used to be employed but recently quit their jobs to dedicate themselves exclusively to upbringing. These people dedicated an average of 7.54 h every day to housework. With regard to the number of children, 33.3% had one child, 56% had two, 8.7% had three, 1.2% had four, and 1% had five.

Instruments

The Self-Care Scale for adults. The scale to be validated is based on previous scales that have been aimed at different populations in terms of age or clinical condition [7, 45]. It consists of 9 items that are responded to through a Likert scale, with 7 response options (1 = *totally disagree* to 7 = *totally agree*). Its psychometric properties will be evaluated in the results section.

The Satisfaction with Life Scale (SWLS; [46]). This scale, which evaluates life satisfaction, has been adapted to the Spanish language and context by Moyano-Díaz et al. [47]. It consists of 5 items (e.g.: *I am satisfied with my life*), which are responded to through a 5-point Likert scale (1 = *totally disagree* to 5 = *totally agree*). In the present study, this scale presents a good internal consistency index ($\alpha = 0.85$); 95% CI [0.83, 0.87].

The Positive and Negative Affect Scale (PNA), in its short version validated in Spanish [48] of the original scale [49]. This scale is composed of 10 items that are responded in a 4-point Likert scale (1 = *little or nothing*, 4 = *almost all the time*). These items are structured in two factors: positive affect (e.g.: *have you felt euphoric?*) and negative affect (e.g.: *have you felt very worried?*). In the present study, the dimension of positive affect showed good internal consistency indices (α = 0.83); 95% CI [0.81, 0.85]. The alpha value for the subscale of negative affect was below the appropriate value 0.70 [50], thus it was not included in this study to avoid use a scale with a low consistency and homogeneity.

The Parental Stress Scale [51], validated in the Spanish population by Gómez-Ortiz et al. [52].The scale consists of 12 items that are responded to through a 5-point Likert scale (1 = *totally disagree* to 5 = *totally agree*). This scale is divided into two factors: 1) stressors subscale, which measures the levels of stress in relation to the upbringing of the children, and 2) parental rewards subscale, which evaluates the satisfaction that derives from the parental role. Some examples of the items that constitute this instrument are: *I enjoy my children* and *Having a child has posed a financial burden*. In the present study, the stressors dimension presented good internal consistency indices (α = 0.81); 95% CI [0.79, 0.83], but the parental rewards subscale showed a Cronbach's alpha below the appropriate value 0.70; [50], thus it was not included in this study.

Work-family Conflict Questionnaire, validated in the Spanish population (WFCQ) [53]. This questionnaire is composed of 8 items that are responded to through a 7-point Likert scale (1 = totally disagree, 7 = totally agree), divided into two factors: 1) interference of work with the family (e.g.: *my job often interferes with my parental responsibilities*), and 2) interference of the family with work (e.g.: *my family life makes me spend certain hours of the day/week that I would rather spend in my job*).In the present study, the dimensions of the scale offered a good internal consistency index (work-family interferenceα = 0.84; 95% CI [0.82, 0.86]; family-work interferenceα = 0.69); 95% CI [0.66, 0.72].

The Work-Family Guilt Scale (WFGS; [54]).This instrument has been validated for use in the Spanish population by Gómez-Ortiz and Roldán-Barrios [29]. It measures the presence of the guilt generated by the conflict between work and family through 7 items that are responded to through a 7-point Likert scale (1 = *totally disagree* to 7 = *totally agree*). These items are structured in two factors: 1) guilt generated by the interference of work with the family (work-family guilt; e.g.: *I regret not being close to my family as much as I would like to*), and 2) guilt generated by the interference of the family with work (family-work guilt; e.g.: *I regret leaving my job behind to attend to my parental responsibilities*).In the present study, the dimensions of the scale offered an appropriate internal consistency index(work-family guilt α = 0.86; 95% CI [0.84, 0.88]; family-work guilt α = 0.69); 95% CI [0.66, 0.72].

Procedure

The participants were accessed through the school where their children were enrolled. The schools acted as mediators in the process of collecting information, allowing access to the parents of the children as possible participants. The schools distributed the questionnaires and consent forms to the families, who completed them at home, and it was explained to them that their participation was voluntary, anonymous and confidential. This research project was approved by the Bioethics and Biosafety Committee of the University of Cordoba and met the ethical rules of the Declaration of Helsinki.

Data analysis

For the validation of the questionnaire, the sample was randomly divided into two halves. To determine the dimensionality of the self-care scale for adults and select the final items, different analyses were carried out. Firstly, with one of the halves of the sample, exploratory factor analyses (EFA) were conducted using Factor 9.3 statistical software, with the Unweighted Least-Squares (ULS) estimation method and the Promin rotation method. The number of factors to retain was decided considering the comparison of results of the different confirmatory factor analyses (CFA) with different number of factors, as well as previous theoretical considerations [55]. The following items were excluded from the analysis: items in the EFA with factor loading and communalities below 0.30 and high cross-loadings [56].

To establish the validity based on the internal structure of the questionnaire and corroborate the factor structure obtained in the EFA, a CFA was performed with the other half of the sample using EQS software (v6.2) [57].Given the ordinal nature of the variables of the questionnaire, the Least Square (LS) estimation method was used with robust correction [58].The fit of the model was evaluated through comparative fit index (CFI), non-normalised fit index (NNFI) (≥ 0.90), standardised root mean square residual (RMSEA) (≤ 0.08) [59]. The reliability of the scale and subscales was calculated through Cronbach's alpha ($\alpha > 0.70$) [50].

Moreover, Spearman's correlations were conducted to analyse the relationship between self-care, parental stress, life satisfaction, positive and negative affect, work-family conflict and vice versa and guilt linked to this conflict.

Lastly, a Student's T contrast of means was performed to explore differences in the dimensions of self-care as a function of parent gender.

The last two analyses mentioned were performed using SPSS 23.0 software.

Results

Descriptive analysis

Table 1 shows the means, standard deviations and asymmetry and kurtosis indices of each of the items of the self-care scale for adults. The highest mean was 5.16 (Item 9) and the lowest was 3.37 (Item1). The standard deviations ranged from 1.48 to 2.08. Kurtosis presented values between −1.29 and 0.26, whereas the asymmetry values ranged from −0.81 to 0.33.

Exploratory and confirmatory factor analyses

The Kaiser–Meyer–Olkin (KMO) mean of sampling adequacy, with a value of 0.87, and Bartlett's test of sphericity, which was statistically significant, with a value of 1956.2 (36; $p = 0.000$), confirmed the relevance of performing the EFA. The total percentage of variance explained with the two-factor model after removing the items with low factor loadings and communalities was 66.72%. The first factor alludes to physical self-care, which refers to the individual's involvement in activities that help to maintain a healthy body with the aim of promoting a good functioning. This factor explained 54.14% of the variance and consisted of three items. The second factor refers to psychological self-care, which is related to the practices that favour mental health and well-being. This factor explained 12.58% of the variance and was constituted by six items. The communalities ranged between 0.40 and 0.86, and the standardised factor loadings ranged between 0.30 and 1.05.

The results of the CFA corroborated the factor structure that was suggested by the EFA (two factors: physical self-care and psychological self-care), showing the following fit indices: χ^2S-B = 324.04 [26]; $p = 0.000$; NNFI = 0.96; CFI = 0.97; SRMR = 0.085; RMSEA = 0.07. All factor loadings were significant and high ($0.53 \leq \lambda \leq 0.76$) (Table 1).

Regarding internal consistency, Cronbach's alpha was 0.69; 95% CI [0.66, 0.72] for physical self-care and 0.85; 95% CI [0.83, 0.87] for psychological self-care.

Relationship between self-care and psychological and family adjustment

Table 2 shows all Spearman's correlations between the study variables. Specifically, it was found that both dimensions of self-care were directly and significantly related.

Physical self-care presented a positive and significant relationship with life satisfaction and positive affection, and a reverse relationship with parental stress, guilt linked to interference of work with the family and vice versa, and the conflict generated from the interference of work with the family. On the other hand, psychological self-care was positively related to life satisfaction and positive affect, and it was negatively related to parental stress, the two dimensions of family-work conflict, and both forms of guilt linked to such conflict. None of the other relationships were significant.

Table 1 Items in English and Spanish of the Self-care Scale for Adults, confidence intervals, descriptive statistics, communalities, factor loadings of the EFA and standardised factor loadings of the CFA

	F1	F2	Co	M	SD	S	K	R^2
1.I exercise regularly. Practico ejercicio con regularidad	.30, 95% CI [0.24, 0.36]		.40	3.37	2.08	.33	−1.26	.51
2.I follow a balanced diet. Sigo una dieta equilibrada	1.05		.86	4.72	1.75	-.60	-.50	.28
3.I try to take care of my physical appearance. Intento cuidar mi aspecto físico	.64, 95% CI [0.60, 0.68]		.55	4.96	1.65	-.74	-.15	.36
4.I do activities that help me to relax. Practico actividades que me ayudan a relajarme		.75, 95% CI [0.72, 0.78]	.59	3.69	2.02	.08	−1.29	.51
5.I dedicate time to pleasant or fun activities. Dedico tiempo a actividades agradables o divertidas		.81, 95% CI [0.79, 0.83]	.63	4.33	1.79	-.38	-.79	.58
6.When I feel emotionally overwhelmed, I try to find time for myself. Cuando me siento sobrecargado emocionalmente, intento buscar un tiempo para mí		.89, 95% CI [0.88, 0.90]	.67	4.14	1.83	-.27	-.93	.45
7.When I feel bad I try to cheer up and do things that make me feel better. Cuando me siento mal, trato de animarme y hacer cosas que me hagan sentir mejor		.75, 95% CI [0.72, 0.78]	.59	4.77	1.61	-.61	-.28	.52
8.I know how to enjoy my free time. Sé disfrutar de mi tiempo libre		.75, 95% CI [0.72, 0.78]	.52	4.87	1.76	-.63	-.53	.49
9.I know how to take care of myself properly. Sé cómo cuidarme de forma adecuada	.34, 95% CI [0.28, 0.39]	.40, 95% CI [0.35, 0.45]	.46	5.16	1.48	-.81	.26	.45

F1 factor 1, F2 factor 2, Co. communality, M mean, SD standard deviation, S asymmetry, K kurtosis, R^2 standardised factor loadings. The factor loadings below .30 were omitted

Table 2 Spearman's correlations between self-care, life satisfaction, positive and negative affect, parental stress, family-work conflict and guilt linked to such conflict

	Physical self-care	Psychological self-care
Physical self-care	1	.540**
Psychological self-care	.540**	1
Life satisfaction	.145**	.255**
Positive affect	.196**	.395**
Stressors	-.115**	-.209**
Work-family guilt	-.199**	-.228**
Family-work guilt	-.073*	-.119**
Work-family interference	-.206**	-.219**
Family-work interference	-.017	-.080*

** $p \leq .01$; * $p \leq .05$

Gender differences in physical and psychological self-care

The results show differences between fathers and mothers in psychological self-care. Specifically, the men obtained a higher mean in their levels of this kind of self-care ($M = 4.66$) with respect to the women ($M = 4.39$) ($t_{(918)} = 3.001$; $p \leq 0.001$). However, no statistically significant differences were found in physical self-care ($t_{(918)} = 1.354$; $p > 0.05$).

Discussion

The first objective of this study was to design a self-care scale for adults and evaluate its psychometric properties in a Spanish population. As was proposed in our first hypothesis, the self-care scale for adults presented adequate reliability and validity. It reflected a factor structure composed of two factors: physical self-care and psychological self-care. This finding is consistent with the results of some previous studies that also reported a two-factor structure [2, 7], with these two dimensions being the most repeated in the measurements of self-care. Both physical self-care and psychological self-care presented an adequate internal consistency.

In line with the second hypothesis, the results showed a positive relationship for physical and psychological self-care with life satisfaction and positive affect of the parents. This indicates that parents who practise self-care activities to a greater extent are also those who show greater life satisfaction and positive emotions, as is also demonstrated in previous studies focused on other age groups [15, 18].These results emphasise the need to include self-care in the implementation of strategies of health promotion. Moreover, the knowledge on practices for the maintenance of physical and psychological health may help people to quit harmful lifestyles and minimise their risk factors, thus helping them to improve their quality of life [17, 18].

As was hypothesised, both types of self-care were negatively related to parental stress. This suggests that parents who practise physical and psychological self-care to a greater extent are those who present lower levels of parental stress. In view of these results and the available evidence, self-care could be considered a protective practice in situations that jeopardise the well-being of the parents and the adequate function of parenting, as it contributes to reducing stress and anxiety [14, 15], which would ultimately foster the well-being of the entire family context [60]. This is especially important in the first stage of parenthood characterized by the highest reports of positive emotions but also by the highest levels of parenting stress taking into account the responsibilities and demands derived from childrearing that drain the time and physical resources of parents [23, 24].

In contrast with what was established in the fourth hypothesis and the available scientific evidence, our data reflect an inverse relationship for family-work conflict and the guilt linked to that conflict with both forms of self-care. These results indicate that self-care acts as a practice that seems to mitigate the levels of family-work conflict and the guilt derived from such conflict, rather than promoting them, as was suggested by previous evidence [31]. This could be due to the fact that the mentioned study was focused on women from Netherlands and was conducted from a qualitative approach, whereas the results of the present study address the tendencies that reflect Spanish mothers and fathers with quantitative data. Other studies with a research design similar to that of the present study and parents from different parts of the worlds have also pointed out the benefits of practices related to self-care, such as having free or leisure time, to cope with situations that alter the well-being of parents [30, 61]. It is necessary to further analyse this relationship in future studies in order to determine the extent to which self-care is a practice that prevents the family-work conflict and its emotional processes associated, independently of the design of the study and the culture of participants.

Regarding the last hypothesis, the results showed gender differences in psychological self-care. As it was hypothesised, the mothers showed lower levels of psychological self-care in comparison with the fathers. A similar tendency has been reported by previous studies that analysed gender differences in relation to the use of free time, where the mothers reflected lower disposition [32] and studies comparing homosexual and heterosexual parents and their use of self-care [44].It is possible that both tendencies are affected by gender roles and their impact on the imbalance in the distribution of housework

and family tasks that are still observed nowadays in heterosexual couples in Spain [36, 42]. This situation place mothers in a condition of disadvantage in terms of having free time to perform activities other than family, housework or work activities, due to the fact that they dedicate almost the entire day to these [35]. Furthermore, the ideal motherhood models that prevails nowadays [38] do not help to promote self-care behaviours, as it instills in mothers the idea of dedicating most of their time to their children [39], especially when they perform activities that are in conflict with their parental roles such as work activities [40]. This leads mothers to sacrifice their free time for self-care to a greater extent than fathers in order to reduce guilt feelings that arise when they considering themselves bad mothers for taking time away from family tasks [31]. However, fathers are free from intensive models of parenthood and dedicate less time to family and household task [41], which could be favour their use of psychological self-care in a greater extent than mothers. In any case, our data do not reflect gender differences in terms of the development of physical self-care. This could be due to the fact that some of them, such as following a healthy diet, do not require a great investment of time but rather a change in the daily habits of the parents, which would generate lower gender differences. In any case, this could also indicate that mothers prioritise the practice of activities linked to this form of self-care and, therefore, their physical health over their well-being or mental health. Given the limited evidence available, it is necessary to delve into the analysis of these differences, which, if confirmed, would present the mothers as a priority group on whom to focus initiatives aimed at promoting psychological self-care and mental health.

This study is not exempt from limitations. The first limitation is related to the use of self-reported procedures to gather information, which entail a certain degree of subjectivity and social desirability. With respect to the size and composition of the sample, it would be interesting to have larger samples that comprise other geographical areas, as well as to extend the data collection to parents of older children in order to have a broader view of the results and to be able to corroborate the behaviour of the data. In any case, although these limitations might impact the generalizability of findings, the SCS-A should be valid and reliable for its use with populations that share cultural and social characteristics with our study population (i.e., adults and specifically parents of young children living in Western countries). As future research lines, it is proposed pursuing the set objectives in larger samples, as well as the validation of the scale in more diverse populations that confirm their psychometric properties and might enhance the subscale of physical self-care. In addition, we suggest the development of longitudinal studies to provide clearer evidence on the relationship between the constructs analyzed and to examine the predictive capacity of self-care on parental adjustment.

The results of this study have important practical implications. On the one hand, the psychometric valuation suggests that the developed questionnaire is a valid and reliable instrument that can be useful in the measurement of self-care in adults. Due to its relevance to the health of people in general and the impact on the healthcare system in particular, self-care can be considered a complement for the care of the population, which requires a valid and reliable evaluation instrument [10, 11]. The aforementioned results highlight the importance of educating the population to develop self-care practices in a conscious manner not only to improve health but also to identify and change habits that revolve around the improvement of self-care [30]. These findings can be used also to better understand the gender differences on parental behaviours and their impact on the use of self-care which could be explaining the differences reported around mental health of mothers and fathers with young children [62]. In this sense, the data of this study show the need to design initiatives that improve the well-being of parents, and especially of mothers, who have shown lowers levels of psychological self-care, promoting this practice. Among them, it could be highlighted investment in work-family reconciliation policies to reduce the conflict between both spheres, such as increasing flexibility in the working day or introducing measures to guarantee childcare for young children. In this sense, previous studies indicated the importance of having a network of affordable or subsidized nursery schools. It is also necessary to pay attention to parental leaves, guaranteeing the complete paid of them and increasing their lasting, which will allow parents to reconcile better family and work and having more time to practice self-care [63]. Finally, the beliefs surrounding motherhood and fatherhood have to be considered, promoting in parents, and particularly in mothers, the establishment of more realistic parenthood models that are consolidating little by little [64, 65], far from intensive models [39, 40]. This strategy will let them to use self-care without guilt or remorse, understanding that this time is not lost or selfish, but healthy for themselves and, hence, positive for the whole family context [60].

Abbreviations

SCS-A	The Self-Care Scale for Adults
SWLS	The Satisfaction with Life Scale
PNA	The Positive and Negative Affect Scale
WFCQ	Work-family Conflict Questionnaire
WFGS	The Work-Family Guilt Scale
EFA	Exploratory Factor Analysis
ULS	Unweighted Least-Squares
CFA	Confirmatory Factor Analysis
LS	Least Square

CFI	Comparative Fit Index
NNFI	Non-Normalised Fit Index
RMSEA	Standardized Root Mean Square Residual
KMO	Kaiser–Meyer–Olkin
F1	Factor 1
F2	Factor 2
Co.	Communality
M	Mean
SD	Standard Deviation
S	Asymmetry
K	Kurtosis
R^2	Standardised Factor Loadings

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Data availability
The data collected and analyzed during this study are available from the corresponding author upon request.

Declarations

Ethics approval and consent to participate
This research project was approved by the Human Research Ethics Committee as an integral part of the Bioethics and Biosafety Committee of the University of Córdoba and complied with the ethical standards of the Declaration of Helsinki. Written informed consent was obtained from participants.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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References

1. Orem DE. Nursing. Concepts of Practice. 6th ed. St. Luis: Mosby; 2001.
2. Campos-García A, Oliver A, Tomás JM, Galiana L, Gutiérrez M. Autocuidado: nueva evidencia sobre su medida en adultos mayores. Rev Esp Geriatría Gerontol. 2018;53(6):326–31.
3. Torres N, Corral V, Corral N, Rojas M. Diseño y validación de la "Escala de conductas de autocuidado." Behav Psychol Conduct. 2021;29(3):721–41.
4. Berrío García N, Sánchez J. Validación de la Escala de Valoración de Agencia de Autocuidado Revisada en una muestra colombiana. Investig En Enferm Imagen Desarro. 2023;25:1–11.
5. Díaz de León C, Guzmán M, Loeza B, Martínez-Ávila B. Propiedades psicométricas de la Escala de Valoración de la Capacidad de Autocuidado en adolescentes mexicanos. 1 de junio de 2023;21:1–21.
6. Espinoza-Venegas M, Huaiquián-Silva J, Alvarado O, Luengo-Machuca L, Valderrama-Alarcón M, Ortiz-Rebolledo N. Validación de escala de Valoración de Agencia de Autocuidado (ASA) en adolescentes chilenos. Esc Anna Nery. 2020;24:1–7.
7. Galiana L, Oliver A, Sansó N, Benito E. Validation of a New Instrument for Self-care in Spanish Palliative Care Professionals Nationwide. Span J Psychol ed de. 2015;18:E67.
8. Colomer-Pérez N, Useche SA. Self-care appraisal in nursing assistant students: Adaptation, validation and psychometric properties of the Spanish ASAS. PLOS ONE. 2021;16(12):e0260827.
9. Urpí-Fernández AM, Zabaleta-del-Olmo E, Tomás-Sábado J, Tambo-Lizalde E, Roldán-Merino JF. Adaptación y validación de un cuestionario para evaluar las prácticas de autocuidado en población infantil sana residente en España. Aten Primaria. 2020;52(5):297–306.
10. Belmonte Darraz S, González-Roldán AM, de María Arrebola J, Montoro-Aguilar CI. Impacto del ejercicio físico en variables relacionadas con el bienestar emocional y funcional en adultos mayores. Rev Esp Geriatría Gerontol. 2021;56(3):136–43.
11. Castillo MJ. La condición física es un componente importante de la salud para los adultos de hoy y del mañana. Rev Esp E Iberoam Med Educ Física El Deporte. 2007;17(1):2–8.
12. Cerf M. Healthy lifestyles and noncommunicable diseases: Nutrition, the life-course, and health promotion. Lifestyle Med. 2021;2:1–12.
13. Fekete M, Szarvas Z, Fazekas-Pongor V, Feher A, Csipo T, Forrai J, et al. Nutrition Strategies Promoting Healthy Aging: From Improvement of Cardiovascular and Brain Health to Prevention of Age-Associated Diseases. Nutrients enero de. 2023;15(1):47.
14. Garrido-Macías M, Saéz G, Alonso-Ferres M, Ruiz MJ, Serrano-Montilla C, Expósito F. Assessing Self-Care in Psychologists: A Spanish Adaptation of the SCAP Scale. Psicothema. febrero de 2022;(34.1):143–50.
15. Hotchkiss J, Cook-Cottone C. Validation of the Mindful Self-Care Scale (MSCS) and development of the Brief-MSCS among hospice and healthcare professionals: a confirmatory factor analysis approach to validation. Palliat Support Care. 2019;17:1–9.
16. Guerrero JM, Palacios JP, Espina L del C, Marimon LE, Jaimes FR, Guerrero Alcedo JM, et al. Satisfacción con la vida y Conductas de salud en estudiantes universitarios de nuevo ingreso. Vive Rev Salud. agosto de 2022;5(14):432–43.
17. Araque-Martínez MÁ, Ruiz-Montero PJ, Artés-Rodríguez EM. Efectos de un programa de ejercicio físico multicomponente sobre la condición física, la autoestima, la ansiedad y la depresión de personas adultas-mayores (Effects of a multicomponent physical exercise program on fitness, self-esteem, anxiety and depres. Retos. 2021;39:1024–8.
18. Rupert PA, Dorociak KE. Self-care, stress, and well-being among practicing psychologists. Prof Psychol Res Pract. 2019;50(5):343–50.
19. Jiang X, Walker K, Topps AK. A systematic review of self-care measures for adolescents with health needs. Qual Life Res. 2021;30(4):967–81.
20. Greenhaus JH, Beutell NJ. Sources of Conflict Between Work and Family Roles. Acad Manage Rev. 1985;10(1):76–88.
21. Nomaguchi KM, Fettro MN. Childrearing Stages and Work-Family Conflict: The Role of Job Demands and Resources. J Marriage Fam. 2019;81(2):289–307.
22. Allen TD, Finkelstein LM. Work–family conflict among members of full-time dual-earner couples: An examination of family life stage, gender, and age. J Occup Health Psychol. 2014;19(3):376–84.
23. Negraia DV, March A. Unpacking the Parenting Well-Being Gap: The Role of Dynamic Features of Daily Life across Broader Social Contexts. Soc Psychol Q. 2020;83(3):207–28.
24. Simon R, Caputo J. The Costs and Benefits of Parenthood for Mental and Physical Health in the United States: The Importance of Parenting Stage. Soc Ment Health. 26 de julio de 2018;9:215686931878676.
25. Nomaguchi KM. Parenthood and Psychological Well-Being: Clarifying the Role of Child Age and Parent-Child Relationship Quality. Soc Sci Res marzo de. 2012;41(2):489–98.
26. Skreden M, Skari H, Malt UF, Pripp AH, Björk MD, Faugli A, et al. Parenting stress and emotional wellbeing in mothers and fathers of preschool children. Scand J Public Health noviembre de. 2012;40(7):596–604.
27. Ilies R, De Pater I, Lim S, Binnewies C. Attributed causes for work-family conflict: Emotional and behavioral outcomes. Organ Psychol Rev. 2012;2:293–310.
28. Sousa C, Kuschel K, Brito A, Gonçalves G. Work-Oriented Men and Women: Similar Levels of Work-Family Conflict and Guilt yet Different Coping Strategies. Psychol Thought. 2018;11(2):195–211.

29. Gómez-Ortiz O, Roldán-Barrios A. Work-Family Guilt in Spanish Parents: Analysis of the Measurement, Antecedents and Outcomes from a Gender Perspective. Int J Environ Res Public Health. 2021;18(15):8229.
30. Knecht M, Wiese BS, Freund AM. Going beyond work and family: A longitudinal study on the role of leisure in the work–life interplay. J Organ Behav. 2016;37(7):1061–77.
31. Aarntzen L, Derks B, van Steenbergen E, Ryan M, van der Lippe T. Work-family guilt as a straightjacket. An interview and diary study on consequences of mothers' work-family guilt. J Vocat Behav. 2019:115:103336.
32. Craig L, Mullan K. Parental Leisure Time: A Gender Comparison in Five Countries. Soc Polit Int Stud Gend State Soc. 2013;20(3):329–57.
33. Hidalgo MV. Mujeres y hombres ante la tarea de ser padres: Algunas de sus dificultades y necesidades de apoyo. Apunt Psicol. 1996;48:27–39.
34. Martínez P, Carrasco MJ, Aza G, Blanco A, Espinar I. Family Gender Role and Guilt in Spanish Dual-Earner Families. Sex Roles. 2011;65(11):813–26.
35. Altuzarra Artola A, Gálvez Gálvez C, González Flores AM. Gender Differences in the Allocation of Working Time in the Spanish Regions. Rev Int Sociol septiembre de. 2018;76(3): e105.
36. Mandel H, Lazarus A. Contextual Effects on the Gendered Division of Housework: A Cross-Country and Cross-Time Analysis. Sex Roles. 2021;85(3):205–20.
37. Bogino M. No-maternidades: entre la distancia y la reciprocidad en las relaciones de parentesco. Quad-E. 2016;21(2):60–76.
38. Bianchi SM. Family change and time allocation in American families. Ann Am Acad Pol Soc Sci. 2011;638(1):21–44.
39. Hays S. The cultural contradictions of motherhood. New Haven: Yale University Press; 1996.
40. Christopher K. Extensive mothering: Employed mothers' constructions of the good mother. Gend Soc. 2012;26(1):73–96.
41. Offer S, Kaplan D. The "New Father" Between Ideals and Practices: New Masculinity Ideology, Gender Role Attitudes, and Fathers' Involvement in Childcare. Soc Probl. 2021;68(4):986–1009.
42. Esping-Andersen G, Boertien D, Bonke J, Gracia P. Couple Specialization in Multiple Equilibria. Eur Sociol Rev. 2013;29:1–16.
43. Gracia P, Ghysels J. Educational inequalities in parental care time: Cross-national evidence from Belgium, Denmark, Spain, and the United Kingdom. Soc Sci Res marzo de. 2017;63:166–80.
44. Augustine JM, Aveldanes JM, Pfeffer CA. Are the Parents Alright?: Time in Self-Care in Same-Sex and Different-Sex Two-Parent Families with Children. Popul Rev. 2017 [citado 29 de mayo de 2024];56(2). Disponible en: https://muse.jhu.edu/pub/251/article/671659
45. González AI, Mosquera D, Knipe J, Leeds A, Santed MÁ. Construction and initial validation of a scale to evaluate self-care patterns: The Self-Care Scale | Clinical Neuropsychiatry. 2019 [citado 22 de marzo de 2021]. Disponible en: https://www.clinicalneuropsychiatry.org/download/construction-and-initial-validation-of-a-scale-to-evaluate-self-care-patterns-the-self-care-scale/
46. Diener E, Emmons RA, Larsen RJ, Griffin S. The Satisfaction With Life Scale. J Pers Assess febrero de. 1985;49(1):71–5.
47. Moyano-Díaz E, Martínez-Molina A, Ponce FP. The price of gaining: Maximization in decision-making, regret and life satisfaction. Judgm Decis Mak. 2014;9(5):500–9.
48. Yárnoz-Yaben S, Comino P, Sansinenea E. La PNA-10, una escala breve para evaluar el afecto positivo y negativo en español. [PNA-10, a short scale for the evaluation of positive and negative affect in Spanish.]. Behav Psychol Psicol Conduct Rev Int Clínica Salud. 2014:22(2):327–43.
49. Warr PB, Barter J, Brownbridge G. On the independence of positive and negative affect. J Pers Soc Psychol. 1983;44(3):644–51.
50. Nunally JC. Psychometric theory. New York: Mc Graw-Hill; 1978.
51. Berry JO, Jones WH. The Parental Stress Scale: Initial Psychometric Evidence. J Soc Pers Relatsh. 1995;12(3):463–72.
52. Gómez-Ortiz O, Rubio A, Roldán-Barrios A, Ridao P, López-Verdugo e I. Parental stress and life satisfaction: A comparative study of social services users and nonusers from a gender perspective. J Community Psychol. 2023:51(1):345–60.
53. Blanch A, Aluja A. Validation study of the Spanish Version of the Work-Family Conflict Questionnaire (CCTF). Span J Psychol noviembre de. 2009;12(2):746–55.
54. Gonçalves G, Sousa C, Santos J, Silva T, Korabik K. Portuguese Mothers and Fathers Share Similar Levels of Work-Family Guilt According to a Newly Validated Measure. Sex Roles. 2018;78(3):194–207.
55. Lorenzo-Seva U, Timmerman ME, Kiers HAL. The Hull Method for Selecting the Number of Common Factors. Multivar Behav Res. 2011;46(2):340–64.
56. Worthington RL, Whittaker TA. Scale development research a content analysis and recommendations for best practices. Couns Psychol. 2006;34:806–38.
57. Bentler P. EQS structural equations program manual. Encino: Multivariate Software; 2005.
58. Bryant FB, Satorrra A. Principles and practice of scaled difference Chi-Square testing. Struct Equ Model Multidiscip J. 2012;19:372–98.
59. Hu L tze, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Struct Equ Model. 1999;6:1–55.
60. Kerig PK. Parenting and family systems. In: Bornstein MH, editor. Handbook of parenting: Being and becoming a parent, vol. 3. 3rd ed. New York: Routledge/Taylor & Francis Group; 2019. p. 3–35.
61. Morganson VJ, Litano ML, O'Neill SK. Promoting work–family balance through positive psychology: A practical review of the literature. Psychol-Manag J. 2014;17(4):221–44.
62. Metzger S, Gracia P. Gender differences in mental health following the transition into parenthood: Longitudinal evidence from the UK. Adv Life Course Res. 2023;56:100550.
63. Fernández-Crehuet Santos JM. El mercado laboral español y la conciliación de la vida profesional, familiar y personal: necesidad de un cambio de modelo económico, social y cultural. Rev Minist Empl Segur Soc. 2017;133:369–91.
64. Johnston DD, Swanson DH. Constructing the «good mother»: The experience of mothering ideologies by work status. Sex Roles J Res. 2006;54(7–8):509–19.
65. Pedersen S. The good, the bad and the 'good enough' mother on the UK parenting forum Mumsnet. Womens Stud Int Forum. 2016;59:32–8.

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