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Validation of the Wagnild and Young's Resilience Scale in adolescents in residential care

Validação da *Resilience Scale* de Wagnild e Young em contexto de acolhimento residencial de adolescentes

Validación de la *Resilience Scale* de Wagnild y Young en el contexto de la acogida residencial de adolescentes

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Abstract

Background: Residential care can protect adolescents by developing and maintaining their resilience.
Objective: To validate the Resilience Scale (RS), developed by Wagnild and Young (1993) and adapted to the Portuguese population by Felgueiras, Festas, and Vieira (2010), in a sample of adolescents in residential care.
Methodology: Methodological study on the validation of the RS, following a previous Portuguese adaptation, in a sample of 384 adolescents in residential care.
Results: The 25-item RS had a high internal consistency ($\alpha = 0.925$). The exploratory factor analysis revealed a two-factor solution (personal competence and acceptance of self and life), which is in line with the original proposal. Some differences were found in item allocation. In adolescents, personal competence was positively and significantly correlated with age. Boys were significantly more resilient (total and dimensions) than girls. This difference was taken as discriminant validity.
Conclusion: This Portuguese version of the scale has many similarities with the original version but is different from the previously published Portuguese versions. It allows for the development of research on resilience in adolescents in residential care.

Keywords: resilience, psychological; validation studies; adolescent; institutionalization; nursing

Resumo

Enquadramento: O acolhimento residencial pode constituir proteção para os adolescentes, promovendo o desenvolvimento e manutenção da sua resiliência.
Objetivo: Validar, numa amostra de adolescentes em acolhimento residencial, a *Resilience Scale* (RS) de Wagnild e Young (1993), adaptada para português por Felgueiras, Festas, e Vieira (2010).
Metodologia: Estudo metodológico, de validação da RS, a partir de adaptação portuguesa prévia, numa amostra de 384 adolescentes em acolhimento residencial.
Resultados: A RS, de 25 itens, apresentou elevada consistência interna ($\alpha = 0,925$). A análise fatorial exploratória revelou uma solução bifatorial (competência pessoal e aceitação de si e da vida) de acordo com a proposta original. Algumas diferenças foram encontradas na alocação de itens. Nos adolescentes, a competência pessoal foi positiva e significativamente correlacionada com a idade. Os rapazes são significativamente mais resilientes (total e dimensões) do que as raparigas, diferença que foi tomada como validade discriminante.
Conclusão: Esta versão portuguesa da escala tem muitas semelhanças com a versão original, distinguindo-se das versões portuguesas já publicadas. Permite a investigação sobre a resiliência em adolescentes em acolhimento residencial.

Palavras-chave: resiliência psicológica; estudos de validação; adolescente; institucionalização; enfermagem

Resumen

Marco contextual: La acogida residencial puede constituir protección para los adolescentes, lo que promueve el desarrollo y mantenimiento de su resiliencia.
Objetivo: Validar, en una muestra de adolescentes en acogida residencial, la *Resilience Scale* (RS) de Wagnild y Young (1993), adaptada al portugués por Felgueiras, Festas, y Vieira (2010).
Metodología: Estudio metodológico de validación de la RS a partir de la adaptación portuguesa previa en 384 adolescentes en acogida residencial.
Resultados: La RS, de 25 ítems, presenta elevada consistencia interna ($\alpha = 0,925$). El análisis factorial exploratorio sugirió una solución bifactorial (competencia personal y aceptación de sí mismo y de la vida), de acuerdo con la propuesta original, y muestra algunas diferencias en la asignación de los ítems. En los adolescentes, la competencia personal se correlaciona positiva y significativamente con la edad. Los chicos son significativamente más resilientes (total y dimensiones) que las chicas, diferencia que fue tomada como validez discriminante.
Conclusión: Esta versión portuguesa de la escala tiene muchas similitudes con la versión original aunque se distingue de las versiones en portugués anteriormente publicadas. Permite la investigación sobre la resiliencia en adolescentes en acogida residencial.

Palabras clave: resiliencia psicológica; estudios de validación; adolescente; institucionalización; enfermería

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Introduction

Based on the published evidence, resilience is defined as a positive characteristic that promotes individual adaptation and moderates the negative effects of stress (Wagnild & Young, 1993), allowing the individuals to develop positively when exposed to situations of adversity. Authors such as Masten (2009) believe that resilience increases in the individual's interaction with the environment, promotes well-being, and protects the individual from being subjugated by the risk factors.

Research on resilience has more than two decades and has been developed in different contexts and age groups. However, according to Cordovil, Crujo, Vilariça, and Caldeira da Silva (2011), it "only makes sense when applied to populations considered at risk which, simultaneously, present adaptive attributes. That is what we find in Child and Adolescent Residential Institutions" (p. 413). Adolescent residential care is a significant life transition which usually results from traumatic situations involving personal, social, and family risk and/or the family's inability to ensure a healthy development.

Although residential care ca be an undesirable transition for adolescents, causing a sense of loss (Cordovil et al., 2011) and conditioning their emotional development, it may be, despite its non-familial structure, a situation of protection against the difficulties encountered within the family (Poletto & Koller, 2008) and promotion of resilience.

Studies on resilience represent an approach to the knowledge about the development of children and adolescents when confronted with adverse circumstances. Thus, due to the lack of studies on this field, research on resilience is of utmost importance, particularly its assessment using appropriate and validated tools for specific populations such as young people in residential care. This study aims to validate the 25-item Resilience Scale (RS), developed by Wagnild and Young (1993) and adapted to the Portuguese population by Felgueiras, Festas, and Vieira (2010), in a sample of adolescents in residential care.

Background

Resilience continues to be an object of study due to its potential impact on health, well-being, and quality of life. In spite of the studies carried out over the last decade, the concept of resilience has no consensual definition and its assessment in adolescents, when compared to its assessment in adults, it still an understudied area with inconsistent results (Pinheiro & Matos, 2013). According to Rutter (1993), resilience involves social and intra-psychic processes which are in constant transformation and promote, for example, a healthy life, even within a non-healthy environment. Rutter (2006) also underlines that resilience results from the combination of the child/adolescent's characteristics and their family, social, and cultural environment and that it is not an intrinsic trait, but rather results from the interaction between the individual and the environment. It mainly concerns the dynamic processes between risk factors and protective factors which promote positive long-term effects on development.

From the point of view of adolescence, resilience is usually seen as the demonstration of competence in an adverse environment, a response to risk, which may be affected by conditions of poverty, family ruptures, experience of some type of violence, experiences of illness (in the adolescent or family), and important losses (Pesce, Assis, Santos, & Oliveira, 2004).

According to Koller, Cerqueira-Santos, Morais, Ribeiro, and Martiniano (2004), when adolescents' need for residential care results from traumatic situations involving personal, social, and family risk, the removal from the family can be perceived as a rejection, which is not always accepted by the adolescent in a period of major internal and external changes, identity formation, and acquisition of the ability to cope with adversities. However, Yunes and Szymanski (2001) believe that negative life experiences are perceived and interpreted differently by different individuals and, from this perspective, it is interesting to note that young people are sometimes capable of establishing lasting emotional connections with alternative figures in new contexts, although the residential care process has a significant emotional impact on development. In adolescent residential care, resilience involves an interaction between risk factors, protective factors, and the type of in-

tervention which is offered to the adolescent (Guilera, Pereda, Paños, & Abad, 2015). Institutional care, which is now called residential care (Lei n.º 142/2015, 8 de setembro, p. 7204),

> consists of placing the child or young person in the care of an institution that has facilities, equipment, and permanent human resources, duly qualified, to ensure their adequate assistance.
> Residential care aims to contribute to the creation of conditions which ensure the proper satisfaction of children and young people's physical, mental, emotional, and social needs and the effective exercise of their rights, promoting their integration into a safe social-family environment, their education, well-being, and full development.

As an intervention offered to adolescents, residential care is not in itself a risk factor for their development because the organization and structure of these facilities, although they can be considered as high-risk environments, promote human development and, at a given moment, they may be the only source of social and emotional support to cope with adversity (Siqueira & Dell'Aglio, 2006). In residential care, adolescents can establish meaningful emotional connections in the new context, thus reducing the risk factors associated with this transition. Mota and Matos (2010) consider that these young people's development can be influenced by other significant figures who can give them high-quality personal, emotional, and social responses, enabling an adaptive development.

In addition, according to Poletto and Koller (2008), the social and emotional support network, as a protective structure, triggers resilience processes which promote a positive attitude in adolescents, showing them the possibility to build new paths, resuming their development from the rupture, and finding themselves again (Siqueira & Dell'Aglio, 2006).

Resilience can be the key to explaining the resistance to risk and how people overcome and cope with the challenges throughout their life cycle (Windle, Bennet, & Noyes, 2011).

RS - original version

Although research on resilience has little more than two decades and its practical application is even more recent, it is an important factor for health, well-being, quality of life, and response to challenges throughout the lifecycle (Pinheiro & Matos, 2013).

Wagnild and Young (1993) developed the RS and assessed its psychometric properties with the purpose of identifying the degree of individual resilience, which is considered by the authors as a positive personality characteristic that enhances individual adaptation. These authors conducted a qualitative study in which they interviewed 24 adult women who had adapted successfully to situations of vulnerability. Five themes emerged from these interviews: equanimity; perseverance; self-reliance; meaningfulness; and existential aloneness, which influenced the development of the scale items.

The scale was made available and pre-tested in 1988 and published in 1990. Later on, it was tested in larger (N = 880) and diversified samples, in line with the theoretical construct described in the literature in the area of Philosophy and Psychology (Wagnild & Young, 1993). The scale is composed of 25 items rated on a 7-point Likert scale ranging from 1, *strongly disagree*, to 7, *strongly agree*. Scores varied between 25 and 175, with the highest scores indicating higher resilience.

The mean score for the RS was 147.91 (SD = 16.85). Scores between 145 and 175 were considered high, being on the line between high and mid-range scores. The authors found no significant correlations between the RS and age, education, income, and gender.

The reliability of the scale was high, with a Cronbach's alpha of 0.91, and the corrected item-total correlations ranged from 0.37 to 0.75, with the majority of them scoring between 0.50 and 0.70.

With regard to validity, the principal components analysis (PCA) with varimax rotation revealed five components. However, the scree plot showed a cutoff point between factors 1 and 2 and the remaining factors, and the factor solution indicated two major factors. Based on these results, Wagnild and Young (1993) decided to use the two-factor solution, with loadings above 0.40 for each

item, considering that they reflected the theoretical definition of resilience and supported the construct validity of the RS. Factor 1 is composed of 17 items (1, 2, 3, 4, 5, 6, 9, 10, 13, 14, 15, 17, 18, 19, 20, 23, and 24) and corresponds to the personal competence; Factor 2 is composed of eight items (7, 8, 11, 12, 16, 21, 22, and 25) and corresponds to the acceptance of self and life. According to the authors, factor 1 measures self-reliance, independence, determination, invincibility, mastery, resourcefulness, and perseverance. Factor 2 measures adaptability, balance, flexibility, and a balanced perspective of life. Both factors explain 44% of the total variance.

This instrument has been applied to a variety of groups, with different ages and in different contexts. It is translated into several languages, including to Brazilian and European Portuguese (Pinheiro & Matos, 2013).

Portugal currently has two versions: a long, 25-item version, and a short, 14-item version, both validated for the population of adolescents by Felgueiras et al. (2010) and Oliveira, Matos, Pinheiro, and Oliveira (2015), respectively. However, the instrument is not exempt from criticism, namely concerning its application in adolescents. These criticisms recommend more rigor in content validity. Nevertheless, this instrument has the highest scores in terms of total quality, it was the first tool developed to analyze resilience, and it continues to be one of the most widely used tools in research (Pinheiro & Matos, 2013). In addition, Ahern, Kiehl, Sole, and Byers (2006) concluded that this scale, due to its psychometric characteristics and properties, is the most suitable instrument for studying resilience in the adolescent population.

RS - Portuguese versions

The Portuguese version by Felgueiras et al. (2010) proved to be a reliable, valid, and sensitive instrument which, according to the authors, can be used by nurses or other professionals to measure resilience, particularly in children and adolescents. The authors sought to preserve the 25 items, keeping their original meaning; however, in the homogeneity study, item 5 was deleted due to its low correlation (< 0.20) and the increase in Cronbach's alpha if this item was deleted.

The internal consistency of the remaining 24 items was α = 0.82. Five main components emerged from the PCA, explaining 46.04% of total variance. The authors pointed out that because items 6, 11, 15, and 17 loaded on more than one factor, generating ambiguity in interpretation, they decided to associate the item to the factor in which it had higher factor loading (items 6 and 15). With regard to items 11 and 17, they decided to associate them with the factor in which they had a higher factor loading and where they would be more interpretable. The validation study showed that the scale had discriminant validity, good temporal stability, and good conceptual equivalence.

In 2013, in a sample of 180 adolescents, Pinheiro and Matos explored the construct validity of the version translated into Portuguese by Felgueiras et al. (2010), in which the items were adapted to the Portuguese grammar. In the PCA, with the Kaiser-Meyer-Olkin measure (KMO = 0.927), Bartlett's test of sphericity, with $p \leq 0.001$ and commonalities > 0.495, the authors found a five-factor solution, explaining 64.2% of the variance and initial eigenvalues greater than 1. All items (except items 13 and 20) had high factor loadings on the first factor (0.520 to 0.756), which explained 43% of total variance. However, based on the scree plot, the authors decided to retain a single factor. Another PCA, with 23 items (excluding items 13 and 20) and a single-factor structure, explained 46% of the total variance. The items' factor loadings ranged from 0.518 (item 19) to 0.804 (item 1) and the Cronbach's alpha for the total scale was 0.945. These results are not consistent with the first validation for Portuguese or with the original version, corroborating some of the criticisms on the use of the scale in adolescents and indicating the need for further validation studies.

Research question

Does the RS developed by Wagnild and Young (1993) and adapted to Portuguese by Felgueiras et al. (2010) have good psychometric properties in adolescents in residential care?

Methodology

A quantitative, descriptive, methodological study was conducted to validate the long, 25-item version of the RS developed by Wagnild and Young (1993) using a non-probability sample of 384 adolescents living in residential care in several regions in the north, center, and south of Portugal. This validation was performed based on the adaptation to Portuguese by Felgueiras et al. (2010) after permission was requested from the authors to use the scale. Both the scale and a sociodemographic characterization questionnaire were applied at the residential care facilities. All ethical principles were met. After approval by the Ethics Committee of the Health Sciences Research Unit: Nursing, of the Nursing School of Coimbra, a request was sent to the director of each of the institutions selected in the north, center, and south regions of Portugal. Each director was responsible for obtaining the authorizations for each minor. Data were analyzed using IBM SPSS Statistics software, version 22.

In the psychometric study, both reliability and construct validity were analyzed. In the latter, an exploratory factor analysis was performed using the PCA followed by orthogonal varimax rotation, making these solutions interpretable. The Kaiser-Meyer-Olkin measure and Bartlett's test of sphericity were previously calculated.

The decision on the number of factors to retain in the analysis was based on eigenvalues greater than 1. The choice of the factor solutions followed the criterion of item-factor convergent validity, with each item showing a factor loading greater than 0.40. It also complied with the criterion of item-factor discriminant validity, in which the items with factor loadings lower than 0.40 should not load on the factor. Finally, it also complied with the principle that the final solution must explain more than 40% of the total variance and that there must be a match between the theoretical structure and the factor structure. With regard to reliability, the homogeneity and internal consistency of the items for the total scale and its dimensions were analyzed. The internal consistency coefficient (Cronbach's alpha) and the corrected item-total correlation coefficient were calculated. Finally, summary statistics, descriptive statistics, and inferential statistics of mean differences for gender and correlations for age, education, and length of stay in residential care were calculated.

Results

The sampled adolescents were aged between 10 and 19 years (M = 14.77; SD = 2.07). They had been in residential care facilities for 1 to 229 months (M = 39.71; SD = 38.14). Girls represented 64.1% and boys 35.9% of the sample. Their education level ranged from 3 to 12 years (M = 7.77, SD = 1.95). Most of them attended the 9th grade (25.4%; n = 96), which was expected based on their mean ages. With regard to internal consistency, the psychometric analysis revealed a high Cronbach's alpha of 0.925 for the 25 items, rated on a Likert scale from 1 to 7. The corrected item-total correlation ranged from 0.405 to 0.707, with the exception of item 11, "I seldom wonder what the point of it all is", with a correlation of 0.386, and item 20, "Sometimes I make myself do things whether I want to or not", with a correlation of 0.267. Cronbach's alpha coefficient would not increase if any other item was deleted (Table 1). Furthermore, the content of the scale items was considered appropriate.

Table 1

Internal consistency of the RS

Scale items	Corrected item-total correlation	Cronbach's alpha if item deleted
1	0.579	0.918
2	0.551	0.919
3	0.639	0.917
4	0.530	0.919
5	0.457	0.920
6	0.606	0.918
7	0.666	0.917
8	0.614	0.918
9	0.600	0.918
10	0.599	0.918
11	0.386	0.922
12	0.503	0.920
13	0.491	0.920
14	0.540	0.919
15	0.613	0.918
16	0.488	0.920
17	0.691	0.916
18	0.615	0.918
19	0.612	0.918
20	0.267	0.924
21	0.495	0.920
22	0.405	0.922
23	0.629	0.917
24	0.707	0.916
25	0.487	0.920

With regard to construct validity, the Kaiser-Meyer-Olkin (KMO = 0.931) measure and Bartlett's test of sphericity (x^2 = 3857.383; $p < 0.001$) were previously calculated, followed by the exploratory factor analysis using the principal components method with orthogonal varimax rotation and Kaiser normalization. Commonalities were lower than 1. A five-factor solution was found with eigenvalues greater than 1, which explained 56% of the variance. However, the analysis of the percentage of variance of the initial eigenvalues for each of the factors and the scree plot showed that the cutoff point was on factor 2, which is consistent with the results of the original scale developed by Wagnild and Young in 1990 (Wagnild & Young, 1993). In addition, item distribution across the factors resulted in a limited number of items, 2 and 3 items, respectively, for factors 3 and 4.

According to the proposal of the authors of the original scale, assuming that the percentage of variance would be higher than 5% for each component, the study was conducted using 4 and 3 factors, resulting in the decision to assume a two-factor solution. The scree plot showed that the two-factor solution was the most appropriate solution (Figure 1).
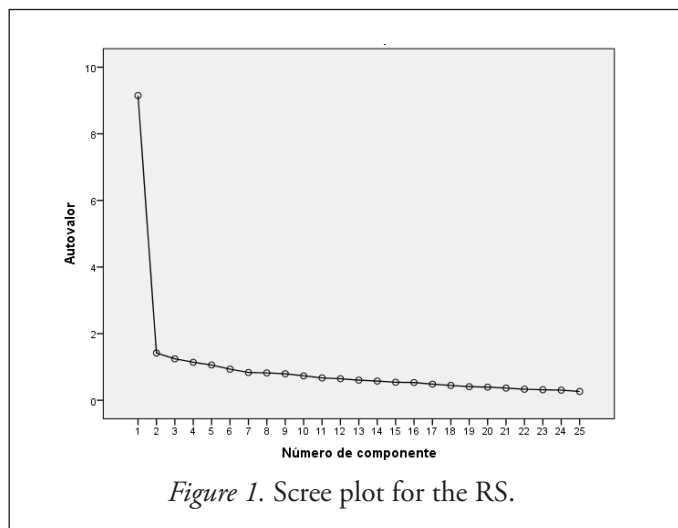
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Figure 1. Scree plot for the RS.

In view of the results obtained and the analysis of the scree plot in Figure 1, as well as in line with the original proposal, a two-factor solution was used which was obtained through the PCA with varimax rotation and Kaiser normalization. The total variance explained was 42.3% (22.7% in factor 1 and 19.6% in factor 2). Initial eigenvalues explained 36.6% of the variance in factor 1 and 5.7% in factor 2. Below these, all values were lower than 5%.

Item distribution across the components was based on factor loadings. Loadings above 0.40 and that that did not load on both components were accepted. Factor 1 - personal competence (PCOM) - was composed of 11 items (1, 3, 5, 9, 10, 13, 14,18, 19, 20, 25), with loadings ranging from 0.433 (item 25) to 0.738 (item 3). This factor had a good internal consistency ($\alpha = 0.851$). Factor 2 - acceptance of self and life (ACCEPSL) - was composed of 14 items. The corrected item-total correlation ranged from 0.453 (item 22) to 0.772 (item 21). This factor also had a high internal consistency ($\alpha = 0.890$; Table 2).

Indeed, the distribution of these items was somehow different from the original proposal for item distribution but was in line with the factor analysis and the content analysis.

Table 2

Factor structure of the RS and internal consistency of the factors

Factors	No. of items	Items	Factor loading F1	Factor loading F2
Factor 1 - PERSONAL COMPETENCE (PCOMP)	3	I am able to depend on myself more than anyone else	0.738	0.254
	5	I can be on my own if I have to	0.647	0.096
	18	In an emergency, I'm someone people can generally rely on	0.612	0.344
	10	I am determined	0.590	0.347
	19	I can usually look at a situation in a number of ways	0.580	0.365
	1	When I make plans, I follow through with them	0.550	0.348
	13	I can get through difficult times because I've experienced difficulty before	0.540	0.232
	9	I feel that I can handle many things at a time	0.530	0.392
	14	I have self-discipline	0.497	0.342
	20	Sometimes I make myself do things whether I want to or not	0.493	-0.049
	25	It's okay if there are people who don't like me	0.433	0.329
		Alpha of Factor 1 = 0.851		

	21	My life has meaning	-0.043	0.772
	17	My belief in myself gets me through hard times	0.406	0.623
	23	When I'm in a difficult situation, I can usually find my way out of it	0.320	0.622
	6	I feel proud that I have accomplished things in life	0.278	0.621
	8	I am friends with myself	0.295	0.620
	24	I have enough energy to do what I have to do	0.433	0.613
	2	I usually manage one way or another	0.267	0.577
	4	Keeping interested in things is important to me	0.229	0.573
	7	I usually take things in stride	0.434	0.561
	16	I can usually find something to laugh about	0.202	0.542
	11	I seldom wonder what the point of it all is	0.053	0.528
	15	I keep interested in things	0.434	0.506
	12	I take things one day at a time	0.289	0.479
	22	I do not dwell on things that I can't do anything about	0.267	0.453
		Alpha of Factor 2 = 0.890		

Factor 2 - ACCEPTANCE OF SELF AND LIFE (ACCEPSL)

The analysis of the descriptive data of total resilience (TR) and its dimensions (Table 3) showed that young people's resilience levels were, on average, 129.42 (SD = 24.77), ranging from 39 to 175. The mean of each item was 5.18, ranging from 4.38 (SD = 1.895) to 5.79 (SD = 1.651).

Table 3
Descriptive results of the RS and its dimensions

RS	N	Min.	Max.	M	SD
TR	384	39	175	129.42	24.77
PCOM	384	12	77	56.36	11.74
ACCEPSL	384	20	98	72.95	14.82

Note. Min. = Minimum; Max. = Maximum; M = Mean; SD = Standard deviation.

With regard to age, a positive and significant correlation was found between age and the dimension PCOM. No other significant correlations were found between resilience and education and between resilience and length of stay in residential care (Table 4).

Table 4
Pearson's correlation of the RS and dimensions with age, education, and length of stay in residential care

RS (N = 384)	Age		Education		Length of stay in residential care	
	r	p	r	p	r	p
TR	0.046	0.373	- 0.002	0.970	0.003	0.948
PCOM	0.105	0.040	0.046	0.378	-0.026	0.609
ACCEPSL	- 0.007	0.889	- 0.043	0.408	0.012	0.812

The analysis of the distribution according to gender showed that boys had higher mean scores than girls in TR (M = 140.80; SD = 20.55 and M = 123.11; SD = 24.69, respectively) and in the dimensions PCOM (M = 60.77; SD = 10.24 and M = 53.93; SD = 11.83, respectively) and ACCEPSL (M = 80.04; SD = 11.78 and M = 69.06; SD =

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14.89, respectively). The Student's t-test for independent samples confirmed that these differences were significant, both in TR ($t = - 7.128$; $p < 0.001$) and in the dimensions PCOM ($t = - 5.694$; $p < 0.001$) and ACCEPSL ($t = - 7.959$; $p < 0.001$; Table 5).

Table 5

Student's t-test for mean comparison in the RS and dimensions according to gender

RS	Gender	N	Min.	Max.	M	SD	t	p
TR	F	247	39	172	123.11	24.69	- 7.128	0.001
	M	137	93	175	140.80	20.55		
PCOM	F	247	12	76	53.92	11.83	- 5.694	0.001
	M	137	37	77	60.77	10.24		
ACCEPSL	F	249	20	96	69.06	14.89	- 7.959	0.001
	M	137	50	98	80.04	11.78		

Note. Min. = Minimum; Max. = Maximum; *M* = Mean; *SD* = Standard deviation.

Discussion

In this study, with a specific sample of adolescents in residential care, the results showed that these young people's resilience levels (*M* = 129.42; *SD* = 24.77) were higher than those found by Felgueiras et al. (2010; *M* = 126.66) and lower than those found by Wagnild and Young (1993) in the original study (*M* = 147.91; *SD* = 16.85). These authors considered that scores above 145 were high and that there can be some influence of the cultural context in lower scores, as it is the case in the Portuguese samples. In the sample under analysis, residential care may have hindered resilience due to the unwanted transition or the potential feeling of loss (Cordovil et al., 2011). In a clinical sample, Pinheiro and Matos (2013) found a mean of 119.81 using the long version of the scale but with only 23 items. Despite this, these scores are lower than those found in this study with adolescents in residential care.

In relation to the psychometric properties, reliability was high in this study, with a Cronbach's alpha of 0.925 and corrected item-total correlations ranging from 0.405 to 0.707, with most of them ranging from 0.50 to 0.70, which are very close to the scores obtained by Wagnild and Young (1993; α = 0.91) and Pinheiro and Matos (2013; α = 0.945). The study of Felgueiras et al. (2010) found a lower internal consistency using a 24-item version (α = 0.82).

The construct validity of this sample was similar to the original two-factor version proposed by Wagnild and Young (1993). The Portuguese studies propose another type of factor solution. For example, Felgueiras et al. (2010) proposed five dimensions and Pinheiro and Matos (2013) proposed a single-factor solution.

Despite the similarity with the two-factor solution, the items in each factor do not match completely in both studies. In the original study, factor 1 is composed of 17 items (1, 2, 3, 4, 5, 6, 9, 10, 13, 14, 15, 17, 18, 19, 20, 23, and 24), which correspond to the personal competence, whereas in this study the same factor is composed of 11 items (1, 3, 5, 9, 10, 13, 14, 18, 19, 20, and 25).

In the original study, factor 2 is composed of eight items (7, 8, 11, 12, 16, 21, 22, and 25), corresponding to the acceptance of self and life, whereas in this study it is composed of 13 items (2, 4, 6, 7, 8, 11, 12, 15, 16, 17, 21, and 22), also corresponding to the acceptance of self and life. These differences may be due to cultural issues or sample specificity because they make sense in terms of construct and content validity.

In this study, the results showed a correlation between age and personal competence, with older participants being more able to cope with situations of adversity, and differences in resilience according to gender, with boys being more resilient than girls. Wagnild and

Young (1993) found no significant correlations between RS and age, education, income, and gender, unlike the results obtained here. According to Pesce et al. (2004), the social and emotional support provided by residential care can act as a facilitator in adolescents' individual process of understanding and coping with high risk situations, making them resilient; however, resilience is sensitive to the length of stay in residential care, reinforcing the idea, for example, that its development is immediate in case of institutionalization.

Conclusion

This study with adolescents in residential care showed good psychometric properties and a two-factor solution of the RS of Wagnild and Young (1993), as proposed by the authors in the original study. Despite this similarity, some inconsistencies were found in the item distribution across the factors, which reinforces the inconsistencies found in earlier studies conducted with adolescents. Cultural reasons, more than sample specificity, may explain these results because residential care does not in itself pose a risk for development.

Resilience seemed to be a characteristic of the young people in this study because the mean scores, although below those found by Wagnild and Young (1993), were similar to those found by Felgueiras et al. (2010) and higher than those found by Pinheiro and Matos (2013). In addition, PCOM increased with age, boys were more resilient than girls in TR, PCOM, and ACCEPSL, and resilience was not sensitive to education or length of stay in residential care.

This study has further contributed to the validation of the scale, confirming the possibility of using it in adolescents in residential care. Given the differences found in the several validation studies with adolescents in Portugal, new adaptations and new validation studies will be useful contributions to the further analysis of the original scale and its dimensions.

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