

## EXPLORING THE CONSTRUCT VALIDITY OF THE TWO VERSIONS OF THE RESILIENCE SCALE IN AN PORTUGUESE ADOLESCENT SAMPLE

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### Abstract

The Resilience Scale (RS) is an instrument developed by Wagnild and Young (1993) to access resilience levels. This study aims to explore the construct validity of the two existing versions of the RS. In a Portuguese sample of adolescents from public schools (n=180), who participated in a Portuguese study about prevention of adolescent depression, both versions were assessed for dimensionality, reliability and concurrent validity. The Principal Components Analysis showed, for each version, one factor solution, respectively with 23 items (RS23) and 13 items (RS13). Good reliability was also found for both versions. Concurrent validity was demonstrated by significant positive correlations between resilience and flourishing scores and negative correlations between resilience, anxiety and depressive symptoms scores.

*Keywords:* Resilience scale, construct validity, adolescence, measurement

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## **1. Introduction**

The interest and scope of resilience has increased substantially. Resilience research over the past two decades (Haskett et al., 2006; Windle, 2011) and health policies as well as application/practice in more recent years (Friedli, 2009), have contributed to make resilience recognized as an important factor for lifelong health, well-being, quality of life and how people respond to the various challenges of the ageing process (Sikkes et al., 2008; Windle, 2011). Moreover, “resilience could be the key to explain resistance to risk across the lifespan and how people bounce back and deal with various challenges” (Windle, 2011, p.1) presented in different stages of life.

In the past 70 years many conceptual frameworks were created, measures to evaluate the constructs were produced and qualitative as well as quantitative data were presented in research articles, manuals and reports.

The use of resilience measures which have been validated, is an important way of ensuring data quality (Streiner & Norman, 2008; Windle, 2011). More than ever, to evaluate interventions designed to promote resilience as a protective and/or a recovery factor related to adolescent’s mood disorders require reliable and valid measures.

Ahern et al. (2006) in a review of instruments measuring resilience in adolescents, selected six instruments and concluded that, while all instruments have potential as they were tested in the adolescent and young adult populations, the Resilience Scale-RS (Wagnild & Young, 1993) was determined to be the most appropriate instrument to study resilience in the adolescent population “due to psychometric properties of the instrument and applications in a variety of age groups, including adolescence” (Ahern et al., 2006, p. 103). Ahern et al. (2006) reported the psychometric properties of the measures, like reliability, validity and internal consistency. Two of the selected instruments (Baruth Protective Factors Inventory by Baruth & Carroll, 2002; Brief-Resilient Coping Scale by Sinclair & Wallston, 2004) lacked evidence that they were appropriate for administration with the adolescent population due to lack of research applications and three instruments (Adolescent Resilience Scale by Oshio et al., 2003; Connor- Davidson Resilience Scale by Connor & Davidson, 2003; Resilience Scale for Adults by Friberg et al., 2003) had acceptable credibility but needed further study in adolescents.

Although the RS has been applied to younger populations, it was developed from qualitative research with older women. The five themes that derived from the interviews were equanimity, perseverance, self- reliance, meaningfulness, existential aloneness and have influenced the item’s construction. All the items are then focused on positive psychological qualities rather than deficits (Wagnild & Young, 1993; Wagnild, 2009). The scale was tested by the authors on 810 older adults and a Cronbach alpha of .91 was obtained. The principal component analysis (PCA with oblimin rotation) revealed a two-factor solution (titled Personal Competence and Acceptance of Self and Life) as the most reliable (explained 44% of the total variance). Since then, many authors tried to validate these dimensions with quantitative research, and this measure appears to be the one with the widest application, out of all of the

resilience instruments. Furthermore, it has been used with adolescents, younger and older adults (Windle et al., 2011).

More recently, in a systematic review of resilience measurement scales that included specific measures applied to adolescents (Windle et al., 2011) criticisms were raised to some of the measures, including the RS, in respect to the fact that the adolescents target group was not involved with the item selection. Some authors recommend more rigorous approaches to content validity (Streiner & Norman, 2008; Terwee et al., 2007).

Despite this criticism, the RS obtained one of the highest scores on overall quality, content validity, construct validity and overall internal consistency and interpretability (Windle et al., 2011). The RS was the first instrument developed to study resilience and one of the most used in research. Both versions, long (RS with 25 items) and short (RS-14 with 14 items), of the instrument have been applied to a wide variety of age groups and have been translated into other languages (Japanese, Swedish, Nigerian, Spanish, Russian and Portuguese).

## **2. Problem Statement**

The Portuguese versions of the RS items exist in two countries, Brazil (Pesce et al., 2005) and Portugal (Felgueiras et al., 2010), and were adapted to the adolescents' population (cross-cultural studies). Nevertheless, the inconsistency of the results and the difficulty in replicating the original structure of the RS two components show that more research is necessary relatively to Portuguese versions.

Pesce et al. (2005) identified three non homogeneous factors and none of them corresponded to the distinction between the original factors Personal Competence and Acceptance of Self and Life. The Cronbach alpha was .80 for the total scale (25 items) in a sample of 977 adolescents. In what concerns concurrent validity, positive and significant correlations were obtained between the total score of RS and life satisfaction, self-esteem and social support measures.

Felgueiras et al. (2010) in a study with adolescent students (n=215) between 10-16 years of age, concluded that RS had satisfactory reliability and stability indicators for the 24 items (because item 5 was excluded due to the non significant correlation with the total scale). Respectively a Cronbach alpha of .82 and a test-retest correlation of .73 ( $p < .001$ ) were obtained. Content validity determined by expert juries was good. Construct validity was studied by principal components analysis (PCE – Varimax rotation). As a result, five non homogeneous factors emerged. Although 46.04% of total variance was explained, none of the factors corresponded to the distinction between the original factors Self-Reliance, Meaning, Equanimity, Perseverance and Existential Aloneness. The items 6 and 11 presented low loading values ( $< .40$ ), the item 13 revealed a negative loading in his factor (-.46) and the last factor just had two items. The named items presented low correlations with the total scale and if removed they would increase the total scale reliability.

### **3. Research Questions**

As proposed by Wagnild at the Resilience User's Guide (2011 version) and taking as reference recent RS studies (long and short versions) among adolescences that have always used a total score (Hunter & Chandler, 1999; Rew et al., 2001; Black & Ford-Gilboe, 2004, as cited in Wagnild, 2009, p. 83; Winsett et al., 2010; Salazar-Pousada et al., 2010), we emphasize the need to explore the construct validity of the RS for Portuguese adolescents, namely the unidimensionality of the instrument.

### **4. Purpose of the Study**

The aim of this study is therefore, to explore the construct validity of the RS, respectively in its 25-item long form (Wagnild & Young, 1993) and its 14-item short form (Wagnild, 2009) and to contribute to assess its dimensionality, reliability and concurrent validity for both versions when applied to Portuguese adolescents.

### **5. Research Methods**

#### *5.1. Measures*

*Resilience Scale (RS; Wagnild & Young, 1993).* The original RS was constructed by Wagnild and Young (1993) to assess levels of resilience. It's a measure of the capacity to endure life stressors and to thrive and make meaning from challenges. Consists of 25 items and each item is rated on a 7-point Likert scale (total score ranging from 25 to 175). Internal consistency and concurrent validity of the RS was shown to be very satisfactory (Wagnild, 2009). Regarding the scale's factor structure, Wagnild and Young (1993) suggested that a two-factor solution was interpretable. The factor labeled Personal Competence consists of 17 items, thought to measure self-reliance, independence, determination, invincibility, mastery, resourcefulness and perseverance. The factor labeled Acceptance of Self and Life consists of 8 items, thought to measure adaptability, balance, flexibility and a balanced perspective on life. This study used the RS translation of Felgueiras et al. (2010), previously described. We made a new translation of the item 5 (in agreement with the Portuguese adolescent expression about "be on my one") and inserted a masculine/feminine determinant in conformity with the Portuguese grammar (items 3, 5, 6, 8, 10, 15, 17, 22).

*RS-14 (Wagnild & Young, 1993).* The RS-14 consists in 14 items of the RS (2, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 21 and 23). All items entered into a principal components analysis (direct oblimin rotation) and a strong factor emerged accounting for 53% of the total variance (items loaded up to .40) indicating a common underlying dimension. The Cronbach alpha was .93. The RS 14 is strongly concurrent correlated with the RS ( $r=.97$ ,  $p<.001$ ) and moderately correlated with depressive symptoms ( $r=-.41$ ) and life satisfaction ( $r=.37$ ) (Wagnild & Young, 1993).

*Mental Health Continuum Short Form* (MHC-SF, Keyes, 2009; Portuguese version: Matos et al., 2010). This measure assesses flourishing, based on the degree of well-being - emotional, social and psychological – as perceived and reported by the adolescents. This scale consists of 14 items, three of which relate to the emotional well-being, five relate to social well-being and six relate to the psychological well-being. The items are rated as follows on a 5-point Likert scale: never (0) to every day (5). Keyes (2009) found satisfactory Cronbach's alpha values for the three factors that constitute this scale: alphas of .84 for the emotional wellbeing, .80 for the social well-being, and .78 for the psychological well-being. In a study of the Portuguese version (Matos et al., 2010), the values of Cronbach's alpha for the three factors are also considered good: .85 for the emotional well-being, .80 for the social well-being, and .83 for the psychological well-being. In the present study, the Cronbach's alpha values for the same factors are, respectively, .87, .80 and .77.

*Multidimensional Anxiety Scale for Children* (MASC, March et al., 1997; Portuguese version: Matos et al., 2012). The MASC assesses symptoms of anxiety in children and adolescents. It comprises 39 items rated on a four-point Likert scale: never or almost never true (1) to 4 (often true). It consists of four factors, three of which have two sub-factors: 1) Physical Symptoms, which includes the sub-factors Tense/Restless and Somatic/Autonomic, 2) Social Anxiety, with the sub-factors Humiliation/Rejection and Public Performance, 3) Separation Anxiety, 4) Harm Avoidance, including the sub-factors Perfectionism and Anxious Coping. In the study by the authors of the scale, the Cronbach's alpha values ranged from good to very good for the MASC total score and the MASC factors (from .84 to .90). The Portuguese version of MASC (Matos et al., 2012) revealed a 3rd order model, with a confirmatory factor analysis, that encompasses a total score, the factors and the sub-factors initially considered by the authors of the MASC. A Cronbach alpha of .894 was obtained for the total scale. For factors and subfactors, all alphas except for one subfactor, were above .70, ranging from .524 to .852. In the present study the values obtained were .895 for the total score and between .568 and .878 for factors and subfactors, being two subfactors below .70.

*Children's Depression Inventory* (CDI, Kovacs, 1985, 1992; Portuguese version: Marujo, 1994). This instrument is a self-report inventory of depressive symptoms for ages between 6 and 18. The CDI has 27 items with three alternative answers, and each item is rated with a score ranging from 0 (no problem) to 2 (severe problem). The total score can vary between 0 and 54 points. Kovacs (1985, 1992) and Smucker et al. (1986), have found that this inventory had an excellent internal consistency (alpha coefficients of .83 to .94). The Portuguese version (Marujo, 1994) of this inventory showed high internal consistency with a Cronbach alpha coefficient of .80. The factor structure of five factors found in the original study was not replicated in the Portuguese sample, where a one-factor structure proved to be more appropriate. In the present study sample the Cronbach's alpha for this single factor score was .870.

## 5.2. Participants

The sample used in this study was composed of 180 adolescents sourced from public schools. All of them participated in a Portuguese study entitled “Prevenção da Depressão na Adolescência/Prevention of adolescent depression” (supported by CINEICC - Cognitive-Behavioral Center for Research and Intervention, Psychology Faculty, University of Coimbra, Portugal). The population representation was 48.9% (n=88) male and 51.1% (n=92) female. The age range was between 12 and 17 years and the mean age was 13.79 (SD=.955). Boys (M=13.91; SD=1.046) and girls (M=13.68; SD=.851) didn't differ significantly in age ( $t(178)=1.581$ ;  $p=.116$ ).

## 5.3. Procedure

Before the commencement of the study, clearance and permission to conduct the study was obtained from the CNPD (Comissão Nacional de Protecção de Dados/National Commission of Data Protection) and the DGIDC (Direção Geral de Investigação e Desenvolvimento Curricular/General Direction of Research and Curriculum Development). The present research protocol was applied in the beginning at the first moment of the research, before any psychological intervention.

## 5.4. Statistical Analyses

Cronbach alpha coefficient and explorative principal component factor analysis were done. Correlations between the RS and other measures were established by calculating Pearson's correlation coefficients. For all statistical evaluations, p values with less than 0.05 were considered indicative of significant differences. All data analyses were performed using the statistical software package SPSS, version 17.0 for Windows (SPSS Portugal Inc.).

## 6. Findings

The sample distribution of the RS has a moderate deviation for skewness and kurtosis.

In a first Principal Components Analysis we began by confirming the suitability of the data for posterior analysis using Kaiser Myer Olkin test (.927) and Bartlett's test of Sphericity (Chi-Square (300)=2524.668;  $p\leq.001$ ). All items presented communalities values higher than .495. The factor analysis indicated a 5 factor solution (the initial eigenvalues are superior to one and all factors explained 64.157% of total variance) but all the items (except number 13 and 20, with factor loadings .336 and .268, respectively) presented higher factor loadings (from .520 to .756) in the first factor, that explained 43.004% of the total variance. The decision of retaining a single factor, was also supported by Scree Plot.

A second Principal Components Analysis was performed, without items 13 and 20, and the one dimensional structure explained a total of 46.015%. The factor loadings varied from .518 (item 19) to .804 (items 1) (Table 1). The overall Cronbach was 0.945.

**Table 1.** The Factor Structure of the Portuguese Resilience Scale for Adolescence (RS23)

| Item Number | Portuguese item (English item)   | Factor loading |
|-------------|--|----------------|
| 15          | Mantenho-me interessado/a nas coisas (I keep interested in things)   | .804           |
| 10          | Sou determinado/a (I am determined)  | .776           |
| 2           | Eu normalmente acabo por conseguir alcançar os meus objectivos (I usually manage one way or another)   | .767           |
| 7           | Normalmente faço as coisas conforme elas vão surgindo (I usually take things in stride)  | .760           |
| 1           | Quando faço planos, levo-os até ao fim (When I make plans, I follow through with them)   | .758           |
| 17          | A confiança em mim próprio/a ajuda-me a lidar com tempos difíceis (My belief in myself gets me through hard times)                                     | .755           |
| 6           | Sinto-me orgulhoso/a por ter alcançado objectivos na minha vida (I feel proud that I have accomplished things in life)                                 | .741           |
| 8           | Sou amigo/a de mim próprio/a (I am friends with myself)  | .721           |
| 24          | Tenho energia suficiente para fazer o que deve ser feito (I have enough energy to do what I have to do)  | .716           |
| 3           | Sou capaz de depender de mim próprio/a mais do que de qualquer outra pessoa (I am able to depend on myself more than anyone else)                      | .715           |
| 23          | Quando estou numa situação difícil, normalmente consigo encontrar uma solução (When I'm in a difficult situation, I can usually find my way out of it) | .694           |
| 14          | Tenho autodisciplina (I have self-discipline)  | .692           |
| 21          | A minha vida tem sentido (My life has meaning)   | .681           |
| 9           | Sinto que consigo lidar com várias coisas ao mesmo tempo (I feel that I can handle many things at a time)  | .672           |
| 4           | Manter-me interessado nas actividades do dia-a-dia é importante para mim (Keeping interested in things is important to me)                             | .665           |
| 16          | Geralmente consigo encontrar algo que me faça rir (I can usually find something to laugh about)  | .647           |
| 12          | Vivo um dia de cada vez (I take things one day at a time)  | .642           |
| 25          | Não tenho problema com o facto de haver pessoas que não gostam de mim (It's okay if there are people who don't like me)                                | .571           |
| 18          | Numa emergência, sou alguém com quem geralmente as pessoas podem contar (In an emergency, I'm someone people can generally rely on)                    | .559           |
| 5           | Consigno ficar sozinho/a, entregue a mim próprio/a, se for preciso (I can be on my own if I have to)   | .549           |
| 22          | Eu não fico obcecado/a com coisas que não posso resolver (I do not dwell on things that I can't do anything about)                                     | .546           |
| 11          | Raramente me questiono se a vida tem sentido (I seldom wonder what the point of it all is)   | .521           |
| 19          | Normalmente consigo olhar para uma situação de várias perspectivas (I can usually look at a situation in a number of ways)                             | .518           |

The same psychometrics analyses were conducted for the RS14 short form. Kaiser Myer Olkin test (.915) and Bartlett's test of Sphericity (Chi-Square (91)=1345.428;  $p \leq .001$ ) confirmed the suitability of data. Again the unidimensionality of the scale was evidenced (a single factor explaining 50.134% of the total variance). The item 13 had low values for communality (.113) and loading (.337) and was removed. For the remaining 13 items the communalities varied between .672 (item 15) and .455 (item 18) and the factor loadings varied between .596 (item 18) and .820 (item 2).

**Table 2.** The Factor Structure of the Portuguese Resilience Scale Short Form for Adolescence (RS13)

| Item Number | Portuguese item (English item)   | Factor loading |
|-------------|--|----------------|
| 15          | Mantenho-me interessado/a nas coisas (I keep interested in things)   | .821           |
| 10          | Sou determinado/a (I am determined)  | .784           |
| 17          | A confiança em mim próprio/a ajuda-me a lidar com tempos difíceis (My belief in myself gets me through hard times)                                     | .780           |
| 7           | Normalmente faço as coisas conforme elas vão surgindo (I usually take things in stride)  | .777           |
| 6           | Sinto-me orgulhoso/a por ter alcançado objectivos na minha vida (I feel proud that I have accomplished things in life)                                 | .764           |
| 8           | Sou amigo/a de mim próprio/a (I am friends with myself)  | .755           |
| 2           | Eu normalmente acabo por conseguir alcançar os meus objectivos (I usually manage one way or another)   | .743           |
| 14          | Tenho autodisciplina (I have self-discipline)  | .705           |
| 23          | Quando estou numa situação difícil, normalmente consigo encontrar uma solução (When I'm in a difficult situation, I can usually find my way out of it) | .698           |
| 21          | A minha vida tem sentido (My life has meaning)   | .682           |
| 16          | Geralmente consigo encontrar algo que me faça rir (I can usually find something to laugh about)  | .677           |
| 9           | Sinto que consigo lidar com várias coisas ao mesmo tempo (I feel that I can handle many things at a time)  | .667           |
| 18          | Numa emergência, sou alguém com quem geralmente as pessoas podem contar (In an emergency, I'm someone people can generally rely on)                    | .600           |

A new PCA revealed one single factor that explained 53.232% of total variance and subsequent analysis of consistency (Cronbach alpha=.926) reinforced the appropriateness of the one-factor solution for the RS13 Portuguese short form (Table 2).

The mean and standard deviation of the RS23 and RS13 were 119.81 (SD=21.35) and 68.54 (SD=12.67) respectively. For RS23 the mean score by gender was 118.83 (SD=21.93) and 120.75 (SD=20.86) for males and females respectively and the difference was not statistically significant ( $t(178) = -.604$ ;  $p=.547$ ). For RS13 the mean score for males was 67.64 (SD=13.37) and for females was 69.39 (SD=11.98). The difference was not statistically significant ( $t(178) = -.927$ ;  $p=.355$ ).

The concurrent correlation of RS23 with RS13 was very high ( $r=.976$ ;  $p<.001$ ).

Convergent validity was demonstrated by significant positive correlations between the two measures of resilience and flourishing (measured by MHC-SF) with correlations between .371 ( $p<.001$ ) and .459 ( $p<.001$ ) for RS 23 and between .389 ( $p<.001$ ) and .478 ( $p<.001$ ) for RS13. Divergent validity was demonstrated by significant negative correlations between resilience and anxiety symptoms (measured by MASC) with correlations between -.204 ( $p<.01$ ) and -.314 ( $p<.001$ ) for RS 23 and between -.180 ( $p<.05$ ) and -.300 ( $p<.001$ ) for RS13. Correlations between resilience and depressive symptoms (measured by CDI) were significant and negative ( $r=-.415$ ,  $p<.001$  for RS;  $r=-.432$ ,  $p<.001$  for RS13) (Table 3).



**Table 3.** Descriptives data and correlations between RS23, RS13, MHC-SF, MASC and CDI

|              | <b>n</b> | <b>M</b> | <b>SD</b> | <b>RS23</b> | <b>RS13</b> |
|--------------|----------|----------|-----------|-------------|-------------|
| RS23         | 180      | 119.81   | 21.35     | -           |             |
| RS13         | 180      | 68.54    | 12.67     | .976***     | -           |
| MHC-SF Total | 121      | 44.22    | 14.07     | .459***     | .478***     |
| MHC - EWB    | 121      | 3.85     | 1.03      | .372***     | .403***     |
| MHC - SWB    | 123      | 2.75     | 1.26      | .428***     | .439***     |
| MHC - PWB    | 122      | 3.13     | 1.09      | .371***     | .389***     |
| MASQ - Total | 163      | 1.09     | .39       | -.294***    | -.286***    |
| MASQ - PhS   | 171      | .82      | .50       | -.298***    | -.287***    |
| MASQ - SA    | 173      | 1.27     | .65       | -.314***    | -.300***    |
| MASQ - SepA  | 172      | .62      | .43       | -.204**     | -.180*      |
| MASQ - HA    | 173      | 1.69     | .49       | -.072       | .056        |
| MASQ - TR    | 170      | 1.00     | .59       | -.271***    | -.264***    |
| MASQ - SA    | 174      | .66      | .50       | -.272***    | -.259***    |
| MASQ - HR    | 173      | 1.38     | .81       | -.279***    | -.276***    |
| MASQ - PP    | 176      | 1.14     | .64       | -.288***    | -.261***    |
| MASQ - P     | 174      | 1.85     | .56       | .072        | .051        |
| MASQ - AC    | 175      | 1.55     | .55       | .056        | .047        |
| CDI          | 119      | 13.14    | 6.80      | -.415***    | -.432***    |

\*\*\*  $p \leq .001$  \*\*  $p \leq .01$  \*  $p \leq .05$

Legend: RS23: RS with 23 items; RS13: RS with 13 items; MHC-SF Total: Mental Health Continuum Short Form; MHC- EWB: Emotional Well Being; MHC-SWB: Social Well Being; MHC-PWB: Psychological Well Being; MASQ- Total=Multidimensional Anxiety Scale for Children; MASQ-PhS-Physical symptoms; MASQ- SA: Social anxiety; MASQ-SepA: Separation Anxiety; MASQ-HA: Harm Avoidance; MASQ-TR: Tense/Restless; MASQ-SA: Somatic/Autonomic; MASQ-HR: Humiliation/Rejection; MASQ-PP: Public performance; MASQ-P: Perfectionism; MASQ-AC: Anxious Coping; CDI: Children's Depression Inventory

## 7. Conclusions

The aim of the present study was to investigate the construct validity of the long and brief versions of the Resilience Scale, an instrument developed by Wagnild and Young (1993) to access resilience levels by measuring the capacity to endure life stressors and to thrive and make meaning from challenges. The RS appears to be one of the most popular measures of the resilience construct, and has been used with adolescents, younger and older adults (Ahern et al., 2006; Windle et al., 2011).

Despite the specification of the conceptual components of the resilience construct and the two factors solution suggested by the authors they always used an overall score for RS long and brief versions (Wagnild & Young, 1993; Wagnild, 2009). The RS adaptation studies for Portuguese language (Felgueiras et al., 2010; Pesce et al., 2005) did not showed consistent results in what concerns RS factorial structure. Therefore, we decided to explore in a new sample of Portuguese adolescence the factorial structure and the psychometric properties of

the long and short version of RS. In the present study the two versions revealed an unidimensional structure, whose factor explains 46.015% of the variance in RS23 and 53.230% in RS13.

Our Portuguese long version has 23 items (two less than the original scale) and the short version has 13 items (one less than the original scale). All the items were excluded based on the criteria of factor loadings below .40 (DeVellis, 2003). All the remaining items of RS23 and RS14 presented factor loadings greater than .50. The content analysis of each excluded item can help us to understand the reason why they were not adapted to adolescent population. The item 13: "I can get through difficult times because I've experienced difficulties before" refers to past experiences, difficult ones. Adolescents aged between 12 and 17 may have the idea that they never went through difficulties that makes complex the response to this item, affecting its homogeneity. The item 20: "Sometimes I make myself do things whether I want to or not" has a content that in our opinion may be sensible to social desirability, in the sense that adolescents even doing what they don't want may have difficulties assuming it. In what concerns the item 5: "I can be on my own if I have to" it was maintained in RS23 although the first study of the scale in Portugal has suggested its removal due to a low correlation with total score. As mentioned earlier we made a new translation of the item 5, which made in our opinion its content more adequate to adolescent thinking about his autonomy. "Can be on my own if I have to" has come to mean "to be able to take care of itself"/"Consigo ficar sozinho entregue a mim próprio, se for preciso" rather than the literal translation of the original adult expression which could be interpreted as a kind of total independence. With this new formulation, statistical data (factor loading) revealed the adequate contribute of this item to the structure of RS.

The present research contributes to overcome an important gap in the exploratory analysis of the dimensionality of the scale, testing the hypothesis of the existence of only one factor. Subsequent studies with larger samples and confirmatory factorial analysis are needed to replicate the structure obtained.

The present findings corroborate the unidimensional structure of the RS and provide good evidence of the construct validity of the RS through the establishment of the factorial, convergent and divergent validities, and the reliability of data. Like the scale's authors, we stress the importance of using an overall score of resilience.

In what concerns the reliability we found excellent internal consistency for the RS23 ( $\alpha=.95$ ) and RS13 ( $\alpha=.93$ ). For the short version the value obtained is similar to that of Wagnild and Young (1993) and for the long version we found a higher value than other studies (Wagnild & Young, 1993; Felgueiras et al., 2010; Pesce et al., 2005; Nishi et al., 2010; Abiola, 2011; Heilemann et al., 2003).

As it was expected, the two versions of the RS are highly correlated replicating the finding of Wagnild and Young (1993).

Convergent validity was demonstrated by significant positive correlations between the two measures of resilience (RS23 and RS13) and flourishing and divergent validity was

demonstrated by significant negative correlations with anxiety and depressive symptoms. The higher associations were obtained between resilience and flourishing and depression. Wagnild and Young (1993) also demonstrated the convergent and divergent validity of RS14 with life satisfaction and depressive symptoms.

Based on psychometric properties obtained, our study also supports the usefulness of the RS23 (Portuguese long version) and RS13 (Portuguese short version) to assess resilience in the Portuguese adolescent population.

This investigation is a contribution to the study of cross-cultural validation of the RS. To understand resilience several studies have been conducted in different cultures and groups because it is expected that cultural and social contexts can influence resilience.

When we study resilience we identify personal and relational protective factors that can guide preventive interventions designed to develop skills and psychosocial resources to cope with adversity and accept self and life. The identification and optimization of strengths can be the focus of psychological interventions with adolescents. As Wagnild (2009, p.10) argued "Most of us are ordinary people. However, every one of us has extraordinary possibilities and strengths. Everyone stumbles and falls from time to time, but each of us has the capability to get back up and carry on. We call this ability to get up and get going resilience".

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