

Italian validation of the Wagnild and Young Resilience Scale: a perspective to rheumatic diseases

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Abstract

Objectives

Studying the characteristics of resilience may help to explain how, in the face of a chronic disease, people are able to cope in productive and effective ways.

The Wagnild and Young Resilience Scale (RS) is an appropriate instrument to study resilience and has already been translated from the original English version into several languages. The aim of this study was to validate the Italian version of the RS, a 25-item scale ranging from 25 to 175 where higher scores indicate stronger resilience.

Methods

The Minimal Translation Criteria were followed to translate the scale which was then filled out by 1090 students to assess the reliability, stability, internal consistency and concurrent validity.

Results

Time stability was assessed in a sample of 117 students (M age = 20.18 yr, SD 1.25) by test-retest correlation ($r=0.78$). RS reliability was evaluated in a second sample of 973 students (M age = 16.95 yr, SD 1.50) with RS mean of 126.6 (SD 17.4). Concurrent validity was assessed by correlation with General Health Questionnaire ($r=-0.51$), Ego-Resilience Scale ($r=0.63$) and Beck Depression Inventory ($r=-0.45$). Internal consistency was evaluated by Cronbach alpha ($\alpha=0.84$). Principal component analysis was performed on 24 out of the 25 items and resulted in six components.

Conclusion

Our data indicated that the 24-item Italian version of the RS scale can be considered a useful instrument to measure resilience and can be used by healthcare staff to help patients cope effectively with stressful situations such as rheumatic and other chronic diseases.

Key words

Resilience scale, resilience, validity, rheumatology, chronic disease

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Introduction

Resilience has been described as a dynamic and active process that allows the individual to rebound from and positively adapt to significant stressful events or adversities (1, 2) as in the case of chronic disease. More recently, Feder *et al.* (3) proposed an integrated model of resilience based on psychobiology and molecular genetics of resilience and claimed that resilience was an active process, not just the absence of pathology, and it could be promoted by enhancing protective factors.

Research suggests that higher levels of resilience (*e.g.* hardiness) positively influence perceptions of stress and stressful life events, they are related to positive self-ratings of physical health and physical symptoms (4), and inversely related to depression and anxiety (5).

In the chronic diseases, such as rheumatoid arthritis (RA) and juvenile idiopathic arthritis (JIA), stress can lead to an increase of disease activity. Straub *et al.* (6) reported several studies in JIA and RA patients indicating that stressful life events played a permissive role for the disease.

Another Italian study (7) found that micro and macro events stress preceded the onset of RA in 83% of cases while in 60% of patients a correlation between disease reactivation and micro events was shown.

Resilience may play a role in predicting well-being irrespective of stress factors (*i.e.* a compensatory effect) (8), and in the adaptation under high stress conditions (*i.e.* a protective effect) (9). As a matter of fact, resilience factors, such as positive effect, vitality, and extraversion, have been shown to predict increased self-efficacy, physical activity, and more active coping (10-13).

Resilience has enormous utility for psychologists, physicians and nursing. An understanding of resilient characteristics and of the processes that enhance resilience in individuals can enable hospital staff to promote resilient behaviours during periods of adversity or chronic disease.

To measure the construct of resilience, it is necessary to have an appropriate instrument and, in fact, several scales have been proposed, such as the Baruth

Protective Factors Inventory (14), the Adolescent Resilience Scale (15), the Resilience Scale (RS) (16), and the Resilience Scale for Adults (17). In a recent review, Ahern *et al.* (18) asserted that RS was the most appropriate instrument to study resilience in adulthood as well in the adolescent population. This scale has been already translated from the original English version into several languages – Swedish (19), Russian (20), Spanish (21) and Portuguese (22) – and validated for each version.

There is a need for an Italian version of the above-mentioned scale. The aim of this study was to assess the reliability of the Italian version of the Wagnild and Young Resilience Scale (16) by verifying its stability, internal consistency and concurrent validity.

Material and methods

Sample

The test-retest reliability was evaluated from a sample of 117 students (66 females and 51 males) aged from 18 to 24 years (mean 20.18, SD 1.25) attending the first year of Medical School, at the University of Genova. They filled out the resilience questionnaire and then filled it out again about one month later.

Internal consistency reliability and validation analysis were performed on a second sample composed of 973 students aged from 14 to 22 (mean 16.95 SD 1.50) who filled out all scales and questionnaires used to validate Italian version of RS scale.

Seven hundred and twenty-eight of these students came from a state secondary school focusing on humanities, sciences and languages (Liceo Statale G.D. Cassini of Imperia); 69 of them came from a state professional institute for hotel services and catering (Istituto Alberghiero E. Ruffini of Imperia); 176 of them came from a state professional secondary school (Istituto Professionale Statale Industriale per l'Artigianato of Genova).

The Resilience Scale

The RS was developed by Wagnild & Young (23) from a qualitative study of 24 women who had adapted successfully following a major life event.

Competing interests: none declared.

The purpose of the RS was “to identify the degree of individual resilience, considered a positive personality characteristic that enhances individual adaptation” (16). The five components of resilience, according to definitions of literature, were proposed by the authors on the basis of the analysis of their first sample (23).

These components are: 1) equanimity, a balanced perspective of one’s life and experience; 2) perseverance, the act of persistence despite adversity or discouragement; 3) self-reliance, a belief in oneself and one’s capabilities; 4) meaningfulness, the sense of having something for which to live; 5) existential aloneness, feeling of freedom and sense of uniqueness.

The RS is a 25-item scale using a 7-point rating (1 disagree – 7 agree), the score ranges from 25 to 175. On the basis of approximated normal distribution the authors considered values of 147 and above as indicating high resilience, values from 121 to 146 as the mid range and values lower than 121 indicating low resilience (24).

Translation procedure

Written permission was obtained by the original developers to proceed with the translation and use of the tool for research purposes. The Minimal Translation Criteria (25) were followed with two independent bilingual health professionals forward translating the scale (versions 1 and 2). In a second step, by a briefing between the translators and the research coordinator a re-conciliated Italian version (version 3) was made. Then, another native English speaker, who had no knowledge of the original instrument, back translated version 3. The backward translation was sent to the developer of the original questionnaire for comparison and her suggestions were incorporated into the final Italian re-conciliated version (final version, see Table I). The authors said that item 11 might be difficult in any language to understand and suggested turning this item around so that it says “I often wonder what the point of it all is / Io spesso mi chiedo il significato di tutto questo” instead of “I seldom wonder what the point of it all is”. We

Table I. Original and Italian version of RS.

1.	When I make plans I follow through with them / Quando faccio dei progetti, li porto a termine
2.	I usually manage one way or another / Di solito riesco a cavarmela in un modo o nell’altro
3.	I am able to depend on myself more than anyone else / Conto su me stesso/a più che sugli altri
4.	Keeping interested in things is important to me / Mantenere un interesse sulle cose, per me è importante
5.	I can be on my own if I have to / Posso contare su me stesso/a se devo
6.	I feel proud that I have accomplished things in my life / Sono orgoglioso/a di aver realizzato delle cose nella mia vita
7.	I usually take things in my stride / Di solito affronto le cose senza farmi problemi
8.	I am friends with myself / Sono amico di me stesso/a
9.	I feel that I can handle many things at a time / Sento di poter gestire molte cose contemporaneamente
10.	I am determined / Sono determinato/a
11.	I seldom wonder what the point of it all is / Io spesso mi chiedo qual è il significato di tutto questo
12.	I take things one day at a time / Affronto le cose una alla volta
13.	I can get through difficult times because I’ve experienced difficulty before / Posso superare momenti difficili perché ne ho già avuto esperienza in passato
14.	I have self-discipline / Ho autodisciplina
15.	I keep interested in things / Sono interessato alle cose
16.	I can usually find something to laugh about / Di solito trovo qualcosa per cui sorridere
17.	My belief in myself gets me through hard times / Il credere in me stesso/a mi aiuta a superare momenti difficili
18.	In an emergency, I’m somebody people generally can rely on / In una situazione di emergenza io sono qualcuno su cui le persone, di solito, possono contare
19.	I can usually look at a situation in a number of ways / Di solito riesco a vedere una situazione da vari punti di vista
20.	Sometimes I make myself do things whether I want to or not / A volte mi costringo a fare delle cose che lo voglia o no
21.	My life has meaning / La mia vita ha significato
22.	I do not dwell on things that I can’t do anything about / Non mi soffermo sulle cose per le quali non posso fare nulla
23.	When I am in a difficult situation, I can usually find my way out of it / Quando sono in una situazione difficile, di solito riesco a trovare il modo di uscire
24.	I have enough energy to do what I have to do / Ho abbastanza energia per fare ciò che devo.
25.	It’s okay if there are people who don’t like me / Non è un problema per me se ci sono persone a cui non piaccio

needed to reverse score it because a more resilient person would strongly disagree.

Associated questionnaires

The 12-item Italian version (26) of the General Health Questionnaire (GHQ) (27), the Italian version (28) of the Ego-Resilience Scale (29) and the Italian version (30) of the Beck Depression Inventory Second Edition (BDI-II) (31) was used to assess concurrent validity of the RS.

The GHQ is a self-administered questionnaire aimed at detection of minor psychiatric disorders. A 4-point Likert scale (0–3) was used, for each item, leading to an overall score ranging from 0 to 36 with higher points indicating poorer health.

The Ego-resilience scale is composed of 14 items measuring the subject’s capacity to conciliate his own needs and desires while respecting rules and oth-

er people. A 7-point Likert scale (1–7) was used, with higher points indicating good ego-resiliency.

The BDI-II is a 21-item self-report instrument intended to assess the existence and severity of symptoms of depression as listed in the DSM-IV (32). A significant positive correlation between RS and ego-resilience was expected; on the contrary, a significant negative correlation with RS was expected for GHQ and BDI.

Procedure

Data collection was performed in an anonymous way. Participants were informed of the aim of the research and gave their consent to participate to the test-retest procedure. A written consent was received from the secondary school managers giving permission to administer the scales to all classes in the school. The study was described to all participants both orally and by writ-

ten instructions; they completed the whole package scale with an average time of 20 minutes.

Statistics

Reliability of RS was estimated by the test-retest procedure, evaluating the Pearson correlation coefficient between the first and second test, and by the internal consistency measure provided by the Cronbach Alpha and by the analysis of its components. Concurrent validity of RS was evaluated by computing the Pearson correlation coefficients between RS and the other three tests evaluating psychological health (GHQ), ego-resiliency (ER) and depression (BDI-II). The structure of RS was further explored by factor analysis, where factors were identified by principal component analysis and rotated by varimax method to optimise the separation between factors. Only the factors explaining a portion of variance greater than the mean variance of the original variables entered in the analysis (eigenvalues greater than 1.0) were considered (33). The statistical analysis was performed by means of the SAS software package (SAS/STAT, v.8.1, 1999 SAS Institute Inc., Cary, NC, USA).

Results

RS mean in the test-retest sample was 127.5 (SD 13.0, range 99–155) at T1 and 127.8 (SD 14.4, range 93–156) at T2. The test-retest correlation was 0.78 ($p < 0.0001$).

In the study sample, out of 973 responders, fully compiled questionnaires were obtained from 863 subjects for RS, 946 for GHQ, 945 for ER and 890 for BDI. The RS mean in the study sample was 126.6 (SD 17.4, range 40–169). As for data distribution with respect to the standard reference values, 32.5% of the sample could be classified as low resilient individuals (score <121), 14.9% as high resilient (score >146) while the remaining 52.6% was in the mid range. RS correlations were -0.51 with GHQ, 0.63 with ER and -0.45 with BDI (see Table II for details), all significant at 0.0001 level.

Internal consistency reliability of RS, as evaluated by Cronbach alpha, was 0.84; the correlations of each item with the

Table II. Distribution parameters for RS and its relationship with concurrent scales: **a)** mean values, standard deviations and data range are reported for each scale used for concurrent validation, highlighting the difference between males and females, which was significant for general health (GHQ) and depression (BDI-II). **b)** Pearson correlation coefficient between each pair of scales used in concurrent validation: all coefficient were significant; negative correlations resulted from opposite scale directions (increase for good or poor health).

a) mean values					
Variable	Gender	n.	Mean	SD	Range
RS	F	473	126.1	17.0	59–163
	M	390	127.1	17.9	40–169
GHQ	F	504	15.8 [■]	5.7	2–33
	M	439	12.8 [■]	6.1	1–36
ER	F	502	68.9	10.6	33–94
	M	443	68.1	11.5	33–97
BDI	F	472	12.4 [■]	8.4	0–45
	M	418	10.4 [■]	8.0	0–46

([■] $p < 0.001$)

b) correlation				
Variable	RS	GH	ER	BDI
RS	1.00	-0.51	0.63	-0.45
GHQ		1.00	-0.33	0.71
ER			1.00	-0.28
BDI				1.00

$p < 0.0001$

Table III. Correlation analysis evaluating internal consistency of RS by Cronbach alpha as evaluated by raw scores in the study group. Overall value of Cronbach alpha was 0.84. Item number is reported in the first column, mean score in the second one, correlation between single item and total score in the third column and Cronbach alpha as evaluated after elimination of the current item in the fourth column.

Item	Mean score	Correlation with total	Alpha with deleted item
1	5.105	0.5012	0.8316
2	5.506	0.4064	0.8348
3	5.146	0.2694	0.8391
4	5.388	0.3969	0.8347
5	5.692	0.4763	0.8320
6	5.654	0.5137	0.8304
7	4.346	0.5147	0.8295
8	5.140	0.5350	0.8289
9	4.441	0.4565	0.8322
10	5.349	0.5649	0.8284
11	3.086	0.0109	0.8515
12	4.473	0.2179	0.8414
13	4.871	0.2509	0.8404
14	5.281	0.3626	0.8358
15	4.405	0.4778	0.8322
16	5.872	0.4019	0.8346
17	5.079	0.6024	0.8263
18	5.721	0.3675	0.8356
19	4.995	0.3686	0.8355
20	4.578	0.1202	0.8456
21	5.541	0.5404	0.8287
22	4.047	0.1650	0.8440
23	5.174	0.5104	0.8313
24	5.405	0.5732	0.8290
25	4.994	0.3110	0.8388

total score were all but one in the range 0.12-0.60: only for item 11 the correlation dropped to 0.01. The correlation between each item and the total score is reported in Table III along with mean item score and Cronbach alpha as evaluated after deleting the current item.

No significant effect of age and gender on RS was found in this adolescent sample, while a significant difference between gender was found for GHQ and BDI, with higher values (poorer health) for females.

As for education and social environment, a slight but significant difference was found between the secondary school focusing on humanities, sciences and languages (Liceo) and the other technical schools with lower RS for the former (mean 125.0 SD 17.4 vs. mean 131.5 SD 16.8). No significant differences between school types were found concerning GHQ and BDI.

Factor analysis (see Table IV) was performed including 24 out of the 25 items setting up RS: item 11 ("I seldom wonder what the point of it all is") which came out as an outlier in internal consistency analysis, was considered poorly reliable in this Italian version and was excluded from following analysis. Principal component analysis resulted (according to the Kaiser criterion) into six components with eigenvalues greater than 1: these six components, altogether explaining 52% of total variance, were retained for factor analysis. Final communalities estimates, representing the (relative) variance explained by the model for each item, ranged from 0.33 (item 25) to 0.68 (item 3). Factor loadings, representing item-factor correlation, overcame the conventional threshold, set at 0.4, for all items but the 20th and 25th, which however reached the

value 0.36. The first factor of principal component analysis accounted for 25% of total variance (48% of the variance explained by the 6 selected factors) and was the most correlated with 15 out of 24 items. Following varimax rotation, explained variance and factor loadings were more evenly distributed between factors: the loadings overcame a 0.4 threshold for 23 out of 24 items: the maximum factor loading for item 18 was slightly lower than the threshold value (0.37). The association between items and factors, as based on maximum factor loading, reached by each item, is reported in Table IV, in which the best fitting labels, among the five ones generally used in resilience theory, are reported for each factor. Four items (4, 10, 15 and 19) contained double loadings, as the threshold value was exceeded for more than one factor.

Table IV. Factor analysis.

Items	F1	F2	F3	F4	F5	F6
<i>Meaningfulness</i>						
21. My life has meaning	0.70					
6. I feel proud that I have accomplished things in my life	0.65					
16. I can usually find something to laugh about	0.61					
15. I keep interested in things	0.55		0.47			
8. I am friends with myself	0.53					
17. My belief in myself gets me through hard times	0.52					
4. Keeping interested in things is important to me	0.47		0.47			
<i>Self-reliance</i>						
23. When I am in a difficult situation, I can usually find my way out of it		0.69				
9. I feel that I can handle many things at a time		0.62				
2. I usually manage one way or another		0.61				
24. I have enough energy to do what I have to do		0.56				
7. I usually take things in my stride		0.54				
10. I am determined	0.41	0.48				
<i>Perseverance</i>						
20. Sometimes I make myself do things whether I want to or not			0.69			
14. I have self-discipline			0.55			
19. I can usually look at a situation in a number of ways		0.46	0.48			
<i>Existential aloneness</i>						
3. I am able to depend on myself more than anyone else				0.79		
1. When I make plans I follow through with them				0.48		
5. I can be on my own if I have to				0.45		
<i>Equanimity a.</i>						
22. I do not dwell on things that I can't do anything about					0.76	
25. It's okay if there are people who don't like me					0.45	
<i>Equanimity b.</i>						
13. I can get through difficult times because I've experienced difficulty before						0.71
12. I take things one day at a time						0.62
<i>Unassigned</i>						
18. In an emergency, I'm somebody people generally can rely on.						

Discussion

Our study stated the test-retest reliability, concurrent validity and internal consistency reliability for Italian version of RS according to published data for other languages (34).

The mean value of RS in our study group was 126.6; it was not statistically different from the test-retest group, both for the first (127.5) and second (127.8) evaluation. These values were lower than the ones reported in the original paper by Wagnild and Young (16) (mean 147.91 SD 16.85), which, however, referred to a sample of elderly subjects. A positive effect of age on RS has been reported and was quantified by Lundman *et al.* (34) who, analysing a sample of 1719 subjects ranging from 19 to 103 years, indicated an increase of 0.134 RS units per year. The increase of RS with age may partially explain the low mean value found in our group which however was lower than the one expected from Lundman's linear regression. The considerable percent of the individuals falling into the low resilience range (32.5%) pointed out the presence of low resilient people in this age span. Our data also showed that resilience may differ in different adolescent subgroups: data concerning students from professional schools were closer to the ones expected when applying the Lundman's regression, but mean values were lowered when senior high schools (licei) were included. RS reliability was however confirmed in the whole group for its coherence with data from concurrent tests (GHQ, ER and BDI). Our data thus confirm the decrease of resilience in young people but suggest that a linear trend may be insufficient to account for complex troubles and changes characterising adolescence.

In other studies concerning resilience in childhood and adolescence a significant effect of gender was found indicating higher RS values in adolescent females (35). This was in agreement with the fundamental longitudinal studies of young people by Werner (36, 37) and Rutter (38, 39). Such gender difference for RS mean values was not confirmed by the studies by Rew *et al.* (40) and Lundman B (34) nor could be found in

our data. On the other hand, we found a significant gender difference as for GHQ and BDI which showed higher values (poorer health) for females, in agreement with a number of studies concerning general health and depression (41-43). Poorer health might explain the low resilience scale score and the lacking of gender differences.

As for time stability, the correlation coefficient for the test-retest was 0.78, close to the original result obtained by Wagnild and Young (0.81) and to the correlation reported in the Swedish validation study (0.78; (22)). No other estimate of test-retest reliability are, to date, available to our knowledge. The sample used for test-retest reliability was independent from the study sample and its mean age was slightly higher, but mean RS values were not significantly different: in our opinion the fair value of test-retest correlation in this sample support the application of RS in young people.

The value of Cronbach alpha, 0.85, confirmed the internal consistency of the Italian version of RS, being in accordance with consistency evaluations reported for the original version of RS (16) and for the following translations in other languages (20, 21, 34, 44-46). The detail analysis of correlation coefficients between each item and the total score showed that one item (item 11: "I seldom wonder what the point of it all is") did not correlate with the others and was not reliable in its current Italian formulation. Misunderstanding of this item might also have slightly contributed to the lowering of RS mean score as mean value for item 11 was 3.08 in comparison to the mean value of 5.15 of the other items (see Table III). Internal consistency with item 11 removed increased to 0.85. The remaining items significantly correlated with the total score with correlation coefficients ranging from 0.12 to 0.60, reflecting an internal structure which has been further explored by factor analysis.

The concurrent validity was supported by the high correlation with three well-established valid measures of the constructs linked with resilience, namely GHQ for psychological well-being, ER for flexibility in impulse control and

a BDI II for depression. These three measures are indeed expression of the features which are considered characteristic of resilient people, namely subjective well-being (47), happiness (48), optimism and social values (49) and the social competence (50).

Features of resilience were further explored by factor analysis. In questionnaire design Wagnild and Young (16) considered five component of resilience but only two clear components were supported by factor analysis and a two-factor solution was also found in the Russian (20), Spanish (21) and in the first Swedish study (19). In a more recent study by Lundman *et al.* (34), using the Swedish version of RS, five factors were found and related to the original component of resilience construct. In our study, principal component analysis resulted into six factors. These factors were labelled looking for the best accordance with the five components hypothesised by Wagnild and Young: factors 5 and 6 were both associated to equanimity, the first one expressing the ability to deal with external obstacles and the second one indicating a pragmatic approach in addressing life events. Four items had double loading: two of them (item 15 and item 4) loaded in factor "meaningfulness" and secondly in "perseverance" which clearly reflect the interaction of these components. Item 10 loaded in factor "self reliance" and secondly in "meaningfulness" where, similarly to the previous items, the "meaningfulness" component strengthens determination. Item 19 loaded in "perseverance" and secondly in "self-reliance", probably because this feature could help in maintaining one's own way. All these four items had their highest loading in the same component as the one selected in the Swedish study (34). On the whole, the correspondence between our item classification and the one found by in the Swedish study was 15/24 (62%).

The factor structure found in our study suggests that RS is a relatively homogeneous construct, as confirmed by Cronbach alpha, in which however some underlying interacting factors can be distinguished and can be related to the original theoretical model.

Our data indicate that the 24-item Italian version of the RS scale (with item 11 removed and reference values proportionally corrected) can be considered a useful and satisfactory instrument to measure resilience in Italian young-adult population (see appendix). An obvious limitation of our results is related to the narrow age range characterising our sample and consequently further studies, evaluating the instrument in middle-aged and elderly populations, are required.

Studying the characteristics of resilience may help to explain how in the face of a chronic disease people are able to cope in productive and effective way (51, 52). Indeed resilience and coping are related constructs: coping assesses cognitive and behavioural strategies used by an individual to manage the demands of stressful situations (53), whereas resilience evaluates positive-adaptation capabilities in the face of adversity and encompasses biological, interpersonal, affective, non-stress-related cognitive attributes and individual difference (54, 55). Resilience has been correlated with the components of coping: a positive correlation of resilience with task-oriented coping and a negative correlation with emotion-oriented coping were found (56).

Psychological stressors and related psychological variables are known to influence disease activity in chronic disease such as RA, and recent studies clearly demonstrated links between psychological functioning and disease activity and associated pain and disability in RA (57-61).

Research indicates that different types of psychosocial stressors may influence neuroendocrine and immune mechanisms in differing ways mainly in chronic disease (62). As a matter of fact, Straub and Cutolo (63) asserted that during acute minor stress a short rise of cortisol and norepinephrine could be observed and that chronic stress in RA reduced the stress response and might induce a worsening of the disease. The stress-response should be considered as individual, resulting from the discrepancy, perceived by the subject, between his own capacities of coping and the environmental require-

ments, independently of an objectively "traumatic" experience (64, 65).

Also the onset of fibromyalgia syndrome has been associated with a history of physical and/or psychological trauma (66-70) and a high frequency of post-traumatic stress disorder (PTSD) (71). Naring *et al.* (72) comparing patients with RA and fibromyalgia syndrome (FMS) found that the number of patients reporting at least one traumatising event, was (82%) in FMS, and (61%) in RA.

The usefulness of knowing the characteristics of resilience comes from a series of study by Karoly *et al.* (73), Wright *et al.* (74) and Zautra *et al.* (75). Karoly *et al.* comparing resilient and not resilient adult subjects suffering from chronic pain found significant differences in favour of resilient subjects in coping style, pain attitudes and beliefs, catastrophising tendencies, positive and negative social responses to pain, health care and medication utilisation patterns. Wright *et al.* (74) studying patients with knee osteoarthritis showed that resilience was related to increased self efficacy, management of the disease, pain reduction and quality of life. The authors highlighted that enhancing resilience and self-efficacy in the early stage of disease may be critical to prevent or reduce levels of future pain and disability. Zautra *et al.* (75), studying women with osteoarthritis and/or fibromyalgia, claimed that resilience resources might aid in the recovery from pain or stress in populations with chronic diseases and that positive emotions, considered as a component of resilience, may play an important role in fostering recovery following episodes of high pain.

In conclusion, knowing the characteristics of resilience of the patients could be useful to healthcare staff to help patients to cope effectively with stressful situations and conditions.

The RS may be a useful tool for the study of the resilience characteristics and for the identification of subjects requiring an intervention designed to build resilient coping skill. If resilient coping can be reinforced, patients may be more likely to withstand stress without physical and psychological recoil.

Finally, the RS scale may be useful to understand how the characteristics of resilience protect people from the effects of stress.

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Appendix

RESILIENCE SCALE versione Italiana

Istruzioni: metta una crocetta sul numero che indica quanto lei è d'accordo o in disaccordo con l'affermazione dove 1 indica il massimo disaccordo e 7 il massimo accordo:

	Completamente in disaccordo				Completamente d'accordo			
1. Quando faccio dei progetti, li porto a termine.	1	2	3	4	5	6	7	
2. Di solito riesco a cavarmela in un modo o nell'altro.	1	2	3	4	5	6	7	
3. Conto su me stesso/a più che sugli altri.	1	2	3	4	5	6	7	
4. Mantenere un interesse sulle cose, per me è importante.	1	2	3	4	5	6	7	
5. Posso contare su me stesso/a se devo.	1	2	3	4	5	6	7	
6. Sono orgoglioso/a di aver realizzato delle cose nella mia vita.	1	2	3	4	5	6	7	
7. Di solito affronto le cose senza farmi problemi.	1	2	3	4	5	6	7	
8. Sono amico di me stesso/a.	1	2	3	4	5	6	7	
9. Sento di poter gestire molte cose contemporaneamente.	1	2	3	4	5	6	7	
10. Sono determinato/a.	1	2	3	4	5	6	7	
11. Affronto le cose una alla volta.	1	2	3	4	5	6	7	
12. Posso superare momenti difficili perché ne ho già avuto esperienza in passato.	1	2	3	4	5	6	7	
13. Ho autodisciplina.	1	2	3	4	5	6	7	
14. Sono interessato alle cose.	1	2	3	4	5	6	7	
15. Di solito trovo qualcosa per cui sorridere.	1	2	3	4	5	6	7	
16. Il credere in me stesso/a mi aiuta a superare momenti difficili.	1	2	3	4	5	6	7	
17. In una situazione di emergenza io sono qualcuno su cui le persone, di solito, possono contare.	1	2	3	4	5	6	7	
18. Di solito riesco a vedere una situazione da vari punti di vista.	1	2	3	4	5	6	7	
19. A volte mi costringo a fare delle cose che lo voglia o no.	1	2	3	4	5	6	7	
20. La mia vita ha significato.	1	2	3	4	5	6	7	
21. Non mi soffermo sulle cose per le quali non posso fare nulla.	1	2	3	4	5	6	7	
22. Quando sono in una situazione difficile, di solito riesco a trovare il modo di uscirne.	1	2	3	4	5	6	7	
23. Ho abbastanza energia per fare ciò che devo.	1	2	3	4	5	6	7	
24. Non è un problema per me se ci sono persone a cui non piaccio.	1	2	3	4	5	6	7	