

## VALIDATION OF THE RESILIENCE SCALE FOR ADOLESCENTS (READ) IN MEXICO

### *VALIDACIÓN DE LA ESCALA DE RESILIENCIA PARA ADOLESCENTES (READ) EN MÉXICO*

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#### Abstract

Given the impact of resilience in youth's personal and social development, it is important to concentrate efforts in building or adapting instruments that can evaluate resilience with validity and reliability. To date, there is no adequate instrument that evaluates resilience with the population of Mexican adolescents in Spanish language. Therefore, the purpose of this study was to evaluate the Resilience Scale (READ) with a sample of Mexican adolescents. Participants were 840 adolescents living in the Metropolitan zone of Guadalajara (Mexico). Factor, exploratory and confirmatory analyses were conducted, and the convergent and divergent validity of the scale was also evaluated. Results are similar to other validation studies of the READ, with the difference of a new factor arising related to goal-orientation and which was probably derived due to the cultural differences of the population. The findings conclude that the READ in Spanish is a valid measure for the Mexican context. Implications are discussed.

*Key words:* Resilience, adolescence, validation.

## Resumen

Debido al impacto de la resiliencia en el desarrollo personal y social de los jóvenes, es importante concentrar esfuerzos en construir o adaptar instrumentos capaces de medir y evaluar la resiliencia con validez y confiabilidad. Sin embargo actualmente no existe un instrumento adecuado en español adaptado y validado a la población mexicana para evaluar la resiliencia en los adolescentes, lo que hace necesaria la realización de este estudio con el objetivo de validar la Escala de Resiliencia para adolescentes (READ) con una muestra de adolescentes mexicanos. En este estudio se realizó la validación del READ en una muestra de 840 adolescentes que viven en la Zona Metropolitana de Guadalajara (México). Se realiza análisis factoriales exploratorios y confirmatorios, así como la validez convergente y divergente de la escala. Se encuentran características similares a otras validaciones del instrumento, diferenciándose en la generación de un nuevo factor que es relativo a la orientación a las metas probablemente derivado de las diferencias culturales con la población en la que se desarrolló la escala originalmente. Se concluye que es una escala con propiedades adecuadas para aplicarse en el contexto mexicano. Se discuten las implicaciones.

*Palabras clave:* Resiliencia, adolescentes, validación.

## Introduction

Every human being makes use of, or can potentially use, a series of internal resources to have a better performance in different aspects of their lives. One of them is resilience. Resilience helps to overcome adversity same as to avoid experiencing important negative consequences in their psychological development (Palomar & Gómez, 2010).

Resilience makes no reference to anomalous virtues, but to regular human resources that children and their families count with, as well as in their interpersonal relationships. Masten (2001) defines resilience as “a phenomenon characterized by good outcomes” (p.228). In addition, a person is considered to be resilient if his or her development has been significantly threatened but it has not been affected.

Additionally, Hjmedal, Friborg, Stiles, Martinussen, and Rosenvinge (2006) define resilience as “a protective factor, processes and mechanisms that contribute to a good outcome, in spite of experiences with stressors that hold a significant risk of developing psychopathologies, as it has been seen” (p.84). Resilience has also been defined as the outcome of a combination between individual characteristics and the environment, which help to overcome obstacles (González, 2007).

In the same manner, resilience can be explained by 3 categories of factors: positive individual fac-

tors, family support and having a support network apart from family (Von Soest, Mossige, Stefansen, & Hjmedal, 2010).

Nevertheless, although there is no consensus on which is the right or single definition about resilience, there is an agreement on considering it as a process (González, Valdez, & Zavala, 2008).

Currently, given the important role resilience plays in human development and the possible identification of protective factors, it is one of the most studied variables (Hjmedal, Aune, Reinjfjell, Stiles, & Friborg, 2007); and there are several instruments to evaluate it (Salgado, 2005).

Despite the interest shown by psychologists and psychiatrists since 1970 about resilience in children, from which models and methods have been developed (Masten, 2001), and an increase in research about resilience, until 2006 there were no measures to evaluate resilience factors, specifically in adolescents (Von Soest et al., 2010).

Given to the need of developing a scale for measuring resilience in adolescents that also included items to evaluate the three resilience categories previously mentioned (positive individual factors, family support and support network), Hjmedal et al. (2006) designed and validated the Resilience Scale for Adolescents (READ) in a sample of Norwegian adolescents between 13 and 15 years

of age. The scale presented a good adjustment of data and psychometric properties, appropriate to the Norwegian sample; in the same manner, they found a negative correlation of the READ with depressive symptoms (Hjmedal et al., 2006).

The Resilience Scale for Adolescents evaluates important protective factors associated to less depressive symptoms in adolescents; and it has been seen that it can be used as a significant predictor of good health (Hjemdal et al., 2007).

Nevertheless, the scale's authors (Hjmedal et al., 2006) note that results need to be taken carefully because they are associated to that particular sample and it is necessary to conduct replications in Norway and other countries to evaluate the READ.

One limitation found in the study of Hjemdal et al. (2006) was that age range was restrained to children from 13 to 15 years of age; this is, including only children from early adolescence. For this reason, Von Soest et al., (2010) conducted a study in which participants aged between 18 and 20 years. However, they noted that a range including both stages of adolescence is needed for a validation of the scale.

There is a Spanish version of the READ but there are not studies published that apply this version at present (Von Soest et al., 2010). Apart from the Spanish version of the READ, there are several scales in Spanish language to measure resilience, such as the Resilience Questionnaire of Gonzalez (2011), the Measurement Resilience Scale used in a Mexican sample of 18 to 25 years of age (Palomar & Gómez, 2010) and two scales addressed to mothers, one of them is the Resilience Inventory (Gaxiola, Frías, Hurtado, Salcido, & Figueroa, 2011), while the other one was created by Roque, Aclé, and García (2009); however, these scales were not specially designed for adolescents (aged between 12 and 20 years) and have not been validated in this group of Mexican population.

Additionally, the READ was a scale that achieved one of the highest scores, in relation to content and construct validity, in a study where several scales were evaluated, according to the target population used (appropriate option for adolescents). They also found that the READ examines resilience at different levels, reflecting a proper conceptualization (Windle, Bennett, & Noyes, 2011).

Having a wide number of instruments to evaluate

resilience represents a problem, because it makes difficult to compare results from different studies, complicating as well the identification of factors associated with resilience (Hjmedal et al., 2006; Windle et al., 2011).

Another problem is that people involved in this subject have little empirical evidence to identify which resilience measurement instrument is the more appropriate to use (Windle et al., 2011). For this reason, it is important to count with both proper measures to evaluate resilience (Mansten, 2001), as well as research to understand resilience and its factors (Windle et al., 2011).

Given the impact of resilience in the human and social development of adolescents, it is also important to concentrate efforts on building or adapting instruments capable of measure and evaluate resilience with validity and reliability.

The READ has proven to be a valid scale in the field of Psychology, and its application can contribute to a better understanding of resilience in the areas of research, prevention and intervention (Von Soest et al., 2010); that is why it is considered as a scale that should be validated and used in its Spanish version.

The lack of a proper resilience measure, such as the READ validated for Mexican adolescents, makes this study crucial and innovative. Additionally, in an environment like Mexico's, where violence and other events can be stressful for young people, it is important to have measurement scales that evaluate adolescents' resilience. This information could be used for improving education, public policies, as well as in developing prevention and coping programs that are necessary for a healthy development.

The aim of this investigation is explore the psychometric properties of a scale that assess resilience's factors in adolescents in a Mexican population.

## Method

### *Participants and Procedure*

Data was collected from a sample of 840 adolescents between ages 12 and 17 years of age, with a mean age of 14.3 (SD=1.27). Of them, 47% were male and 53% were female. Instruments were applied in distinct educational institutions within

the Guadalajara Metropolitan Area, prior informed consent from the Institutions' Principals.

For statistical analyses, the SPSS v.21. Statistical Program was used. Initially, an exploratory factor analysis was carried out and the items internal consistency was analyzed as well. Subsequently, the factor analysis was confirmed with AMOS Program and correlation analyses were undertaken to evaluate the scale's convergent and divergent validity.

#### *Instruments*

The following instruments were applied in addition to a questionnaire to identify participants' sociodemographic characteristics.

READ, Resilience Scale for Adolescents (Hj-medal, et al., 2006). The 28-item original version of the READ is composed of positively phrased items, with a 5-point Likert-type structure, where 1 means Totally Disagree and 5 Totally Agree. Higher scores on the READ indicate higher level of resiliency (Hjemdal et al., 2006).

The original scale is composed of 5 factors: Personal Competence, Social Competence, Structured Style, Family Cohesion and Social Resources. It maintained the conceptual content from its predecessor to evaluate resilience in adults (the Resilience Scale for Adults of Frborg, Barlaug, Martinussen, Rosenvinge, & Hjemdal, 2005).

The Personal Competence factor measures the individual levels of self-esteem, self- efficacy, self-acceptance, hope, determination, realistic life-orientation, and ability to follow daily routines, same as to plan and organize. Social Competence makes reference to extraversion, social skills, good humor, capability on starting conversations and flexibility on social environments. The Structured Style factor measures the level of preference in which an individual plans and structures his daily routines. The Family Cohesion measures the level in which values are shared; there is also social support and the ability of the family to maintain a positive perspective. Finally, the Social Resources factor evaluates perception on access and availability of external support, such as friends (Hjemdal et al., 2006).

The authors of the scale reported acceptable reliability indices for the five factors assessed in

the READ; the indices are: Personal Competence ( $\alpha=.85$ ), Social Competence ( $\alpha=.82$ ), Structured Style ( $\alpha=.69$ ), Family Cohesion ( $\alpha=.85$ ), and Social Resources ( $\alpha=.78$ ).

EQ-i: YV, Bar-On Emotional Quotient Inventory, Youth Version (Bar-On & Parker, 2000). The Spanish version was developed and validated by Ferrandiz, Hernandez, Bermejo, Ferrando, and Sainz (2012); its purpose is to measure social and emotional competences in children and adolescents aged between 7 and 20 years.

It is a 60-item self-report instrument in a 4-point Likert scale, whose answer vary from 1 (It never happens to me) to 4 (It always happens to me) and evaluates 5 factors and each in turn include several subscales: intrapersonal competencies (emotional self-awareness, assertiveness, self-consideration, self-fulfillment and emotional independence), interpersonal competencies (empathy, social responsibility and interpersonal relationship), stress management (stress tolerance and impulse control), adaptability (problem-solving, emotional validity and flexibility) and mood (joy and optimism) (Bar-On, 1997; Ferrandiz et al., 2012).

Reliability indices found in this study are  $\alpha = .665$  for intrapersonal competencies,  $\alpha = .822$  for interpersonal competencies,  $\alpha = .627$  for stress management,  $\alpha = .827$  for adaptability and  $\alpha = .872$  for mood.

RSES, Rosenberg Self-Esteem Scale (Rosenberg, 1965). Translation into Spanish by Martin-Albo, Nunez, Navarro, and Grijalvo (2007). It is a 10-item response Likert-type scale, whose range varies between 1 (Strongly Disagree) and 4 (Strongly Agree). It is a scale that even when it was conceived as bifactorial, it shows better adjustment results when it is considered as unifactorial. In this study, internal reliability indices of  $\alpha = .799$  were found.

CMAS-R, Children's Manifest Anxiety Scale-Revised (Reynolds & Richmond, 1997). It is an instrument that evaluates the level and nature of anxiety in children between 6 and 19 years of age.

It consists of 37 items included in three subscales: Physiological Anxiety (associated to physiological anxiety symptoms such as sleeping problems, nausea or fatigue), Worry and Hipersensitivity (related to worrying compulsively about several things; most of them are rather vague and are



not well defined in a child's mind, in addition to fear of being hurt or isolated in an emotional way), and the Social Worries Subscale (it refers to distracting thoughts, as well as fears of social and interpersonal nature that lead to concentration and attention disorders). Additionally, it counts with a Lie Scale designed to detect approval, social convenience or deliberated falsification of answers (Reynolds & Richmond, 1985). A reliability index of  $\alpha = .789$  was found (Cronbach's Alpha) in this study.

CDI Children's Depression Inventory (Kovacs, 2004). It is a 27-item self-report instrument that evaluates depressive symptoms in individuals between 7 to 16 years of age. It consists of two scales: Dysphoria, which considers elements such as depressive mood, sadness, worry and the Negative Self-Esteem Subscale, that includes inefficiency judgments, ugliness or malice (Kovacs, 2004). An index of  $\alpha = .806$  (Cronbach's Alpha) was obtained in this study.

## Results

### *Exploratory Factor Analysis*

An Exploratory Factor Analysis of the READ structure was conducted through the main components method, and based on eigenvalues greater than 1. The Kaiser-Meyer-Olkin (KMO) showed an adequacy index of 0.92. Bartlett's test of sphericity was significant, to the level of  $p < .01$  ( $\chi^2 = 6792.92$   $gl = 378$ ), demonstrating that intercorrelations between items was appropriate.

Conducting the analysis resulted in a 7 components matrix, in which items 4 ("I'm satisfied with my life so far") and 12 ("I stop caring about things when they seem impossible to change") were part of a factor that would correspond to personal competencies in a theoretic model; however, given the nature of both, item 4, which is linked to a vital satisfaction, as well as item 12, whose syntactic structure could have led participants to interpret it as a negative response, it was decided to eliminate them from the scale.

Table 1 shows the matrix of 7 resultant components after said items were eliminated. It should be noted that items 1, 2 and 7, which make reference to goal-orientation, were assigned independently from personal competencies, where they belong

in the model of the authors of the scale. For this reason, it was decided to integrate them as another likely factor within the scale's structure.

In general, factor analysis data evidence that most of the items are properly associated to the theoretical model's dimensions.

The factor related to Family Cohesion was composed of the 6 items from the original scale, to which item 18 ("We have rules that simplify daily life in our family") that refers to family was added and, even when it belonged to the Structured Style, could have been interpreted based on the support provided by them. Additionally, we should note that despite item 21 showed a slightly major factor load in the Personal Competency Factor, it shows a proper factoring in the Family Cohesion component to which this item corresponds in the original scale.

Each of the Social Competence and Social Resources factors were composed by 5 items of the original version, with saturations fluctuating between .43 and .79.

The factor corresponding to Personal Competencies was the one it showed major changes, given that only 4 of the 8 items that compose it in the original scale, could group together; at the same time, other 3 grouped together independently, having as a common factor aspects related to achieving goals, for which it was considered as a new factor that can be applied to the version validated in Mexico.

Finally, the factor related to the structured style presented a group composed of only 2 items, given the item 2 was sorted into the new factor (goal-orientation), and item 18 was sorted into to the Family Cohesion; because of that, we decided to eliminate this factor of the scale, also this factor was the weakest in the original version (Hjemdal et al., 2006; Von Soest et al., 2010), and probably the nature of the items could be focus on exploring elements associated with personality.

### *Confirmatory Factor Analysis*

The confirmatory factor analysis was conducted by means of the statistical package AMOS in a combined model with the interrelation of the 5 factors found in the Exploratory Factor Analysis.

After the analysis, and with the intention to reduce the number of items, it was decided to

**Table 1.** Factor structure of the READ, 26-item Version (N=840)

Item in original version	Family cohesion (FC)	Social competence (SC)	Personal competence (PC)	Social resources (SR)	Structured style (SS)	Goal-orientation (GO)	Emergent (E)
5	.677						
10	.704						
15	.701						
18	.619						
21	.497						
24	.747						
27	.705						
6		.447					
11		.792					
16		.794					
22		.508					
25		.466					
17			.450				
20			.671				
23			.526				
26			.587				
3				.730			
9				.484			
14				.593			
19				.555			
28				.472			
8					.674		
13					.661		
1						.762	
2						.703	
7						.567	
4							.819
12							.451
Variance	27.28%	6.90%	5.60%	4.41%	3.98%	3.81%	3.70%
Cronbach's Alpha	.827	.730	.649	.700		.600	

eliminate the items that showed the lowest factorial standardized saturation. Item 18 of the Family Cohesion component and item 9 in the Social Resources component were eliminated. Eliminating those two items improved the reliability indices in both scales, resulting in a Cronbach's Alpha of .842 for Family Cohesion and .710 for Social Resources.

In the figure 1 is the final structure of Confirmatory factor Analysis with 22 items version.

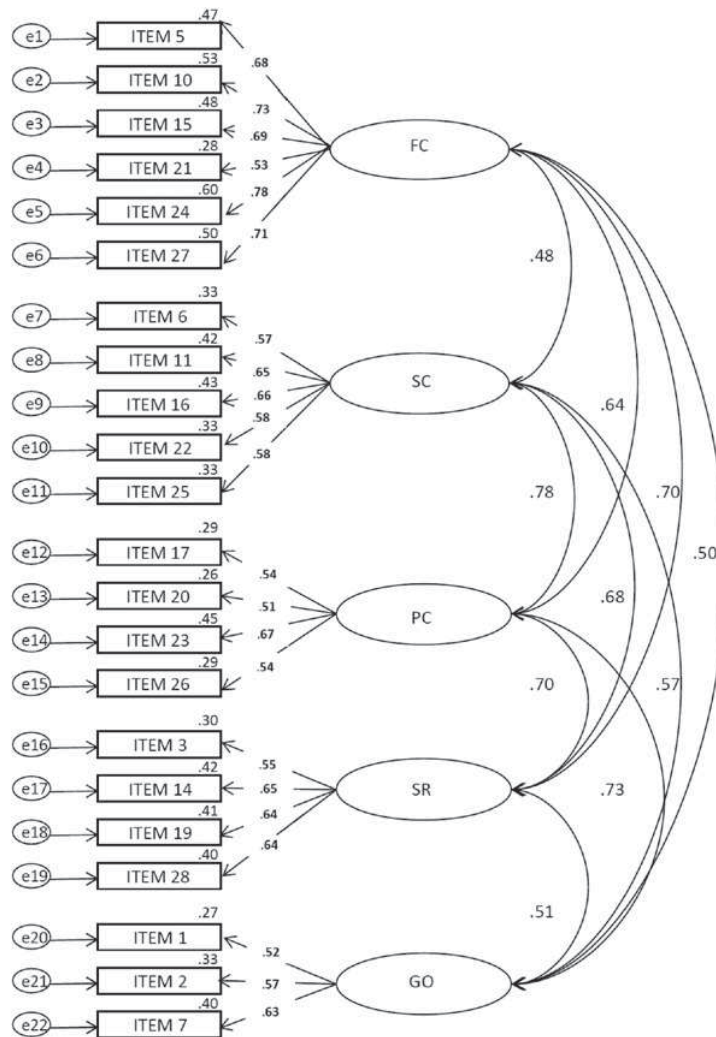
Adjustment indices were adapted ( $\chi^2=558.762$  *gl* = 199; CFI = .932; NFI = .899; IFI = .933; TLI = .921; RMSEA = .046).

*Convergent and Divergent Validity*

A correlation analysis was conducted with other psychological and social variables, including those variables of a sociodemographic type, this with the purpose to carry out the convergent and divergent validity of the scale.

Convergent validity was carried out correlating subscales of the final version of READ with measures about socioemotional competencies (EQi-YV) and Self-Esteem (RSES). Results are shown in Table 2.

**Figure 1.** Confirmatory Factor Analysis of the READ



**Table 2.** *Correlations among components of the READ and measures of convergent validity*

	Family Cohesion	Social Competence	Personal Competence	Social Resources	Goal-Orientat
Self-Esteem	.351**	.383**	.472**	.409**	.329**
Intrapersonal Competencies	.236**	.371**	.257**	.271**	.133**
Intrapersonal Competencies	.281**	.530**	.379**	.425**	.336**
Stress Management	.183**	.094*	.167**	.145**	.104**
Adaptability	.336**	.389**	.465**	.279**	.425**
Mood	.432**	.425**	.529**	.451**	.390**
Total EQi YV	.441**	.536**	.546**	.476**	.427**

\* $p < .05$ , \*\*  $p < .01$

Divergent validity was carried out by correlating factors of the READ with anxiety measures (C-MAS) and Depression (CDI). Results are shown in Table 3.

**Table 3.** *Correlations among components of the READ and measures of divergent validity*

	Family Cohesion	Social Competence	Personal Competence	Social Resources	Goal-Orientat
Dysphoria	-.446**	-.384**	-.390**	-.392*	-.261**
Negative Self-Esteem	-.342**	-.246**	-.393**	-.258**	-.354**
Total CDI	-.448**	-.363**	-.437**	-.373**	-.337**
Physiological Anxiety	-.236**	-.189**	-.275**	-.205**	-.195**
Concern	-.122**	-.093**	-.204**	-.042	-.072*
Social Worry	-.290**	-.199**	-.282**	-.247**	-.209**
Total CMAS -R	-.171**	-.113**	-.229**	-.120**	-.128**

\* $p < .05$ , \*\*  $p < .01$

Finally, a variance analysis (ANOVA) among measures was conducted with the purpose to identify the possible existence of gender differences among factors that compose the scale; results were that only statistically significant differences were found in the factor related to personal competence  $F(1,837) = 4.541$   $p < .05$  where males showed higher scores, as well as in the factor corresponding to social resources  $F(1,837) = 5.796$   $p < .05$  where females scored higher.

*Discussion*

The interest in resilience has been largely motivated by the possibility to understand and identify pro-

TECTIVE factors and mechanisms that are essential to positive adaptation and that could aid in the prevention of psychological problems (Hjemdal et al., 2007; Masten, 2001; Laird, 2004; Waaktaar & Torgensen, 2010). Particularly publications related to this topic have substantially increased in about 85% when compared to those in the last decade (Jowkar, Friborg & Hjemdal, 2011; Hjemdal et al. 2007; Windle et al., 2011).

In this study, the Spanish version of the READ was assessed and the scales were modified by taking into account the results from factor analyses. A 26-item version of the READ with proper factor structure, psychometric properties and



acceptable validity is proposed as a valid measure to evaluate protective factors related that develop to resilience in Mexican adolescents' ages 12 to 17 years-old. This is an important advance in resilience research as most of the research has been conducted with mixed and/or primarily Caucasian samples (Laird, 2004).

The current study supported a five-factor solution for the READ. It is important to emphasize the presence of an additional factor to the original scale in Mexican population. This factor is related to goal-orientation and appears to be disassociated, in terms of factor, to the Personal Competence subscale with a possible weakening of this scale.

The manifestation of this factor is relevant because coincides with theoretical contributions from other resilience models that propose not only the importance of visualizing the future and having goals as essential to discovering the meaning of life (Vanistendael, 2005), but the perception of our capabilities to achieve them (Saavedra & Villalta, 2008; Theis, 2003; Vanistendael, 2003).

In the current study, results from confirmatory factor analyses revealed that the factor structure of the original 28-item measure could benefit from modification. The performance of item 18, associated to family rules that simplify everyday life and that originally belonged to the Structured Style scale, was associated to the Family Cohesion factor, coinciding with previous validations of the scale in Norwegian and Italian population (Von Soest et al., 2010; Stratta et al., 2012).

Due to poor fit indices, the factor that required major changes was Personal Competences. This also happened in the study of Von Soest et al. (2010) However, in their study it was only required the elimination of one item, whereas in the present study three of the eight items need to be loaded into the new factor of Orientation to goals.

Interesting was the fact that Von Soest et al. (2010) and Stratta et al. (2012) also reported problems in some of the items that were changed or removed in the current study. For example, item # 4 "I am satisfied with my life until now" was removed from both studies. Item # 1 "I reach my goals if I work hard", was relocated to the Orientation to goals factor but Von Soest et al. (2010) decided to eliminate it from the scale. Item #12 "When it is impossible for me to change certain things

I stop worrying about them" also showed poor fit indices as in the Stratta et al. (2012) study and was deleted from both studies.

A widely used method for evaluating construct validity in specific samples is to examine both, positive and negative correlations with other established scales. In this study, divergent validity was supported as the READ was significantly negative correlated with anxiety symptoms (CMAS-R) and especially with depressive symptoms (CDI). These findings have also been reported by other studies (Hjemdal et al. 2006; Hjemdal et al., 2007; Von Soest et al., 2010). A negative correlation between anxiety, depressive symptoms, and resilience was expected as it is well known that experiencing a negative mood, negative future outlook, physiological symptoms of anxiety and/or extreme worry, among other symptoms could decreased an individuals' level of resilience (Dozois & Westra, 2004; Gordon, 1987; Kendall & Suveg, 2006). Furthermore, there is evidence that supports the predictive value of the READ for depressive symptoms in young adolescents. Results from the study by Hjemdal et al. (2007) showed that adolescents who reported higher levels of resilience exhibited significantly lower levels of depressive symptoms, even when controlling for gender, age, the number of stressful life events including being bullying, and levels of social anxiety.

The predictive value of the READ for depressive symptoms is of important value, especially for the population of Mexican adolescents. A study by Benjet, Borges, Medina-Mora, Zambrano, & Aguilar-Gaxiola (2009) showed that almost 40% of Mexican adolescents reported a 12-month disorder, being anxiety and depression two of the most common. Depression also appears to be one of the top mental health problems reported by Mexican adults (Medina-Mora et al., 2003).

A particular strength of this study was that it also used scales to evaluate convergent validity, which were expected to correlate positively with the READ. To our knowledge, no published studies on the READ have incorporate this besides the study of Von Soest et al. (2010) that included a 10-item short version of the Parental Bonding Instrument. As expected, results from this study showed statistically significant correlations between participants' self-esteem, social and emotional

competencies and their level of resilience. Actually, self-esteem was one of the factors included in the resilience scaled developed by Gonzalez (2011).

Regarding gender differences, males reported statistically higher levels of personal competence than females; and females reported statistically higher levels of social resources than males. These differences were also found in the studies by Hjemdal et al. (2006) and Von Soest et al. (2010). Similarly, Stratta et al. (2012) found that males scored significantly higher in the Personal Competence factor but they also found that males reported higher total scores. It has been reported in previous literature that men perceived themselves as more competent and women are generally using more social support and resources than men (Werner, 1989), and Mexican culture in some ways also support this.

#### *Limitations and Further Research*

The current study could have benefit from a more representative sample including Mexican adolescents of a wider age range, and from including adolescents from all regions of the country including rural and urban areas. Further research should also consider the acculturation process as well as the social and political factors that might contribute to better understand resilience in the Mexican culture (González et al., 2008).

As suggested by other researchers, further studies should also tried to find a sample of "truly resilient adolescents" who have experienced important stressors (e.g., one's own illness or an illness in the family) but that still have managed to cope (Hjemdal et al., 2006; Von Soest et al., 2010). This will be particularly interesting and will allow differentiating specific characteristics and levels of resilience for different groups of Mexicans.

It will be important as well that further research include the evaluation of at least one item of the personal competence factor and one of the factor related to goal orientation, in order to explore the internal validity and reliability of the instrument.

Finally, further studies should also include indicators of SES and school grades in order to evaluate if there are any significant relationships such as the ones found in the study by Von Soest et al. (2010). Indicators of SES can also be explored through more comprehensive questions related

to the new factor of goal-orientation. It will also be ideal to include estimates of test-retest reliability in order to give additional insight into the scale's reliability.

#### Conclusions

This work represents the first validation of the READ scale conducted in Spanish and in America, fact that points at the work performed in the context of resilience, and not only of research, but also in intervention within a Mexican context where, according to data provided by the United Nations Children's Fund (UNICEF, n.d.), more than 7 million of adolescents live in a poverty situation; almost 3 million does not attend school; half million of Mexican women have given birth before turning 20 and more than 18,000 migrate to the United States by themselves in search of better life conditions, among other situations of high risk for their development. Having a resilience measure such as the READ in Spanish can facilitate this task by determining which factors contribute to the process of positive adaptation in Mexican youth.

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Self-references for authors: 0

Self-references for the JBHSI: 0

Appendix A

Final and Adapted Version of the READ scale.

Factor	Number of item in original version	Number of item in final version	Item	Strongly Disagree	Disagree	Average	Agree	Strongly Agree
FC	5	1	We share in our family the opinion of what is important in life.	1	2	3	4	5
FC	10	2	I feel comfortable with my family.	1	2	3	4	5
FC	15	3	My family is in agreement most of the time.	1	2	3	4	5
FC	21	4	My family sees the future in a positive way, even when very sad things happen.	1	2	3	4	5
FC	24	5	We help each other in my family.	1	2	3	4	5
FC	27	6	We like to do things together in my family.	1	2	3	4	5
SC	6	7	I can easily manage that people who surround me feel comfortable.	1	2	3	4	5
SC	11	8	I can easily make new friends.	1	2	3	4	5
SC	16	9	I'm good at talking to new people.	1	2	3	4	5
SC	22	10	I always find something fun to talk about.	1	2	3	4	5
SC	25	11	I always find something encouraging to say to other people when they are sad.	1	2	3	4	5
PC	17	12	I feel competent.	1	2	3	4	5
PC	20	13	Most of time I know what is best for me when I have to choose among several options.	1	2	3	4	5
PC	23	14	Self-confidence helps me overcome difficult moments.	1	2	3	4	5
PC	26	15	When things are going bad, I tend to look for the good that can come out of it.	1	2	3	4	5
SR	3	16	I have some friends and relatives who frequently encourage me.	1	2	3	4	5
SR	14	17	I have some friends and relatives who really care about me.	1	2	3	4	5
SR	19	18	I always have somebody available when I need it.	1	2	3	4	5
SR	28	19	I have some friends and relatives that value my qualities.	1	2	3	4	5
GO	1	20	I achieve my goals if I make a great effort.	1	2	3	4	5
GO	2	21	I do my best when objectives and goals are clear to me.	1	2	3	4	5
GO	7	22	I know how to achieve my goals.	1	2	3	4	5

FC = Family Cohesion, PC = Personal Competence, SC= Social Competence, SR= Social Resources, SS = Structured Style, GO = Goal-Orientation



## Appendix B

FC = Family Cohesion, PC = Personal Competence, SC= Social Competence, SR= Social Resources, SS = Structured Style, GO = Goal-Orientation  
 Final and Adapted Spanish Version of the READ scale.

Factor	Ítem en la versión original	Ítem en la versión adaptada	Ítem	Totalmente en desacuerdo	Desacuerdo	Medio	De acuerdo	Totalmente de acuerdo
CF	5	1	En mi familia compartimos la visión de lo que es importante en la vida	1	2	3	4	5
CF	10	2	Me siento a gusto con mi familia.	1	2	3	4	5
CF	15	3	En mi familia estamos de acuerdo en la mayoría de las cosas	1	2	3	4	5
CF	21	4	Mi familia ve el futuro de forma positiva, aun cuando pasan cosas muy tristes	1	2	3	4	5
CF	24	5	En mi familia nos apoyamos unos a otros	1	2	3	4	5
CF	27	6	En mi familia nos gusta hacer cosas juntos	1	2	3	4	5
CS	6	7	Fácilmente puedo hacer que las personas que están a mí alrededor se sientan cómodas.	1	2	3	4	5
CS	11	8	Hago nuevos amigos-amigas con facilidad	1	2	3	4	5
CS	16	9	Soy bueno o buena hablando con gente nueva	1	2	3	4	5
CS	22	10	Siempre encuentro algo divertido de lo que hablar	1	2	3	4	5
CS	25	11	Siempre encuentro algo reconfortante que decirle a los demás cuando están tristes.	1	2	3	4	5
CP	17	12	Me siento competente.	1	2	3	4	5
CP	20	13	Cuando tengo que escoger entre varias opciones, casi siempre sé la que me conviene	1	2	3	4	5
CP	23	14	La confianza en mí mismo o misma me ayuda a superar momentos difíciles	1	2	3	4	5
CP	26	15	Cuando las cosas van mal, tengo tendencia a buscar lo bueno que puede salir de ello.	1	2	3	4	5
RS	3	16	Tengo algunos amigos, amigas y familiares que con frecuencia me animan	1	2	3	4	5
RS	14	17	Tengo algunos amigos- amigas y familiares a los que realmente les importo.	1	2	3	4	5
RS	19	18	Siempre tengo a alguien que me ayuda cuando lo necesito	1	2	3	4	5
RS	28	19	Tengo algunos amigos- amigas y familiares que valoran mis cualidades	1	2	3	4	5
OM	1	20	Alcanzo mis objetivos si trabajo con mucho esfuerzo.	1	2	3	4	5
OM	2	21	Doy lo mejor de mí mismo cuando tengo los objetivos y las metas claras	1	2	3	4	5
OM	7	22	Sé cómo alcanzar mis metas	1	2	3	4	5

CF = Cohesión Familiar, CP = Competencia personal, CS= Competencia Social, RS= Recursos Sociales, OM = Orientación a metas